VOLUME 36, NUMBER 4 APRIL 2021

PRI

PERFORMANCE RACING INDUSTRY MAGAZINE

SPECIAL REPORT
Examining the power of influencers in motorsports

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From classic platforms to wild new Outlaw and doorslammer applications

FLUIDS & LUBRICANTS
The industry's smooth operators reveal exclusive product updates

the GREEK SPEAKS

LEGENDARY DRAG RACER CHRIS KARAMESINES REFLECTS ON A REMARKABLE CAREER SPANNING SEVEN DECADES... AND COUNTING!

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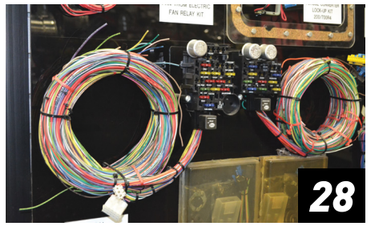

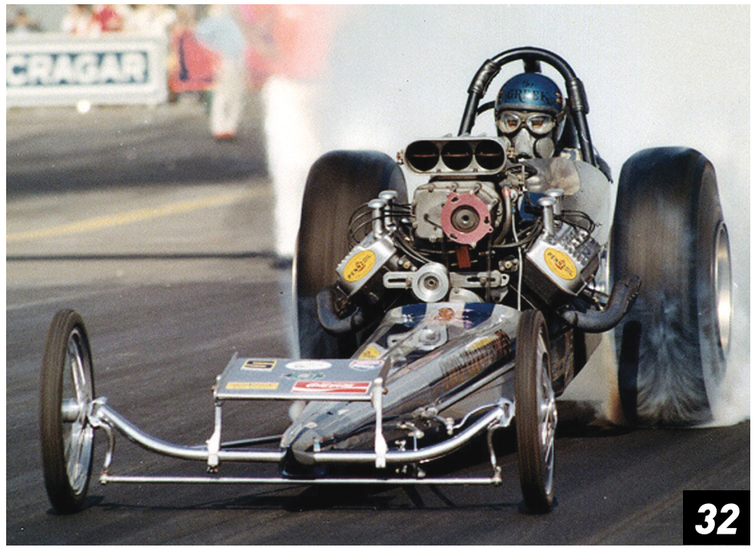

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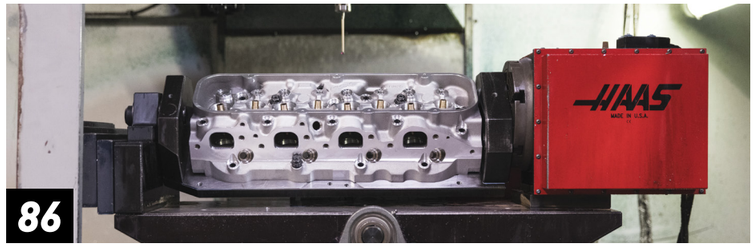

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ON THE COVER
Cover Photography: Justin Cesler

FROM THE PRESIDENT

I am bullish on the racing industry—very bullish—and you should be, too. Despite all the setbacks, our industry survived 2020, and through the first quarter is doing quite well overall. Race tracks are opening for the season, and racers, who worked on their cars during the lockdown, are ready to get after it.

At PRI, we've been hard at work for the industry providing the latest on COVID-19 relief and best safety practices, expanding our educational services, providing you with the best content the racing industry has ever seen, and planning for our collective return to the trade show environment.

With that as the backdrop, it's time to get to the big news. Here goes:

PRI SHOW IN INDY IS A GO!

There are great things happening in Indianapolis, and like Texas and Mississippi, the state of Indiana is on the fast track to a return to normal. Thanks to the tireless efforts of Visit Indy (the marketing team for the city of Indianapolis), Indy landed the NCAA Division I men's basketball tournament. Not just the Final Four, but the entire tournament will be played out in Indianapolis. This creates incredible momentum for the city, as larger groups of people are coming together in what will eventually be the culmination of all their hard work: the 2021 PRI Show on December 9–11.

We cannot wait to get back to Indy, open the doors to the Indiana Convention Center, and bring the entire racing industry back inside. With the COVID vaccine being administered to more folks every day, and our understanding of how to mitigate the spread of disease, a viable trade show is now possible. And, with the rapid growth of the PRI brand and the health of the racing industry, it is shaping up to not just be a comeback year, but perhaps the biggest and most important PRI Show ever.

PRI MEMBERSHIP LAUNCHES

In light of the many threats and challenges facing the racing industry, plans for a racing industry membership were put into motion by then-SEMA Chairman Wade Kawasaki a little more than two years ago. I am proud to report that at the February SEMA/PRI Board strategy session, the Board (under the leadership of Chairman Tim Martin and Chair-Elect James Lawrence) voted unanimously to move forward with a PRI Membership for all businesses in the racing industry. You can join PRI during your booth registration process, or you can go directly to performanceracing.com/membership to get signed up today.

Your decision to join PRI is a clear message that you stand with the millions of other racing industry members and racing fans around the world to protect and grow the lifestyle that we all love so much. Coming together to unite the racing industry is our best chance to work together to defeat those challenges that our industry faces right now. With your membership, your company will receive discounts on PRI booth space, PRI advertising, and additional benefits as the program grows. Together, we will continue to build, promote, and protect the racing community.

PRI ROAD TOUR RETURNS

Canceling the 2020 PRI Show was gut-wrenching, but in response the PRI team late last year launched a very ambitious project called the PRI Road Tour. By now, you have been enjoying the images and videos our PRI creative team captured while on the road for 77 straight days. In all, the team visited close to 90 different shops, manufacturers, and race tracks. This content has been shared on our social channels, website, eNewsletter, and in the pages of PRI Magazine. In retrospect, the PRI Road Tour was just what the racing industry needed.

Which is why I am so excited to announce that the PRI Road Tour will return in 2021! While the team is still putting together its list of stops, I will tell you that it is very race track-heavy. We want to be there when you are setting records and competing against the best in the industry. Above all, PRI wants to tell the story of racing—as only our content creators can. As I have written about before, we are in competition with all other industries for consumers, their time, and their disposable income. Our mission is to capture your stories, your challenges, and your victories. Only then can the world possibly understand how amazing the racing industry is, and why it means so much to so many people.

DR. JAMIE MEYER
jamiem@performanceracing.com

You'll be hearing much more about the PRI Road Tour in the weeks and months ahead. Consider this your invitation to tell us where we can find you. And look for the PRI Road Tour van at a race track near you this summer. Heck, you might even see the Road Tour van at the PRI Show. Wouldn't that be fun!

PRI is changing. Known for more than 30 years as the world's leading motorsports trade show and media company, PRI is now a community of racers and experts from across the racing industry. And because none of this is possible without you, I promise to always have your best interests in mind as the PRI team navigates the future. With the PRI Show set to return, the PRI Road Tour on the road, and a membership that will bring our community together, PRI is serving the racing industry like never before. So, please, come join us, and let's win together. PRI

FROM THE EDITOR

DAN SCHECHNER
dans@performanceracing.com

Two things I think while marveling at Emelia Hartford's recent 9.41-second pass in the quarter-mile at Auto Club Famoso Raceway, making hers the fastest modded C8 on the planet:

1) I THINK IT'S OBVIOUS HOW EXCITED we were to land an interview with Chris Karamesines for this month's issue of PRI Magazine. I mean, it's pretty appropriate that Karamesines is known as "The Greek," because the more you learn about what the man has done and meant to drag racing over a remarkable seven decades, the more it seems like he belongs at the top of Mount Olympus with all the other immortals as opposed to here at sea level, in an unassuming race shop on the south side of Chicago no less. But that just makes his legend all the more exact—of course he would walk among us! From recording the first unofficial 200-mph quarter-mile run in 1960, to match races with Don Garlits over the next decade-plus, to regularly topping 300 mph in a Top Fueler deep into his 80s, Karamesines is just, well, different. And yet, when asked for the key to his incredible longevity, The Greek is quick to share credit: "Everywhere I went—California, Florida, everywhere—people were nice to us. They wanted to take us home, they wanted to be with us. It was the people, I think, that kept me going." And while he did in fact announce he was hanging up his helmet late last year (shifting focus in support of his granddaughter, Krista Baldwin, a talented racer in her own right) one still has to wonder if we've truly seen the last of Karamesines in a driver's suit. After all, he told us, "When I said I was retired, that didn't mean I was going to quit drag racing. I've still got my two older cars, so I could do different things…. I've got stuff that I can go out and enjoy myself, give myself something to do. I'm not a guy who will just sit at home and watch TV."

2) IF YOU HAVEN'T ALREADY, I THINK it's a really good idea to start digging into 3D printing and exploring what's possible through this emerging technology. As often happens in racing, there's a trickle-down effect at play here, where additive manufacturing is becoming more practical for more teams as processes get more refined, more options become available, and costs come down considerably. Like, remember back in the day when only a few people you knew could afford a 75-inch flatscreen TV…and now anyone can pick one up for about eight bills? Sure, you'll pay more for higher-end features (cough, Samsung, cough), but today a lot more people can watch their favorite sports, movies, or throwaway reality shows in almost life-size proportions. Same deal here. Take supplier Stratasys, whom you may know from its partnerships with names like Penske and Don Schumacher Racing. "Anybody who's doing any type of vehicle development can absolutely benefit from it," a company source told us, adding that buyers can now choose from about "30 different printer models, so there's one for every price range and shop size." And even if you're not ready to splurge on the hardware, you can always send a CAD file to an additive manufacturing provider and have them print the part for you. Pretty neat, huh? For more on the capabilities of 3D printing and how your operation may be able to profit from it, see our Ask the Experts column beginning on page 18. PRI

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LEAD POSITION

If you like never-ending stories, we strongly recommend modern cylinder head development. Indeed, a squirrelly 2020 did little to dampen the pace of innovation by industry-leading manufacturers, several of whom we had a chance to drop in on during last year's cross-country PRI Road Tour. Among the standouts was a stop at Frankenstein Engine Dynamics just outside of Fort Worth, Texas. The facility houses a trick dyno cell, state-of-the-art machining equipment, Spintron, and other high-tech tools. Though Frankenstein was knee-deep in head production when we swung by, owner Chris Frank took some time to visit with PRI, and even teased some big-time releases in the near future (scan the accompanying QR code for details). Plus, read all about the latest products and supporting components by other top head suppliers in our coverage beginning on page 86.

RACE TEAM CONFIDENTIAL

STREETWAY MARKETING & MEDIA—DON O'NEAL

EVANSVILLE, ILLINOIS

This triple threat drag race team focuses as much on preparation for the track as it does on how well it represents its marketing partners once they arrive.

Streetway Marketing & Media includes three drivers—JB and Megan Strassweg, and myself—and race cars that compete around the country in Top Dragster, Super Comp, and Top Sportsman, respectively. Pairing the cars, drivers, and sponsors together to be successful on and off the track is a challenge that's rooted in executing sales for all partners involved.

Additionally, we produce a podcast and stream a weekly drag racing show.

On the podcast we talk about marketing, business to business, the do's and don'ts of social media…the business side of things. My co-host is NHRA Top Fuel driver Cameron Ferre, and our guests are people who aren't afraid to share the right ways to be successful—as well as some wrong ways—when it comes to motorsports marketing, advertising, and sponsorship.

We use the podcast as part of our marketing package, and we can also use it to develop an email database, expose new products—and we have the opportunity to tell backstories from different people. It's really to teach how to be better in the world of motorsports, regardless if it's going in a straight line or going left and right, or whatever the case may be. We're in our third year, and it's at around a million downloads.

To coincide with that, we've launched a new show called "This Week in Drag Racing" that's mainly about non-NHRA drag racers. Produced by Warren Evans, it features NMCA, NMRA, PDRA, etc. We're looking at the guys and gals who are out there grinding away to make it to the next level.

For this race team, an offseason seems almost non-existent. We have engine freshens, race cars to wrap, crew shirts to design, and the list goes on.

Usually I would take the car completely apart and check every item including shocks, struts, rearend, brakes… disassemble and reassemble. But this past offseason the car went to Jerry Haas Race Cars for repairs because I wrecked it. JB and I take care of the routine maintenance like running valves, oil changes, and general upkeep. We rely on the experts at AFCO to service our shocks and struts.

We typically don't start ramping up the racing until the end of March or beginning of April. We will have dyno sessions, hub dyno time, and on-track testing before we roll into our first competition. We don't like to show up to a race in test mode and spend time preparing before we get there.

Once the haulers leave for the first race of the season, our focus moves to maintenance, logistics, activation, and winning. We take a military approach for resupply on items that we need while we're doing back-to-back events, which may keep the haulers on the road for multiple weeks. We look at work schedules, commitments, etc. to understand what needs to be shipped, picked up, or in the haulers.

Due to COVID-19, when preparing for the 2021 season we looked at different regional series across the country that align with our regularly planned tour in case any events get canceled. We are an extension for each of our marketing partners. They need to sell product, so we need to be in front of people in different locations to impact those sales. We need to show off the products' performance and reliability in competition.

"WE ARE AN EXTENSION FOR EACH OF OUR MARKETING PARTNERS."

Value for our partners always starts with, "What's the strategy?" Then we can come up with execution points for whatever is valuable to the company, product, or brand. When it comes to value for us, that really depends on what the partner is looking for as part of their strategy. We can take somebody that has a product that they're trying to launch, and we can R&D it and help on the development side, but then also work them into distribution as well as the marketing side.

Our engine program is maintained by the team at Oakley Engine Performance, and our inventory of engines covers large-cubic-inch big block Chevrolet nitrous engines, naturally aspirated engines for Super class and bracket racing, and LS engines with Magnuson Superchargers.

This season we are excited about our new Litens high-performance tensioner kit for the Magnuson supercharger program. We're always trying new converter combinations and transmission ratios. JB had a top-10 year in 2020 with his Top Dragster combination, so we aren't changing much with that program. But Megan is getting a new big-mph combo for Super Comp in 2021. PRI

ASK THE EXPERTS

3D PRINTING

Learn why this vibrant industry is "just getting started," and how more racing businesses can prosper by using additive manufacturing in their operations.

By Drew Hardin

Top-tier teams are notoriously secretive about their R&D processes, but even given that veil of secrecy, it's clear that 3D printing—and the other processes that fall under the umbrella of additive manufacturing—is becoming more prevalent in racing.

"In the last three years, the Indy car that won the Indy 500 was the one with the most 3D-printed parts on it," said Pat Carey of Stratasys, Eden Prairie, Minnesota, which has a long history of working with marquee names like Penske, Andretti, and McLaren. "There will be even more composites in racing when NASCAR makes the switch from sheet metal to composites. We'll see a big uptick in 3D printing when they go."

Carey and other experts interviewed for this story agreed that the benefits of additive manufacturing aren't limited to just the highest racing echelons. But questions and misperceptions remain about what those benefits are and how teams and race shops can best use the processes.

Why should small shops consider 3D printing or rapid prototyping?

"It allows them to have almost immediate prototypes and test multiple different configurations without having to make the investment in tooling and fabricating the part," said Jay Schaumberg of Online Resources, Lebanon, Indiana.

"3D printing lets the little guys compete," added Dave Rittmeyer of Hoosier Pattern, Decatur, Indiana. "It's kind of like when the Colt [pistol] came out. It was the great equalizer. It didn't matter if you were a five-foot-tall, 100-pound woman or some 450-pound guy. It does the same thing, and you both can use it. Some of the smaller companies have better ideas anyway, and 3D printing lets you get a prototype built without spending hundreds of thousands of dollars in tooling."

A major benefit of 3D printing is its ability to "print very difficult parts that would be tough to manufacture otherwise," said Schaumberg.

Hoosier Pattern "prints a lot of cores for Mast Motorsports for its heads," Rittmeyer said, and utilizing 3D printing for those cores allows the company to "design features that traditional tooling is not able to produce. You can put water jackets in a cylinder head that could never be made with traditional tooling or

Additive manufacturing has helped level the playing field in motorsports, as our source from Hoosier Pattern explained, "3D printing lets the little guys compete.... [It] lets you get a prototype built without spending hundreds of thousands of dollars in tooling."

After Indy car drivers experienced adverse effects from excessive heat with the installation of the aero screen in 2020, the NTT IndyCar Series responded quickly by designing this thin cockpit cooling duct on top of the aero screen to provide additional airflow to cool drivers, which was then produced by Stratasys and is seen here installed on the No. 28 DHL Honda of Andretti Autosport driven by Ryan Hunter-Reay. Photo courtesy of Spacesuit Media / Andretti 2020.

get air passages exactly how you want to optimize airflow. You can avoid a lot of the constraints that traditional manufacturing has."

"Anybody who's doing any type of vehicle development can absolutely benefit from it," said Allen Kreemer of Stratasys, noting that the company offers some "30 different printer models, so there's one for every price range and shop size."

If a shop wanted to get into additive manufacturing but didn't want to invest in a printer, it could send a CAD file "to a service bureau and have it print the part," Carey added.

How can shops improve their 3D printing processes?

"The key to any additive manufacturing is a good 3D model," said Rittmeyer. "Some people think a picture on a PDF file is the CAD file, and it's not. You need a good, solid model, what we call a 'water tight' model, with no open edges."

Schaumberg agreed that companies need to have a means of creating the computer model that's sent to the 3D printer. And while one method is to create the model in CAD, "often there is not CAD data available," he said, noting that 3D scanning offers another way to create the model. "A good quality 3D scanner can capture the part shape to a high degree of accuracy, and that scan output can be sent directly to the printer for printing. To close the manufacturing loop, a 3D scanner can also scan an already printed part in order to compare the printed part back to the original model, assuring the user that they have indeed created the part that they expected."

What's more, he added, "If you're sending your part to a service vendor, pay attention to things like wall thickness. In a stronger metal you might be able to get away with a thinner wall thickness, whereas to get that same strength with plastic it might need to be thicker."

"Design for the process is still making its way into the industry," Kreemer said. "Too often they copy and paste, use an existing design for sheet metal that they send to a printer. That's really setting themselves up for failure. That wouldn't happen in any other industry. If a part were designed to be machined, and now you're going to make it out of sheet metal, you would completely change the design."

While race teams have been using additive manufacturing for years, "we are just at the beginning of this industry," Carey said. "We're seeing innovation accelerate quite quickly around the materials and the processes, phenomenal development on the plastic and metal side and more changes coming. We're just getting started." PRI

SOURCES

Hoosier Pattern
hoosierpattern.com

Online Resources
onlineresourcesinc.com

Stratasys
stratasys.com

TECH UPDATE

SELECTING THE RIGHT SPARK PLUGS

It's well worth the effort to understand what different material, design, gap, and heat range options are available and ideal for your combination.

By Bob Morreale

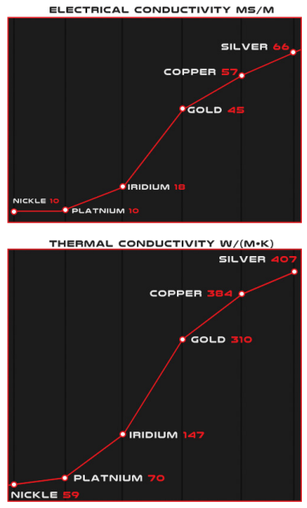
Spark plugs are some of the most debated performance parts around. And like many parts in the performance world, I've found that choosing the right spark plug can vary substantially. It usually comes down to the user committing to following a learning and testing process to get it right.

To be candid, this is part of what separates the winners from the rest in many races, because the winner somehow has just a few more horsepower than the rest; or their engine lasts longer.

It's not magic, and there isn't one miraculous spark plug brand or material that's superior to all the rest across the board. Rather, the solution often comes by way of knowledge and some experimentation.

The process to end up with the best spark plugs that we recommend has a few steps, but it is worth the effort. Before we get to testing, though, it's important to understand a few key points about their designs that differ from plug to plug.

Heat range: This is often dictated by the build of the engine, meaning that your build may require a colder or hotter plug than the factory specified. The heat range will dictate how fast the plug tip will dissipate heat from combustion. According to Brisk Racing and Performance Spark Plugs, a change of just one heat range impacts the tip temperature by between 75 and 100 degrees Celsius. With heat ranges, your goal is to keep the spark plug in the "self-cleaning zone." This is the middle range of temperature—below the "self-ignition zone" (too hot, causing harmful self-ignition of fuels) and hot enough to stay above the "deposit zone," which happens when a plug is too cold and then subsequently fouls because it is not hot enough to remain clean.



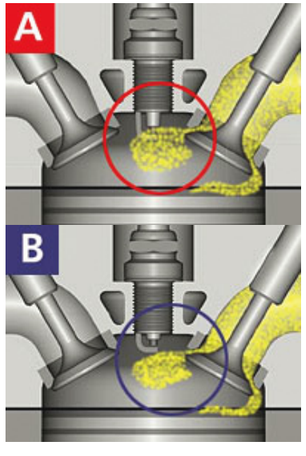
The top chart at left shows electrical conductivity, or how easily an electric current passes through metal. Silver is the best performing metal, meaning your ignition system would deliver more of its charge with silver than a lesser metal. The bottom chart at left shows thermal conductivity, or the rate at which heat passes through a material. Ideally, you want a metal that both conducts heat away fast and conducts current well. This means the spark plug would provide the best ignition and then conduct the residual tip heat out through the cylinder head quickly as well, for maximum performance and detonation resistance. All images courtesy of Brisk USA Spark Plugs.

COPPER DOES AN EXCELLENT JOB OF CONDUCTING HEAT AWAY FROM WHERE IT SHOULDN'T BE AND ACCEPTING ELECTRICAL ENERGY TO FIRE THE CHARGE.

Gap: A known plug gap for your combination (typically .025–.060 inches depending on your application and build) is where we like to begin. Forced induction typically is on the lower side of that range (to prevent spark "blowout") and naturally aspirated is typically middle or on the higher side of the range.

Material: Many choices are available—here are a few of the more popular ones.

- Copper: The traditional racers' choice, with excellent thermal and electrical conductivity (second only to silver) but a shorter lifespan (typically 20,000 miles). Often the choice for forced induction and racers who don't mind changing plugs frequently, and typically the least expensive. Copper does an excellent job of conducting heat away from where it shouldn't be and accepting electrical energy to fire the charge.



Shifting the insular tip of the spark plug farther out (A vs. B) into the combustion chamber provides better access and ignition of the air-fuel mixture.

SILVER IS THE MOST EXPENSIVE (TYPICALLY) BUT ALSO ONE OF THE MOST ELECTRICALLY CONDUCTIVE AND THERMALLY CONDUCTIVE PLUG MATERIALS AVAILABLE.

- Platinum: A less popular design for racers, this is often the choice for applications with long intervals between changing plugs. OEMs choose this material for up to 100,000 miles between changes. Platinum has one of the worst electrical conductivity and thermal conductivity ratings, making it hard to ignite and hard to dissipate heat.
- Iridium: A more popular design for racers with longer intervals between changing plugs (for those with hard-to-reach plugs, for example). This is also a popular choice because iridium is much harder and stronger than platinum yet is also better at accepting electrical conductivity and dissipating heat than platinum, but not as good as copper or silver.
- Silver: Silver is the most expensive (typically) but also one of the most electrically conductive and thermally conductive plug materials available. Surpassing even copper, this metal very easily accepts energy to fire the charge and dissipates the heat away; in short, it's a great material to consider. High boost and hard-to-ignite fuels are an excellent application for this plug material.

Design: The overall design of the plug and electrode is a hotly debated topic. Spending time reading about what plugs people have successfully used on your application will save countless hours in this area—because there's a huge variety of plug designs to choose from. Single-spark, multi-spark, continual-360-degree designs, and more.

TESTING AND TUNING PROCESS

The goal is to find out what heat range, what gap, and what material work best for your engine combination. You do this through engine tuning using your favorite tuning software (or carb).

Picking a set of spark plugs to start with: We recommend starting with a common copper spark plug from your favorite brand and setting the plugs with a known gap that works for your build. Forced induction is typically on the lower side of the gap range (the aforementioned .025–.060 inches) while naturally aspirated is typically on the middle or higher side.

Tuning process: Chassis or dyno tuning is preferred, as we can accurately judge performance gains and watch for knock retard in a controlled environment to find the maximum safe performance, noting what our key indicators are telling us. These include:

- Boost—If equipped, how much will it tolerate before knocking?
- Spark advance—How much will it tolerate before knocking, and did we reach maximum power before we found knock? The right plugs will allow the best spark tolerance before knock will occur on the fuel you are using.
- Air/fuel ratio or Lambda—Did the engine prefer a much richer mix to quench knock? If so, is the plug too hot?

These key indicators will drive which way you go with spark plug heat range, gap, and material selection. For example, testing a colder plug may be indicated if you cannot reach a high enough spark advance before encountering knock on the fuel you intend to use. Conversely, trying a hotter plug may be indicated if you can run more spark advance than the engine needs to make maximum power before encountering knock. The ideal spark plug will help you reach maximum power before encountering knock retard.

We answer these questions by monitoring the data from the scanner of your favorite tuning software. In fact, we often teach this as a founding principle of how to become a good tuner; you must know what the engine is telling you through the scanner to make smart decisions. Repeat this process to find the best spark plugs for your engine. PRI

Bob Morreale is president and founder of The Tuning School. He also serves on the SEMA ETTN (Emerging Trends and Technology Network) Select Committee, and enjoys road racing, drag racing, and developing new tuning technologies and processes.

PROBLEM SOLVERS

A veteran promoter shares how he drew fans to his three Texas tracks last year, all while keeping everyone safe and at an adequate "social distance."

By David Bellm

THE PROBLEM: How to effectively maintain social distancing among attendees at the race track

THE SOLUTION: Utilize remote, text-based concession ordering and pickup; incentivize advance ticket sales for easier admissions

Leave it to a lefty to see the coronavirus pandemic as an opportunity.

"The second this COVID-19 thing came along," explained promoter (and proud southpaw) Darin Short, "and I knew we were going to be down for a little bit, I thought, 'Okay, let's gear up on merchandise and online sales, and just go with the flow. But let's also look at what opportunities we can have once this thing opens up.'"

That led Short, who runs his own marketing firm and promotes several dirt-track racing series at Texas-based venues like 82 Speedway, Kennedale Speedway Park, and Monarch Motor Speedway, to develop some inventive solutions to coronavirus-safety challenges, chief among them the need to maintain social distancing.

TEXT-BASED CONCESSION ORDERING

The first of Short's coronavirus-driven innovations is a simple, inexpensive text-based ordering system that eliminates lines at concession stands. Rather than using a complex, pricey app with credit card processing, his method instead relies on a low-cost app-based secondary smartphone line. This provides a dedicated business phone number to any smartphone running the app. Concession stand employees assigned to text-order duty can therefore use their own phone to handle text orders without having to give out their personal phone number.

For this, Short uses GoDaddy's $9.99-per-month SmartLine service (godaddy.com/smartline), but other companies such as Sideline (sideline.com) and eVoice (evoice.com) offer similar packages.

"You simply give the SmartLine app and login to the employee of your choice manning that segment of your sales that night," Short told us. "Customers just text and say, 'I want a Sprite and a Snickers.' Then the concession person quickly texts them back saying, 'Order received, we'll let you know when to come down.' When the order is ready for pickup, they're texted again. Customers then pick up their orders, pay for them, and go back to the stands."

The menu for food items is posted on the track's website, while signs throughout the track give fans the number to text and encourage them to order remotely. Although simple and inexpensive, the system has been a big hit, not only improving coronavirus-safety compliance, but providing a better customer experience as well. "The fans go crazy over it," Short noted.

To eliminate lines at concession stands, Darin Short and the team at Monarch Motor Speedway in Wichita Falls, Texas, instituted an inexpensive, text-based ordering system that allows fans to place their food and drink order from their grandstand seat, and then receive a text when the order is ready for pickup.

SPACING IN THE STANDS, AT ENTRANCES

Short's approach also fits well in solving the need for social distancing during races. To enforce the recommended six-foot guideline, Short simply blocks off every other row of the grandstands, then reminds fans about it several times via PA announcements. In doing so, he has turned a negative situation into a positive for attendees. "Fans look at this seating arrangement like it's more of a VIP experience," said Short. "It's so much more relaxed with the extra room."

To solve the potential problem of lines at entrances, Short has developed a method that emphasizes advanced ticket sales and carefully orchestrates entering the facility. It begins by enticing attendees to order online, which is done by discounting advanced tickets a few dollars, not charging additional fees, and allowing online ordering up until the day before the race.

It has proven to be an effective system, but implementing it is ultimately the job of those who manage the facility itself. "Track owners Shannon and Misty Kelton at Monarch Motor Speedway do a fantastic job operationally," said Short. "We stay in touch multiple times a day as ticket sales come in to get ourselves organized for race day. Then, the afternoon of the race, they have a staff of people outside at the parking entrance, each with an accordion folder that has advanced ticket holders filed A to Z. That person just asks each carload, 'Do you have advanced tickets?' If the answer is 'yes,' the staff member checks the list and gives them wristbands. If the answer is 'no,' then they're told to grab a parking spot until the ticket window opens. They basically take people by the hand. And then the fans literally walk in the gate, grab their beer, sit down, and enjoy the races."

According to Short, the system has nearly eliminated crowds and ticket lines for large events. "There was some legwork," he told us. "It took more time for people at the race track to do this. But it was free for the race track. And the fans went nuts for it. It could be 97 degrees that day, and they got to stay in their car with the air conditioning on."

Unsurprisingly, Short views these measures as part of a larger effort to leverage the pandemic as an opportunity for auto racing. "This is the time for outdoor motorsports to shine," he said. "The stick-and-ball folks can't do their thing. So now that opens the door for auto racing venues to grab new customers. People can say, 'Hey, this is a safe place for our family to go at this troubling time.'" PRI

SOURCE

Darin Short
darinshort.com

EDITORS' CHOICE

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

FUEL CELL SURGE TANK

DEATSCHWERKS

deatschwerks.com

External surge tanks have become popular with racers who suffer fuel starvation during extreme cornering or demanding activities, such as drifting or sudden acceleration in drag racing. However, that type of tank requires a dedicated mounting location and additional plumbing.

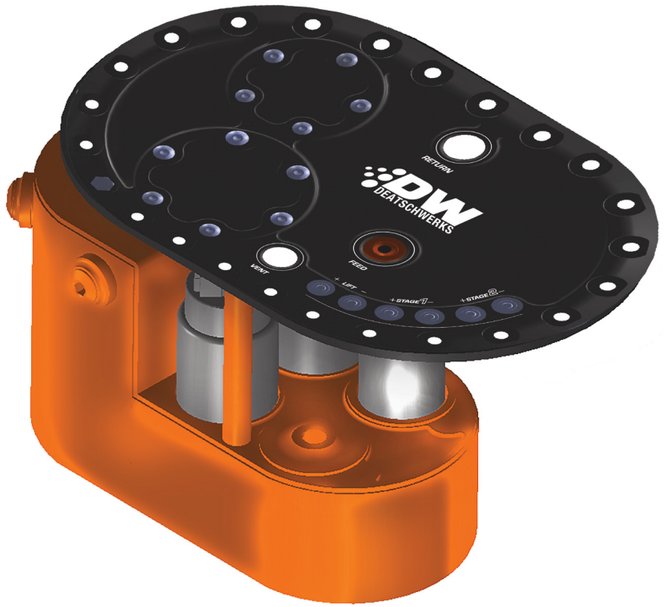
DeatschWerks is now offering a surge tank designed to fit inside a racing fuel cell.

"One of the biggest issues with keeping a motor alive on the track is fuel slosh and starvation," said Dakota Bowman. "This is designed to prevent starvation and get full use of a tank."

The DeatschWerks surge tank has a standard 8- x 10-inch, 24-bolt fill plate and features a -10AN outlet and -6 return. It's configurable for single- or dual-stage, and it will support up to four fuel pumps.

"You never want an instance where the pump isn't getting fuel. If you're on power or in boost and go lean, most likely it will be detrimental," said Bowman. "You may lose the whole motor and not just the race. This two-liter surge tank acts as a cushion for the fuel system."

The surge tank is constructed of hard-anodized aluminum and is safe for all types of race fuel. It includes a rollover check valve and is rated up to 2,500 horsepower. *—Mike Magda*



SUPER DAMPER FOR FORD 7.3-LITER GODZILLA ENGINE

ATI PERFORMANCE PRODUCTS

atiracing.com

As the base gas engine in the new Ford Super Duty pickups, the 7.3-liter pushrod V8 embraces time-honored performance attributes: big-bore iron cylinder block, aluminum heads, composite intake manifold, forged-steel crank, and header-style exhaust manifolds.

As a 430-horsepower crate engine nicknamed Godzilla, it has hot rodders and engine builders slobbering over each other to see who can double or even triple that power output. With so much potential, ATI Performance developed a Super Damper to replace the factory unit.

The ATI Super Damper shell is constructed from billet aluminum with a 4140 heat-treated steel hub. It comes in the factory 6-inch diameter and features a 5-inch inertia weight. Other features include laser-etched timing marks and a single 3/16-inch keyway; and it exceeds SFI 18.1 safety certification.

"We have already done a few overdriven versions for Whipple Superchargers to make some serious power," said JC Beattie Jr. "Otherwise the main customers are going with us, not so much just for the mandatory SFI, but since they know it's a better built, functioning part than the stock bonded damper.

"With our modular design and being able to adapt to many different belt profiles, additions, subtractions, and spacing, the ATI Super Damper is very capable of handling all the engine swaps," Beattie added. *—Mike Magda*

V-30 BILLET MOUNTING BRACKET FOR BBC

VORTECH SUPERCHARGERS

vortechsuperchargers.com

Big block Chevy racers who favor the popular Vortech V-30 series centrifugal supercharger will have a unique mounting option with the company's new billet aluminum bracket assembly.

The twin-plate construction fits both 9.8- and 10.2-inch deck height blocks. Features include dual-bearing, hard-anodized billet aluminum idler with flanges, drive-belt idler adjustment screw, billet water crossover assembly, and a billet aluminum 50-mm cog drive. The assembly also comes with high-grade mounting hardware.

"We continue to focus on sanctioned drag racing classes with the V-30 supercharger, as well as auto enthusiasts, by offering belt-driven billet race-mount bracket assemblies for big block Chevys along with small block Fords and LS Engines," said Brian Cox.

The V-30 is well-regarded in the boost community with kits designed to deliver from 1,500 up to 2,800 horsepower. It offers maximum flow of 4,000-plus CFM and can provide 45 pounds of boost. The modular design allows a wide range of compressor stages for those racers who switch between classes at select events, or between sanctioning bodies during the season. *—Mike Magda*

MAKE THE CASE

PREPPED VS. NO-PREP DRAG RACING

With grassroots credibility, big payouts, and the prospect of television notoriety, it's no surprise that interest in no prep-style racing has skyrocketed over the past few years. Born out of street racing, for many it's seen as a counterpoint to the high costs and strict regulations of series operated by the "old guard" sanctioning bodies. To others, it's a risky alternative that prioritizes high-stakes drama over safety. But as our advocates illustrate here, the differences between prepped and no-prep racing ultimately seem to point to different ideological perspectives about what makes drag racing compelling.

As told to Bradley Iger

PREPPED DRAG RACING ADVOCATE:
ROGER CONLEY,
RC2 MOTORSPORTS

–

"A PREPPED SURFACE IS EASIER ON PARTS."

The reality is that an unprepped surface is a lot more dangerous than a prepped one is. That's just the nature of the beast. The level of grip is much lower, and because of that, it's a lot easier to lose control of the car.

I'd also argue that a prepped surface is easier on parts. You're using the car as it was designed to be used, and there really isn't a template for a no-prep car design (other than making the car as light as you can).

More often than not the engine, transmission, suspension, and other components of a purpose-built race car have been developed to be used on a prepped track. You have to manipulate those parts to make them work on an unprepped track—you have to change torque converters, tires, suspension setups, and so on to get that car to work on a surface it wasn't originally designed for.

No prep is also attractive to a lot of folks as this is a budget-friendly alternative to traditional prepped drag racing, and while that might be true at the ground floor, the costs quickly go up as you climb the ranks and the stakes are raised. At a certain point it becomes about bringing as much power to the table as you can while being able to manage it, and sometimes that's a tall order. When you watch this kind of racing on TV, you start to notice that they wreck a lot of high-end cars at these events.

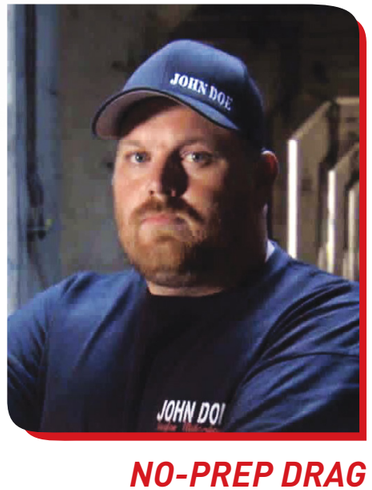
I think there will always be an audience for no-prep racing, but in my opinion, you'll never see it eclipse traditional prepped drag racing. Part of the reason for that is because, unless they're on TV, you're not going to find a no-prep guy who can attain professional-level sponsorship. For example, if a turbocharger company like Harts wants to break into the drag racing world, how do they do that through no-prep racing? Potential customers want to know and understand the performance advantage of the product, and without ETs, there's no evidence of the benefits.

Without numbers, the no-prep guys are just really limited in terms of what they can do for their sponsors. They might be winning, but when it comes to a customer's $10,000 investment, those customers aren't going to just rely on someone's reputation or how well they did at one event. They want to see racers who are running similar combinations to their own, but their trap speed is five miles per hour faster. That's what makes them say, "I need that."

And from the perspective of track operators, no-prep events have the advantage of, well, minimal track prep. You're not on the hook for four or five 55-gallon drums of traction compound, and there's less staff needed in general.

But the flip side is that the crowds are typically smaller—it's more of a niche audience who are really into this style of racing. Without ETs or any kind of information about the runs, the appeal isn't very strong for someone who isn't already very familiar with how these cars operate. For your average spectator at an NHRA event, they at least have some context to understand the performance. "Wow, that guy just went 200 miles per hour in a quarter-mile!"

I think both prepped and no-prep drag racing will continue to run and evolve concurrently, but the crossover interest for racers, organizers, and fans is pretty minimal.



NO-PREP DRAG RACING ADVOCATE:
SCOTT TAYLOR,
DIRTY SOUTH NO-PREP SERIES

–

"BECAUSE WE'RE RUNNING ON AN UNPREPPED SURFACE, IT'S A TEST OF BOTH THE DRIVER AND THE TUNER."

A lot of street racers are drawn to no-prep racing because it feels like familiar territory. For me, progressing from the street stuff, this just felt like a good place to compete with a solid field of cars and a supportive audience. It's a balance between an NHRA-style environment and pure street racing. It's more organized. And, of course, it also doesn't hurt that the payouts have been huge at some of these events.

A lot of people frown on no-prep racing, but I've raced on both sides of the fence and, in some ways, I think prepped surfaces can be more dangerous at times. I know that sounds crazy, but hear me out: When you have a prepped race track, it can give you a false sense of security that nothing can go wrong—the car is not going to move around on you. But that's not always the case, and if you come across a spot on the track that isn't good, it can catch you off-guard. That's rarely the case in no prep; you're always paying close attention to how much grip you have. In my opinion, no-prep racing really is not as dangerous as it's made out to be.

The fans are also a huge element of no prep's appeal—there's just a closer connection, and our personalities can come out a little bit more in the no-prep scene. As soon as we get back to the pits we're out there talking to the fans, and I think that makes a huge difference. Obviously, the television coverage has had a huge impact on no prep's visibility over the years, too, and that has helped bring the fans out to the track and inspired some of them to get to work on their own hot rods.

And because we're running on an unprepped surface, it's a test of both the driver and the tuner. There's a lot of strategy involved with evaluating the surface and deciding how much power to put down, and I think the racing is a lot closer because of that. Organizers are also doing a lot to ensure parity among the car classes, and that seems to be paying off. Last year the first-place car was twin-turbo, second place was a nitrous car, and third was a car running a ProCharger. So the balance of performance is there.

At the end of the day, these fans are seeing this stuff going on out on the street, and then they notice that folks like us are doing no-prep events, and that's why no-prep racing continues to grow. It's breathing new life into the sport, and everyone is benefiting from it. When I first started doing this, I never could have imagined that it would get as big as it has, or that we'd be running for $100,000 at a one-day event. No prep has definitely hit its stride, and it's not going away any time soon. PRI

STOP DOING THAT...DO THIS INSTEAD

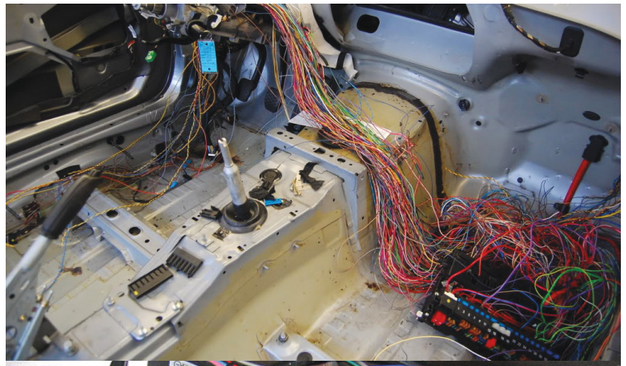
RACE CAR WIRING

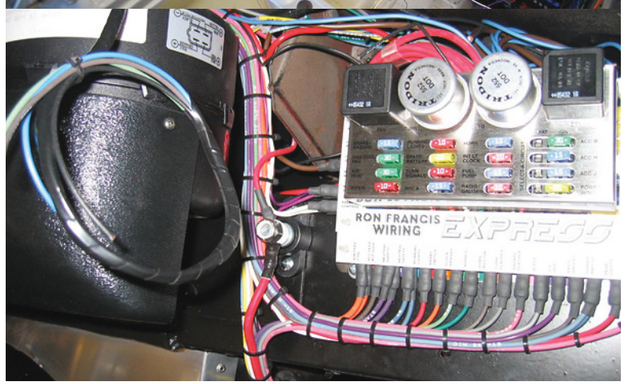
Avoid a last-minute fix in the pits, or worse yet, an electrical failure on the track by assembling a well-organized, common-sense wiring system.

By Drew Hardin

Chasing down electrical issues can be among the most frustrating tasks on any car. The racing environment just makes things worse, as heat and vibration seem bent on attacking vulnerable components and less-than-secure connections. Plus, the hurry-up nature of in-the-pits repairs only compounds the situation.

To find out more about what racers are doing wrong with their wiring systems and what they should be doing instead, we spoke with two experts in the field: Dennis Overholser at Painless Performance Products in Fort Worth, Texas, and Scott Bowers at Ron Francis Wiring in Chester, Pennsylvania.



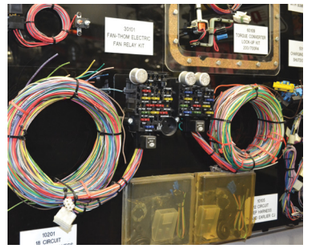


To avoid the bird's nest, plan ahead when building or rewiring the race car, advised our source from Ron Francis Wiring, who added that going a bit bigger than necessary to start "will allow additions in the future, like nitrous, fuel pumps, and additional fans."

AVOID THE BIRD'S NEST

At races, Bowers often sees an electrical problem he calls "bird-nesting," the tangled result of last-minute wiring additions to fix an issue. "That is a big recipe for problems," he said. "Let's say you're in the staging lanes or the pits, and you have a problem that needs a solution in a hurry, and in the

Attaching the harness with clamps and wire ties prevents excessive movement and vibration, according to our source at Painless Performance Products.



process a red wire turns into a blue wire through a butt splice. That kind of fix just complicates the solution, especially if there are multiple hands in the project trying to get you going again. If a fellow racer is helping, they have no idea the red wire turns into the blue wire."

The solution is "sanitary, common-sense wiring and being smart with the wire paths and flows of circuits," Bowers continued. "That really helps troubleshooting. Even 10 years after the build you know what you've got."

"GO WITH A SYSTEM THAT HAS PLENTY OF ROOM FOR GROWTH IN TERMS OF CAPACITY AND FUSED CIRCUITS."

Another way to avoid the bird-nesting trap is to plan ahead when building or rewiring the car, Bowers reported. "Go with a system that has plenty of room for growth in terms of capacity and fused circuits," he explained. "The complexity will increase if there aren't enough circuits and they have to add a piggyback or auxiliary fuse block to gain more fused circuits. Typically, it's fairly cheap to go a bit bigger than necessary. That will allow additions in the future, like nitrous, fuel pumps, and additional fans."

"CRIMP THE WIRES WITH A NON-INSULATED TERMINAL, WHETHER IT'S A SPLICE OR RING, THEN USE HEAT SHRINK TO GIVE IT SOME SUPPORT."

SECURE YOUR CONNECTIONS

The vibration inherent in a race car can wreak havoc on wire connections. For Overholser, the solution is to crimp, not solder, connections.

"Normally when you do a solder joint you crystalize the copper," he explained. "The vibration will shake it enough to break it. Then you can have a real bad situation because you often can't tell where the break is."

Heat affects solder, too, he said. "We make our own battery cables, and we never solder them, especially the end of the cable that goes next to the starter. The headers will get the wire so hot it'll melt the solder out of it. Then the wire will fall out, and short out. Hopefully, it won't burn the car down."

The "best way is to crimp the wires with a non-insulated terminal, whether it's a splice or ring, then use heat shrink to give it some support," Overholser added.

To Bowers, soldering is fine "unless vibration is of a concern. Then a connector system would be a better solution. The trick with soldering is that it must be done right. It's one of those areas where more is not better. It does create a rigid area in the wire, but as long as you don't go overboard with the amount of solder you wick into that joint, in my opinion it's far superior to a butt splice."

Another way to fight the effects of vibration is to "make sure there's some type of support to keep everything rigid so it won't move around," Overholser said. Plastic zip ties, Adel clamps, "or any kind of clamp, you can't use too many of them." Tying the wires to a drag car's tube chassis, for example, "helps eliminate the wire from vibrating. It will vibrate with the chassis, but it won't flop."

RELY ON RELAYS

"I am a firm believer in fan relays," Overholser said. "A hot wire run from the fuse block to the toggle switch and then out to the fan will never be efficient. The only thing that will do is overload the switch or the wire, and something's going to melt. If they're using a toggle switch not capable of carrying the amperage required, the fan won't run at maximum speed, and it won't cool the engine."

"The switches on the market may or may not be able to handle the load that the controlled item is drawing," said Bowers. "Relays allow the load to be carried through the relay, and the switch is simply controlling the relay. That is going to improve the life of the switch and create more trouble-free experiences when using those relays."

CONSIDER ALTERNATOR CAPACITY

"It's always good to think ahead in terms of alternator capacity, especially if the car is running fans and fuel pumps," Bowers said. "An alternator only puts out a portion of its rated amperage or current at idle. A 100-amp alternator may only be charging 20 to 30 amps at idle. Racers can get more capacity at idle by playing with the pulley sizes—smaller on the alternator or larger on the crank."

Another consideration: An alternator "will only put out what it needs to charge to keep the voltage up to where it is expected to be," Bowers said. Even a 100-amp alternator will be putting out "just the amperage it needs to keep up to the 14.5 or 14.7 volts to keep the system healthy."

Here is one more alternator tip: Never demand more than 80% of an alternator's rating for a continuous amount of time, Bowers said. PRI

SOURCES

Painless Performance Products
painlessperformance.com

Ron Francis Wiring
ronfrancis.com

NEWLY APPOINTED

LAURA WONTROP KLAUSER

This farm-raised engineer who steered Cadillac to four Rolex 24 wins now adds Corvette Racing to her impressive portfolio.

By Jim Koscs

Laura Wontrop Klauser already had one of the coolest jobs in racing before it got even cooler. Just before the Rolex 24 at Daytona in January, she moved into GM's newly created sports car racing program manager position.

Essentially, Klauser expanded her prior role as racing program manager by adding Corvette Racing to a roster that already included the highly successful Cadillac DPi-V.R racing program and Camaro GT4.R program. Cadillac won the Rolex 24 from 2017 through 2020, and both the Manufacturers' and Drivers' Championships in 2017 and 2018. (Cadillac finished a close second to Acura in this year's Rolex 24.)

It's also worth noting that Klauser reports to Mark Stielow, director of motorsports competition engineering, known by many for his hobby of building a dozen or so knockout Pro Touring classic Camaros.

Growing up, Klauser helped her parents take care of a small farm in Maryland. Her father, an electrician, encouraged her to pursue engineering. She earned a bachelor's degree in mechanical engineering from Rensselaer Polytechnic Institute in New York, where she worked on the school's Formula SAE race team.

After joining GM in 2008, she earned a master's degree in engineering from the University of Michigan and would go on to work on the C7 Corvette program.

PRI recently caught up with Klauser to learn more about her exciting new venture.

LAURA WONTROP KLAUSER

TITLE:
Sports Car Racing Program Manager

ORGANIZATION:
General Motors

HOMETOWN:
Detroit, Michigan

FAST FACT:
Klauser lists hobbies as performance driving in a Chevy Cobalt SS Turbo and C6 Grand Sport Corvette at the VIR, Sebring, Mid-Ohio, and Summit Point road courses. She also enjoys bicycling and making "confectionery creations," and has a personal website called "Cars and Chocolates."

PRI: Describe how your duties have changed in this new role.
Klauser: The biggest immediate change is the addition of the Corvette Racing program. Thankfully, we have strong partners and teams for all these programs. Depending on them to keep responsibility for being successful allows me to balance the programs. I am also working closely with Mark Stielow to establish our plan for sports car racing in the future.
PRI: What does this newly created position reveal about GM's future motorsports plans?
Klauser: We're working to integrate our motorsports activities more closely with the production engineering side of the house. Technology transfer is key with racing, and we want to make sure we're taking advantage of every opportunity there. We also want to increase shared learnings across the motorsports programs. That's why the sports car program manager role was created.
PRI: How does your engineering background make this new position a good fit for you?
Klauser: Being able to "speak engineer" is very important. I am not designing the parts in CAD or running the FEA myself, but I am reviewing the output of these activities and approving it. I am also handling team requests to make changes or address durability concerns on the car. Being able to quickly understand the problem and create the plan to solve it is critical.
PRI: What strengths do you bring to this new role?
Klauser: Fostering relationships is key. I've spent the past four years getting to know the IMSA paddock as well as other racing partners with GM. Being able to identify the right people and get them to work well together will bring success both in on-track results and staying on budget.
PRI: What do you see as the biggest challenges ahead?
Klauser: Balancing staying successful today with ensuring success tomorrow. I love the racing we have today, but it's pretty clear the automotive industry is going through a big shift. We're going to have to be ready to make some changes to our beloved sport to stay relevant.
PRI: Please share your top strategic goals for the next 12 months.
Klauser: Making sure all three programs—Corvette, Cadillac, and Camaro—are successful. Corvette kicked the year off with a win at the Rolex 24, and Cadillac was fighting for the win down to the last lap. I want to see that great momentum carry forward. Also, finalizing our Sports Car Racing Future Strategy and starting development of those programs.
PRI: What changes will race teams notice—or what do you hope they notice—as a result of your efforts?
Klauser: I hope they are already seeing more opportunities for cross-program collaboration. This was the reason for bringing all the sports car racing programs under one program manager.
PRI: What's your most gratifying professional accomplishment?
Klauser: Being chosen for this new position. It feels like the reward for all the hard work that went into refining the Cadillac DPi-V.R program and finding success in IMSA with that car.
PRI: How do you inspire or help young women who want to get involved in engineering and/or motorsports?
Klauser: I think being seen in this role is critical. I try to give time whenever I can to talk to groups of young women interested in STEM [science, technology, engineering, and mathematics] education and/or motorsports. Giving them access to ask questions is so important.
PRI: How can this industry attract more young people into motorsports and engineering careers?
Klauser: By exposure. It's so important for students to do STEM projects as young as possible so they experience what it's like to be an engineer. We need to get them interested in order for that curiosity to grow. For example, before COVID—and I hope after—the Roar Before The 24 at Daytona each year hosts Boy Scouts and Girl Scouts camping in the infield. They spend the day meeting various people on the race teams and learning about how STEM education applies to racing.
PRI: Who inspires you, and why?
Klauser: Mark Stielow. He's a living legend at GM, from all the cool assignments he's had for the company as well as the amazing projects he does personally. Before moving to racing, I was working at the Milford Proving Grounds facility as an NVH engineer, and it was my goal to figure out how to work for or with Mark. PRI

INDUSTRY INSIGHTS

CHRIS KARAMESINES

Attributing his longevity in drag racing to the people who supported him, as well as an unwavering work ethic, "The Greek" has taken on a new role in support of his granddaughter's promising Top Fuel career. Still, even though he's officially retired, don't count him out of the driver's seat just yet.

By Dave Argabright

The legend of Chris Karamesines can be described in two chapters. The first covers his pioneering efforts in the 1950s and 1960s as the sport of drag racing was just putting down roots, when restless souls like Karamesines fashioned hand-built cars and barnstormed throughout America. That led to the second chapter, when Karamesines went on to forge an amazing career of driving Top Fuel dragsters in NHRA competition (and elsewhere) for a stunning seven decades.

There are veteran racers; there are legends; and then there is Karamesines, whose driving career spanned a period that is absolutely unmatched. This past October, Karamesines—revered by the drag racing community as "The Greek"—suited up to race a Top Fuel car at World Wide Technology Raceway in Madison, Illinois, at the age of 88, making it into the first round of eliminations. You heard right: an 88-year-old man still making competitive passes. (It is worth noting that his precise birth year is the subject of lingering debate, with the exact date ranging from 1928 to 1931. He merely smiles and shrugs when asked for confirmation.)

In late 2020, Karamesines announced that he would be stepping aside in 2021 to yield the seat to his granddaughter, Krista Baldwin. It seemed reasonable that an 89-year-old would consider retirement; but he has held such an iconic presence in the sport for so many years that it is difficult to contemplate drag racing without "The Greek" still actively competing.

A native of Chicago, Karamesines began racing in 1951 after returning from service overseas with the US Army. He soon began building dragsters and racing engines as a way to pay the bills and keep himself racing, launching a machine shop and later a speed shop. On April 4, 1960, Karamesines recorded the world's first unofficial 200-mph quarter-mile pass at Alton, Illinois. Throughout that era, Karamesines—along with good friend Don Garlits—toured extensively while match-racing, though he eventually settled into a long career in "organized" competition.

A measure of Karamesines' popularity—and respect—was evident in later years when a host of friends and fellow competitors stepped up to offer parts, pieces, and complete cars in order to help prolong his participation. Forrest Lucas of Lucas Oil Products stepped up with a sponsorship deal "for as long as Chris wants to race." Don Schumacher Racing also provided extensive support to the living legend.

A member of the Motorsports Hall of Fame of America and the International Drag Racing Hall of Fame, Karamesines continues to keep a busy pace. As he recently cleared snow at his Chicago shop, he paused to share some reflections with *Industry Insights*.

PRI: You've had such an amazing, enduring run, Chris, it seems impossible that you'd actually retire. What led to your decision to step away from driving?
Karamesines: My biggest thing was that I wanted to have Krista in the car. That felt like it would be more fun. She's been waiting to do this, and I'm young enough to keep going for a while. I might jump in the car and make a pass now and then, if I need to.
PRI: How long was the idea of retirement on your mind, the idea of stepping aside so that Krista would have an opportunity?
Karamesines: Once she started thinking about driving alcohol cars, I started thinking about it. I figured it would be nice to step aside and watch her race. She drove the alcohol cars real well, passed with flying colors, and I was happy with that. I am willing to help her out as long as I can, but before long she'll probably be racing on her own.
PRI: I'm just going to go ahead and say it: 60-plus years at the wheel of a Top Fuel dragster, that is just amazing. Naturally, all of us want to know your secret to staying so fast for so long.
Karamesines: The biggest thing was that I enjoyed what I was doing. That's probably the secret. I started racing Top Fuel in 1964, and I've been drag racing since 1952. Once I got out of the service, I thought racing would be the best thing for me because I liked going fast. And I just kept following it from there. And the people I met, the things I had to build to keep going, that was interesting.

I got started doing machine work and things, and that got us building motors and stuff. Everywhere I went—California, Florida, everywhere—people were nice to us. They wanted to take us home, they wanted to be with us. It was the people, I think, that kept me going.

> *"THE PEOPLE WE MET ALL OVER THE COUNTRY, THAT'S THE MOST IMPORTANT THING. PEOPLE WOULD DO ANYTHING FOR US. AND IT'S HARD TO FIND PEOPLE LIKE THAT, OUTSIDE OF RACING."*

PRI: You made your first 200-mph pass on April 24, 1960—said to be the first 200-mph run in drag racing history. When we see pictures of those vintage cars and think about going 200 mph, it definitely does not look comfortable. At the time, did you have any concerns about that kind of speed in those cars?
Karamesines: Back then, when you're young, you're not thinking about safety. Nothing scared you, really. You'd get into anything and drive it. As the cars got bigger, there were more things we had to do for safety. NHRA made sure we did what we needed to do. It was fun going fast, and I still enjoy it.
PRI: When you think back to those older cars—the 1950s and 1960s—what comes to mind? Were those cars hard to drive?
Karamesines: Not really. As long as they were put together right. They had their moments, yes. If something broke, or you blew a blower off, stuff like that, that was a problem. But that was part of it. They were built pretty decent for what we were doing.
PRI: Professional drag racing has changed so dramatically since you started. It would be easy to ask what has changed the most, but from your perspective I suspect everything—truly, everything—has changed. Is that true?
Karamesines: You're right. Everything is different. We could build a car for $200, $500...not much money. You can't do that anymore. Today, you're looking at $250,000 to build a car. And it takes more people. Back then you had two people and yourself, and that was the team. Maybe four people total, sometimes. We used to race 50 races a year, exhibition races. California to Maine to Florida, wherever. It was the same with (Don) Garlits—he and I probably did more traveling than anybody back then. And then you had Shirley (Muldowney) and (Connie) Kalitta, but they came a little bit later.
PRI: So naturally, this is the question: Is drag racing better today than in the 1950s? Or any other era?
Karamesines: I think each era is different. We would have 2,000 people in the stands, now you're looking at 75,000 or 100,000 people. As things go on for the sport, everything grows. And that means it's different. Better? I don't know.
PRI: For better or worse…is there an element of those early days that you miss most?
Karamesines: (Laughing.) It's hard to say what I miss the most. I mean, it was fun for me the whole time. I never had a bad day in drag racing. I've enjoyed the people, and that's what kept me going. Seriously. I don't care where I went, the people were there for me. If I needed something, they would help me.

PRI: I suspect that your last name has been mispronounced more than any name in racing history. I saw a great story the other day from your friend (Don) Garlits, who first recalled hearing of a racer up in Chicago named "Chris Kerosene" in the 1950s. I'm going to guess that it was just easier to go with "The Greek."

Karamesines: That was it (laughing). And you're probably right about my name being mispronounced a lot. In those early years I was teamed up with Bob Schreiber and Don Maynard, and we were using a Chrysler motor they called "the chiseler." So that's what we called our car, "The Chizler." That was easier than using our names. As time went on Maynard died, the other kid found something else to do, and I went off on my own.

OUR DINNER WITH 'THE GREEK'

"Hey, you want to grab a beer after this?"

Listen…you don't say no to that offer from a legend like The Greek. Karin knew it, we knew it, and truth be told, he could have asked us to help him move a dead body and we all would have said yes in a heartbeat.

When The Greek says go, you go. And so there we were, waiting in the PRI Road Tour van as Chris locked up his incredible shop, walked slowly to his vintage Jaguar, and pulled out onto the road heading to the bar. He claimed it was just around the corner but…it took a bit longer than we expected to get there. Where was he taking us? Where were we going? How long has The Greek been going to this place?

When we arrived at J.C.'s Pub, it looked like a place where only the locals would go. Concerned, slightly, that our van might not be there when we got out, we looked for a well-lit place to park. The Greek, however, pulled up, jumped out of the Jag, and waltzed inside. Windows down, car unlocked, not a care in the world. You could tell this wasn't a place where anyone was going to mess with The Greek or his new gang of starry-eyed content creators.

Through the double doors we went, only to be greeted by a literal wall of photos of The Greek. Not "a photo of The Greek on a wall," but an entire wall dedicated to the man, the myth, the legend himself. We were immediately drawn to different photos: Some of Chris as a 16-year-old boy heading into military service, where he would proudly serve our country during the Nuremberg trials; some as a hair-on-fire maniac doing twin-engine, quarter-mile-long burnouts; some of him with the Chizler—and all with a smile on his face. Each photo another story, each a glimpse into the life of this living legend.

"Hey sir…wait, where did he go?"

Oh, yeah, this is the best part.

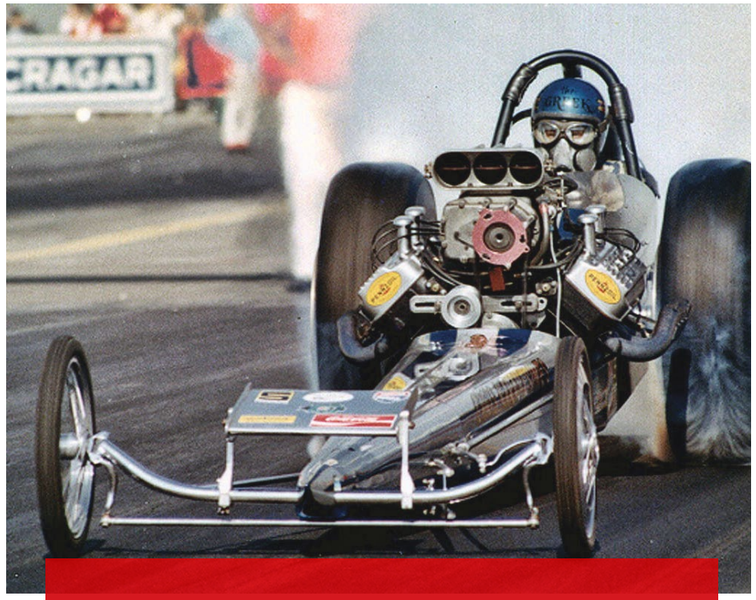
You see, The Greek had invited us to dinner, but he wasn't planning to eat dinner with us. He had his wife and his friends already holding down a corner of the bar…. He was here to hang with them. A weekly tradition for their close-knit group. We had a table—The Greek had seen to that—but there wasn't a seat for the legend. He had drinks to drink, tales to tell, and friends to laugh with. He wasn't planning to give that up for anything, especially not for us. Now don't get me wrong here, The Greek was giving us a once-in-a-lifetime VIP experience. We had a table at his place; we had J.C.'s owner giving us a tour; we had great food, great drinks, and many laughs. We met The Greek's incredible wife. We met his friends. He came by to check on us, bought us a round, recommended food (of course there is a menu item named after him…), and got us dessert.

It isn't every day that you're invited to dine with a man whose career is commemorated on the wall.

But he didn't ever stop being The Greek, and that meant he wasn't going to miss his weekly hang with his crew. And we respected that. More respect for that than I can probably describe here…but it was as if we were allowed to really see the legend as he really was. No persona, no fake bravado, just a small glimpse into his real life, as it was and as it probably always has been.

And just like the visit to his shop, we were lucky enough to see the real Chris Karamesines. A real-life legend in the flesh, living his life in a way that seemed so ordinary to him (you know, as if mere mortals are building Top Fuel engines in their private little garage and then driving to a restaurant with a shrine in their honor on the wall…) and not caring who saw it.

Chris isn't like any other person I've ever had the pleasure of being around. He is the true embodiment of Racing, with a capital R. From tinkering with tank engines during the war, to being the first dragster to run 200 miles an hour in the quarter, to going 305 mph at 86 years old (!), and every single step in between, The Greek is more than his accomplishments. He is more than the stories, and the championships, and the twin-engine. Chris Karamesines is the dream we all have when we give it all up to get involved with racing. As he says, "It's been 63 years of fun, and I have loved every minute of it." Here's to you, Greek. —*Justin Cesler*



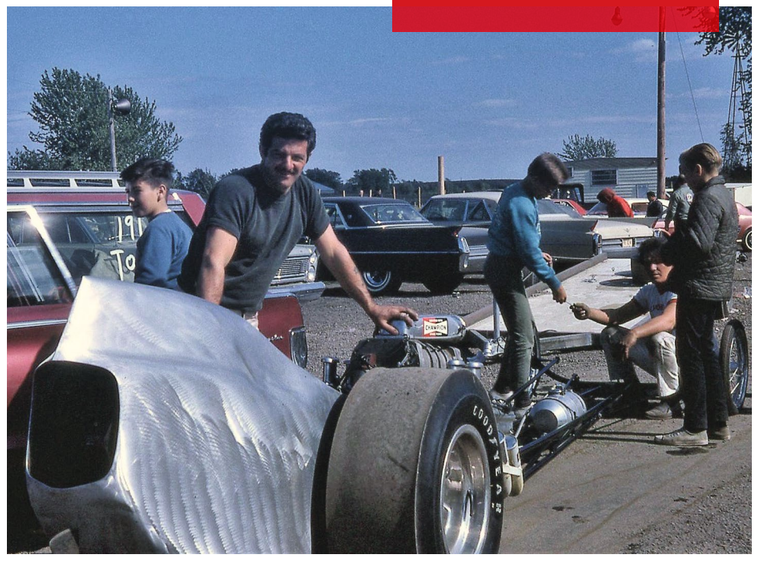
The seven-decade career of Chris "The Greek" Karamesines has spanned literally the entire evolution of drag racing, starting with relatively simple front-engine dragsters.

PRI: It's easy for us to look back at those early years and assume they were fun. And I'm sure they were, in many ways. But I also suspect it was tough to make a living at drag racing and keep things together.
Karamesines: Oh yes, it was tough to a certain extent. That's why I started building motors, to keep myself going. I had a machine shop and I still, up to about 15 years ago, kept the machine shop. And I opened a speed shop as well. It was hard to balance sometimes but I still enjoyed traveling, getting out on the road and going racing.

"I NEVER HAD A BAD DAY IN DRAG RACING."

PRI: You were hesitant to use some of the safety devices that came along in recent years, such as a head-and-neck restraint. When you've raced for such a long time, is it hard to adopt some of the newer technologies like that?
Karamesines: The only time I had a problem with things like that was when they asked you to change things when you got to the race track, right there. They should have sent us a letter to tell us what we needed to do at the next race, so we could prepare and make arrangements for the changes. They had a bad habit of waiting until we got to the races to tell us what we needed to change. They'd say, "Oh, just put a tin can around that coupler, that'll be alright." Well, that was the wrong thing to tell me. You can't go to the track and build your car; that's done in the shop before you hit the road. Today they send a message out in advance, which is the right way to do it.
PRI: Obviously, you've followed the career of your granddaughter, Krista Baldwin, from the beginning. As you watched Krista work toward advancing her career, what's the greatest challenge today for a young person who wants to race?
Karamesines: The finances are the biggest challenge. That, and finding a couple of guys to work on the car and be faithful to it.
PRI: Some things never change, I guess. It always comes down to money and people.
Karamesines: That's right. Krista, when she was 11 years old, I had her in my race car when we traveled around the country. Her dad (Bobby Baldwin) wanted to drive my car, too. All along, Krista has been right there with us. If you see her drive the car, you can see that. She got that from her dad and me.
PRI: In the beginning, you were a racer. But fairly quickly you had to become a businessman in order to survive. The racing business has never been easy. What were some of the hard business lessons in those early days?
Karamesines: You've got to watch out for some of your friends who are working for you, because they're the ones who go out the back door with your profits. But other than that, it came down to just loving what I was doing, basically, and having a great time while we were doing it.
PRI: One of the things you are known for is your work ethic. People say they couldn't keep up with you and that nobody worked harder than you. Where did you get that work ethic?
Karamesines: (Laughing.) Believe me...when people can't do what you tell 'em, you end up doing it yourself. You hire somebody and you end up doing his work, too. When I got out of the service, I was ready to go to work wherever I could and do what I had to do. And many a racer came to Chicago where we built their motor, put the rearend in their car, and put 'em up overnight. And we'd help them get race dates, things like that. From (Don) Prudhomme to Tommy Ivo, you name it. Guys from California, everywhere. We serviced everybody. And that was a lot of work, yes.
PRI: Is there a key to how you treat sponsors? What's the advice you would give people on how to work with their sponsors?
Karamesines: It's hard to answer that now, because everything is changing. Krista is working hard to find the right people to help her. And I can help her, maybe go with her to see the sponsors we're thinking about. That's part of the process. And I'll be one of her sponsors with my parts and things, so we don't have to spend money on some of the things. But a lot of people have helped me over the years, and the help they gave me was terrific. They stuck with me through thick and thin.

Chris Karamesines' strong work ethic was born out of a deep love for the sport, as well as sheer necessity. "Back then you had two people and yourself, and that was the team," he said.



Chris Karamesines' Chicago race shop is the stuff of legend—parts, equipment, engines, and cars—including the iconic Chizler, seen here during a recent (and rare) visit with the PRI Road Tour.

PRI: We're now seeing electric vehicles in drag racing. What's your opinion of electric dragsters?
Karamesines: That's for the young people. If they like cars like that, go for it.

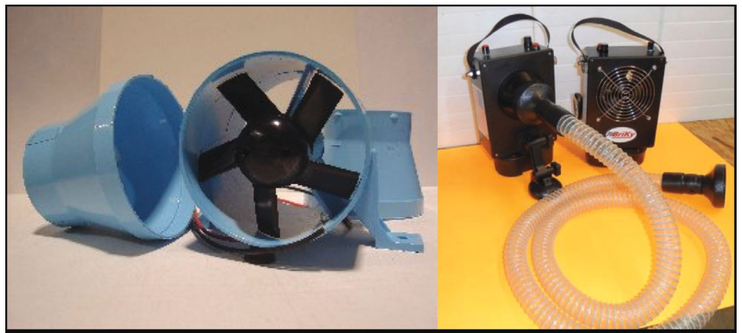
"IT WAS FUN GOING FAST, AND I STILL ENJOY IT."

PRI: Your life has been eventful, and the number of people you've encountered is really significant. What has brought you the most joy through the years? Survival? Friendship? Competition? What made you the happiest?
Karamesines: Friendship. No doubt about it. The people we met all over the country, that's the most important thing. People would do anything for us. And it's hard to find people like that, outside of racing.

When things went wrong, people hurried over to help. Lots of people. (Connie) Kalitta, Jim Head, so many people. They'd watch what I was doing, and they knew when I needed something. They worried about the old guy.

ONLINE BONUS

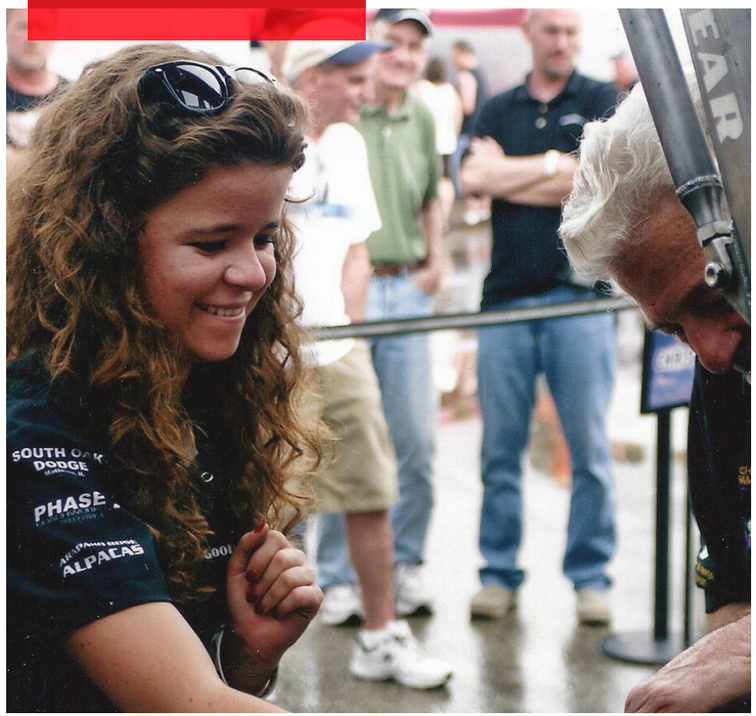
Scan here for a behind-the-scenes look at Chris "The Greek" Karamesines' legendary shop.



"WHEN I SAID I WAS RETIRED, THAT DIDN'T MEAN I WAS GOING TO QUIT DRAG RACING."

PRI: And I suspect that made you want to help people in return.
Karamesines: That's about it. We've helped people, too. Bobby Lagana and his family, we helped them when they were getting started. So many people, I can't remember all the names. Good people.
PRI: Now that you're officially retired, what does that mean? Will you still run an occasional race? How about some passes in one of your old cars?

"The Greek" retired from driving in late 2020, at the age of 89. He now focuses mainly on helping granddaughter Krista Baldwin, below, launch her Top Fuel driving career.



Karamesines: When I said I was retired, that didn't mean I was going to quit drag racing. I've still got my two older cars, so I could do different things. I've got a twin-engine car, I've got stuff that I can go out and enjoy myself, give myself something to do. I'm not a guy who will just sit at home and watch TV.
PRI: Those older cars, from the 1950s and 1960s, they remain very popular with fans. They love it when a guy like "The Greek" comes out and makes a few passes. It's almost like a fascination with that era. Why are people so interested in those early cars, and early personalities?
Karamesines: Back then, it was different. We were limited as far as the number of places we could go racing. People would come out to the track and once they got

Although no longer in the Top Fuel driver's seat, Chris Karamesines stays busy and plans to continue driving other race cars. "I'm not a guy who will just sit at home and watch TV," he told us.

to meet us, they would sit right beside our pit and watch us work on the car. Pretty soon they were bringing their kids out with them and would introduce us. "This is Chris Karamesines, and he did this, he did that..." and it never stopped.
PRI: I think that's good!
Karamesines: It sure was good. That's where it's at.
PRI: Normally, Chris, we would wrap this up by wishing you well in the future. But I want to just say thank you. You've been a good friend to a countless number of people in the sport for so many years, and you've given drag racing everything you've got. So on behalf of a lot of people, I say thanks, and I mean it. And thank you for giving us some of your time.
Karamesines: Well, thank you, Dave. I'm happy to have the chance to talk to you. PRI

Special Report:

SPHERES OF INFLUENCE

Armed with massive followings, racing and performance content creators are extending their reach from social media to the real world. So how much "influence" do they actually have?

By Drew Hardin

For those of us more familiar with traditional media and marketing, social media posts by so-called "influencers" may seem like casual, even goofy, slice-of-life or behind-the-scenes photos and videos.

And compared to the more serious automotive-related content we're used to seeing in trade and enthusiast magazines, they basically are.

But that's exactly the point. Talk to a racing-industry influencer about their relationship with their audience and words like "authentic," "relatable," "organic" and "credible" come up often. Their job is not to "push product." Instead, their influence comes from portraying a life on social media that their followers can experience vicariously online and then emulate in real life by buying the same products that the influencers use. Look more closely at an influencer's posts and the nuts-and-bolts information is often there, though in some cases it may be presented more informally than in a technical magazine article. Then again, depending on the influencer, the post may be just as technical, if not more so, than what a magazine could execute in a few pages. If a picture is worth a thousand words, the value of video with accompanying audio, produced by a likeable, knowledgeable influencer, can be exponentially greater than that.

Measuring that value, though, can be as complex as the influencer is casual. Traditional marketing terms can apply—return on investment, cost per thousand, and so on. Yet navigating the metrics of social media can be tricky, especially for those unclear on the differences between likes, reach, engagement, and other analytics.

To get a better idea of how influencers operate, how they benefit racing, and how a company can use an influencer to promote their brand, we recently spoke with several influencers in the motorsports space, along with some of the manufacturers and marketing companies that have relationships with them, and others with a front-row view of the influencer phenomenon.

WHAT IS AN INFLUENCER?

Influencers permeate social media culture in every area of interest. In the racing industry, the role of the influencer "isn't much different than an influencer in sneaker culture or food culture," said Jim Liaw of Formula Drift, Long Beach, California. "It's someone who is relevant to the audience, someone who the audience perceives as having some expertise or some connection with that particular hobby or skillset. The reason they have such influence is because they are felt by their followers as one of them. They may be famous or well off, but they still speak and relate to them more like a peer than some formal entity trying to educate them."

Formula Drift competitor Vaughn Gittin Jr.

The world of influencers such as Blake Wilkey may seem sharply different from traditional media, but the goals are basically the same—entertaining, educating, and inspiring.

An influencer "can be anyone who produces content on a level that people pay attention to, from 1,000 to a million or two million followers," said Jesse Kiser of Earnest Marketing, Winston-Salem, North Carolina. "You'll have people who produce very general, everyman content, and people who produce very hardcore, knowledge-based content. Both types are influencers."

"What's great about working with influencers is that they have these huge followings and are in touch with their audience," said Jeanette DesJardins of Car Chix, Crestview, Florida, an organization that promotes women in motorsports. "If I'm selling a product, and I want my product to be taken in positively, I'd reach out to one of these influencers rather than running a Facebook ad. They know what their audience likes and how their audience will respond. They know how to put products and services in front of their audience without being so sales-y or pitch-y."

"I don't really like the term 'influencer,'" said Emelia Hartford, whose most recent social media posts center around her twin-turbocharged, 1,000-horsepower C8 Corvette. "I tend to refer to myself as a 'builder' and 'driver' and sometimes 'content creator.' But the term defines someone who inspires and motivates a group of people toward a cause. From a company's standpoint, it can be a voice of a brand helping connect products to consumers in a more authentic way than classical marketing. From a hobbyist standpoint, I think it's someone who motivates people to follow their passion. At the end of the day, we all are influencers. Humans tend to look to their peers for direction or validation, and I think that's really the root of how this whole influencer concept came to light."

The authenticity Hartford mentioned stems from the fact that the products being featured by an influencer are often the same ones he or she would, or has already, bought for their own car.

"An influencer understands the product and wants to represent the company in full fashion with a product that they would actually spend their money on," said Blake Wilkey, whose Shreddy Lyfe brand and burgeoning career as an off-road racer took off with "Urban Assault," a 2016 guerilla-style video of him blasting around San Diego, California, in a highly modified off-road buggy. "I'm not selling something I don't stand behind 100%. If I have a question about a product, I test it first. Influencers have to know the product, trust the product, and be able to provide information to the consumer, so if someone sends them a direct message they can engage and provide that information to the audience."

"Within the automotive industry, an influencer is somebody who can show the automotive lifestyle and how products and brands incorporate into it," said Alex Taylor, an influencer who first got into drag racing with her father at age 16 and campaigns Badmaro, her twin-turbocharged 1968 Camaro. In Taylor's posts and videos, "I add my personality to try to keep people entertained. It's like a TV show, but I bring in the educational side, so the company gets the information out that it wants, and people listen to it without feeling like it's an advertisement."

"Everybody wants to live a certain lifestyle, and when you can't live that lifestyle, you try to live it through other people," said Casey Currie of Currie Enterprises, Corona, California. Taylor is one of a select few influencers Currie works with. "She's passionate about racing, and old cars, all the time. She captures it in a way that makes it interesting for other people to watch."

The appeal of driver-vloggers like Chris Forsberg, at left, comes largely from the personal, behind-the-scenes view they offer their audience. And with that openness comes valuable trust, our sources said.

INFLUENCER/RACER

Taylor and Wilkey were among several influencers we contacted who are also racers. Taylor started racing first and "sort of fell into the influencer space." Wilkey has been able to parlay the driving skills on display in his videos into sanctioned off-road races, most recently at the King of the Hammers event in Johnson Valley, California, where he won the Class 11 race for stock-bodied VWs.

"In our series it can go in two directions," Liaw said of Formula Drift. "We've had competitors who have grown in popularity and essentially went from a racer to assuming [their] role as influencer. And there are influencers who are enmeshed in car culture and want to dabble in drifting."

An example of the former is drifter Ryan Litteral, who entered the influencer field "with an accredited following, working for many years to grow a fan base based off my efforts in the motorsports field," he explained. "Competing in the top series of drifting in the world, I can showcase and present products being used at their max potential."

Given his double-threat marketing reach as a racer and influencer, Litteral prefers to describe his relationships with manufacturers as partnerships, not sponsorships. "When you have a partnership, not only do you sponsor me with ad space on the side of the vehicle, now you've gained a contracted employee outside of your company to spread the gospel and the knowledge of your products through social media channels and on track."

On the other side of the equation is an influencer like Adam LZ. "He is immensely popular as an influencer," Liaw said. "He builds cars, travels, talks about car culture and what he does. He got interested in drifting, started with grassroots competitions, and had the talent and ability to work his way up to our tier-one category." To Liaw, Adam LZ "has more to offer a brand partner" because "once they plug into his program, whether he's ranked third at the end of the season or thirteenth, he will still have multimillions of viewers per week."

"If we're leveraging the accomplishments of a racer on our own social media, we're not getting new eyeballs," said Chris Law of Haltech, Lexington, Kentucky. "We're just reaching people already following Haltech, reinforcing our vision with our existing audience. With an influencer, we're reaching new people who didn't understand what Haltech was before this specific influencer gave them an insight into how the customer experience is with us."

ONLINE BONUS

Scan the QR code to see how VW specialist EMPI works with influencers like Blake Wilkey.

The flavor and format of YouTube car shows vary greatly, attracting different audiences. Emelia Hartford said she's "a 'builder' and 'driver' and sometimes 'content creator.'"

It's that reach beyond the track that gives an influencer an advantage over a non-socially engaged driver, according to Taylor. "A driver who's not using a social platform has a limited window of people who might see them at the track," she explained. "You might give out a sticker or get a mention, but it's very structured. People have to be paying attention to notice it. An influencer would use a product within their daily life. You don't just see it on the weekend at a race. You have access to these social platforms on a 24-hour basis."

"Reach is definitely different between the racer and vlog-style social media influencers," said Reggie Wynn of Turbonetics, Moorpark, California. Wynn works with several influencers, including Hartford. "Once you get started with their YouTube videos, it's almost like watching a series. You want to binge-watch them going through the whole build process, what products they're going to use, and how they got their car to that point. With a racer you don't necessarily go that deep into the process."

Recognizing that advantage is why many racers are "building a fan base" online, Hartford said. "It is a lot of work to stay active in the digital space while honing skills on the race track. But people make decisions based on trusted information, and if that information is coming from the top expert, or their role model, they are going to trust it much more than classical marketing. Brands, especially in the automotive space, are really just starting to see how valuable that is compared to other forms of marketing."

CHOOSING AN INFLUENCER

"What one manufacturer is looking for in an influencer will differ from another manufacturer," said Law. "We're looking for someone who has an audience that we see as pre-qualified potential customers. We specifically want to reach the do-it-yourselfer who wants to tackle automotive modifications. And we want to stress our easily accessible technical support. It's important that the type of content that they're putting out is targeted in a way that makes sense with our target demographic and in line with the goals that we have." Litteral is one of those influencers "who fits that mold," Law said. "He's a professional-level motorsports athlete who works on his car."

Mike Hamrick at Wilwood Engineering, Camarillo, California, said his company's approach "is not about how many parts we sell working with an influencer. It's about whether the influencer can convey our message and help educate people in that marketplace. We don't want it to look like an infomercial. It's not, 'Look at these brand-new brake pads. They're the best thing ever!' It's more, 'Wilwood gave me these sets of brake pads to help me figure out what's the best to make our program work better, to make it safer for us to go faster.'"

Wilwood has been working with Wilkey since Hamrick met the influencer at the 2019 SEMA Show. "Five years ago, he was this kid down in San Diego, hooning around in a VW off-road car. Since all that happened and he got that social media influencing side to his persona, he has more followers on Instagram than Wilwood does. After meeting him I asked my son, who was 19 at the time, what he thought of Blake. He said, 'He's a cool dude, legit.' That's all I needed to know. I went back to Wilwood and said, 'We need to help this guy out, and he's going to do good things for us.' At the end of the day, he already has, and he's even buying products from us."

Wilkey's laid-back persona makes him relatable to his followers, but his work ethic demonstrates a level of professionalism necessary to best represent his manufacturer partners.

"Through my daily story posts I'm just waking up early and grinding it out, day in and day out, showcasing the process it takes for my program to work, whether it's video shoots, getting cars prepped and ready to go racing, or informative techniques around the shop that can make someone's life easier," he explained. "I try to share everything and anything I can to help better the audience, keeping it as organic and real as possible so the audience can see that it's a valuable product for them to invest in if it's relatable to them."

"Businesses should look at finding influencers who are professionals, but that's actually pretty difficult," Kiser noted. "Part of

an influencer's appeal is the fact that their followers think they can be their friends. The influencers are personable. They're cool. They're casual guys in T-shirts. You may not think of them as being professional, but they have to be someone who produces good, well-thought-out content to want to sponsor them."

RUNNING THE NUMBERS

The ubiquity of social media means researching influencers as potential partners is just a few clicks away.

"Go on social media and see who has the biggest following," said DesJardins. "You'll find them right away by paying attention to your personal news feed and seeing what people are sharing. Search the hashtags. The people considered top posters are the people with the largest engagement. Go through their pages, not just on one platform but on all of them. See how often they're posting and see what they're posting about."

When interviewing a potential influencer, "ask to see a screen shot of their analytic data from their social media pages," she added. "You can do it from Twitter, Instagram, Facebook, and YouTube. You might be surprised. Someone could have 1,000 likes on a post, but their reach is low or down. Are they paying for their posts to be boosted? In my opinion, impressions, how many times someone sees a post, have way more value than likes."

"THEY KNOW WHAT THEIR AUDIENCE LIKES AND HOW THEIR AUDIENCE WILL RESPOND."

For Currie, it's "the interaction Alex [Taylor] has with other car enthusiasts that's important, not how many followers she has or how many likes she has. Likes can be bought. To me it comes down to the interaction. They're influenced to buy their own car or buy some component that she's putting on her car."

Currie's point about the number of followers an influencer may have was echoed by others. When a racing company is reviewing an influencer for a potential partnership, more emphasis should be placed on who their followers are than on how many they have.

"I'd like as much data as an influencer can provide me," Kiser said. "They can give me a lot of actual data about who their audience is, not just the number of eyeballs. If you're going to give me an audience of 10,000 who want to buy my stuff or a million, I'm going to take the 10,000 if you can prove to me that your 10,000 align with the data I have on who's buying my product."

That was a real-world lesson learned by Kiser. "I gave product to a guy with a million-and-a-half followers, and it did not result in one sale," he said. On the other hand, one of his clients, Tick Performance, works with a drift racer and influencer named Kenny Slides. "What he does is very much in our wheelhouse. Any time our products are on his car, they're talked about. We can see real comments, tags, messages, and sales. We get all kinds of engagement working with him. Don't always think big-time. Think where your customer is, who your customer is watching, and what they're doing."

DesJardins had this tip about followers: "Say there are two people on one of those YouTube shows about cars. One's a guy, one's a girl. The girl more than likely will have a much bigger following than the guy, but a lot of people could be following her not because she's cool and into cars, but because she may be easy on the eyes and [they] find her entertaining. Her co-star may have a fraction of the followers, but it's likely they're all car people following that guy.

"You have to watch the numbers," DesJardins added. "Some of these companies or influencers may be buying followers—then you have ghost followers, fake accounts that are just bots that will never do anything for you or the influencer."

MAKING THE DEAL

"Kind of old school" is how Wynn described his approach to making a deal between an influencer and Turbonetics. "We go on more of a handshake type of thing. With an influencer who has a heavy social media following, we just ask that when they do post, that they hashtag and tag us in the product."

"To me it's a casual deal," Currie told us. "If we know we can fulfill a need, if you have more horsepower or bigger tires than a stock rearend can handle, come to us and we'll get you squared away. It comes down to personal relationships."

Currie admitted, though, to being "careful with who we work with. We keep the circle tight. We don't go out there and do a lot with influencers. We work with higher-end influencers who we feel are strong for our

Ryan Litteral's YouTube channel has a relatively small subscriber base, but his tightly focused niche and technical content make his audience valuable to partners.

The fantasy factor is an important element in the appeal of influencers. Kenny Slides entertains his audience with wild drifting antics in modern V8 muscle cars.

brand, and who will do a good job for our brand."

"It's almost like hiring a person," said Kiser. "Look at their character. Can I trust them? You do that by looking at their content, at how they handle their proposal, how they give you content, how they ask for things, what they're willing to offer. The more specific an influencer can be, the more specific the conversation can be."

Any relationship with an influencer should start with both sides agreeing on the partnership's goals, Taylor said. "Get everybody on the same page. Is this about reach? Sales? Decide on that beforehand so you can tailor the content to fit that. Then I go back and forth with the companies to make sure we are on target."

At Haltech, "we have a semi-formal contract procedure that outlines expectations of both parties, what we're expecting in exchange for product or monetary sponsorship," said Law. "For an influencer it's a little more open-ended than for a sponsored racer. We want them to have the freedom to create the content they have been creating, but there are some limitations placed on how they present the product. We ask in contract that they don't sugar-coat anything with the installation process. We want them to show reaching out for technical support when and if they need it."

The contract also specifies, though, that "the image of the product should always be held in highest regard," Law added. "They should always be looking at what the end user thinks of the product before publishing content they're creating." That stipulation was added to the contract after a situation where an influencer "had an issue with a product, and he used a click-bait-y title that made it seem like the product had done damage to the vehicle," Law explained. "It hadn't, but it got them some engagement, which is what they were after." Worse, there were "quite a few comments in the comments section that blamed the product we had supplied to the influencer, even though they had explained in the content that it was their fault. The damage was done, and they didn't do enough to mitigate that."

"IT'S LIKE A TV SHOW, BUT I BRING IN THE EDUCATIONAL SIDE, SO THE COMPANY GETS THE INFORMATION OUT THAT IT WANTS, AND PEOPLE LISTEN TO IT WITHOUT FEELING LIKE IT'S AN ADVERTISEMENT."

Whether it's done with a handshake or a formal contract, compensation for an influencer often consists of parts donations or partial sponsorship of parts.

For Kiser, payment boils down to "cost versus reward. If we're sponsoring an influencer with a $7,000 transmission, that is a very different discussion than if an influencer wants a camshaft for a couple hundred bucks. We would need a lot of content for that transmission."

An influencer who is also a professional racer, however, will require monetary compensation. "Race programs don't run on product, especially year in and year out," Law said.

"If you want to work with Steph Papadakis or with Vaughn Gittin Jr., these are the top accredited teams, but they have seven-figure budgets, so you have to pay to play," Litteral said. "A company might be able to get more for their dollar working with a privateer team that's up-and-coming. Someone like me, in terms of justifying the spend, we're able to provide all our impressions and engagements. Due to our CPM (cost per thousand impressions) value, I think we give a lot of return for what we are requesting on the initial investment from a company."

An influencer like Alex Taylor "can show the automotive lifestyle and how products and brands incorporate into it."

"You don't always need a lot of money to work with an influencer," Kiser pointed out. "If you give an influencer something they can't get on their own—time, resources, convenience—they should be able to work with you."

ULTIMATE GOAL

"Here's the biggest thing companies need to understand," Litteral said. "I can give you everything in the world. I can give you all the high-gloss shots and rad camera footage. But if you don't take that into your own hands to use for your own brand and market it effectively between the sales team and marketing department for things outside of what we are directly doing, then you're wasting your time."

It's those things "outside of what we are doing" that are key to maximizing an influencer's reach, Litteral said. "We want to hit a new demographic. That's the biggest thing. Look at skateboarding. Why is skateboarding successful? Because anybody can buy a $100 skateboard. They have a professional side to it, and they have a street side to it. Ball sports are the same way. It's a very obtainable thing and a very cool thing.

"Well, everybody drives a car," he continued. "So how do we meet new customers, get more people aware and involved? How do we correlate what we do into everyday life? How does it pertain to the layman? Say you have really cool wheels, you showcase that. Or a shift knob, or aesthetic parts, or ECUs that get better gas mileage. Show people they are cool, so they want to put them on their car. I think that's the ultimate goal here. Sell more product and make more money. We have to think bigger, make it bigger." PRI

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HITTING PAY DIRT

Suppliers are leveraging the latest technology and machinery to up the ante in the dirt modified market, from the entry-level ranks to the upper echelons.

By David Bellm

Dirt modifieds are a delicate balancing act. With gobs of power, little tires, and car counts resembling rush-hour traffic, the difference between victory and defeat can be smaller than a gnat's haircut.

And that balancing act isn't just on the track. In presenting one of America's most popular forms of racing, dirt modified sanctioning bodies have to walk an equally fine line between serious competitors with big budgets and entry-level racers looking to have a good time on hamburger money.

The results of this dynamic are cars that don't really change much in the broad brushstrokes, but rather go through frequent changes in their details—particularly regarding engines.

We recently caught up with our sources in the dirt modified market to better understand these trends and learn more about today's key developments, as well as to share a glimpse of where the sport should, and could, be headed.

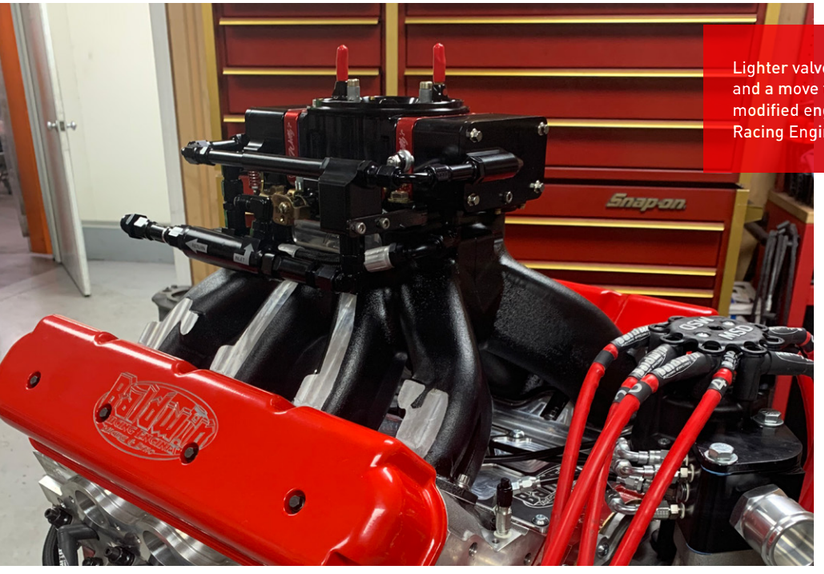
ENGINES

Our sources confirmed that engines are indeed responsible for much of the current movement in dirt modifieds, with developments lately being driven primarily by new components. "For modifieds, probably the biggest changes we've seen lately are in the valvetrain—new cam designs, lighter components, and stiffer rockers and pushrods," noted Jack Cornett of Cornett Racing Engines, Somerset, Kentucky.

These increasingly sophisticated valvetrain components are allowing engine builders to put motors together with power curves that more precisely suit the needs of racers and the tracks they run on. At the same time, modified teams are getting more advanced in their chassis setup, often employing spring smashers, data acquisition, and other exacting equipment. The resulting setups are highly capable and provide new opportunities for savvy engine builders to create more effective powerplants.

"We're putting a lot of torque into these modified engines, because the chassis have gotten so much better," said Jeff Baldwin of Baldwin Racing Engines, Friedheim, Missouri. "We've broadened the torque curve out a lot. That's allowed them to restart a lot lower in the rpm range. Even though they're on a little eight-inch tire, the chassis can handle it."

At the same time, modified engine builders we spoke with are investing in advanced machining equipment, which is launching a revolution in cylinder preparation. "The biggest thing right now is honing and piston rings," said Baldwin. "Everything is going to a steel ring or tool-steel ring—a really hard ring. Well, the problem with that is if you don't have diamond honing equipment, you just have so much trouble sealing the new hard rings, because they don't store oil like the old moly and cast-iron rings did. They were like a sponge. They held all the oil so you didn't need to have your cylinder walls all that good. Now your cylinder walls have to be very, very good to make the new rings work.



Lighter valvetrain components, sophisticated honing, and a move to the LS platform are reshaping the dirt-modified engine market. Photo courtesy of Baldwin Racing Engines.

"With the diamond hone, rings break in almost instantly now, versus before it would take forever," Baldwin continued. "We haven't had a chance to dyno an engine with the new honing, but the guys that I've talked to are seeing 15 to 20 horsepower gains. And if it prevents the side of the piston from scuffing, we could run the pistons twice as long—get an extra freshen out of it. That's a win for everybody."

And while these new developments are reshaping how engines are built, there's also a move toward an entirely different engine, namely the LS platform. "The LS really started taking off in 2017," observed Baldwin. "The torque is just so much smoother on LS's, because of how the cylinder head platform and the intakes are on them. We can make quite a bit more power with an LS using off-the-shelf parts—not anything custom. We can also build them a lot cheaper than a wide bore or something like that and make almost the same power."

Alongside engines like the LS, there's a noticeable trend toward crate engines and tightly regulated spec engines among several sanctioning bodies. But even in those series that focus on spec engines, there's still plenty of room for development.

"For modifieds, we only do the USMTS (United States Modified Touring Series) spec engine, which runs the Brodix spec head," said Andy Durham of Durham Racing Engines, High Point, North Carolina. "A lot of people think that because that engine has an unported head, it doesn't do any good to port that manifold. But we found that absolutely isn't true. It does make a big difference to port the manifold. And then we play with a lot of stuff in the valvetrain, trying to optimize the exhaust valve opening and the intake valve closing events—trying to trick the head, so to speak. We want to fill the cylinder up and get as much packed into it as we can before we crack on that exhaust valve, to where we're not blowing it out the pipe."

As with most series, the USMTS rulebook dictates most of the trends its racers can pursue in engine development. And with that as the driving force, engine preferences change quickly and often.

"Last year, USMTS took the motors that were bigger than 372 inches and told them they could only run 7,800 rpm," stated Durham. "So then guys started building smaller-cubic-inch motors, like 365 and 370 cubic inches. Well, that seemed to be a little bit of an advantage last year. Then this year, they went back and allowed the big motors to run higher rpm's again. So now, we don't really know if it's going to be an advantage to have a little motor."

Modified racers generally don't seem to be spending more on engines lately, according to our contacts. But that may soon change. "I didn't really see a big increase in spending last year, though we're kind of on the higher end of the pricing for those motors," said Durham. "But sanctioning bodies are upping purses this year. They're going to have a lot of $10,000-to-win shows. So I suspect there will be more thought put into motors."

Dirt modifieds are simple, fun, and relatively inexpensive, making them enormously popular, as races are typically a mix of spendy teams and hobbyist racers.

That leads us back to the age-old bind for modified racers—how restrictive should rules be? Some engine builders feel they're currently too open. "Honestly, some of these rules, the way they're written, they don't put any restrictions on engines," said Baldwin. "I hate it for the customer, because it's so expensive. To build an open B-Mod engine, where we don't have cubic-inch rules, the only real rule is steel head, steel block. That's an $18,000 build."

And oftentimes having relatively unrestricted engine rules can result in higher costs for other, less obvious reasons, according to Durham: "Right now, USMTS has that spec motor. They've got a crate motor. They've got a 525 engine. And you can still run an open engine. It's crazy. Some guys use all these engines depending on what track they're going to. It would be better if USMTS just told everybody, 'Hey, you're going to have a five-inch spoiler, you're going to weigh 2,450 pounds, and we'll all run this spec head.'"

Some sources fear rising costs could eventually hurt the appeal of dirt modifieds. But for now, the class remains one of the most popular types of dirt racing in America.

BODY AND CHASSIS

For the most part, dirt modified bodies and chassis don't appear to be experiencing the same sort of dramatic shifts that engine building has lately, with the exception of suspension. "The last two years, the suspension has changed a lot," said Bobby Hearn of TEO Fabrication, Vernon Township, New Jersey. "We went from mostly torsion-bar

Chassis builders are increasingly using CAD/CAM to design and build parts, resulting in more precise assembly. "Everything's computer generated now," said our source at TEO Fabrication.

cars to now it's mostly coil cars. It just kind of exploded in the last few years. Once a couple guys got going really good with some coil cars, everybody changed their focus to go that direction."

Although there seems to be somewhat of a follow-the-leader aspect to this shift in suspension technology, it's also likely that the move can be at least partially attributed to the increasing sophistication of modified teams. With widespread use of data acquisition and other suspension tuning tools, teams are better equipped to take advantage of the greater setup options afforded by coil-spring suspension.

Unlike the chassis, however, bodies of dirt modified cars are essentially unchanged. Some feel that this lack of progress detracts from the sport as a whole. "I kind of wish we would change the body rules a little bit," stated Hearn. "I know, nobody wants to hear that. But we've had the same body rules for 20 years or more. I'd like to open the rules up. That way fans can see the difference between classes."

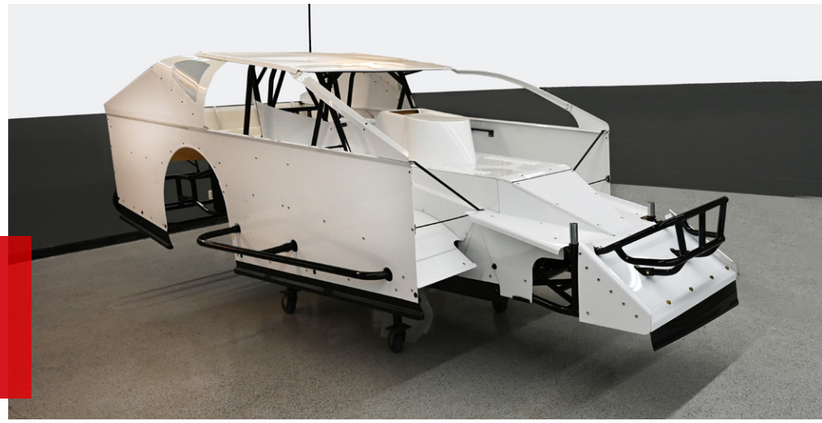
For now, manufacturers are making mostly small detail changes to modified bodies, typically in response to racers pushing rules to gain an advantage. "The only thing we changed this year was on the sail panels," said Neal Cullum of GRT Race Cars, Greenbrier, Arkansas. "Some guys were bowing them so much, trying to catch air on the left side."

MANUFACTURING

While racers in the dirt modified world are becoming more sophisticated, so too are the companies producing components for them. In particular, the use of CAD/CAM equipment is increasingly being perceived as vital to a shop's long-term survival. "Shops that don't invest in CNC are going to be in trouble," said Baldwin. "The only downside to the equipment is paying for it. But I'll get it back in labor savings. On our new CNC honing machine, what used to take us four-and-a-half hours—literally the guy standing in front of the machine the whole time—now takes us an hour and a half. And the guy is in front of the machine for about five minutes."

More fabricators are getting on board with this trend, too. One of them, Troyer Dirt Cars in Spencerport, New York, recently underwent an extensive revamp of its entire company. The top-to-bottom reorganization has allowed Troyer to bring advanced technologies to its classic chassis designs. "Over [the] last year, we've gone through and done CAD drawings on the car," said Mark Lipari. "So now the car has been completely engineered in CAD drawings. And we're actually re-fixturing our build process to bring it up to the next standard."

A similar process is underway at TEO



At Troyer Dirt Cars in Spencerport, New York, an extensive company revamp has brought advanced technologies to its classic chassis designs.

Fabrication, as the company looks to maximize the efficiency of its workforce while simultaneously improving the quality and consistency of its cars. “We have 12 guys. We’ll probably build about 100 cars this year,” said Hearn. “The biggest thing for us is we’ve invested in a lot of new equipment to make sure we have enough CNC tubing benders and CNC cutters. So we’re excited about that. Everything’s computer generated now. Nothing is done by hand like it was.”

A BALANCING ACT

Overall, the dirt modified market is experiencing many of the same transitions and growing pains as other forms of motorsports. At the center of this is the ongoing question of which wing of the sport will ultimately dominate—the serious, high-end side of racing or the more entry-level hobbyist crowd.

That debate makes the work of sanctioning bodies even tougher than it already was. In any form of racing, there’s the seemingly inevitable upward spiral of costs, commitment, and intensity. Will the evolution of dirt modifieds someday put them out of reach for the grassroots enthusiasts that make up the core of the sport?

It could happen. But many of our sources made it clear how important it is to control these potentially damaging developments to ensure the long-term health of this popular, relatively easy-to-enter segment.

“The great thing about modifieds is that the whole division was built years ago as a cheaper way to go racing,” said Tom Sandal of Carolina Racing Supply, Mooresville, North Carolina. “Let’s not forget that.” PRI

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PAVING THE WAY

How asphalt modified event organizers are working to keep car counts up while smoothing out any rough edges.

By Bradley Iger

Asphalt modified racing is undoubtedly a hot commodity these days. Despite the turmoil of 2020, various series have seen strong car counts in a number of different divisions, and from the looks of it, it's a trend that will carry additional momentum going into the 2021 season.

"We had a 50% capacity restriction last year due to COVID," said Michelle Cloutier of Monadnock Speedway, Winchester, New Hampshire. "But thankfully, it didn't really affect our bottom line—in fact, it was one of our best seasons in years. There were only so many things open in our area, so that translated to a lot of new faces. And, of course, the hope is that it continues through this year, with the expectation that more people will be able to come back to the race track."

But the popularity of these tube chassis oval track racers didn't happen by accident, nor did it appear overnight. The success of asphalt modified racing, particularly in the eastern regions of the United States, has been the result of concerted efforts by tracks, promoters, and racers to shape this into an inclusive and adaptable racing discipline.

Photo courtesy of Stafford Motor Speedway

Despite a rocky 2020, asphalt modified racing is on a winning streak, as our source at Stafford Motor Speedway reports car counts as high as 50 entries for a single race.

"These guys can put together a car and run it at a variety of different tracks with a number of different series and divisions with minimal adjustment," noted Kyle Souza of the Tri Track Open Modified Series, Seekonk, Massachusetts. "And that's incredibly appealing to a driver—I have drivers who've run 10 to 12 different tracks using the same car with five or six different series. They're able to go out there, have fun trying different things, and come back to race at their local tracks close to home when they want to."

But that doesn't mean there aren't also significant challenges that have the potential to create headwinds. "The teams are pretty excited about what's going on right now," said Mark Arute of Stafford Motor Speedway, Stafford Springs, Connecticut. "But the thing that's always been a big concern is the economy. That, of course, affects both the teams and the tracks, and how that will shake out over the next few years is still a big unknown. But there's a lot of optimism right now."

To ensure the ongoing health of the sport, organizers and racers continue to work together to refine the rough edges where they exist. And as we all know, when it comes to racing, appeasing all parties involved can be a very delicate balance. Yet in the case of asphalt modifieds, the strategies appear to be working.

STRENGTH IN NUMBERS

"Asphalt modified racing is going through kind of an evolutionary period at the moment, and we're seeing that tour-type modifieds are kind of the thing right now," said Souza. "It allows a variety of different competitors to come from a variety of different places. Teams don't want to spend tons of money to run full-time in the NASCAR Whelen Modified Tour and are instead coming to run in series like ours, where we have six or seven races a season, or they're competing in series operated by their local tracks."

And Stafford Motor Speedway's Open Modified Series serves as a good example of the latter. "A few years ago, we decided that we wanted to run our own series of open races where we tech the cars, and it quickly became very popular," Arute said. "Our purses paid out a comparable amount to our competitors versus the Whelen tour, but we were able to contain our expenses within our own group. It's incredible what has happened with these Open cars—there's been a big shift toward them. We had a Tri Track event here last fall where we had over 50 entries for one race in that one division."

And, as Cloutier explained, the widespread adoption of GM's durable 604 crate engine package has been a significant factor in that. "Our weekly Division I races in NHSTRA Modifieds continually see a lot of interest. We have three tracks that regularly run them, and we're all on the same 604 crate. Ever since we moved to the 604 package a few years ago, the fields have definitely continued to grow. The 604 is a legitimate race engine, and it has helped these drivers be competitive across a number of different series. A number of our drivers also compete in Tri Track events with their 604s and do quite well."

Cost control often drives rule changes. Tracks like Monadnock Speedway, for example, have adopted a strict tire rule in which racers buy eight tires for the season and can replace two tires per week.

The prospect of significant payouts is also an incentive that keeps racers at all levels of competitiveness involved. "I think the purse structures are really good right now," Souza told us. "With the Tri Track series, our purse is over $40,000 for one race, and we pay 26 cars to start the race. So even if you finish in 26th place, you're still awarded $1,000. We're also paying out even if you don't make it into the race—we're averaging somewhere between 35 to 40 cars, roughly. Even the racers that don't qualify go home with at least 300 bucks. And that's not just us, either—these local tracks have really good purses for their asphalt modified races, too. The drivers know that they're probably not going to make a bunch of money through racing, but they're more comfortable getting involved when they see these purse structures and realize that they're not potentially going to lose a lot of money if they go run a certain race, even if they don't finish well."

STRIKING A BALANCE

Even with generous payouts, asphalt modified racing can be a costly endeavor for drivers. But as technology improves and the competition gets fiercer, organizers also have to find ways to keep performance in parity amongst the field without forcing racers' significant investments into obsolescence—or allow teams with deeper pockets to out-spend the competition in order to move to the front of the pack.

"You don't go to the junkyard for any of this stuff, so it can be very expensive," said Arute. "So we do have some pretty stringent tire rules here. Most of these guys can't afford to continually bolt on a new set of tires every week. So basically, you start off the season with an inventory of tires, and after every race you can swap two of them. That can be frustrating to some competitors because they feel they could run faster. But what some of them fail to realize is that, if everyone had a new set of tires every week, we'd just be right back where we started in terms of competitiveness. Everyone would just be spending more money to get there."

Asphalt modified racers are leaning toward small, relatively local series over big tours, according to our source at Tri Track Open Modified Series, where standardized rules have made it appealing to run multiple series.

Cloutier told us that Monadnock Speedway has adopted this tire rule as well. "In the last few years we've done some small changes, and the focus has been on keeping the costs down. The two-tire rule was implemented to make sure people can't out-spend each other on those. At the beginning of the season we allow the competitors to buy eight tires for inventory, and they're allowed to replace two tires per week for the season. And if the teams do it right, they should have good tires throughout the year."

Souza said the adoption of a more standardized rule set across various series is a big part of asphalt modified racing's recent evolution. "Over the last three to four years, Tri Track has kind of taken the lead on putting together a generalized rule set that would be able to conform to what everyone wants to do," he explained. "And I think that, as far as rule sets go, that's been the biggest change—the rule sets are all now much closer to one another, and series are now more likely to work with each other to make sure that everyone can run with the same car across a number of different events with minimal changes."

Souza added that improving the lines of communication has been another key factor in the asphalt modified success story. "Honestly, the biggest change to me is the fact that the promoters are willing to work together," he admitted. "Previously, the promoters typically didn't talk with one another, but the promoters up here get along really well now—they're willing to work with each other and make sure they're not stepping on one another. That's a big shift from five years ago or so when the promoters didn't get along, and that made it more difficult not only for the promoters, but the drivers and tracks as well. When the promoters don't talk, you end up with situations where there are two big modified races within three hours of each other on the same night. That doesn't benefit anyone."

Better communication between promoters and a willingness to work together on scheduling has been a boon to modified racing—and drivers—in recent years, according to our sources. Photo courtesy of Stafford Motor Speedway.

The success of asphalt modifieds brings concerns of over-saturation, with too many events for racers to choose from. But it's a feast for fans, and the sport overall is enjoying vibrant health. Photo courtesy of Tri Track Open Modified Series.

THE ROAD AHEAD

Though all agree that asphalt modified racing is in a good place right now, there's some trepidation about allowing the pendulum to swing too far in the opposite direction as restrictions are lifted and racers return to the track in increasing numbers.

"It's been something we've had to keep our eye on for the last couple of years, actually," Cloutier recalled. "You have MRS (Modified Racing Series), you have Tri Track, you have Whelen Modifieds, and now everybody's trying to schedule things where it's not conflicting with another event because they're sharing drivers. Choice is great, but at a certain point it's not special anymore. And that affects the fanbase, too. There's only so many events you can do in a season."

It's an issue that Souza characterized as over-saturation. "I think the market for 2021 is a little bit flooded. Right now, from April to October, there's over 40 open modified races that are scheduled from New York to Maine, and that translates to just three weekends where there isn't an event. So from a driver's perspective, they're going to have to pick and choose what races they're going to compete in—it's just not feasible to say that you're going to run 40 races in a season. You can't run every weekend like that. So that's a new challenge that's coming onto the scene here kind of inadvertently. But from a fan's perspective, it's shaping up to be phenomenal year for asphalt modified racing. So we'll see how it goes for 2021, and that will kind of guide the way going into 2022," he concluded. PRI

SOURCES

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GRT RACE CARS

Building winners for nearly three decades, this Arkansas fabricator has emerged from recent tragedy with renewed focus.

By Jim Koscs

When your company slogan is "We Build Winners," there isn't much wiggle room for missing the target. Over nearly three decades, GRT Race Cars of Greenbrier, Arkansas, has built a stellar reputation and can point to a long list of racing wins, championships, and star drivers among its accomplishments. Most recently, GRT won IMCA's 2020 Manufacturers' Cup competition, earning 49 points to the second-place builder's 34.

The latest accolade came as a welcome spirit booster as GRT moves forward from the tragic death of founder Joe Garrison in 2019. Many racers could share stories of their camaraderie with Garrison over the decades. His widow, Katie Garrison, recently stepped away from the business to deal with her own health concerns.

Wesley Wise, a dirt driver since age 14 and someone who's been enjoying his own success with GRT-built modifieds, stepped in to manage the business in early 2020. He recently told us that his top priority is to maintain the company's renowned build quality while driving growth in both car production and parts sales.

HUMBLE BEGINNINGS, BIG IMPACT

Like many builders across the racing spectrum, GRT began in its founder's garage. Today, the business occupies three buildings with a nearly 20,000-square-foot presence, including a 5,000-square-foot parts warehouse. Indeed, parts sales remains a major component of the business, with the teamgrt.com website touting about 100 race and performance brands. Although customers cannot yet order parts through the site, Wise said that service will be available before too long.

The main business, of course, is building race cars. And they've built a lot of them—more than 3,200 dirt late models and 1,700 modifieds over the company's history.

The front shop handles the interior and jig work, and also houses the main office and parts operation. Another building houses the machine shop, CNC lathe, welding, and related work. In between is the powder coating shop.

The facility has built a little over 100 dirt modifieds a year for the past few years, according to Neal Cullum. A GRT veteran, Cullum returned to the business five years ago after a long stint running and then selling his own body shop supply business. He said GRT also builds a small number of dirt late models per year, and built about a dozen stock cars in 2020.

Cullum said the production mix has changed over the years, with modifieds and dirt late models essentially swapping positions in their share of production. He pointed out, though, that dirt late model production has been edging upward recently. He called the jig the most important piece of equipment in the shop, since, of course, you cannot build a car without it.

Wise indicated that GRT was aiming to increase annual production but did not give a specific target, simply saying they wanted to "build as many as we can sell."

GRT Race Cars is in transition after the 2019 death of founder Joe Garrison, but output remains strong—over 100 modifieds, about a dozen stock cars, and a few dirt late models per year.

GRT modified drivers have captured wins in a number of high-profile events over the years, including the $100,000-to-win Modified Special and the World Modified Championship at Batesville Speedway (Arkansas), the Xtreme Modified Super Nationals at State Fair Speedway (Oklahoma), the Justin Stanfill Memorial and Show-Me Championship at West Plains Motor Speedway (Missouri), and many more.

STAFF GROWTH

GRT currently employs about a dozen people, having recently hired a few new techs for production. Cullum explained this was not a common scenario for the company, and that turnover has not historically been an issue for GRT.

"Most employees have been here many years," he said. "Some older employees, including me, have come back."

Cullum added that finding the right balance in an employee can sometimes be a challenge. "They have to have some good sense about them, because it's repetitive work," he said. "You have to want to work, and you have to have the care factor."

DECADES OF EXPERTISE

Cullum and Wise are quick to credit their builders for maintaining high quality standards at GRT. Tim Macomber, the main welder, has been with GRT for more than 25 years. Mike Strope, the interior and deck man, has been with the company for 20-plus.

"They're very meticulous," said Cullum, who handles body and mechanical work. "I'm pretty picky myself. We get a lot of compliments on our work. When racers pick them up, they're always pleased with the sheet metal work. Then, when they get the car home, they see what's under it and it makes them even happier."

He again emphasized personal commitment as critical to quality. "You have to have people that care," he said. "Tim has a couple of new guys helping. They all take their time."

Macomber emphasized that he inspects all of the work done by those he supervises to ensure quality, and that nothing is taken for granted. "We're always working to build a better quality car," he said.

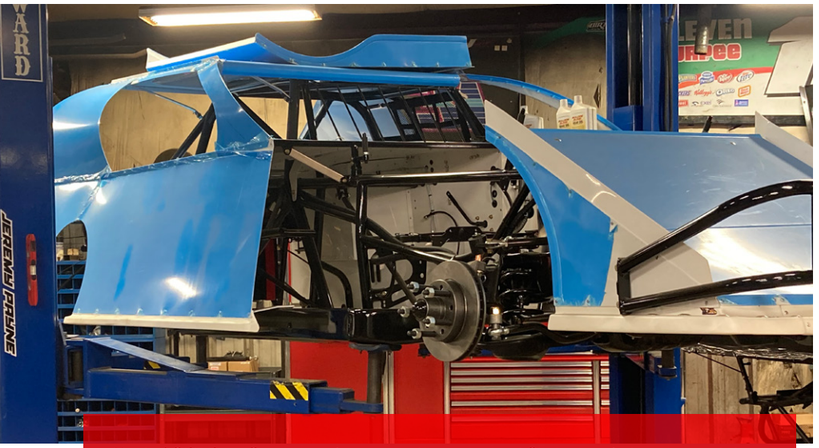
NATIONWIDE DEALERS

Most GRT cars are sold through about 35 dealers in two dozen states. The newest addition, Speciale Engines in Frederick, Maryland, took delivery of its first GRT dirt late model in late January. Local racers usually order directly from GRT, Cullum said.

Wise explained that dealers or customers will pick up the cars themselves or send someone to haul them. Dealers commonly pick up three at a time.

Many of the dealers are also drivers, including fan favorites Jordan Grabouski in Nebraska and Terry Phillips in Missouri. Phillips has been a certified GRT dealer for more than 20 years and has been driving GRT cars for even longer; decades ago, his father became good friends with Garrison after meeting him at a race in Florida.

Four-time national modified champion Jordan Grabouski has owned "about 20" GRT cars during his racing career. "Their quality and craftsmanship are second to none," he said.



Most of GRT Race Cars' chassis are sold through about 35 dealers in two dozen states. Local racers usually order directly, said a company source.

As Phillips explained, his father was unhappy with his car at the time, and Garrison helped him take the parts off a show car he'd brought to the races and install them on his car. Pleased with the results, the elder Phillips switched to driving GRT cars. When Terry was still in high school in the 1980s and driving another builder's car, he'd gotten to work on his father's GRT car, and the experience was an eye-opener for him.

"I saw how well they were made and began driving for them," recalled the 2020 National Dirt Late Model Hall of Fame inductee.

Phillips began with a series of GRT dirt late models and then switched over to modifieds in 2005, winning the $100,000 Modified Special at Batesville Speedway that year. He has been driving and selling GRT modifieds since.

Phillips said his most memorable wins included the $33,000 Show-Me 100 in 1999 and the $100,000 Modified race in 2005.

"We sell quite a few," he told PRI about the GRT cars.

Phillips' close friend and fellow racer Grabouski, also a frequent visitor to the podium, has been racing GRT cars full-time since 2013. "I've had good luck in GRT race cars," the four-time national modified champion said with casual modesty. He also was instrumental in GRT's IMCA Manufacturers' Cup last year, taking the Jet Racing Central Region crown for the fifth time.

Grabouski began racing at age 11 in a mini-sprint and has seen enough cars during his career to compare quality. "I've had about 20 GRT cars," he said. "Their quality and craftsmanship are second to none. It's just one of the best cars on the market. The quality and consistency are as good today as they were 20 years ago."

MODERNIZING PARTS SALES

As mentioned, GRT's parts business handles more than 100 brands, according to the website, and that keeps its shippers plenty busy.

"We have a big parts business," confirmed Wise. "It's a critical part of GRT. We're working on keeping enough inventory so that when someone calls, we can ship it out that day."

All parts inventory is located at company headquarters. There are no other warehouses around the country, though some dealers keep parts in stock. The most common parts GRT ships are front suspension and bumpers, and the largest parts shipped on a regular basis are body and interior kits. Those large pieces ship via FedEx Freight, and the rest go by UPS.

While GRT can provide same-day shipping, it is the ordering process that Wise wants to modernize. Right now, most orders come in over the phone; some others arrive through email. While phone is a good way to keep in touch with racers, Wise understands that what they really want is online ordering. A website update to add that service is among his near-term goals.

CHANGE ON THE HORIZON

Wise said he is looking forward to the opportunities ahead for GRT. The business is growing, and not only because of the start of racing season. While the company is busy filling a backlog of car orders, Wise quipped that he wants to implement "a million things."

New hires will help the company meet increasing demand, and Wise also has some ideas for the cars. "We want to focus on making our cars as customer-friendly as possible, to make it simpler for them to dial themselves in rather than dial themselves out," he said.

As for marketing and promotion, GRT maintains and updates a Facebook page, showcasing its racers' success as well as its own business news. Cullum said there is an occasional class sponsorship at a track, and that dealers advertise their GRT affiliation. The company, though, relies mostly on winning races to stay top-of-mind and drive sales.

"Our reputation and word-of-mouth are the biggest business drivers," Wise said. "Our product speaks for itself." PRI

Neal Cullum handles body and mechanical work, focusing on craftsmanship and personal pride in the cars GRT builds. "We get a lot of compliments on our work."

Photo courtesy of Lucas Oil Products

FLUID DYNAMICS

How lubrication companies are adapting to changes in the performance industry, and the products they're bringing to market.

By Drew Hardin

Some oil and lubricant companies are finding themselves at a crossroads, their product development teams being pulled by opposing market forces. On one hand, the lubrication needs of passenger cars are being driven by ever-present pressures to increase fuel economy. One result of this trend is the formulation of thinner and thinner oils, with viscosity "down to dangerous levels if you aren't using an oil with high film strength," said Len Groom of AMSOIL, Superior, Wisconsin. It's not uncommon to see manufacturers recommend multigrade oils with the winter weight in the single digits—or less. "When you're talking about 0W-16 or 0W-20s, you need to really pay attention to what you're doing so you don't get bearing wear."

"We actually have a 0W-0 in R&D right now," added Kyle Fischer of Hot Shot's Secret, Mt. Gilead, Ohio. "It looks like the consistency of water."

On another front, the American Petroleum Institute (API) recently drafted a new SP oil specification to help prevent low-speed pre-ignition (LSPI), which is "the tendency for a turbocharged engine to detonate at low rpm but high boost pressure," Groom explained. "In order to get the mileage they're looking for, [automakers] have to tune the timing and fuel map at a place where it gets close to detonating the piston. A properly formulated racing oil is going to have a tough time passing that spec due to the way oils are put together."

And there's the crossroads: "To make some of the mileage requirements, you have to do things to the product that won't be great for a race engine," Groom said. "There was a time when an oil could do both jobs, but now the passenger car world and the racing world have gotten so specialized, it's almost impossible to do both jobs with one product."

Some lubrication companies have found a way to do both, while others choose to concentrate purely on the racing side of the industry. What follows is a look at some of the latest oil and lubrication products formulated to meet racing's high-powered, high-pressure demands.

"OUR OIL IN EVERYTHING"

TriboDyn in Mooresville, North Carolina, is launching "a whole new generation of engine oils," said Mark Wheatley. Where the company previously had just one high-performance fully synthetic lubricant, it will now have two, TRI-EX and TRI-EX2.

TRI-EX2 is "an improved formula of our original product," Wheatley explained. The patented ceramic lubricant forms "a ceramic coating on the substrate during extreme conditions. It's designed to adhere right before micro-welding or galling and stop those things." Many racing oils tout their ability to withstand extreme pressure, but Wheatley has independent testing to back up the claim, showing the oil maintains its film strength at pressures above 300,000 psi. The new TRI-EX2 formulation still comes out of the bottle in its distinctive blue color, though there is less dye in the new formulation to help avoid stains.

TriboDyn's all-new TRI-EX has a proprietary synthetic formula that "treats the metal," Wheatley said. "It embeds itself in the metal to fill in the pores and make it

> *"WE ACTUALLY HAVE A 0W-0 IN R&D RIGHT NOW. IT LOOKS LIKE THE CONSISTENCY OF WATER."*

smoother, slipperier." Early testing of the oil indicates that the friction-reducing properties from its metal treatment only improve over time. An Australian superbike rider tried the new oil in his Honda CBR1000RR and compared it with another oil brand. Not only did the engine make more power on the dyno with the TriboDyn oil, but it also kept "getting better and better on the road," the rider told Wheatley. A year and about 3,000 miles after first putting the TRI-EX in, the Honda made even more power on the dyno.

Both new TriboDyn oils meet or exceed API specs, Wheatley said. "I want our oil to go into everything. It will lower operating temperatures and protect the engine, but you can also put it in a race car. That's what it's really built for, but why not have better oil in your daily driver?"

Wheatley plans to introduce the new TRI-EX oil in the spring, at a price point of around $12.50 per quart. TRI-EX2 will phase in at about the same time, priced at between $16 and $17 per quart. Both oils will be manufactured in Mooresville and will be available in quarts and gallons, "but we can special-order pails and drums," he said.

EFFICIENCY

Lubrication companies have various ways of describing their products' relationship to power—how an oil can "make" power or "free" power. The key factor here is efficiency: Engine output will increase as its efficiency increases.

Engine efficiency loss is primarily due to friction between its hardware components. Data collected by VP Racing Fuels in San Antonio, Texas, show that most of that loss comes from the main bearings, followed by the piston rings. By reducing this metal-to-metal friction with properly formulated oils, an engine will see increases in horsepower, torque, and fuel economy, as well as lower operating temperatures—all signs of improved engine efficiency.

VP's approach to formulating a high-performance lubricant is three-fold, a company source said: Improve the ability of the oil to cling to metal components by improving viscosity using select base oils with polar characteristics; add anti-wear chemistries beyond ZDDP that create a protection layer on the metal surfaces; and add friction modifiers to reduce surface friction between the oil and moving metal components and reduce fluid-to-fluid friction.

VP has quantified its efforts by working with several engine builders who have seen "real horsepower gains" during dyno tests of VP's oils, the rep noted. Many of these builders have also documented engine tear-downs to inspect for wear and have found engine internals that look "virtually new" and can be reused beyond their traditional replacement intervals.

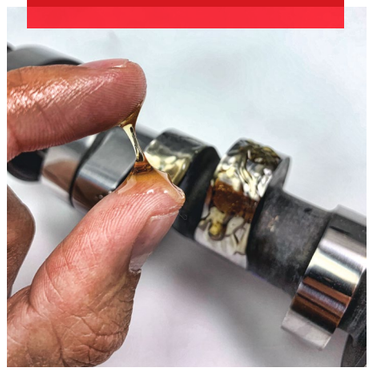
In fact, VP has formulated several lubricants for the racing community. Among them is its Nitro Hi-Performance oil, a conventional 70-weight oil designed for the "extremely stressed" engines used in drag racing and tractor pulling. Its heavy viscosity and high levels of ZDDP provide "critical protection" for high-load, high-torque applications. It can be used with gasoline, diesel, alcohol, or nitromethane fuels. At a weight of 0W-50, VP's full synthetic EX HP Hi-Performance Oil is blended to protect an engine at high and low temperatures, provide fast flow to critical engine components, and prevent high-temperature shear. High levels of ZDDP in the formulation protect flat-tappet and roller camshafts.

TENACIOUS CLING

The new GP-1 Assembly Gel from Driven Racing Oil in Memphis, Tennessee, is "really revolutionary," said Kyle Fickler.

"It's not really a complete fluid like a lube oil, but also not quite as thick as a grease," added David Chamberlain. Comparisons to hair gel are apt, they said, since the company supplying the gel base "makes products for the health and beauty industry," Chamberlain explained. "We add our zinc additive, our moly, and a few other things that are suspended by that gel compound to make a unique anti-wear formulation for initial dry start-ups."

Driven Racing Oil's new GP-1 Assembly Gel is said to cling like grease for extended periods before startup while still being thin enough for easy hand rotation of engines.



Engine builders who have used the gel appreciate the fact that "it stays where you apply it," said Chamberlain. "It has a tenacious cling to it." That's important, he said, because so many engines aren't started immediately after assembly. "I would estimate 80% of builds aren't getting fired within the first month. For that reason, engine builders would have gone with our assembly grease in the past because it hangs on."

The gel hangs on, too, with an added benefit. "Some engine builders don't like to use grease on the bearings because it gets a little sticky and won't provide a great feel when rotating the motor over by hand," Chamberlain said. "The gel isn't as thick and won't be as resistant, so you'll get a better feel by hand."

Driven sells the GP-1 Assembly Gel in one-ounce packets, enough to assemble a complete engine, Fickler said. "When you first grab it as an engine builder, you wonder how many packets you'll need to do the engine. But as you start working with it and realize how good of a lube it is, you'll use less of it than you would a grease because of the feel it gives you."

SWEET CRUDE

While best known as a synthetic oil company, Driven took a different approach with its GP-1 line of racing oils.

"GP-1 is essentially what an advanced Kendall GT-1 would be today," said Chamberlain. "What made that oil so good was the base oil," a sweet crude from Pennsylvania "with unique anti-wear properties. It wasn't just marketing fluff. There really was something about the base oil from there that made it special."

To formulate GP-1, Driven blends the Pennsylvania crude with a synthetic base oil and "an additive package we developed in the [Joe] Gibbs days," Chamberlain said. Additives include Driven's proprietary ZDDP package and a moly Chamberlain described as an "anti-wear additive, but not in the same sense as zinc. It's an extreme-pressure additive that complements the ZDDP, but it's also a friction modifier. It frees up a little bit of power with a little lower coefficient of friction."

GP-1 "also has the same tenacious cling as the assembly gel," he added. "When you talk to someone familiar with using it or any legacy Pennsylvania base-oil product, the thing you hear is, 'the cling.' They'll describe pulling a motor apart that's been sitting for some time, and the valvetrain and other key components were still wet. They have a hard time cleaning if off their hands after they've been touching it."

Chamberlain admitted that before formulating GP-1, "we were synthetic guys. And synthetics have their place. In really high-temperature situations, like endurance racing or road racing, that's where you want our XP full synthetics. But for the majority of racers, especially at the grassroots level, who aren't putting that extended use on their applications and are changing oil earlier, that's where the GP-1 synthetic blend can have some benefit and be more cost effective."

In addition to its GP-1 multi-grade engine oils, Driven plans to introduce "a couple of monograde oils, including a straight 40- and 50-weight for drag racers who want that instead of a 20W-50," Chamberlain said. The company is also rolling out a new 20W-50 GP-1 break-in oil in the near future.

BUILDING BLOCKS

The trend toward thinner oils applies to racing as well as street cars, "because the thinner it is, the more power it will make," Groom said. "But at the same time, we have massive valve spring pressures, massive engine speeds, and huge boost pressures in some of these engines. So, your building blocks have to be strong, and you have to start by using a really good base oil. A lot of an oil's film strength comes from its base oil, and especially with turbochargers, superchargers, and nitrous engines, film strength is key."

AMSOIL "tends to lean toward a higher-end base oil construction because we design and manufacture several oils recommended for extended drain intervals, Groom continued. "We can use some of those base oils to build our racing oils. Since we're using an inherently stronger backbone, you get much better protection. The engine looks so much better even after you beat it up."

WILL NOT SHEAR

Fischer used an evocative visual analogy to describe the molecular structure of the synthetic poly-a-olefin (PAO) base oil used in Hot Shot's Secret Adrenaline Racing Oil. "Imagine you want to slide across a room full of balls. With a conventional oil, those balls are all different sizes—baseballs, basketballs, golf balls. You don't slide very well." A conventional synthetic, he said, is like a room full of baseballs and golf balls. "It's a little more consistent and easier to slide across."

In the case of the PAO oil, because "we have synthesized the molecular structure of the oil itself, now the entire room is full of tiny BBs. They are 100-percent identical, wall-to-wall, so you can run and slide freely, and not get hung up on different sizes of molecules. Not only can it theoretically not shear, it will not shear."

Yet the base oil "is only half of the equation," Fischer said. "We don't take our foot off the pedal with the additive package." That package includes a sulfur-based zinc additive; calcium; antimony ("which supercharges the zinc and its protection properties"); and the company's patented FR3 Friction Reducer, with carbon nano spheres "that find every single little tolerance in the engine and fill those voids until there's a completely flat film layer. The flatter the film layer, the more efficient it can be as a lubricant."

In the Hot Shot's Secret product timeline, the FR3 Friction Reducer predated the Adrenaline Racing Oil and was sold as an oil additive. "We knew we had something really good," Fischer said, "but we wanted some hard data to show people why and how our product worked."

Hot Shot's Secret Adrenaline Racing Oil uses a synthetic poly-a-olefin base oil. Its consistent molecular structure is said to eliminate shear and reduce friction.

> *"A LOT OF AN OIL'S FILM STRENGTH COMES FROM ITS BASE OIL, AND ESPECIALLY WITH TURBOCHARGERS, SUPERCHARGERS, AND NITROUS ENGINES, FILM STRENGTH IS KEY."*

While looking for an R&D partner in the racing world, the company came across Firepunk Diesel of nearby Plain City, Ohio. What began as a request for dyno time at the diesel motorsports shop has since become a tight-knit racing partnership. Firepunk's S-10 pickup, wearing Hot Shot's Secret livery, has earned the title "world's fastest diesel truck" with a record 3.998/182.67-mph eighth-mile pass during Lights Out 12 at South Georgia Motorsports Park in late February.

RING SEAL

Now that the problem of flat-tappet camshaft break-in "for the most part has been solved," said Lake Speed Jr. of Total Seal, Phoenix, Arizona, what's popping up now on his radar are problems with piston ring sealing. It has become an issue, he said, as engine builders move away from ductile-iron, moly-coated rings to steel rings with physical vapor deposition (PVD) coatings for use in high-power, high-cylinder-pressure applications.

PRODUCT FOCUS

LUCAS OIL PRODUCTS
COMPLETE ENGINE TREATMENT
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- A unique formulation that cleans and lubricates multiple systems in your vehicle.
- When added to fuel, it cleans and lubricates all components from the fuel tank to the cylinders.
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NEO SYNTHETICS
WATERCRAFT BUSHING GREASE
neosyntheticoil.com
- Designed for use on polyurethane bushings to prevent drying and cracking.
- Stops squeaking.
- Won't wash out.
- Used by top manufacturers of polyurethane bushings.

PAKELO
KRYPTON RACING ENGINE OIL
pakelo-usa.com
- Excellent resistance to thermal changes and oxidation.
- High detergent, dispersant, anti-oxidative, anti-corrosion, anti-wear and anti-foam properties.
- Improves protection of all modern engines and under the most severe working conditions.

PRODUCT FOCUS

POWERMIST RACING FUELS
NITRO X PRODUCT LINE
powermist.com
- NITRO X is an alcohol or gasoline additive.
- NITRO X2 is a gasoline additive.
- NITRO XM is a methanol additive.
- NITRO XD is a diesel additive.
- NITRO XE is a new oxygenating additive formulated to safely and effectively add oxygen to any ethanol-based fuel.
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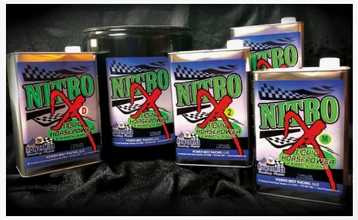

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- For all makes/all models/any coolant color.

SCHAEFFER'S SPECIALIZED LUBRICANTS
SUPREME 7000 SYNTHETIC PLUS 10W-30
schaefferoil.com
- Protects engine wear and tear during high-temperature and high-rpm driving.
- Fortified with Micron Moly and Penetro to reduce friction and wear.
- Enhanced with extra zinc to further protect flat tappet cam engines and other components from wear, scuffing, and abrasion.

"The moly coating on a ductile-iron ring is porous and can hold oil like a sponge," Speed explained. "That oil is the gasket between the ring and the cylinder wall. With an old-school moly ring that could hold oil, cylinder-wall finish didn't matter as much, and the break-in oil used didn't matter as much because the ring held plenty of oil. Now, the steel rings with the PVD coatings don't hold any oil. The cylinder wall has to hold all the oil. Cylinder-wall finish becomes really important, and since that cylinder finish is what's holding the oil, the oil plays a critical role in the break-in process for the ring."

Complicating the matter is the diversity of cylinder-bore materials used by racers. "For example, a gray cast-iron, regular engine block will like a mineral-based oil that's higher in ZDDP, lower in detergent, and with no friction modifiers," Speed said. "That package builds a very thick anti-wear film."

On the other end of the spectrum "is something like Nikasil, an incredibly hard nickel silicon carbide plating. Nikasil has a very smooth finish, so you don't want the same kind of break-in oil as would be used with cast iron, as it will make the surface too smooth. If it's too smooth it can't hold any oil,

Total Seal's Quick Seat dry assembly lube is formulated to protect piston rings during break-in. The product reacts with clean metal, turning cylinder bores green.

PRODUCT FOCUS

SUMMIT RACING EQUIPMENT
NON-GLYCOL RACING COOLANT
summitracing.com
- Made for all water-cooled engines, the water-based formula is environmentally friendly.
- Helps prevent rust, corrosion, and foaming.
- Provides maximum heat transfer in the most extreme operating conditions.

TRIBODYN LUBRICANTS
TRI-EX 20W-50
tribodyn.com
- TRI-EX exclusive formula treats the metal.
- Engineered to enhance motor performance and efficiency.
- Performs under extreme pressure and heat.
- Reduces operating temperatures.
- Improves fuel mileage and increases horsepower.

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- Patented ceramic lubricant.
- Engineered to form a ceramic coating during extreme conditions.
- Enhances motor performance and horsepower.
- Performs under extreme pressure and heat.
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PRODUCT FOCUS

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VP PRO GRADE RACING OIL
FULL SYNTHETIC
vpracingfuels.com
- Formulated for success with leading-edge chemistry for race track applications.
- Anti-wear chemistries including high levels of ZDDP.
- Cutting-edge balance of friction and viscosity modifiers to reduce friction.

and now the ring seal will be bad."

The solution, Speed said, "when you get into higher strength, harder materials like SUMEbore or Nikasil, is to use a mineral-based break-in oil with no friction modifiers, a moderate level of ZDDP, and a higher level of detergent, because it's important to not build too thick of an anti-wear film. That would not be good for the ring."

Applying Total Seal's Quick Seat dry assembly lube to the bore also helps the process, he has found. "It works great, especially in a Nikasil application where you need something to protect the ring and help the break-in process. It's a dry film, with no oil in it, that provides initial anti-scuff protection to protect the ring at start-up."

Quick Seat will turn the cylinder walls green, but that's a good thing, Speed said. "If it doesn't turn green it means the cylinder bore isn't clean. Any kind of residual honing oil or products like that tend to be acidic, and a chemical reaction with the Quick Seat leaves the bore black. If the bore is clean the Quick Seat reacts with the metal and it turns green."

BEYOND THE ENGINE BLOCK

"We focus on the heavy stuff," said Danny Vaca of LAT Racing Oils, Orange, California. "Our niche is turbochargers, ProChargers, and even nitromethane. Every year they're making more and more power, so you have to keep on top."

A year ago, the company came out with its R-series of synthetic racing oils, "the second generation of our 20- and 30-weight oils to be more aggressive with ring seal," Vaca explained. "It has high lubricity, but you don't want to make something too slippery, or some of the ring seal might not hold very well."

LAT has also formulated a line of automatic transmission fluids specifically targeted at turbocharged drag cars, Vaca said. "When you're talking turbochargers, you're talking 3,000, 3,500, 4,000 horsepower. Obviously, the transmission builders have to build a more efficient converter so the transmission will hold up. Our formula is so aggressive, it holds the power in the transmission. Even when the transmissions get hot, our ATF doesn't shear."

LAT offers its ATF in three versions. "Pro Lite is for sportsman and nitrous, Pro ATF is for turbocharged cars, and Pro Max is for higher horsepower turbo, ProCharger, and blower cars," Vaca explained. "It's been a really good product for us, almost our number-one product."

ON THE HORIZON

Morgan Lucas of Lucas Oil Products in Corona, California, described the company's new-product development as a "see-a-need, fill-a-need process. We're looking at problems in the market, or ways to improve our products. We are also focusing on new markets, and new approaches to new markets."

Lucas Oil recently brought Brandon Bernstein aboard "to head up our motorsports marketing efforts," Lucas said. That addition has allowed Tom Bogner, Lucas Oil's director of research development, "to spend more time in the lab working with chemists to look at the needs of racers."

LAT Racing Oils focuses on "the heavy stuff," such as boosted and nitromethane engines; its gear oils use advanced LFR additives for maximum protection.

As an example, Lucas said Bogner has been working on "a fuel treatment to focus on ethanol- or alcohol-burning engines. It is really interesting technology, and we're looking at how we can apply that best to the industry." Lucas didn't discuss specifics but did say the product "has been tested, and it works very well. We're trying to understand the overall volume of business there. We may take some of the technology developed in the process and apply it to existing product to serve two different purposes for two different marketplaces."

For some lubrication companies, the future is as much about new racing venues as it is new oil products. Groom, for example, talked about how sales of ATV and UTV oils "went crazy" during the COVID-19 pandemic. "Nobody was racing, but everybody was riding their dirt bikes and UTVs. Racing keeps going along, but ATVs and UTVs are making a huge surge. If you look at any of the racing series that are doing well, they are adding a UTV aspect to it. And those classes aren't necessarily for a full-on race car, but something more affordable."

Fischer said that Hot Shot's Secret is expanding its involvement in motorsports beyond diesel racing to "the gas side. We have a big reach in the no-prep scene, and we have new cars running in the small-tire, X275, Radial vs. the World type of environment. It will take a couple years to get into the gas side of things and let this world know what we have, but I'm confident we can replicate the plan we did on the diesel side. It's a lot bigger world, but we have the product and technology to really advance things." PRI

Our source at Lucas Oil Products described the company's approach to new-product development as "see a need, fill a need.... We're looking at problems in the market, or ways to improve our products."

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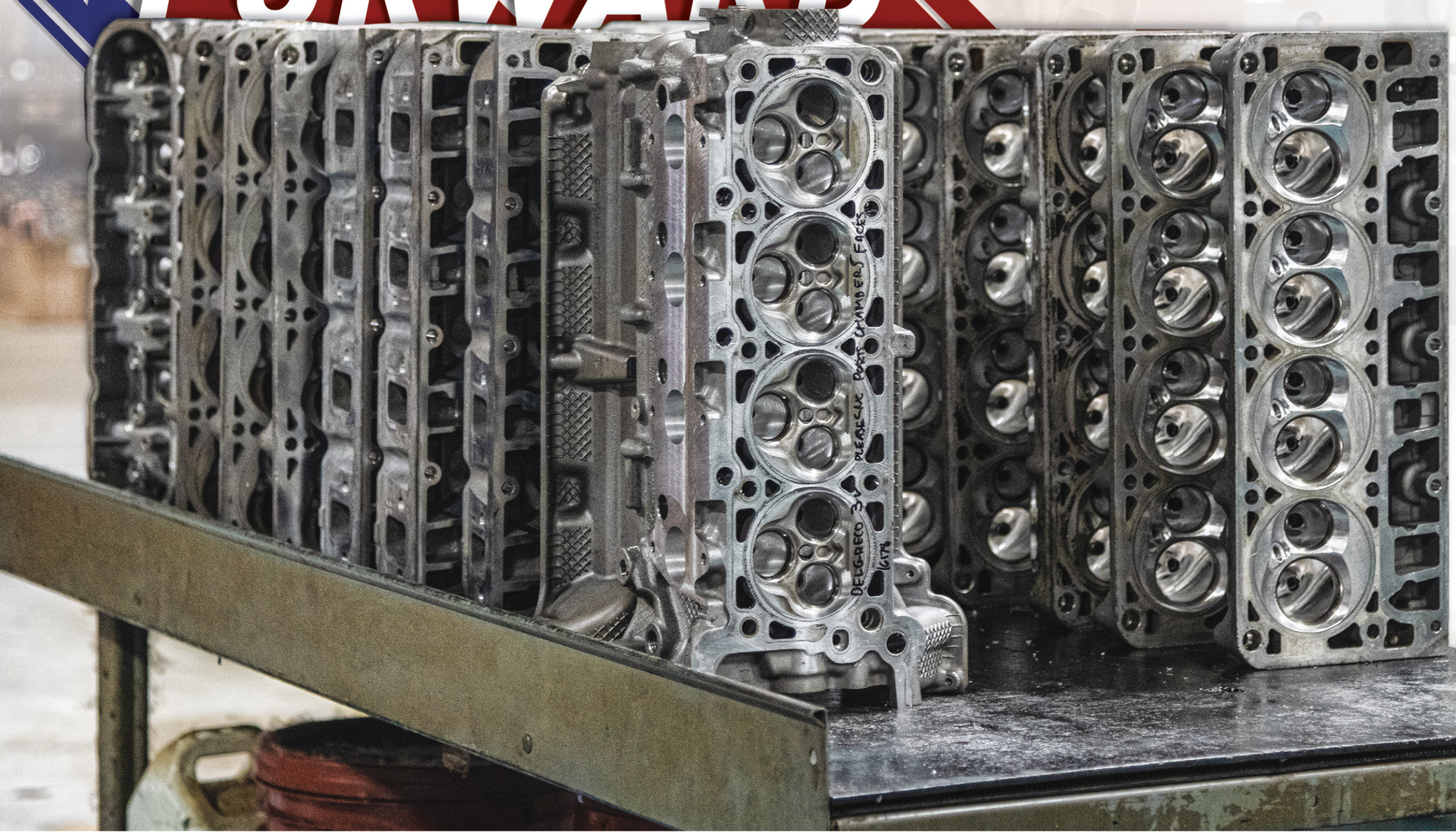
POWER FORWARD

Cylinder head development drives winning engine combos, and manufacturers are busier than ever feeding the demand for performance.

By Mike Magda



Cylinder head manufacturers, while keeping up with the frantic sales pace experienced by many speed merchants during the pandemic, also found time to develop new products and branch out to design supporting components.

Following one of the craziest years on record in terms of sales versus restricted racing opportunities, new engine applications along with the tenacious growth in Outlaw and other doorslammer drag racing classes, as well as the continued popularity of classic platforms, are pushing development into exciting new territories.

"We've been busier than ever, by far," said Keith Petelle of High Velocity Heads, Knoxville, Tennessee. "We are really grateful for that, but it's been an amazing year, and right now it's wild."

High Velocity Heads doesn't manufacture its own heads; rather, the shop modifies existing castings or works directly with manufacturers to improve the flow of a casting that can then be private labeled, or otherwise sold through the original manufacturer or directly from High Velocity. One of its current projects offers big block Chevy racers another choice in a very crowded market for that platform.

"We're working with World Products on an exclusive for their big block iron head," said Petelle. "It's got a 360cc intake runner. We also do our own smaller version in a 340cc runner. A lot of those customers are boaters and truck pullers."

Jack McInnis of World Products in Louisville, Kentucky, confirmed the collaborative effort. "We are developing new CNC porting programs for our iron small and big block heads. It's been a while since we've offered ported iron, and these new programs flow a lot of air," McInnis promised. "They will be great choices for marine use where salt corrosion is a big concern with aluminum heads, and for circle track and pulling applications, as well as heads-up and bracket racing in situations where weight is not a top priority."

World Products and High Velocity Heads are developing a new ported iron big block Chevrolet head for circle track, pulling, marine, and drag applications where weight isn't a primary issue.

"We have another deal with World Products by CNC porting their Motown 220cc small block Chevy head out to 230cc," added Petelle, who noted that some SBC castings are getting hard to find because the Chevy is still so popular. "We bought up the last of the EQ iron 200cc heads so we would have some heads to port and sell."

High Velocity Heads recently purchased a new CNC machine to work with both iron and aluminum heads. "The aluminum goes a little faster but it's not tremendously different," said Petelle. "We've got pretty good tooling for the iron and we've really got it figured out. A lot of people won't cut cast iron, and that's kind of why we got into it. Some of the markets are so competitive, so we wanted that niche."

Also riding the wave of BBC popularity is Dart Machinery, which recently overhauled its 20-degree head for big blocks. "We have a couple different versions," said Steve Arent of the Troy, Michigan-based supplier. "In one of them we shrunk down the port—from 451cc down to 409cc. Obviously the airflow was affected, but with the smaller runner the velocity in the port is just fantastic. We're having really good success with customers building in the 470- to 525-cubic-inch range."

Arent said off-road trucks are making more than 900 horsepower with naturally aspirated 470-cubic-inch engines using this head. "It has low-end torque and [is] making more power throughout the entire bandwidth," said Arent. "We have another customer who has bolted these heads on his supercharged marine engines and he's picking up 75 horsepower."

It's not just Chevy big blocks drawing attention from cylinder head manufacturers. Edelbrock, which recently moved its headquarters from California to Olive Branch, Mississippi, is releasing an improved version of its big block Oldsmobile head in 2021. Upgrades include modifications to the combustion chamber and ports in addition to providing flexibility for racers to raise the ports with their own designs for more performance.

"We will follow that shortly with the release of a new head for the Olds small block, an item not previously in our product line," said Matt Gamble. "Design features mimic the BBO head, but with a chamber sized for the small block. Both heads feature a fuel pump relief machined into the casting, allowing for the use of a mechanical fuel pump."

Even with the popularity of traditional platforms, the LS engine continues to drive development for late-model customers. Edelbrock's sister company, Racing Head Service (RHS) in Memphis, Tennessee, now offers a Pro Elite LS3 head and a small-bore cathedral-port head.

"No longer will you need to scour the salvage yards looking for used 243 or 799 heads," said Gamble. "You can get better performance and more reliability with new Pro Action cathedral port heads. And the LS3 head utilizes the six-bolt head design, making them compatible with RHS LS race block and GM LSX block."

Just don't count out the venerable Gen I Chevy small block. "Even with the LS hype, small block Chevy has never given away its top spot," said Tim Torrecarion of Air Flow Research (AFR), Valencia, California. "Our most common builds are 383, 408, 418, and 427 cubic inch. For us, that's anywhere from a 195cc intake runner head up to 220cc. And right behind that series in popularity is the small block Ford."

"Our most popular head is the 11R for the small block Ford," echoed Josh Cook of Trick Flow Specialties, Tallmadge, Ohio. "We offer different options in port volume and chamber size. For value and performance on the dollar, it's as good as you can get."

Trick Flow and AFR are two companies that in addition to offering new or improved cylinder heads, are designing supporting components to help the customer assemble an optimum package.

Trick Flow recently released three intake manifolds designed to match corresponding heads from three different engine families. "We want to offer the appropriate intake options," said Cook, adding that intakes are available for the Ford FE tunnel wedge, small block Mopar, and small block Chevy.

AFR has three new camshafts designed to work with its LS3 Mongoose head. "These are all streetable cams," said Torrecarion, noting that dyno testing produced power levels from 560 up to 590 horsepower with between 19.8 to 17.1 inches of vacuum at idle. "We're just trying to make it easier for the customer to make power."

Making power—that's what's happening in Pro Mod and other professional classes. Alan Johnson Performance Engineering in Santa Maria, California, just released its Stage 6 Muscle Head for the Chrysler Hemi platform.

"It's designed for the Pro Mod arena," said Rick Wilkinson. "Whether using a ProCharger, supercharger, screw charger—any boosted setup. We've moved the valves around and improved the port flow. Also reduced the chamber size. It's basically small iterations we've learned over the years from the earlier versions. We sent the first versions to Proline Racing for dyno testing, and they showed a substantial increase in power."

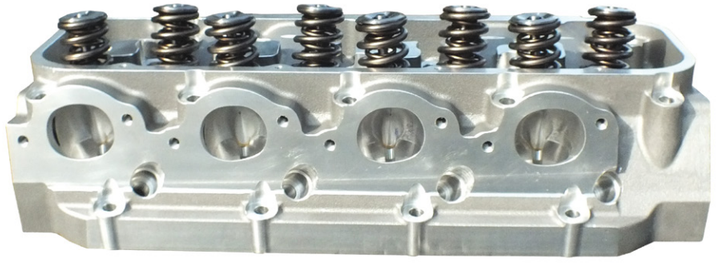
Although high-end racing classes will draw much of the attention in engine and cylinder head development, appealing to the budget racer is still on the minds of leading manufacturers. Brodix recently released its 23-degree IK 215 for the small block Chevy. It features a 215cc intake port and 64 or 70cc combustion chambers that can accommodate different fuels.

"IK, like in Iron Killer," explained Mark Fretz from the Mena, Arkansas-based company. "It's a budget race head for those who want to make 575 horsepower and go bracket racing."

The IK 215 is designed to fill a gap between the upper end Dragonslayer 225 head and the IK 200. It comes assembled with stainless steel 2.08/1.60 valves, and spring options are designed to accommodate both solid and hydraulic roller camshafts.

One cylinder-head specialist is taking his product to the track to help develop more power. Mike Weinle of Weinle Motorsports in Cleves, Ohio, bought an unused Sonny Leonard mountain motor to go Pro Stock racing, but first he's hitting the dirt tracks with a new Rocket car powered by a small

Dart has revamped its 20-degree big block Chevy heads. One version has smaller ports designed to improve velocity, and they're said to be well-suited for 470- to 525-cubic-inch engines.



Manufacturers often shape ports by hand, then scan them for further CAD development. But ultimately, the proof is in real-world dyno testing, said a source at Trick Flow Specialties.

block Chevy with a modified R0X head from 1 Way Technologies in Washington, Indiana.

"We did some work with it," said Weinle. "I got a new port for it that's 20 to 30 cfm better and got the shape to where we like it. Also made changes to a billet intake for it, and now I'm working on a cam for it. What I've found in my dirt car is that the most important thing is acceleration. I can look at two motors making the same power on the dyno, and one is three car lengths faster than the other on the track."

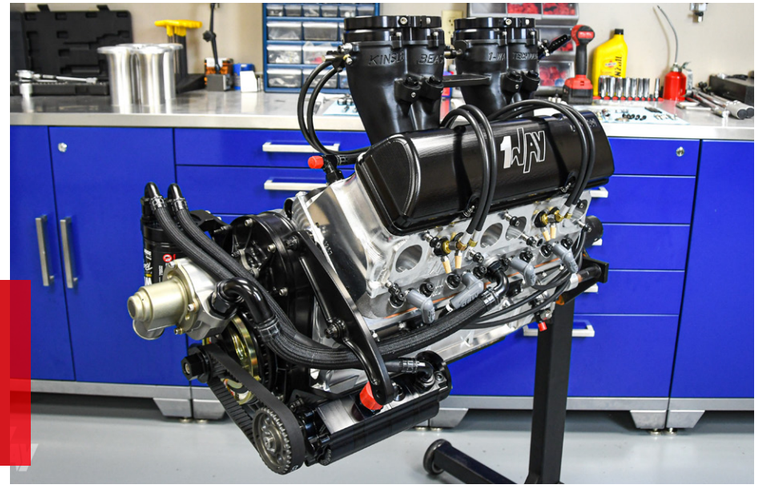
For the Pro Stock engine, Weinle is focusing on the exhaust ports and also taking advantage of a 75-mm camshaft core and "giant" lifters.

"So we can make a more aggressive camshaft," he added. "We're getting ready to put it on the dyno. I'm looking for 2,150 to 2,200 horsepower."

The Leonard head is a hemi design, and Weinle is also looking at building a mountain motor with an AJPE wedge-style head—but those plans are hush-hush at this point.

At 1 Way Technologies, engineers are developing a new midget head to compete against the Toyota and Stanton engines.

"We've redesigned a CNC program for the All-Pro 10-degree casting," explained Chris Grace. "We're able to get the blocks from Australia and then put our head on it. We took the baseline for what we do to the heads on a 410 sprint car and modified that shape. It's actually a casting we have All Pro machine to our specs. It's advertised as an 11-degree head and we have them move it to 10 degrees for us."



The newly developed Type 71 midget head by 1 Way Technologies has ports derived from the company's 410 sprint car head, and is built on an All-Pro 10-degree casting.

Called the Type 71, this cylinder head made its debut at January's Chili Bowl with "pleasing" results for the first customer.

"We're very close with a few things we're going to tweak on it," said Grace.

As mentioned earlier, 1 Way has an ROX head made from their own original hybrid casting. "We engineered a single casting that can be machined either as a SB2.2 with a 4.400-inch bore center or the ROX with a 4.500-inch bore center," Grace added.

Nostalgia gassers are also getting attention from 1 Way, which teamed with Brodix on the -10 SR I 21-degree head for small block Chevys. It was approved by the Southeast Gassers Association (SEGA) and was on the engines of the 2020 A/Gas and B/Gas champions.

"We requested Brodix to modify an existing casting and qualify them to 1 Way specifications so we could CNC port the castings to our design," explained Grace about the -10 SR I casting. "We worked very closely with SEGA on that head, and we are the title sponsor of the annual race at Wagler Motorsports Park in Lyons, Indiana."

LIMITED DEVELOPMENT

Cylinder head development is a main driver of today's ever-escalating power increases—even when boost is involved. Which is why sanctioning bodies are always tightening the envelope that manufacturers can design around.

"Everybody's trying to increase power, but in a lot of it you're always constrained by the rules," said Wilkinson. "For our Top Fuel heads, the window is so small for improvement. We're basically making the same product we've made for the last seven years."

Even in the Outlaw classes where it seemed at one point there were no rules, promoters are starting to strangle engine builders with limits or piling on weight to the cars that show promise.

"We do a lot of heads for the heads-up street race-type classes," said Fretz. "We've done both 4.5 and 4.4 bore centers. One of the most popular heads right now is the BD 2300 on our 500-plus cubic-inch engines. But I have to be careful. These heads-up guys are real secretive on what they do."

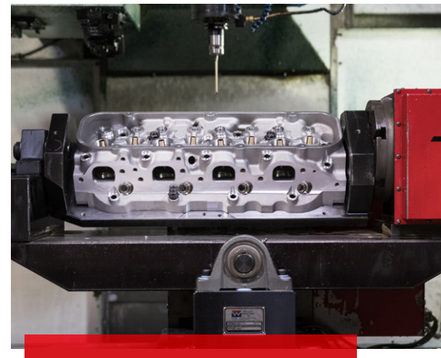
Of course, some rules are meant to be stretched. High Velocity Heads is often approached by racers required to run stock-style iron heads.

"Yeah, we can port them and disguise them," said Petelle. "We do the crate engines and the spec heads. You're looking at 20 to 25 more horsepower."

Even some of the manufacturers are holding their cards close to the vest. Dart is hinting that a Big Chief 3 cylinder head is in development with a "bigger runner, bigger exhaust port, and smaller combustion chamber." The head will also feature revised rocker-arm mounting.

"It's a pretty bad-ass piece, the way it's coming together," said Arent. "We're just teasing people with it right now. It should come out late third quarter, early fourth quarter."

Another Dart exclusive done in conjunction with a "really big-name engine builder" is the 20X cylinder head that works with a revised lifter-bore pattern that



Although LS engines grab headlines these days, Edelbrock sees strong demand for legacy engines such as big block Chevy, Gen-I small block Chevy, and small block Oldsmobile.

straightens out the pushrod angle. It also allows for a single rocker shaft instead of individual rocker stands.

"It really helps stabilize the valvetrain," added Arent.

Finally, manufacturing and development are getting a boost from the latest tech.

"Newer technologies like the ability to 3D print sand cores helps shorten development times for castings, and we can also refine the designs before committing to expensive foundry tooling," said McInnis. "We have made it a priority to keep all of our development and manufacturing in the United States. We believe this is important for our customers and allows us more immediate control over manufacturing."

"While not really a new process, the bedrock of CAD/CAM is essential to being able to deliver high-quality, high-performance products at a competitive price point," said Gamble. "Also, there are some really interesting things going on with 3D printing. We will likely see the adoption of more 3D printing processes, from printed sand molds to topology optimization, influencing the future of cylinder head design."

"We'll develop a port by hand, then laser scan it and continue the development in CAD. We can also scan a stock head to get a baseline of valve locations and other data to reverse engineer," Cook told us. "Then there's no replacement for flow bench testing to fine-tune that port. But flow numbers don't always equal real-world performance. Great numbers may not mean horsepower for your application. That's why we also test heads on the dyno." PRI

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FASTER, STRONGER, EASIER: THE EVOLUTION OF EFI

Bolstered by enhanced functionality and more approachable system design, interest in electronic fuel injection systems has never been higher.

By Bradley Iger

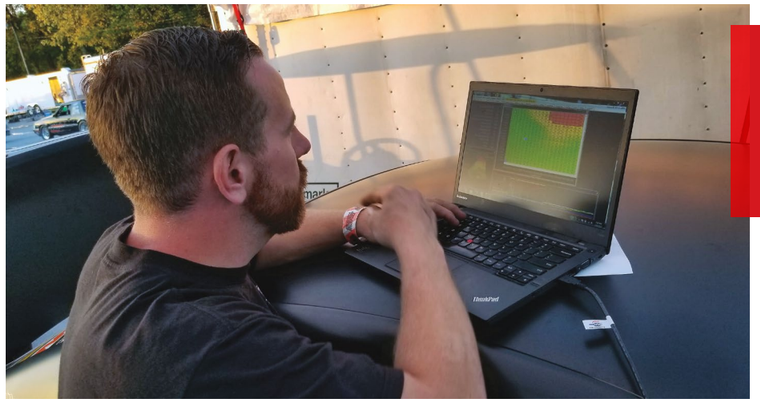
There's an air of artisanship to tuning. Making a race car perform at its best can often be akin to conducting a symphony of different mechanical systems, each affecting one another in different ways that can only be understood and accurately predicted through decades of knowledge and experience.

Carburetion serves as an excellent example of this. In a world of 5G mobility, it's an analog anachronism that has nonetheless stood the test of time. Some of that can be attributed to the notion that carb tuning expertise can provide a competitive edge under the right circumstances, but at the end of the day, it's often a case of old habits dying hard.

"I think for a lot of these guys, it comes down to what they know," said Evan Perkins of Holley Performance Products, Bowling Green, Kentucky. "We still sell a lot of carburetors, and they work great in a lot of applications. So for certain racing classes and teams that have been running a car competitively the same way for a lot of years, they might not see a huge incentive to make a big change like that."

For decades, the complexity and cost involved in making the switch to a race-ready EFI system damped the appeal even further. But the story has changed in recent years. "These systems are now available in complete plug-and-play kits, and the self-tuning options do so much more than ever before," said Mark Campbell of Fuel Air Spark Technology (FAST), Memphis, Tennessee. "They're designed to be user friendly, and more of a direct bolt-on upgrade."

And for those that are considering making the switch, the tuning and control benefits of electronic fuel injection typically drive their interest, but it's the approachability of these systems that will ultimately determine which side of the fence they land on.



With EFI, laptops have become a common tuning tool. Racers see the potential gains and are increasingly comfortable with the systems, noted our source at AEM Performance Electronics.

BREAKING DOWN BARRIERS

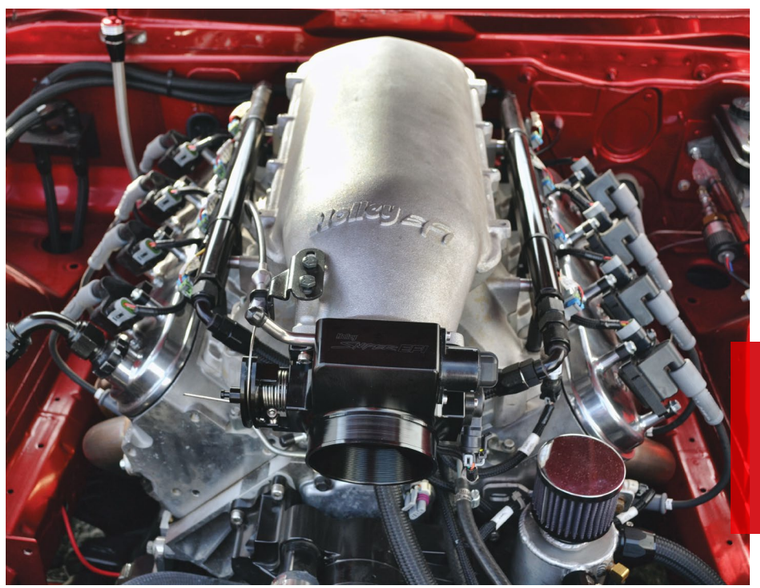
One of the major roadblocks that hampered widespread adoption of EFI for some time was the lack of available options. Like carburetors, EFI is not a one-size-fits-all type of endeavor, and the prospect of taking on the cost and complexity of a system that wasn't designed to work in a particular application relegated race-ready, high-horsepower EFI systems to more niche-use cases. However, many aftermarket companies have made significant strides in this area and now offer an array of different products that range from affordable, all-in-one carburetor replacement throttle body systems, to sportsman-level solutions with enhanced feature sets and customization options, to hardcore, purpose-built motorsports systems with advanced fueling, tuning, and sensor reading capability.

"I would say on the entry-level end, the leading driver of this trend is the refinement and expansion of the self-learning systems that provide accessibility to the core benefits of EFI, including easier, cleaner cold start, better throttle response, and better air/fuel ratios across the engine's operating range, all of which are now obtainable with minimal EFI tuning knowledge required," said Brett Clow of Aeromotive, Lenexa, Kansas. "On the other end of the spectrum, we also have significant advancements in injector flow rates and improvements in ECU programmability, the latter of which allows for things like per-cylinder tuning and fail-safe ignition features to deliver the highest possible power with the safest spark and fuel control."

Tim Jilg of Fuel Injector Clinic in Hobe Sound, Florida, pointed out that for many younger racers who are bringing aftermarket fuel injection into their programs, EFI is where they started. "One of the biggest markets right now for engine platforms across a number of different racing disciplines is the LS. Fuel injection has always been part of that platform, so the folks who're tuning these engines are familiar with the technology and benefits that EFI offers even before they make that upgrade."

Data logging has also become something of a gateway drug for many of the carbureted holdouts. "It's a trend we've seen in sportsman-level drag racing in particular; high-horsepower, steel-bodied cars with power adders," said Lawson Mollica of AEM Performance Electronics, Hawthorne, California. "When we first engaged with these guys a few years ago, a lot of them were running carburetors, and they didn't come to us looking for EFI—they were looking for data acquisition.

"At that point it wasn't that they lacked the capability to tune on EFI, they simply didn't have the familiarity," he continued. "And as these guys have acclimated into the world of data acquisition with a handful of channels that have helped them make improvements pass after pass, they're not only getting used to the software interface, they're also seeing where carburetion is limiting what they can do and how integrated their overall setup can be."



The decision to switch to EFI often comes down to what racers know, said our source at Holley Performance Products. To help, many manufacturers offer complete EFI kits that eliminate guesswork.

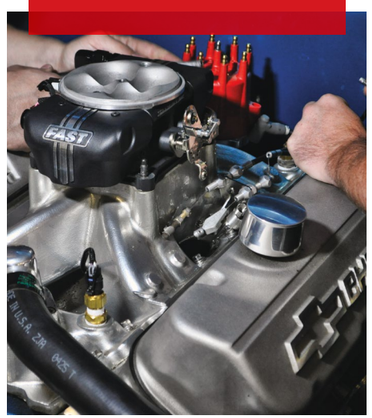
HOLISTIC HARDWARE

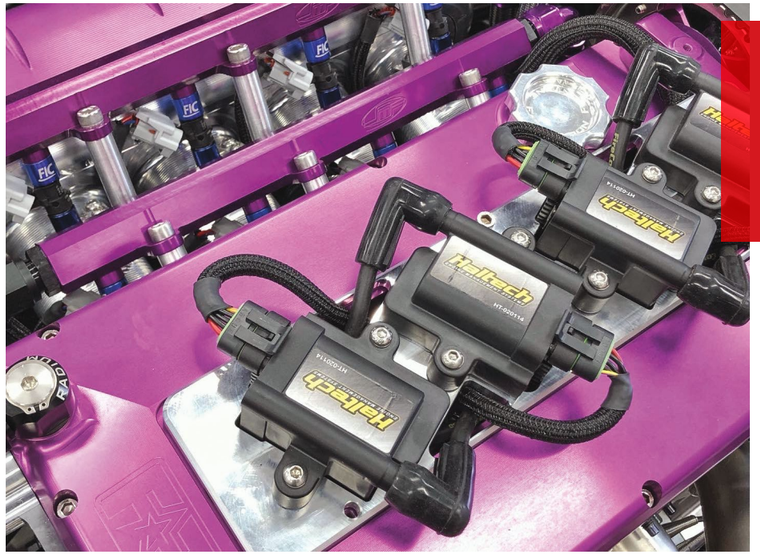
In an effort to eliminate guesswork and reduce the number of steps required to get the system up and running, many EFI manufacturers now offer comprehensive packages that include all of the components needed to make that system operational under a single part number.

"These kits can be bought with the entire fuel system, wiring harness, and all the sensors for a simple plug-and-play install," Campbell said. "FAST even offers simplified fuel systems with our universal EFI sump fuel kits, which feed off of a stock-style mechanical fuel pump and have an internal high-pressure pump that can supply the right pressure and volume for an EFI system to run."

The designs of the EFI systems themselves have become easier to work with as well, both from a packaging standpoint as well as their aesthetics. "Our Sniper products are considered carburetor replacement systems in that they contain the ECU, the required sensors, and the injectors within one device," Perkins explained. "And we offer these in different carburetor patterns, so a guy who has an Autolite 1100, for instance, can get a Sniper system that not only bolts to the original manifold and works with the existing air cleaner, it also looks like the carburetor it's replacing and occupies about the same amount of space in the engine bay."

Carburetor-replacement systems like this FAST unit bolt onto existing manifolds and can use a stock-style mechanical fuel pump, simplifying EFI conversions.





For an easier switchover to EFI, our source at Fuel Injector Clinic suggested a two-step process that starts with a self-learning carb replacement system and then progresses into "a more sophisticated system."

These simplified and application-specific designs have made EFI conversions more compatible with existing hardware and potentially less costly to do, in turn broadening its appeal to a wider audience of racers. "The fact that these throttle body EFI systems offer self-contained fuel injectors and throttle linkage that can support installation directly onto the existing carbureted intake manifold and connect to existing throttle linkages makes this a minimally invasive upgrade," said Clow.

SOFTWARE REFINEMENTS

Still, the biggest hurdle facing many would-be EFI converts in the motorsports world isn't the installation of the new hardware, it's the perceived learning curve of the software. Fortunately, it's an issue that EFI manufacturers appear to be keenly aware of.

"There are some systems where it seems like it takes a computer programmer to tune them, but that is not our goal," said Perkins. "A lot of it really just comes down to the vernacular. So for us, it's about making sure that the terms we're using in the software are going to be things they're familiar with."

It's also important to note that the self-tuning functions in the latest batch of EFI systems is impressive tech in and of itself, not only because it can quickly and effectively dial in the system on its own, but because it can start to do so with minimal input from the user if need be. "With the advancements in self-learning software, combined with increasingly effective built-in tuning databases, we find these systems are working better and better across a broader range of engine combinations," said Clow. "And with a growing database of engine combinations to draw baseline tunes from, the transition is just getting easier and more attractive to do."

Jens von Holten of Fuel Injector Clinic cited a two-step process that he sees as an effective strategy to make the switch to EFI both approachable and ultimately highly effective. "The first step would be to get a self-learning carburetor replacement system, which have some adjustability but are more or less designed to do what they do right out of the box," he explained. "And then from learning that whole process and looking at the data, once you're comfortable with adjustability that no longer comes from replacing a jet or turning a screw, you could be ready to move up to a more sophisticated system to really gain all the benefits that EFI has to offer."

But that isn't to say there aren't options for the guys who're ready to go a bit deeper from the outset. "One of the ways we do that is by providing setup wizards for the various features within our systems," Mollica said. "The software is going to ask you things like what your cam and crank timing pattern is, what your firing order is, and so on, and once you've answered this basic information, you can go to your volumetric efficiency table and put in a baseline number across the entire VE table, turn the key, and the engine is going to turn over and run. Now you've got your starting point for dyno tuning."

EFI's precise control, powerful data-acquisition capabilities, and nearly infinite range of tuneability have made it a natural for boosted engines.

"WITH THE EVER-INCREASING SOPHISTICATION IN ENGINE FUEL MANAGEMENT PROVIDED BY MODERN EFI SYSTEMS, THIS HORSEPOWER ENVELOPE IS CONTINUALLY BEING PUSHED HIGHER."

Perkins also noted that there are ways to make these systems both approachable and sophisticated through the design of the user interface. "Most racers are not going to leave a self-tuning strategy alone—eventually they're going to want to get in there and finesse the tune to find every bit of horsepower that's available, and so there are basically layers of capability within the software," he said. "All of the layers are there, but an entry-level tuner doesn't need to dig quite as deep as a professional tuner does to get to the menus that are relevant to them."

And bridging the gap between accessibility and competition-level capability will only take on greater importance as EFI adoption continues to spread throughout motorsports. "Horsepower levels are soaring across all types of fuel, with EFI engines now producing 5,000-plus flywheel horsepower in some cases, and many engine combinations are now capable of delivering streetable manners in the 1,500 to 2,500 rear-wheel horsepower range," said Clow. "And with the ever-increasing sophistication in engine fuel management provided by modern EFI systems, this horsepower envelope is continually being pushed higher. Part of that is due to our increasingly detailed, empirical knowledge of engine function regarding air and fuel flow behaviors, and their real-time interaction in the intake manifold and combustion chamber. As this level of knowledge and understanding grows, we see the level of ECU sophistication improving alongside it."

Enhancing the ease of use of these systems while also providing the technical depth that will allow racers to extract every ounce of performance from their engine combinations could prove to be a tough balancing act going forward, but it's a challenge that EFI manufacturers are confronting head-on. "It goes back to that layering concept—for instance, our version 6 EFI software has transmission dump valve control, torque converter lockup control, and a number of other features that the grassroots guy might never need to touch," said Perkins. "But it's there for the professional tuner and racer if they need it." PRI

ONLINE BONUS

Scan here for an inside look at FiTech's fuel injection business and latest product developments.

ONLINE BONUS

Scan here to see how HP Tuners helps racers make more power, adjust torque strategies, and more.

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Holley Performance Products
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Photo courtesy of NCMA

READY to ROLL

Three new sprint car series starting up in California and the Southwest promise affordability and ease of entry.

By Jim Koscs

Upended by a stubborn pandemic, and then digging out—quite literally—from nature gone berserk this winter, sprint car tracks and promoters are nonetheless forging ahead with new racing opportunities in 2021.

Affordability is the key for three new series getting off the ground, organizers said, as their approach centers on lowering the cost for veteran drivers to get back on track while also helping to attract new drivers to the sport. Here's a quick look at what to expect for each.

SO CAL SPORTSMAN SPRINT CAR SERIES: GETTING ON TRACK FOR $15,000

After watching the 410 ranks drop by half since the Great Recession, Don Kazarian, promoter of Perris Auto Speedway in Perris, California, said he wanted to help racers come back affordably and also bring in some first-time competitors. The new So Cal Sportsman Sprint Car Series launching this year is a 360 non-wing dirt series that he said can get racers behind the wheel for about $15,000.

"WE WANT TO CREATE A NEW DIVISION OF 15 TO 25 CARS THAT CAN PUT ON A GOOD SHOW, AND IF DRIVERS STEP UP TO A NEXT LEVEL A FEW YEARS DOWN THE ROAD, IT CAN HELP SECURE USAC/CRA FOR THE FUTURE."

"Our goal isn't to replace USAC/CRA, but to create new car owners and drivers," Kazarian told PRI.

He explained that the idea began with conversations he had in 2019 with Cory Kruseman, multiple midget and sprint car champion and founder of the Ventura, California, race driving school that bears his name. They studied other efforts to launch a starter/feeder series and chose to model theirs after the Pace Performance RUSH Racing Series that's found success at Eastern tracks.

"They encouraged me to use their rules, because they've been able to keep costs under control," Kazarian said. "If I can lean on their experience and history, I'm going to do it."

Modeled after the Pace Performance RUSH Racing Series (seen here), the new So Cal Sportsman Sprint Car Series features 360 non-wing sprint cars that will get racers behind the wheel for around $15,000.

He believes the rules are broad enough that a 10- to 15-year-old roller will qualify. Racers will buy the motor directly from Pace (GM engine part number 19258602).

"When you can buy a 350-horsepower engine from air cleaner to headers, bolt it in for less than $8,500, and get at least three years of run time without major work, that's attractive for someone to get experience in a sprint car," Kazarian said.

The rules call for a spec shock and spec headers. Any eight-inch wide Hoosier front tire is allowed, and So Cal Sportsman Sprint Car Series tires are specified for the rear.

"We want to create a new division of 15 to 25 cars that can put on a good show, and if drivers step up to a next level a few years down the road, it can help secure USAC/CRA for the future," Kazarian said.

The series is set to kick off at Perris Auto Speedway on May 22.

NCMA CALIFORNIA PAVEMENT SPRINT CAR CHALLENGE SERIES: CALLING ALL 360s

This year, the NCMA launches its all-new California Pavement Sprint Car Challenge Series, with rules opened to allow a wide array of cars and using weight and tire adjustments to balance the competition. NCMA President Denny Burrell expects to draw drivers from different series who just want to get out and race. The first race is planned for May 1 at Madera Speedway.

"We're a traveling series running at about five tracks in California," said Burrell, who has announced visits to Stockton 99 Speedway and Shasta Speedway, in addition to Madera. "Our niche was always a spec series with two-barrel 360s. It's always been very affordable, with the ability to make motors and tires last."

The NCMA's new California Pavement Sprint Car Challenge Series, he explained, is designed to give drivers of pavement, dirt, and combo cars a place to campaign their vehicles in one series without having to make a lot of adjustments. There's no need to build a new motor or make a big investment, he said. Cars can run an iron or aluminum motor, two- or four-barrel carburetor or fuel injection. The series runs on American Racer tires, with prices and rules listed on the NCMA website.

A two-barrel dirt or combo car will be allowed the lowest weight and softest tire. A two-barrel pavement car requires a bump up in weight and runs a harder tire. And a four-barrel pavement car pushes those adjustments further upward. Injected or aluminum-motor cars will carry the most weight and run the hardest tire.

The NCMA has been advertising the new series at some tracks, as well as its website and Facebook page. Burrell encourages racing businesses to take a look at the series as a good opportunity for local exposure.

"We're a series for all ages," he said. "It's not a high-dollar series. We have a good fan following."

With a focus on balancing out competition, the NCMA California Pavement Sprint Car Challenge Series has opened its rules to allow iron or aluminum motors, and the choice of either two- or four-barrel carburetors or fuel injection.

POWRi DESERT WINGED SPRINT CAR SERIES PRESENTED BY MVT SERVICES: AFFORDABLE WINGS

Billed as a "racer-focused" series, the POWRi Desert Winged Sprint Car Series Presented by MVT Services will fill a niche for winged 360s that has been absent from the Desert Southwest region.

Late last year, Performance Open Wheel Racing Incorporated (POWRi) announced plans for its new Desert Winged Sprint Car Series Presented by MVT Services, which promises to be a "racer-focused" series staging two shows per monthly race weekend.

Chad Tenski is the series director and promoter, while racing photographer Adam Mollenkopf serves as race director. Mollenkopf explained that the series fills a niche for winged 360s that has been absent from the region. The pair approached POWRi President Kenny Brown to sanction the series.

"We're trying to bridge the gap between local racers and national touring series," Mollenkopf said. "It's spec-headed 360 to be affordable. We haven't had a winged 360 series in this area. There's a POWRi 305 series in southern New Mexico [Vado Speedway Park], and a 360 series at a local track, but nothing for winged 360s in northern and central Colorado."

A key attraction to the series is the two-show format, which will run one weekend per month through October.

Scheduled tracks include Canyon Speedway Park in Arizona; Aztec Speedway and Vado Speedway Park (hosting the first race May 29–30) in New Mexico, and Fairgrounds Speedway in Colorado.

A nightly payout includes $250 to start and $1,500 to win on the first race night, and $300 to start and $2,000 to win on night two. A $20,000 championship fund at the end of the season has payouts to the top 20, including $4,000 to the winner and $3,000 for second.

Mesilla Valley Transportation (MVT) is the series sponsor, and Mollenkopf said several local businesses have also stepped up, wanting to be attached to a regional series. He and Tenski have been working with the tracks to promote the series, along with using social media. Full rules are available on the POWRi website.

"It's a challenging time to start a new race series, but everyone is super excited," Mollenkopf said. "Racers are very happy about not towing hundreds of miles just for one show." PRI

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BRONCOS UNLEASHED

Ford takes us behind the scenes for an exclusive look at two new models built for Ultra4 racing.

By Bradley Iger

While most of the motoring public will have to wait until later this summer to get their hands on the Blue Oval's latest sport-utility, the folks at Ford Performance are already putting the new retro-inspired SUV through its paces in motorsports.

Earlier this year, Ford took the wraps off a pair of new Broncos at the 2021 King of the Hammers (KOH) event in Johnson Valley, California. Although the two machines differ substantially, both were developed with the specific intent to take podiums in Ultra4 Racing events like KOH.

"King of the Hammers is the biggest race of the year for Ultra4 Racing, so it made sense to debut these new trucks there," said Brian Novak of Ford Performance. "When it comes to off-road racing in the United States, King of the Hammers is kind of a mecca for this crowd. The number of people there that are really passionate about this sort of thing is just incredible, so we wanted to show them what the Bronco can do."

The new race-ready Broncos were built to compete in two classes—4600 and 4400—and the differences between class rulesets gave way to these two unique animals that will now race under the Bronco banner. As such, we asked Novak to walk us through what each truck brings to the table.

BRONCO 4600

4600 is considered a "stock" production class, but the trucks are far from showroom spec. To get the Bronco ready for racing, Ford selected a two-door example outfitted with the 2.7-liter turbocharged V6, 10-speed automatic transmission, and the off-road focused Sasquatch package as a starting point, but Novak said the 4600 modifications work with a two-door, 2.7-liter equipped Bronco of any trim.

"It's a brand-new platform, so part of this is about showing what it's capable of, and another part of it is about starting to create a path for that customer who buys a Bronco and wants to go race it. 4600 is a stock class, but the way the class rules are written, you're allowed to modify the engine and do things like that; you're required to maintain the core hardware like the block and cylinder heads, but there's a lot of freedom in there. However, in this case we actually chose to leave the 2.7-liter EcoBoost as-is—we haven't made any changes to it because we feel we're in a really good place with the power in terms of competitiveness."

The suspension is another story, though. "Hammers is probably the most difficult off-road race in the world, especially in the 4600 class," he explained. "We had 29 entries this year and only one finished in the allotted time. It's a very, very difficult race, so there are some things we had to do to ensure we'd be able to tackle it."

Ford developed unique race versions of stock-style suspension components like the control arms and trailing arms that are armored and heat-treated for additional strength and turned to the aftermarket to help develop and produce a number of the supporting parts. Fox supplies the Bronco 4600's 2.5-inch coilovers while the heavy-duty front portal hubs come from 74 Weld. In the rear, Triton Engineering rear links support a Dynatrac ProRock XD60 axle with an ARB 35-spline locking differential and Spidertrax Spider 9 axle shafts and hubs. Ford Performance also developed unique front and rear modular steel bumpers to support a Warn winch and Rigid LED lighting.

Ford Performance has unveiled the new Bronco 4600 for Ultra4 stock class competition. While this vehicle serves as a test bed for Ford Licensed Accessories and Ford Performance parts, it has also opened the door to the independent performance aftermarket.

Recaro's first-ever FIA off-road-certified race shells are also on hand to provide seating inside the Bronco 4600, while its custom roll cage is fabricated by Geiser Brothers in Phoenix, Arizona, who will also serve as the Bronco 4600's primary builder for the foreseeable future.

"Our team of engineers at Ford Performance has been working really hard on calibrations, the suspension geometry, driveline work, and other aspects of the truck to get it ready, and we teamed up with some really strong partners to help support that effort and deliver the parts."

Novak told us that the Bronco 4600 racing effort will initially focus on its respective class in the Ultra4 series, where the Bronco teams have collected a formidable lineup of off-road racing veterans that include two-time King of the Hammers champion Loren Healy and Jason Scherer, a three-time champion of the event.

BRONCO 4400

While 4600 is a production-based class, 4400 is a no-holds-barred unlimited class. As such, the Bronco 4400 effort is markedly different from that of its 4600-class counterpart and, if we're honest, largely a modern Bronco in name only.

While the 4600 is a production-based class, the 4400, at right, is really a modern Bronco in name only. Our source from Ford Performance explained, "We're talking tube-frame chassis, bypass off-road racing dampers, fully built race motors, and so on. It is a 100% purpose-built racing Bronco."

"With an unlimited rule set like 4400, you can build anything you want in order to make the ultimate rock crawler," Novak explained. "So we're talking tube-frame chassis, bypass off-road racing dampers, fully built race motors, and so on. It is a 100% purpose-built racing Bronco."

And rather than using a modified version of the turbocharged six-cylinder that motivates the Bronco 4400, the teams have opted for more traditional muscle with big-displacement pushrod Ford V8 race motors of their own preference.

"The teams have been taking the lead on the development of the Bronco 4400 trucks—because the rules are unlimited, they've each got their own secret sauce," Novak added. "And that's what makes 4400 such a cool class to run in. Each team brings their own solution to it, and everybody's developing down their own path, so it makes for a really good show. And there's always something to learn. Even something that's as different from the production truck as the 4400 it can teach us things that help make the 4600 better—or any of our race programs, for that matter." PRI

SOURCE

Ford Performance
performance.ford.com

INDUSTRY NEWS

JEGS ADDS STEVE WHIPPLE TO PRIVATE LABEL TEAM

Industry veteran Steve Whipple has joined JEGS as its new director of private label sourcing, where he will work with racing manufacturers to help bring products to market through the JEGS brand.

Based in Delaware, Ohio, JEGS is one of the largest mail order and online high-performance and racing equipment companies in the US.

Whipple comes to JEGS from Edelbrock, where he had served as VP of sales and marketing since joining the company in 1999. Prior to Edelbrock, Whipple was a general manager for Nitrous Oxide Systems (NOS), and before that the national sales manager for Super Shops, Inc., an automotive performance center.

DARIN MORGAN JOINS BES RACING ENGINES

Longtime motorsports professional Darin Morgan has joined Guilford, Indiana-based BES Racing Engines. In his new role, Morgan is responsible for assisting BES owner Tony Bischoff in several areas, including product development and cylinder head assembly.

Morgan, who has 35 years of experience in race engine building, including more than two decades with Reher-Morrison Racing Engines and, most recently, at Mast Motorsports, will relocate from Nacogdoches, Texas, for the new position.

"[BES Racing Engines'] reputation in the industry is already well deserved—they don't need my help to produce record-setting racing engines," Morgan told us. "I'm just going to be there to help them produce even more."

BORGWARNER TO ACQUIRE GERMAN BATTERY COMPANY

BorgWarner Inc. has agreed to acquire AKASOL AG, a German developer and manufacturer of high-energy and high-performance lithium-ion battery systems. The move is expected to allow BorgWarner to expand its electrification capabilities. AKASOL has over 300 full-time employees, and has one facility in the US and three in Germany.

LUCAS OIL APPOINTS THREE TO LEADERSHIP TEAM

Lucas Oil Products Inc. in Corona, California, has announced the promotion and addition of three key members to its leadership team.

Katie Lucas has been named the vice president of strategy and philanthropy, and Megan Burakiewicz is now the director of people operations. Additionally, the Lucas Oil racing division has promoted Dan Robinson to vice president of motorsports operations.

VP RACING FUELS ANNOUNCES NEW APPOINTMENTS

San Antonio, Texas-based VP Racing Fuels, Inc. has appointed James McVey to take on business development with a focus on OEM business.

McVey previously served as vice president of sales and marketing at GreenStar LED, where he led the conversion of high-pressure sodium street lights to smart city LEDs in San Antonio and other cities across North America and abroad.

The company also has appointed industry veteran Freddie Turza to the position of lubricants sales manager. Turza joined VP in 2008 after working as an engine builder in NASCAR with Richard Childress Racing, Labonte Racing, and as the head of Turza Racing Engines.

G-FORCE RACING GEAR ADDS NEW MARKETING DIRECTOR

G-Force Racing Gear in Acworth, Georgia, has hired Danilo Oliveira as its new director of marketing. Based in Miami, Florida, Oliveira will also handle international sales for the racing safety manufacturer.

Oliveira began his career in motorsports in 2006, and previously worked for OMP Racing and Adidas Motorsport.

AFR BOOSTS MARKETING TEAM

Air Flow Research (AFR), the Valencia, California-based CNC-ported cylinder head manufacturer, has added Alex George to its marketing team.

In his new position, George will be responsible for growing the company's online presence and overall customer engagement. He also will play an instrumental role in AFR's marketing communication strategy.

George, a third-generation drag racer, brings several years of automotive aftermarket experience to the job, holding positions in sales, marketing, and operations.

CTW AUTOMATION ANNOUNCES TWO NEW HIRES

CTW Automation, the provider of test equipment for dampers and springs, has added to its Lexington, North Carolina, office.

Scott Morin will assist the electrical, mechanical build, and manufacturing departments, while Rita Treichler has been hired to assist CTW in organizing and handling office projects, answering phones, marketing, shipping, and more.

For up-to-the-minute racing industry news, scan the QR code below or visit primag.com/industrynews.

ADVOCACY CORNER

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

Edited by Laura Pitts

PRI's dedicated advocacy team based in Washington, DC, works nonstop to protect motorsports. We are currently tracking several initiatives on the federal and state levels, including PRI's challenge to the EPA in court in response to its regulations on race vehicles, plus some positive news for competitors and motorsports venues in New York. Here's the latest on these vital measures.

PRI CHALLENGES EPA'S MOTORSPORTS REGULATIONS IN COURT

PRI has filed an amicus brief in a lawsuit between the US Environmental Protection Agency (EPA) and Gear Box Z. Inc. (GBZ). The brief, which is a persuasive legal document to assert a stance or interest in the outcome of a case, argues against the EPA's contention that the Clean Air Act (CAA) does not allow a motor vehicle to be converted into a racing vehicle used solely for competition.

Although the EPA inserted this interpretation of the CAA into a 2015 rulemaking provision, it quickly withdrew its position following a huge, PRI-led public outcry. The EPA, however, continues to maintain that once a vehicle has been certified as a street vehicle it cannot be converted into a racing vehicle, even if that vehicle is brought to the track in a trailer and never driven on public roads.

"In 45 years or so of practice, the Clean Air Act (CAA) has never applied to vehicles used exclusively for racing. This is an aggressive, anti-racing action on behalf of the EPA," Vice President of Government and Legal Affairs Daniel Ingber said. "I want to emphasize that PRI is going to work tirelessly to fight this cause in the courts and on the regulatory and legislative fronts."

The EPA's stance would threaten legitimate businesses that sell parts for cars used exclusively on the track, affecting countless racing manufacturers and parts sellers. "This is a huge threat to enthusiasts and the industry. A large majority of competition vehicles used exclusively on the track start their life as a street vehicle, which the EPA is trying to ban," Ingber said. "The EPA is attempting to claim jurisdiction over any part or product capable of being installed on a street vehicle—even if it was to be used solely on the track. This is one of our main reasons for filing this brief."

In response to the EPA's efforts to regulate race parts, members of Congress introduced PRI-sponsored legislation to confirm what had already been understood for the previous 45 years: The CAA did not apply to vehicles modified for racing use only. The "Recognizing the Protection of Motorsports Act" (RPM Act) is bipartisan legislation to clarify that it is legal to make emissions-related changes to a street vehicle to convert it into a dedicated race car. It also confirms that it is legal to produce, market, and install racing equipment. PRI continues to push for the enactment of this important legislation.

At press time in early March, the case was currently before the US District Court for the District of Arizona. The Court has agreed to take up the issue after the EPA responds to PRI's amicus brief, expected in early March as well. "This action may take months depending on the judge's timeline," Ingber said, "but PRI will continue to push back against EPA overreach."

We will continue to monitor the situation and update the racing community.

> *"IN 45 YEARS OR SO OF PRACTICE, THE CLEAN AIR ACT HAS NEVER APPLIED TO VEHICLES USED EXCLUSIVELY FOR RACING. THIS IS AN AGGRESSIVE, ANTI-RACING ACTION ON BEHALF OF THE EPA."*

NEW YORK TO ALLOW MOTORSPORTS TO RESUME WITH FANS

PRI, in conjunction with the New York Motorsports Coalition (NYMC)—a group comprised of racing facilities across New York—has submitted a plan to New York Governor Andrew Cuomo to advocate for motorsports to safely resume with fans in attendance statewide. The motorsports community has also generated nearly 2,000 letters to Gov. Cuomo and other elected officials in New York, which has not allowed fans in the grandstands since racing resumed in June 2020.

"New York was one of the hardest-hit states by COVID-19. Auto racing had been limited to operating without spectator attendance for months. For most, this simply isn't a viable way to operate, and many tracks chose not to open at all," Ingber said.

As a result, racers and fans had to visit neighboring states if they wanted to enjoy racing. However, in early February, Gov. Cuomo had announced that sports and entertainment venues with a capacity of 10,000 or more could reopen with a 10% fan capacity limit, provided certain health and safety restrictions are followed.

"We've been in constant contact with Gov. Cuomo's team, and we're very pleased to see his recent announcement about sports venues. We look forward to working with him as the new guidelines are implemented," Ingber stated.

Race tracks that fall under this category will be required to receive a health department signoff for each event. Fans will be required to wear face coverings, agree to temperature checks, and follow social distancing protocols. And, similar to the Buffalo Bills' playoff games in January, attendees must also provide proof of a negative COVID-19 test within 72 hours of the event, which should be easier after Gov. Cuomo announced that the state had begun significantly ramping up its rapid testing capabilities.

> *"WE'VE BEEN IN CONSTANT CONTACT WITH GOV. CUOMO'S TEAM, AND WE'RE VERY PLEASED TO SEE HIS RECENT ANNOUNCEMENT ABOUT SPORTS VENUES. WE LOOK FORWARD TO WORKING WITH HIM AS THE NEW GUIDELINES ARE IMPLEMENTED."*

"Based on the progress New York is making in its fight against COVID-19, we're hopeful that more fans will be allowed to attend races as the weather warms up," Ingber added.

The state is home to over 60 race tracks, including Watkins Glen International, which will host all three NASCAR national series races on the same weekend for the first time on August 6–8. Since the current order only applies to venues with 10,000-plus seating, smaller-sized venues are still not permitted to host fans, although the PRI advocacy team is hopeful that they won't need to wait too long.

"We've been told to expect the reopening threshold to come down as the state's numbers improve. Some tracks are advertising summer ticket sales with this in mind," said State Government Affairs Director Christian Robinson. PRI

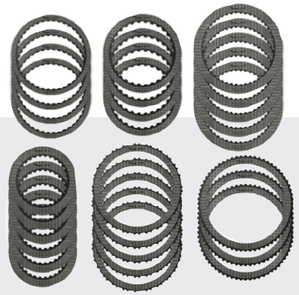
RACE SHOP

WILWOOD ENGINEERING
wilwood.com

Wilwood offers three road race kits for 1997–2013 Corvette C5, C6, and Z06 models. Complete bolt-on kits feature Wilwood's lug-drive floating rotor system that removes all thermally generated stress from a traditional hat and ensures optimal pedal feel. Type III hard anodize, aluminum, radial-mount calipers come equipped with internal damper springs.
Contact: 805-388-1188

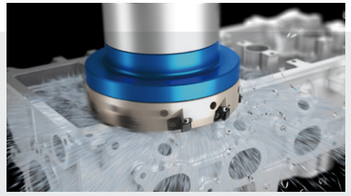
COMP CAMS
compcams.com

COMP Cams Dodge Gen III HEMI products include several powerful new HRT camshafts and packages designed specifically for turbo and supercharged engines. These packages feature low shock cam designs that provide performance and stability at higher rpm.
Contact: 901-795-2400



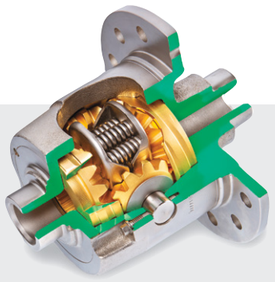
RAYBESTOS POWERTRAIN
raybestospowertrain.com

The Raybestos Powertrain Ford 10R60 Transmission GPZ Friction Clutch Pack Module is designed to enhance performance beyond OE capabilities. The RGPZ-279 friction clutch module features GPZ friction material that's manufactured with a unique blend of high energy fibers for ultimate stress and high-temperature durability.
Contact: 800-686-4729; info@raybestospowertrain.com



KYOCERA PRECISION TOOLS
kyoceraprecisiontools.com

KYOCERA offers its MFAH milling cutter that's specifically designed to finish aluminum in automotive engine applications. The PCD tipped indexable inserts have a large true rake angle and a double-edge design that prevents burrs and creates a mirror-like finish. The hybrid body (steel and aluminum) provides an internal coolant delivery method to improve chip evacuation.
Contact: 888-848-9266



AUBURN GEAR
auburngear.com

The new Grip-N-Loc limited slip differential incorporates patented Cone-Clutch technology to provide a 25% increase in bias ratio for greater traction. When one wheel begins to slip, internal mechanisms within the differential begin to take grip.
Contact: 260-925-3200

DESIGN ENGINEERING, INC.
designengineering.com

Increase driver comfort while protecting vital components from heat damage with Stainless Steel Pipe Heat Shields. Offering up to a 2,000 degrees F direct-temperature rating, the shields include 1/2-inch standoffs with clamps that provide an air gap to the pipe and two stainless steel mounting clamps.
Contact: 440-930-7940

SAFETY SASSES
safetysasses.com

These patent-pending, impact-resistant glasses have substantial frames and lenses to protect users' eyes. They are designed to be stylish, but also safe and functional. They offer UV400 protection, and are certified to pass the ball-drop test in high-impact situations.
Contact: 830-331-8738; info@safetysasses.com

DC SPORTS
dcsports.com

DC Sports offers a cold air intake system for 2015–2021 Subaru WRX 2.0L (will not fit STI). Intake tubes feature lightweight aluminum alloy construction with a silver powder coated finish that is corrosion resistant. This product is designed to improve throttle response and increase horsepower and torque. The systems re-locate the air filter outside the engine compartment.
Contact: 626-968-5147

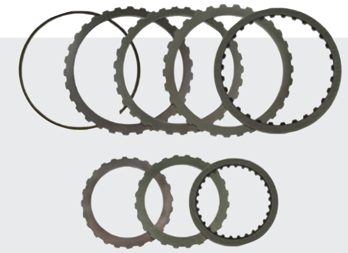
MAHLE MOTORSPORT

mahlemotorsports.com

MAHLE Motorsport's Ford 5.0L modular four-valve Coyote/Voodoo PowerPak Piston Kit is manufactured to be a complete drop-in assembly piston kit for either the Ford V8 Coyote or Voodoo engine. The all-forged piston kit utilizes a low silicon 2618 alloy for high-load, high-stress applications, and has combined dome pocket geometry.

Contact: 888-255-1942

MCLEOD RACING



mcleodracing.com

McLeod adds the 6R80 to its list of transmission frictions and steels kits. Designed for both street and track use, these kits are an upgrade to any 6R80, as McLeod uses friction material to ensure better wear and heat dissipation, as well as additional layers of friction to increase surface area.

Contact: 714-630-2764; info@mcleodracing.com

STAGE 8

stage8.com

The Stage 8 Dana 60 axle/hub locking bolt kit is designed specifically to address the needs of the off-road community. This kit, which provides a simple solution to loosening bolts, includes eight grooved Stage 8 locking bolts, four laser cut stainless steel locking bridge retainers, and eight retaining clips.

Contact: 800-843-7836; info@stage8.com

HOT SHOT'S SECRET

hotshotsecret.com

Blue Diamond G56 6-Speed Manual Transmission Fluid is specifically formulated for G56 manual transmissions, and also meets the specifications for any application where a SAE 50 manual transmission fluid is needed, including towing or heavy-duty applications.

Contact: 800-341-6516

CATALOGS

AFCO RACING
afcoracing.com

–

This oval track catalog by AFCO Racing details its suspension, brakes, and cooling products. Featured products include new load rating machines from Longacre, plus suspension load-pull sticks.

Contact: 800-632-2320

CYLINDER HEAD ABRASIVES (CHA)
ruffstuff.com

–

CHA's catalog highlights specialty tools and supplies—carbide burrs, shank porting stones, and much more—for cylinder heads.

Contact: 800-456-5474, cylinderheadabrasives@gmail.com

FLUIDAMPR
fluidampr.com

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Discover Fluidampr's viscous harmonic dampers and fitments for domestic, import, and performance diesel crankshaft applications. Made in the USA and ISO 9001:2015 certified.

Contact: 716-592-1000, sales@fluidampr.com

WELD RACING
weldwheels.com

WELD Racing's street and strip catalog highlights its aftermarket wheels, which are manufactured in the USA with the same forged alloys as its professional drag race wheels.

Contact: 800-788-9353, info@weldracing.com

PERTRONIX IGNITION PRODUCTS
pertronix.com

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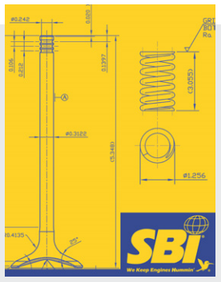
PerTronix's catalog showcases its new Digital HP Mobile CD ignition box and matching FlameThrower HP coil, along with new applications, updates, and ignition products.

Contact: 909-599-5955



SBI
sbintl.com

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SBI's 2021 catalog features the company's full valvetrain offerings, including its K-Line valve guide liners, as well as performance sections for easy viewing.

Contact: 800-843-7328

LOKAR
lokar.com

–

This catalog by Lokar displays a mix of drag racing components, including cage mounts, brackets, billet grab handles, header tether systems, battery disconnect levers, and more.

Contact: 877-469-7440, tech@lokar.com

UEM PISTONS
uempistons.com

UEM features its lineup of high-performance pistons, including its Icon Premium, FHR, and Sport Compact line, plus KB Hyper, Claimer, and Silv-O-Lite pistons.

Contact: 800-648-7970, tech@uempistons.com

PERFORMANCE INDUSTRY REPS

SOCIAL STATUS

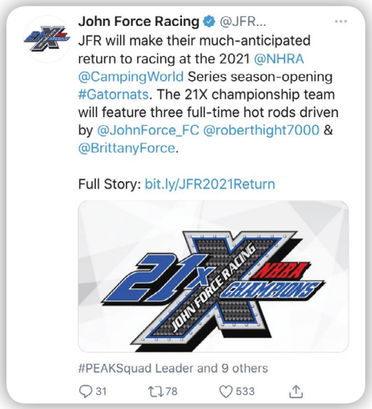
A closer look at racing and performance companies worth following on Facebook, Instagram, Twitter, etc.

Twitter initially began as a way for friends to update their status and create microblogs. It was primarily more of an information network rather than a social network, and still is, although the platform has evolved over the years.

Now, users tweet for various reasons like providing live event updates, product promotion, and company news, as well as to engage with followers, to give audiences a behind-the-scenes look at their lives, and much more. Plus, retweeting—or forwarding someone else's tweet—also plays a significant role in this particular network.

We recently spoke with the social media team at John Force Racing (JFR) to get their input on the platform. "For [us], Twitter is used for live updates, especially during a race weekend, which is different from how we use Facebook and Instagram," noted Sara Slaughter, public relations director. "We try to give followers immediate updates on the platform. We live tweet through qualifying and race day.

"However, we don't limit ourselves to just live tweeting," she added. "We try to break up the race-related posts with behind-the-scenes looks and organic interactions."



Twitter is also great for promotion, whether it be building your brand, showcasing your initiatives, driving traffic to your website, creating sales, etc., according to Slaughter. "I think that because we aren't always all corporate and business, when we do post to support our sponsors and promote products, our audience is more likely to listen," she explained.

Another benefit of this platform is that it allows businesses to interact with others in the industry, whether that's athletes, events, fans, or other companies. "You are able to easily engage with them by following them, commenting on their tweets, retweeting, and quote tweeting. Twitter's ability to easily interact allows businesses to show their more human side and connect with followers on a more personal level," Slaughter said.

Just like with Instagram, hashtags are essential on Twitter. "Using the right hashtags is important. Hashtags for a specific event, promotion, brand, series, or even trend can be key in expanding reach and engagement and tracking success," Slaughter explained.

JFR is fortunate enough to have the vibrant personality of John Force working in their favor. And because of that, "lifestyle posts always do well," Slaughter said. "John at the office, whether it be his Yorba Linda (California) office, Indianapolis office, or his track office, people love having that access. Each of our drivers are dynamic and have different sides to them. Showing the side out of the race car always seems to be enjoyable for followers.

"Although, posting about winning or new records never lets us down," she added. "Nobody gets tired of seeing that."

Slaughter noted, too, that when using Twitter it's important to check spelling before posting, to engage with your followers, and to try and keep a consistent "voice." Additionally, "when you are first starting out, track when your audience is online. They won't all check at once, but you'll be able to judge when the best time to post is after you experiment a bit."

Overall, Twitter has some similarities to the other big social media platforms but should be used as its own entity when working on your social marketing strategy. PRI

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