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The sights, sounds, and smells of drifting are unique in the world of motorsports. The brash cars, billowing tire smoke, and shrieking engines lend themselves perfectly to the multimedia of today's young enthusiasts who have grown up on video games and social media. Add to that a relatively low cost of entry, and it's no wonder that drifting has blown up across America. Many local tracks now offer a night for drifting for as low as \$25, and several sanctioning groups like Lone Star Drift, FD Pro Am Series, and The Drift League have sprouted up for hopefuls looking for a chance to break into the pro series, Formula DRIFT. Though the sport may be foreign to most HOT ROD readers, drifting is as much about ingenuity and engineering, high horsepower, and driving skill as the types of motorsport we typically cover, and looking through the specs of these purpose-built domestic cars may convince some of our audience to check it out.

JUSTIN PAWLAK: 2017 MUSTANG

Justin got his start in drifting while working at AEM Electronics in Hawthorne, California, getting involved with the sport at the grassroots level. In 2009, he opened his shop, Hot Line Performance, where he and his crew would do fabrication work, race-car builds, and engine swaps. His drifting skills were honed behind the wheel of a second-gen Mazda RX-7, in which he received his D1 Grand Prix and FD licenses. He graduated to a S197 Mustang once Falken Tire picked him up, and he's been wheeling Mustangs ever since. Now his 2017 S550 chassis (pictured, left) packs one of the hardest punches the Blue Oval can throw. Like all FD competitors, this race car began as a regular production vehicle, but to be competitive at the pro level, he needed to strip the car to a bare chassis and build it from the ground up.

DRIVETRAIN

Unlike most cars in the series, Justin's Mustang sports a list of parts available directly from Ford Performance and Roush Performance Products. The high-compression Aluminator 5.0L crate engine that is controlled by the Ford Performance Control Pack ECU and topped off with a 2.3L Roush Supercharger that breathes through the factory airbox makes 1,000 hp with stock internals and exhales through a set of Kooks 1 $\frac{3}{8}$ -inch headers. The Coyote routinely sees 7,500 rpm and, despite the abuse, shows hardly any signs of wear and tear, as demonstrated in a teardown performed by Ford Engineers in 2017. That engine is nearly identical to the current setup in Justin's car.

A complete Radium Engineering fuel system feeds the thirsty Coyote Ignite ethanol through a set of 1,700cc injectors from Injector Dynamics. The supercharger has been on the car for more than three years with no issues and is driven off of an ATI 15-percent overdrive Super Damper with a VMP Performance eight-rib belt kit. C&R Racing built a custom, rear-mounted supercharger heat exchanger and radiator. Mounting the radiator in the trunk area (just aft of the rear window) is common practice in FD. It helps with weight distribution and eliminates potential hazards to the cooling system in the event of a crash or rubbing with another car on track.

The robust driveline incorporates a Quick Time bellhousing, an Andrews Products A431 four-speed

THE ART OF COUIN



Zach Martin © Jorge Nuñez and Larry Chen

TERSTEER

The Bow Tie vs. Blue Oval Battle Reaches Full Lock



transmission (commonly found in NASCAR Cup Cars) with an Exedy twin-disc clutch, and a one-piece prop shaft from Driveshaft Shop. The driveshaft and axles survived an entire season's worth of abuse without fail. The ring and pinion are from Rave Gears, an aerospace gear company that supply companies like Andrews Products.

CHASSIS AND SUSPENSION

Competition-level drift cars must be stable when sideways. Bracing and gusset work are a must, but Justin took it a step further by stitch-welding the chassis end to end. He also fabricated the rollcage and crushable bash bars. Drivers go to this effort to eliminate any undesirable movement in the car that not only increases stability but makes for more precise suspension tuning. Despite that, it's necessary to note the cars must retain their factory pick-up points (control arms, strut towers, and so on). Essentially, every element of the car's structure between the front and rear strut towers must remain factory. Within those parameters, the sky is the limit for tuning and steering angle.

Justin and Tim Folkerts of iWon Suspension R&D'd the rear suspension and front "angle kit," which allows the car to have about 75 degrees of steering angle. To eliminate bind when steering at such extreme angles, the factory dual front links and pivot points on the hub were eliminated in favor of a single control arm and pivot. Justin had to design not only the control arm but the spindle as well. The factory item was milled down to accept adjustable, fabricated pick-up points for the control arm and FK spherical tie-rod ends, all while retaining the factory hub to accept a Wilwood six-piston brake kit. Damping is controlled by KW Suspension coilovers in all four corners.

INTERIOR

The car's interior sports a factory dash with Roush gauge pods in place of the factory air vents. Those pods and top half of the center console are home to an array of AEM X-Series gauges with an AQ-1 data logger tucked away. Gears are selected via a JSP shifter, and a JTP handbrake lever attached to a Wilwood master cylinder can lock up the rear wheels on command to help initiate an oversteer condition. Sparco seats and six-point harnesses keep the occupants secure during 80-plus-mph initiations, and a Sparco quick-release steering wheel ensures Justin will keep the car traveling where he wants.



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EXTERIOR

Though the car is a 2017 model, the nose is that of a 2018 Roush Mustang with all of the aero goodies: splitter, aero pockets, and the upper and lower grille. That bodywork is affixed to the car via the factory, removable core support, an item that can also be purchased from your local dealer. This is uncommon in FD, as cars typically have a custom-fabricated front end that involves bash bars, but in this case, the factory core support is used as the front bash bar.

The rest of the body, except for the roof, is all carbon fiber, courtesy of Anderson Composites, which puts the car right at the 3,000-pound mark (800 pounds lighter than stock). The rear trunk spoiler also came from Roush, and the roof spoiler is from Classic Design Concepts. All of the glass in the car was replaced with polycarbonate panels that Justin cut to fit. To complete the look, white Forgestar F14s are wrapped in Falken Azenis 615k+ tires: a DOT, off-the-shelf tire.

MATT FIELD: 2013 CORVETTE

Known as the “Beast from the Bay,” Matt Field has been hucking cars sideways for the better part of a decade. Having received his FD Pro license in 2009, his first career podium finish was in 2013 behind the wheel of an S14 Nissan 240SX. That same year, he opened The Drift Cave in San Jose, California, a shop that specializes in building top-quality race cars. Before the 2018 FD season kicked off, he decided to leave the 240SX chassis and build a whole new car. The vehicle choice was a 2013 Corvette (*pictured on this page*) because it is far more capable than the S-chassis, thereby making it easier to develop; used Vettes are cheap right now, too, and as Matt sees it, they’re also the next popular all-American drifting platform. Last season, Matt proved its worth by taking a salvage-title car to a Seventh Place overall finish.

DRIVETRAIN

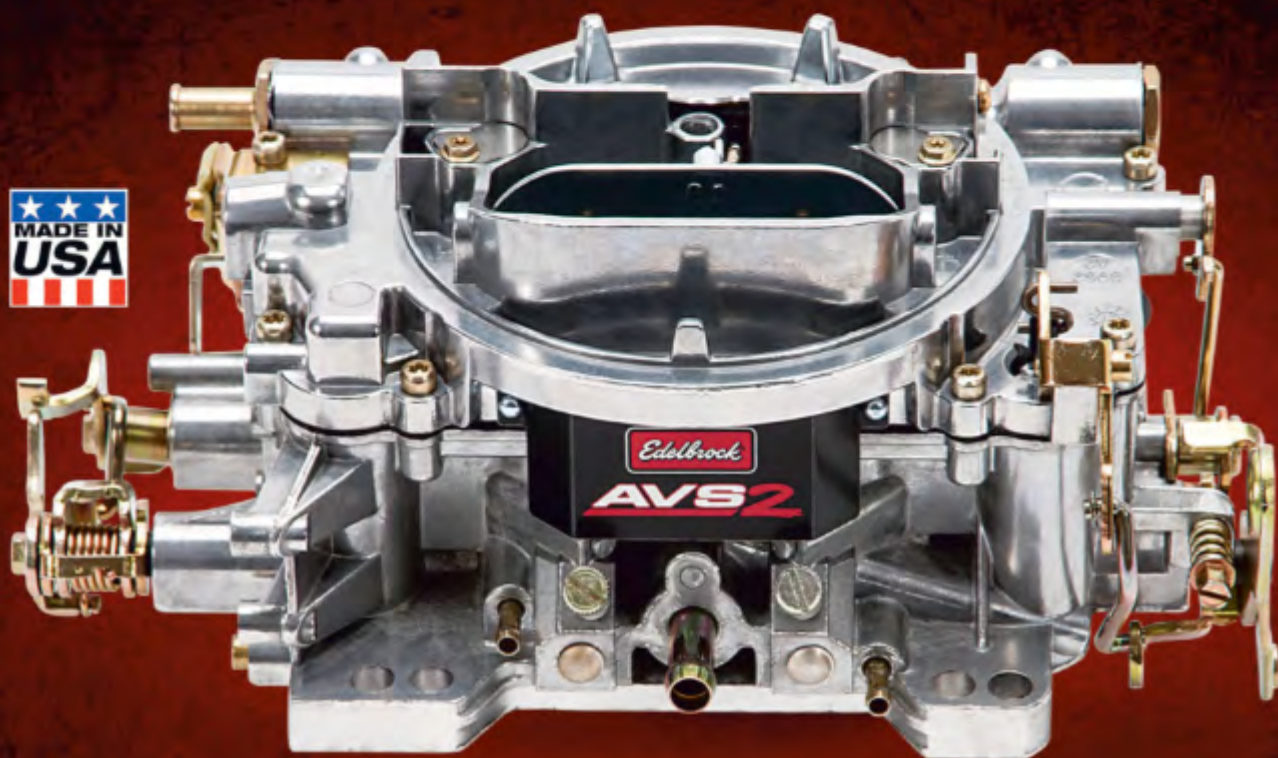
Though the Vette already comes LS-equipped, more power was needed. The RHS 427 LSX engine under the hood of Matt’s Vette packs a bit more of a punch than stock. CBM Motorsports out of Colton, California, assembled the engine to be ready for supercharging and nitrous. With a Vortech YSI-B blower attached via A&A supercharger brackets, and direct-port nitrous kit from Nitrous Express getting sucked through a FAST 102 intake, this C6 is good for 1,060 hp and 990 lb-ft of torque to the tires. All of that power vaporizes ear drums through Borla headers and ATAK exhaust system.

Accel spark-plug wires and Holley EFI smart coils keep the engine firing true with a Mechman alternator keeping all of the electronics



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fully juiced. To ensure longevity, a CX racing oil cooler and ARE dry-sump system ensure it will hold up to every bang off the rev limiter. The supercharger is cooled by a Treadstone Performance intercooler while the engine's coolant travels through a C&R Racing dual-pass radiator that sits flat in the trunk of the car. A pair of 1,950-cfm Spal brushless fans make for some icy coolant temperatures.

Earl's Ultra Pro plumbing runs throughout the entire car and two Aeromotive 340 fuel pumps and a pressure regulator keep the Injector Dynamics 2000cc injectors well fed. The plastic outer shell of the stock fuel tank was retained and a Fuel Safe bladder was made to fit within it. A Fuel Safe dry brake is installed in the factory fuel-filler location.

CHASSIS AND SUSPENSION

Parts Shop Max handled the entire suspension of the car. Together with Matt, the shop developed the control arms, knuckles, sway bars, and adjustable coilovers for the C6 Corvette. The C6 chassis is already very well-engineered, but for drifting, the cars need a little room to crumple without causing damage to the vital structure. After mocking up the rear body panels, Matt cut a substantial amount of the stock frame from the car and replaced it with bash bars that are engineered to fail in the case of the occasional wall tap or car-to-car contact.

INTERIOR

Matt's "office" is home to not only his Cobra Ultralite seats and Schroth Racing Enduro harnesses but the brains of the whole mechanical operation. Tucked within an HGK carbon dash is an MXS digital dash and data logger from AIM Data Sports that gathers the info that Matt and his team need. A Holley Dominator ECU serves as the brain and accepts Matt's commands via a Motec PDM. Jei of Blacktrax Performance buttoned up all of the wiring from tip to tail of the C6. At the

controls and behind the Optic Armor lexan windows, a bespoke NRG Innovations steering wheel sits atop a Woodward steering column and the Parts Shop Max handbrake is within a finger's reach of the wheel. A Tilton pedal box and reservoirs are tucked in the footwell, and to stay cool under pressure Matt wears a Coolshirt during competition.

EXTERIOR

HGK came through with a full carbon/Kevlar body for the car, including a fan shroud. The carbon-fiber hood and trunk are from Anderson Composites, and APR added some style and aerodynamics with a front splitter and side skirts. This all contributes to a 3,000-pound vehicle weight with Matt sitting in it, a weight that must be adhered to, given his 295 tire size. Falken Tire's iconic teal and blue livery shines bright as a throwback to the early days of drifting in the states. A set of 18-inch Rotiform WGR wheels are wrapped in the same DOT Falken 615k+ rubber as Justin's Mustang and have accents color-matched to the car's theme.

WHAT'S NEXT?

Going into the 2019 season, Matt and Justin are on the hunt for more. After finishing 2018 in Seventh and Fifth Place, respectively, they have podium finishes on the brain. There is plenty of stiff competition, but in a judged motorsport that demands as much as drifting does of man and machine, anything can happen. Having been in the game this long, things are looking up for these guys, and we could be looking at the next FD champions in the very near future.

Drivers like this duo are already veterans of the sport and will someday, along with the rest of their comrades, be the "old guys" future drivers look up to for guidance and inspiration as they claw their way through melted rubber, blown engines, and crunched cars to take the ultimate victory.



THE ORIGINS OF DRIFTING

More than just a pastime in vacant, snow-covered parking lots, drifting was born in Japan in the 1980s. It was first seen in the All Japan Touring Car Championship series when driver Kunimitsu Takahashi began to slide his car through the corners as a way to maintain momentum on the era's low-grip tires. This controlled state of oversteer was later elevated to an art form by Keiichi Tsuchiya, highly accomplished race-car driver and co-host of the Japanese automotive show *Best Motoring*. Considered by many to be a master of racing in the rain, Tsuchiya has come to be known as the "Drift King" and was instrumental in the formalization of organized drifting as a professional motorsport. Tsuchiya and the staff of Japanese automotive magazine *Option* organized the first drifting event in Japan in 1988, the D1 Grand Prix, held at the Tsukuba Circuit. Formula DRIFT, its American counterpart, was formed in 2003, holding an exhibition event at Irwindale Raceway and its first stand-alone event at Road Atlanta in 2004. The series has since expanded to hold events at nine venues across the country for the 2019 season and fields teams with big-name sponsors like Red Bull, Rockstar, Falken Tire as well as factory sponsorship from Dodge, Pontiac, and Ford throughout the years.

Unlike traditional forms of racing, the winner of a drifting event is not determined by who is the fastest or who crosses the line first. Instead, a panel of judges scores each driver on several

criteria focusing on precision car control and style. The judges reward drivers who can maintain a maximum amount of drift angle while maneuvering their cars through a series of turns, bringing the car to the apex of each corner, then carrying the slide to the outside of the turns (similar to the racing line). These maneuvers must be performed in a fluid and continuous motion, with minimal steering correction, braking, or pedaling of the throttle. Competitors run the course in tandem, in which the following car must maintain the optimum line through the course as well as keep his or her car as close as possible to the lead car. Imagine doing synchronized donuts in a snowy parking lot that, in most cases, would result in a humiliating video on FailBlog. In pro drifting, it's a required skill.

During the 2018 Formula DRIFT (FD) season, we followed drivers Matt Field and Justin Pawlak, both of whom drive for the Falken Tire team. They pilot two of the most iconic American muscle cars—a Chevrolet Corvette and a Ford Mustang, respectively—and carry the torch for the age-old Ford versus Chevy feud into the world of professional drifting. Justin and Matt each run their own shops while designing, developing, building, and driving their own race cars. They are true hot rodders, who are passionate about every element of building wicked-fast vehicles and making them survive the grueling series. ■



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