

ARIZONA DRIVER

THE ENTHUSIAST'S GUIDE TO LIFE BEHIND THE WHEEL

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Toyota 86
Hakone
Edition

VEHICLES • EQUIPMENT • TECHNOLOGY • PEOPLE • EVENTS • DESTINATIONS • ATTRACTIONS



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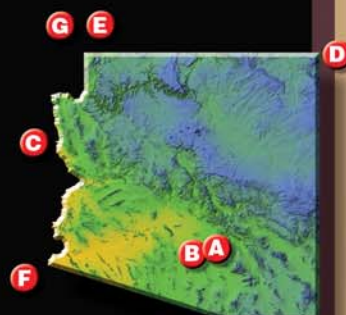
THE ENTHUSIAST'S GUIDE TO LIFE BEHIND THE WHEEL

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COVER: The 2020 Toyota 86 Hakone Edition, a one-year special run of this affordable lightweight—and fun—little sports coupe. **Photo: Joe Sage**

Mercedes Lilienthal



START YOUR ENGINES : FROM THE PUBLISHER

We bring you another healthy mix of things to do and things you'd like to do, as the coronavirus clampdown continues to cancel live events. Several trends emerge in this issue—strong women doing amazing things on wheels; dry lakes racing past, present and future; great road trips in the region, notably to the north during Arizona's hottest months; the trend in trucks, as represented by both midsize and full-size Toyota TRD Pro trucks, as well as the just-before-deadline reveal (by livestream, no attendance or driving) of a new 2021 Ford F-150; and books to bide your time while self-quarantining.

Books cross into Bonneville Salt Flats dry lakes racing territory, which crosses into strong women doing amazing things on wheels, with an update on Valerie Thompson's speed record quests, put on pause in both South Australia and Utah this year. Strong women doing things on wheels cross into that TRD Pro territory. Road trips to the north include Ely, Nevada, crossing into Bonneville, one or two must-do road trips that can be easily combined or not, with nothing but beautiful open roads between here and there.

We've continued to receive weekly vehicles (though a couple of manufacturers have had this on pause), with whole new rituals involved regarding sanitation of every last button, handle and screen between swaps, by us and by the hard working fleet crews, all done without anyone actually saying hi to anyone else, other than via email, text and phone.

And we've participated in enough Zoom conferences (and equivalents) that it has come to feel like going back to college while also working double-full-time. Those sometimes run three and four per day, and it's unrealistic to cover them all, unless we can invent that elusive fifteen-day week and produce a 128-page magazine. But they're great for background information, as well as a chance to see everyone's smilin' faces far and wide.

The lockdown has also brought some changes in how business is conducted, including by Arizona's auctions, performance schools and manufacturing, which we also highlight.

Enjoy the ride!

Joe Sage - Publisher/ Executive Editor

ARIZONA DRIVER

MAGAZINE



PUBLISHER/EXECUTIVE EDITOR:

Joe Sage

CONTRIBUTING WRITERS/PHOTOGRAPHERS:

Randall Bohl, Nick Calderone, Chris Collard, Tyson Hugie, Stephanie Jarnagan, BJ Killeen, Christina Lawrie, Mercedes Lilienthal, Sue Mead, JP Molnar, "LandSpeed" Louise Noeth, Doris Ong, Brenda Priddy, Kelly Sallaway, Lyn St James, Tim and Kristin Sharp, Dave Stall, Paul Strauss, Scott Tilley, Sherri Tilley, Jan Wagner, Nicole Wakelin, Kevin A Wilson

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BUSINESS : NIKOLA CORPORATION RAISES CAPITAL, LISTS ON NASDAQ

Nikola Corporation, headquartered in Phoenix, has announced the completion of a business combination with VectoIQ Acquisition Corp. (VTIQ), a publicly-traded special purpose acquisition company, further solidifying Nikola as a global leader in zero-emissions transportation and infrastructure solutions. On June 4, the combined company's shares began trading on the Nasdaq Global Select Market under the new ticker symbol "NKLA." Nikola raised more than \$700 million of capital through this business combination and PIPE, which includes Fidelity Management & Research Company, ValueAct Spring Fund and P Schoenfeld Asset Management LP, expected to accelerate Nikola's production of battery-electric (BEV) and hydrogen fuel-cell electric vehicles (FCEV). Nikola's pre-orders represent more than \$10 billion in potential revenue, and their hydrogen network is anticipated to cover North America, becoming the largest in the world. Nikola added Stephen Girsky, current CEO of VectoIQ and former Vice Chairman of General Motors, to its Board of Directors. ■



PERFORMANCE DRIVING : BONDURANT REOPENS FOR SUMMER WITH EXPANSION

Bondurant High Performance Driving School in Chandler, where guests get behind the wheel of the fastest street-legal cars in the world for professional instruction and track time, reopened in mid-June, showcasing phase one of an extensive expansion expected to be complete by early July, including an Advanced Formula Road Racing course featuring the school's newest fleet—Ligier JS F4 open wheel racecars. Other courses include High Performance Driving and Teen Defensive Driving, Grand Prix, and Advanced Road Racing. Phase one of the renovation includes upgrades to the classrooms, welcome center, student lounge and gift shop, as well as expansion of the school's corporate, group and celebration event center. A renovated shop displays the school's latest collection of course vehicles, including Dodge Challenger SRT Hellcat and SRT Demon, Charger SRT Hellcat and Durango SRT 392. Dodge is the school's official sponsor; customers who buy a new SRT model receive one full-day session as part of the Dodge//SRT Package. ■



ARIZONA RIDER : AMSAF HELMET PROGRAM

The Arizona Motorcycle Safety & Awareness Foundation (AMSAF), headquartered in Peoria, is collaborating with RideNow, Buddy Stubbs Harley-Davidson, Desert Wind Harley-Davidson and The Helmet Center to expand its helmet program. With helmets optional in Arizona, AMSAF wants to assist those who choose to wear a helmet to be financially able to afford one. Grants from the Governor's Office of Highway Safety, which wants to help reduce crashes and fatalities in Arizona, help them give people the opportunity to purchase a quality DOT helmet at a reduced cost. Applicants are required to fill out an application and donate \$50 to AMSAF (which is tax-deductible). Applicants receive a receipt with a promo code and instructions that they can take to one of a number of specified qualified helmet dealers, where they receive a credit of \$125 off one full-face or modular DOT helmet specified in the program, along with an additional 25 percent off MSRP on select helmets from the dealership. For more information, visit www.amsaf.org. ■



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Lucretia Torva | 480.251.3817
Instagram: @torvasm | torvafineart@gmail.com

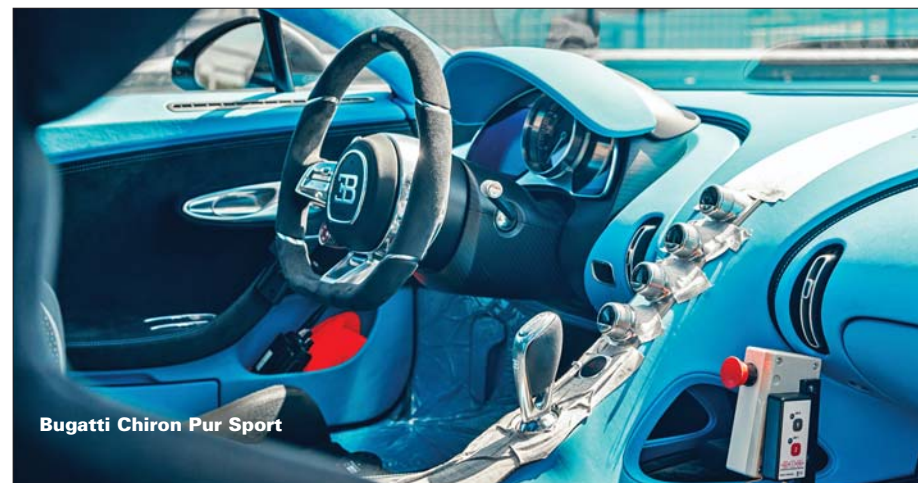
AUTOMOTIVE NEWS UPDATE



McLaren 600LT Spider Segestria Borealis by MSO

▼ All 12 copies of the final version of the **McLaren 600LT Spider**—the 600LT Spider Segestria Borealis by MSO, inspired by a venomous arachnid, Segestria Florentina, and promptly nicknamed the “Spider Spider”—arrived in the US in May, headed for the select retailers who will be offering them for sale. These final McLaren 600LT Spiders embody the McLaren Longtail philosophy of increased power, reduced weight, optimized aerodynamics, absolute driver engagement, track focused dynamics and limited availability. They also have a striking design theme, inspired by two distinct elements: the green fangs of the venomous spider, mirrored in twin Napier Green stripes from the nose of the car to the signature top-exit exhausts at the tail; and the iridescent black body of the spider, represented by Borealis black MSO Defined paint that shimmers through deep green, purple and claret undertones as the angle of the light changes. Additional theme features include MSO Bespoke Napier Green brake calipers, 10-spoke lightweight forged wheels in gloss black, a web motif in Napier Green on the rear wing and door mirrors, and pinstripe detailing on front fender, side skirt and rear diffuser vanes. Customers also benefit from the MSO Clubsport Pack as part of the specification, with super lightweight carbon fiber racing seats, carbon fiber interior upgrade, lightweight titanium wheel bolts and MSO Defined gloss visual carbon fiber front fender louvers all standard. The cockpit continues the color scheme with MSO

Bespoke bright green stitching and webbing design for alcantara-trimmed seats, headrest embroidery, steering wheel stitching and 12 o'clock highlight mark. Also included are high-performance Bowers and Wilkins 12-speaker audio, McLaren Track Telemetry, rear camera and parking sensors, volumetric alarm upgrade and vehicle lift to raise the nose when needed. Like all McLaren 600LTs, Segestria Borealis by MSO features a 3.8-liter twin-turbo V8



Bugatti Chiron Pur Sport

engine that produces 592 bhp and 457 lb-ft of torque, for zero-to-60mph acceleration in a blistering 2.8 seconds. Performance is further enhanced by both the lightweight carbon fiber bodywork and the fixed rear wing, generating 220.5 lbs of downforce at 155 mph. Ultra-precise, track-focused handling is supported by a forged aluminum double-wishbone suspension system with recalibrated dampers, firmer

engine mounts and a lightweight braking system. The 600LT Spider is fitted with bespoke, track-focused Pirelli P-Zero Trofeo R tires. Steering is quicker, and responses are sharpened from throttle and brakes. Its three-piece retractable hardtop can be operated at speeds up to 25 mph. MSRP is \$275,500.

▼ After weeks of coronavirus lockdown, **Bugatti** engineers were able to finally test the Chiron Pur Sport hyper sports car on a circuit again—essential for fine-tuning the chassis, handling, damper control, steering, tire wear and gearbox, as well as testing all new engine components on the way to series production. The overall impression of the vehicle in all load conditions and at all speeds is also repeatedly checked and fine-tuned during three days of driving two pre-series prototypes. Bilster Berg—a circuit at the heart of the Teutoburg Forest in Germany—has nine right turns, 10 left turns, 44 crests and dips, 20 percent uphill and 26 percent downhill grades, with a change in elevation of 70 meters over 4,207 meters. Per

local regulations, engineers wear safety helmets and fireproof clothing. The team is reduced in size so as to comply with all current safety regulations and not endanger the health of the employees. The vehicles return to the pits after a few fast laps. Warm air rises from the wheel arches, while the 16-cylinder engine babbles quietly at idle. Data is reviewed, tires are changed—several sets of Michelin Pilot

Sport Cup 2 R tires are ready and waiting. In addition to a new, significantly firmer chassis with modified camber, newly developed tires and a shorter-ratio gearbox, they also have to re-tune the engine



2021 Porsche 911 Targa 4 and 911 Targa 4S

with its turbocharger and safety components. The flat front end with its dynamic design and the massive rear wing yearn for turns, and technical data match the look: the Pur Sport has lost around 50 kg of weight compared with the Chiron, while downforce has been increased, and the firm, agile chassis is tuned for the most demanding roads with varying bends. A newly developed gearbox has a 15 percent shorter gear ratio and increased maximum engine speed. The gears run through a seven-speed dual-clutch transmission at ultra-fast pace at full load. The Chiron Pur Sport accelerates in sixth gear from 60 to 120 km/h almost two seconds faster than the already extremely fast Chiron. Elasticity values are 40 percent higher than in the Chiron. Further track tests will follow, including the famous Nürburgring Nord-schleife with its rollercoaster ride over 20.83 im. The aim is to test, test and test again, until all components are perfectly matched. Bugatti is due to start series production of the Chiron Pur Sport, limited to 60 units, in the second half of 2020. Net price is 3 million euros.

▼ Following the Coupe and Cabriolet, the new-gen **Porsche 911's** third body style makes its debut with all-wheel-drive 911 Targa 4 and 911 Targa 4S models. Just like the legendary original Targa model from 1965, it features a characteristic Targa bar, a retractable roof section above the front seats and a wraparound rear window. The roof can be automatically opened and

closed in just 19 seconds. Both the Targa 4 and Targa 4S are fitted with an eight-speed PDK dual-clutch transmission and intelligent all-wheel drive Porsche Traction Management (PTM). The 911 Targa 4S can be

ordered with a seven-speed manual transmission, including Sport Chrono package, at no charge. Both models are powered by a six-cylinder, three-liter twin-turbo boxer engine. The 911 Targa 4 has 379 hp and hits zero-to-60 mph in just 4.0 seconds when equipped with PDK and the optional Sport Chrono Package, one-tenth quicker than the previous model. The Targa 4S has 443 hp and hits the 60 mph mark in just 3.4 seconds (with PDK and optional



Bollinger B2 Chassis Cab

Sport Chrono Package), four-tenths quicker than its predecessor. Top track speeds are 179 mph and 188 mph. As on 911 Carrera models, Porsche InnoDrive, including adaptive cruise control, is an option on PDK-equipped models for the first time. Frequently visited locations can be programmed into the enhanced Smartlift function for optional front axle lift system. The new 2021 911 Targa models are avail-

able to order now and are expected to reach US dealers in late 2020. MSRP is \$119,300 for the 911 Targa 4 and \$135,200 for the 911 Targa 4S. Watch also for a special edition model debuting this summer.

▼ The world's first and only Class 3 all-electric chassis-cab truck platform—the **Bollinger B2 Chassis Cab (B2CC)**—promises unlimited work truck variants and reduced overall cost of operation, on a truck designed, engineered and built in the US. Built on the Bollinger Motors E-Chassis all-wheel-drive base that underpins the Bollinger B1 Sport Utility Truck and B2 Pickup, the B2 Chassis Cab (B2CC) will be available in both 2-door and 4-door cabs and on multiple wheelbase lengths. B2CC is aimed at municipalities, park services, emergency response, security, airports, non-tactical military, trades including construction, electricians, plumbers, landscapers and other hard-working categories. The B2 Chassis Cab includes the full B1 and B2's famous full-length (from the front bumper!) pass-through storage of long items. Specs include a 120 kWh battery pack, dual motors, portal gear hubs, all-wheel drive with all-terrain capabilities, a 5,000-lb payload, hydraulic power steering, hydraulic anti-lock power brakes, hydro-pneumatic self-leveling independent front and rear sus-

KEEP RIGHT >>

the all-electric, all-wheel-drive, all-terrain base to the B1, B2, and B2 Chassis Cab trucks. The E-Chassis is ready for any up-fitted body—delivery vans, bucket trucks, ambulances, rescue trucks, shuttle



buses, reconnaissance vehicles—with 15 inches of ground clearance, 10-inch wheel travel, and 200-mile range ideal for extreme conditions. Designed with versatility in mind, the E-Chassis has a 15 kW charger/inverter and can be configured with front- or rear-wheel drive (with variable wheelbases), with or without portal gear hubs, and up to a 180 kWh battery pack for longer range.

▼ Production has begun in Hiroshima on the all-new **Mazda MX-30**, the company's first all-electric vehicle. MX-30 is equipped with e-Skyactiv, Mazda's new electric drive technology. The front-wheel-drive powertrain combines a 107 kW AC synchronous motor with a 35.5 kWh lithium-ion battery, for an estimated driving range of 200 km (124 miles). Sized to balance between driving range and CO2 emissions from a life-cycle assessment perspective, the system battery can be charged to 80 percent in 30 to 40 minutes with DC rapid charging. Skyactiv-Vehicle Architecture has been specifically tailored to the MX-30's inherently smooth all-electric driving behavior, combining with i-Activsense safety systems and Electric G-Vectoring Control Plus for a quiet, seamless transition between linear power delivery and smooth regeneration on liftoff, and equally smooth transfer between energy regeneration and hydraulic brake action—a critical brief for the engineers. The latest expression of Mazda's Kodo design philosophy reinforces the MX-30's solid mass, while cen-

ter-pillarless freestyle doors and a framed glasshouse hint at an open, spacious cabin. The driver-centric cockpit features heads-up display, 8-way electric adjustable drivers' seat, Mazda's first seven-inch

touch-screen climate control panel, a leather wrapped steering wheel and chrome trim accents, a floating center console, and a range of new, environmentally friendly materials such as cork and door trim fabric incorporating fibers from recycled plastic bottles. Tech includes Mazda Connect, navigation, Apple CarPlay and Android Auto, and Mazda Radar Cruise control. Available in other parts of the world for now, a First Edition is available in



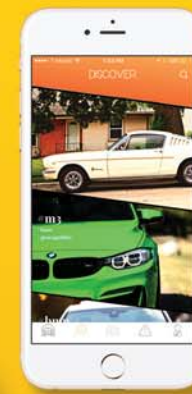
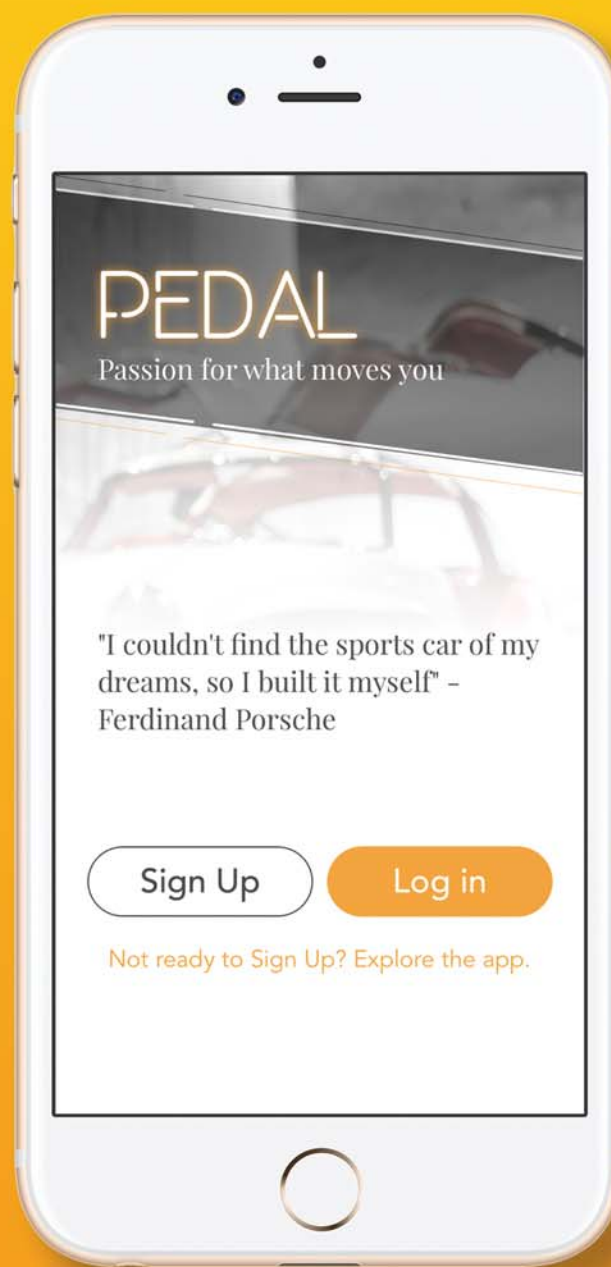
Ceramic Metallic or Polymetal Grey Metallic, or optionally in three-tone Ceramic Metallic or three-tone Soul Red Crystal Metallic. Mazda MX-30 First Edition customers will qualify for a free wall box home charger. As well as DC fast charging, the car come with both a Type 2 mode 2 charge cable for 3-pin plug charging and a Type 2 mode 3 charge cable for AC charging at home or public charge points.

▼ The **Ford Edge ST**—Ford's first SUV to wear the badge and their quickest-ever ST model—has been a sales success. Since its 2018 introduction, sales outperform the prior Edge Sport (selling nearly twice its volume, with almost 13 percent of Edge sales being ST in 2019 and 2020 so far). Ford Edge ST is equipped with a specially tuned 335-hp 2.7L EcoBoost engine capable of zero-to-60 in under six seconds, a quick-shifting 8-speed automatic, standard all-wheel drive with selectable traction control, performance suspension, and an available ST performance brake package. If all that seems a bit much for your daily commute—or budget—but you do like the Edge ST's bold styling, Ford now introduces an 2020 Edge ST-Line model. With a starting price \$5,165 lower than Edge ST, Edge ST-Line shares the same aggressive looks and includes all the driver-assist technologies, while bearing a 250-hp twin-scroll 2.0L EcoBoost engine with auto start-stop, an 8-speed automatic and available all-wheel drive. Edge ST-Line styling—inspired by Ford Performance—includes a unique ST-style grille with body-colored bumpers, black ST beltline molding combined with lower sport cladding, standard fog lamps, signature LED lighting, black roof rack side rails, 20-inch

gloss black aluminum wheels and unique Edge ST-Line badging. The vehicle is tech-loaded, with standard SYNC 3 with Apple and Android, Waze and Ford + Alexa compatibility, plus a wireless phone charging pad. Optional Ford Co-Pilot360 Assist Plus includes enhanced active park assist, evasive steering assist, adaptive cruise with stop-and-go, lane-centering and all-wheel-drive disconnect. ■



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REBELLE RALLY: A WOMAN'S TEST OF ENDURANCE, GRIT AND GOALS

PHOTOS AND WORDS BY MERCEDES LILIENTHAL

Dirty and weary, Rebelles methodically find their way back to base-camp before their time is up. Hours were spent in the searing sun while pounding miles of dirt, sand and rock. Women are hunting for hidden checkpoints scattered throughout the Nevada and California desert. Flags, poles or nothing—these hard-to-find markers will make a difference in crowning off-road rally champions.

The Rebelle Rally, a 10-day, 1,500-mile off-road competition, tests participants in ways they never dreamed of. The Rebelle Rally is only for women. This traditional navigational competition doesn't permit any GPS-finding technology, either. No cell phones, Garmin devices or laptops are al-

lowed during the rally. This map and compass-based event winds its way from the north end of Lake Tahoe, across the Nevada and California deserts, and eventually ends in the famous Glamis sand dunes flanking Mexico.

This rally has been held since 2016, with 4x4 and AWD crossover classes offered up. Two women, along with their vehicle, are capped at 50 teams. Driver, navigator and tons of stamina spill onto the trails for the multi-day adventure. Hidden checkpoints worth various points are carefully placed throughout both states. Easy-to-find greens have the biggest flags, whereas blue checkpoints don either a smaller blue flag or pole (usually a few feet

tall). Black checkpoints are invisible—making competitors rely solely on exacting navigational skills and measuring to bring them to victory.

Challenging terrain can swallow up tires or tear up clutches if teams are unlucky, but owner and founder of the rally Emily Miller says anyone can compete with a customized vehicle, but a stock crossover or 4x4 will do just fine. No matter what women drive, winning the competition is about the vehicle's capability, the competency of the driver and the exactness of the navigator. Miller believes in stock vehicles and their abilities so much so, that a bone stock class was created right from the start.

In addition to the 4x4, crossover and bone stock classes, there's an international cup award and spirit award, too. As each year brings repeat Rebelles and new competitors, it also invites updates and challenges as the rally itself evolves. New penalties and challenges were instituted last year to keep women on their toes. A wide point penalty was instituted, and

(cont'd)



Taylor Pawley plotting her next point. Green flag and blue pole checkpoints. Michelle Laframboise, Clearwater Design, Team 100. (Below) Chasing a black checkpoint.



black checkpoint misses could potentially be saved—if ralliers missed a checkpoint, they could try again and cancel out negative points.

In 2018, I was the driver of a 2012 Toyota Tacoma, and was part of Team Free Range Dames. In 2019, I returned to the event as media, hustling from one checkpoint to another before the competitors, to snap photos and catch them in action. I loved experiencing both sides of the off-road event.

The Rebelle Rally tests everything about a competitor. It's an event that challenges their physical being, emotional determination and spirit. Drivers not only have to conquer hundreds of miles of off-road terrain, they also need to practice mechanical sympathy on their rigs—penalties are given if teams require outside mechanical assistance away from base camp. Conversely, navigators need to keep drivers on point, headed in the right direction, and arriving at each checkpoint before they close. Teams also have to communicate effectively and support each other—they're locked in a steel box with each other for 10 days straight.

Why does the Rebelle Rally exist? Miller sought to create a unique competition that'd make a difference for women. She

wanted to challenge women in a meaningful way, in which only the most competent and methodically strong-minded could win. Miller, a seasoned racer and off-road instructor, worked extremely hard during her off-road tenure. She's earned several podium finishes and won races in numerous major events—being both driver and navigator.

Time management plays a critical role when competing in the Rebelle Rally. It's a topographical map of chess. Each checkpoint begs each player for its attention, only to fool them with its location. Some may be hidden, whereas others are right in front of them, but could still easily be missed.

Fatigued minds and exhausted bodies make mistakes, but keeping focused and mindful of time and location at all times is critical during the rally. Strategizing while “Rebelling” is the name of the game to win it all.

In addition to catching checkpoints each day, early morning TSD (or time speed distance) mini-rallies test each team. These “mini” competitions challenge each pair, as detailed instructions are laid out in a route book. Teams need to carefully follow turn-by-turn instructions while keeping oddball speeds, and then some, so they

can pass through time controls at their appropriate time.

Rebelle Rally is as much a mental game as it is a physical one. Starting at 5am, a single clanging cow bell wakes competitors in the dead of night. Drivers check on their rigs, load up camp and attend to their navigator's needs. Pencils scratch and headlamps bob about as navigators furiously plot points on paper maps—the air is thick with concentration. Every minute counts. Every second counts more.

Being a Rebelle means different things to different competitors. Some want the constant game of off-road distractions. Others want to prove they can accomplish anything they set their mind to. Still others find the Rebelle Rally therapeutic.

I chose to compete in the Rebelle Rally as it was a challenge—it pushed me well beyond my comfort zone. I was tested both physically and emotionally. The year I competed was a year of change: not only did I switch my career, I started off-road rallying, too. I learned to be quick, adapt, reset and keep moving. I learned it's okay to fail—it is part of growing. I grew mentally, spiritually, and after 1,600 miles of off-pavement traversing, becoming a Rebelle took me through the competition and beyond. ■



(Above, top) Nathalie Lanthier, Team 102, plots a route. Clearwater Design, Team 100, conquers Glamis Dunes in their Jeep. Joanna Chen, Team Luna, Team 107.

(Above, lower) Karah Behrend of Record the Journey, Team 207. Toyota Tacoma run by author Mercedes Lilienthal's Team Free Range Dames, Team 179, in 2018. Tammy Battistessa, Lost in Overland Team 120.

(Main photo) Rebelles are always kept busy hunting for the next checkpoint.



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Barrett-Jackson online-only auction sets world records, helps NASCAR team owner Richard Childress raise \$425,000 for pandemic relief

Having cancelled their Palm Beach auction, then their Northeast auction, due to the coronavirus pandemic, Barrett-Jackson provided sellers and buyers with a new outlet to take up the slack—their May 2020 Online-Only Auction, which closed on May 17—promptly setting two world collector car auction records and raising \$425,000 for charity. The event offered a limited selection of carefully curated vehicles and automobilia that brought in more than \$3.79 million, including the charitable sale vehicle, which was sold with the help of NASCAR team owner Richard Childress.

World auction records for collector cars included a 2010 Dodge Challenger Drag Pak Race Car (Lot #100) at \$61,600 and a 1984 Dodge Daytona Turbo (Lot #217) at \$20,350. Top ten vehicles were:

- 1 1963 Chevrolet Corvette Custom Split-Window Coupe (Lot #240).....\$357,500
- 2 1941 Lincoln Zephyr Custom Coupe (Lot #239).....203,500
- 3 1969 Ford Mustang Boss 429 (Lot #241)195,000
- 4 1967 Ford Mustang Custom Fastback (Lot #247)165,000
- 5 2003 Kirkham 427 KMS/SC Roadster (Lot #243).....115,500
- 6 2014 Ford Shelby GT500 Super Snake Convertible (Lot #123).....93,500
- 7 Hank Williams Jr.'s 1959 Cadillac Eldorado Seville (Lot #234).....92,400
- 8 1970 Ford Mustang Boss 302 (Lot #219)91,300
- 9 1968 Ford Mustang Custom Fastback (Lot #249).....90,200
- 10 1965 Sunbeam Tiger Convertible (Lot #120).....88,000

"The response to our Online-Only Auction was incredible," said Barrett-Jackson chairman and CEO Craig Jackson, "with bidders and consignors participating in the action throughout the entire event. We kicked off the auction by setting a world auction record for our very first Lot. Our two top sellers also were part of an exciting bidding war similar to one you'd experience during one of our live auctions. But the true highlight of the auction was teaming up with Richard Childress for the sale of his original No. 3 Dale Earnhardt NASCAR race car, which raised money for people whose health and livelihoods have been impacted by the current pandemic."

The Richard Childress charitable sale, Saturday, May 16, was a No. 3 Dale Earnhardt-driven NASCAR race car (Lot #200) donated by Childress and raising \$425,000 to benefit COVID-19 relief efforts across the US.

"America is facing unprecedented times right now and it's going to take everyone working together and making sacrifices to make a difference," said Richard Childress, chairman and CEO of Richard Childress Racing. "I have so many memories of this No. 3 Chevrolet, including celebrating with Dale Earnhardt in Victory Lane. I will always hold those memories dearly, but now I am thrilled to see that the winning bidder will be able to build memories as well. I want to thank our bidder, who has chosen to remain anonymous. Feeding America and Samaritan's Purse will use these funds to help people most in need right now."

In addition to the collector cars, Barrett-Jackson sold a total of 228 genuine, authentic automobilia items for more than \$266,000. The top five were:

- 1 Huge Late-Model Custom Porsche Neon Sign (Lot #6320).....\$16,675
- 2 1926 Standard Oil Red Crown Gasoline Visible Gas Pump (#6388)\$10,062.50



(Top to bottom) NASCAR team owner Richard Childress donated this No. 3 Dale Earnhardt-driven NASCAR race car (Lot #200) from his own personal collection to benefit COVID-19 relief efforts through Feeding America and Samaritan's Purse. The sale in the Online-Only Auction raised \$425,000 for the cause. // This 2010 Dodge Challenger Drag Pak Race Car (Lot #100) sold for \$61,600, setting a new world auction record. // This 1963 Chevrolet Corvette Custom Split-Window Coupe (Lot #240) sold for \$357,500, the top non-charity sale of the online event.

- 3 1950s Coca-Cola Vendo 56 Coin-Operated Soda Machine (#6313).....\$9,200
- 4 1936 Wayne #60 Shell Oil Gas Pump (#6312)\$7,475
- 5 1930s-40s Hudson Automobiles Neon Porcelain Sign (#6332).....\$7,475

Barrett-Jackson's Las Vegas Auction at Mandalay Bay Casino and Resort, September 10-12, and Palm Beach Auction, already rescheduled for October 15-17, are on track as scheduled, unless otherwise announced. Consignments for all upcoming Barrett-Jackson auctions are currently being accepted. ■

WELL, THAT WAS FUN!

TOYOTA 86 IS MORE THAN JUST A NUMBER

BY JOE SAGE

This little sports car has come a long way since it was the Scion FR-S. (Actually, it was always the Toyota 86 in Japan; the whole Scion brand was just a transitional marketing project in the US. An "86" badge was on the car all along, even here; many people just never realized it.)

Our Toyota 86 arrived not long after a week with the new-last-year GR Supra (see our March/April 2020 issue), itself a followup for us to an interview with Toyota executive VP Bob Carter at Supra's unveiling at Barrett-Jackson in January 2019, a one-day track event in Arizona, and a three-day open road comparo in Oregon and Washington.

Carter had told us the GR Supra 3.0 straight-six, starting at about \$50,000, would compete with Asian sports cars up to \$50G and Europeans up to \$60G (Porsche Cayman, Audi TT, BMW M2 and

such). Within Japan, he squares it off against not Nissan 370Z, but 370Z NISMO. We also think of Nissan GT-R at times, then recall that Supra is half the price. So where does all this leave the Toyota 86, at about half again the price of the Supra?

Named after Japan's bucket-list Hakone Turnpike, this one-year special edition features Hakone Green paint, 17-inch twisted-spoke bronze wheels and black spoiler outside, tan and black alcantara seats and trim inside, even embroidered-86-logo trunk carpeting. Based on the 86 GT, the 86 Hakone Edition comes with either 6-speed manual or automatic and a 205-hp (or 200 if automatic) 2.0L horizontally-opposed 4-cylinder aluminum boxer engine. Other GT-based features include projector-beam LED headlights, LED fogs, color-keyed power mirrors, chrome-tip dual exhaust, front fender vortex generators, steering wheel audio and display controls, dual-zone climate, heated seats, alarm, cruise, keyless entry-start and more.

All this actually costs less than the 86 GT itself (\$330 or \$650 less, manual/automatic). One reason at a glance is that the Hakone has 17-inch instead of 18-inch wheels—more sidewall for track day and savings for you, a win-win.

We usually start with a deep dive into controls and interfaces. With this one, the pure basics won



us over immediately. It's a manual, it's a sports car, it's affordable, and we just wanted to drive it. Hit those two pedals and go. Let's just have some fun!

The Toyota 86 Hakone quickly turns heads, including those of people driving cars specifically stated as competitors for the twice-the-price GR Supra. We suspect its paint job—together with its rich interior, kind of a richer 21st century deep metallic upgrade version of classic British Racing Green over tan—was a big part of its draw.

It's always interesting to see which vehicles react to what we're driving, as it varies so much and we have no dog in the race. The little 86 sparked aggressive behavior from serious performance cars, pricey electric sedans and large luxury SUVs the whole time we had it. Unassuming as we might expect it to be at just \$30,000, the Toyota 86 clearly exudes a powerful personality. We suspect it may also telegraph a freewheeling freedom not found in those others at three times the price.

At 205 hp and about 2800 pounds, the 86 is not wicked fast, but will satisfy you in an incredible

range of driving situations, just by virtue of its general quickness and nimble handling. In the Valley, we squirted through surface street and freeway lane opportunities readily, thanks to a well-spaced transmission, well executed suspension and handling, and of course its small size.

While Supra aims for those pricey Euro performance coupes, Toyota 86 may compare with the always highly-praised Mazda Miata—similar in purity, simplicity, reliability and affordability factors that add to its formula of just plain simple fun, but in this case a hardtop.

The Toyota 86 is a dang nice little sports car for \$30,000, and we knew we'd hate to see it go. On its last day here, we wanted one more good open road run—twisty for the basic sports car experience, but perhaps the Beeline Highway for some open highway at higher speeds and the feel of a longer drive. Those are probably not as often its primary mission, so we headed out to Bartlett Lake Road—plenty of twists, turns and elevation changes, great for general sportiness, with high horsepower always useful but not highway grade.

Elevation gains a thousand feet or more on the way up, too, and this little guy remained a champ at grabbing the best spot among a tremendous variety of vehicles and speeds, all while climbing. We found ourselves mostly using just 4th and 5th gears on this stretch—5th about as high as you need on surface streets, 4th about as low, other than stops—just enough shifting to have a good time while enjoying its maneuverability.

Bartlett Lake Road allows for more shifting, at your own pace, and the car gets very high marks. You could drive it back and forth on a road like that all day long, all weekend long, all week long and have a ball—time well spent.

At 61 percent the horsepower of a Supra (about the same as a first-gen Boxster) yet half the Supra's price, Toyota 86 is as fast as you'd expect, which is pretty great unless your expectations are unrealistic. Comparing the grins the two provide? That's more subjective, but this car's story actually is not all about the Supra. Toyota 86 predates the newest Supra by years, and while comparisons are compelling, it's more of a partnership. We suspect each will sell well in this expanded Toyota sports stable. Also, as noted in our last issue, the six-cylinder GR Supra 3.0 is upping its power from 335 to 382 horses next year, adding a 430-hp GT4 track model, and introducing a 255-hp 4-cylinder Supra 2.0 model, closing the power gap with Toyota 86—expansion that together can only generate more interest across the full range.

As our week ended, we could only say, "Wasn't that fun?!" Well-established, well-packaged, appropriately powered and nicely priced, Toyota 86 is guaranteed to put a smile on your face. ■



SPECIFICATIONS

SEATING	.....four
ENGINE	.....2.0L horizontally-opposed D-4S dual-injection 4-cyl boxer
HP/TORQUE	.....(manual) 205 hp / 156 lb-ft (w auto) 200 hp / 151 lb-ft
DRIVETRAIN	.....RWD
TRANSMISSION	.....6-spd manual (avail: 6-auto elect control w ECT-i [TX6A])
REAR DIFFERENTIAL	.....Torsen limited slip manual 4.30 / (auto 4.10)
SUSPENSION	.....F: sport-tuned indep MacPherson strut w strut tower bars, 18mm stblzr bar; R: sport-tuned indep multi-link, 12mm stblzr bar
STEERING	.....sport-calibrated elec pwr rack & pinion
BRAKES	.....pwr-assist vent disc: F: 11.6; R: 11.4
WHEELS	.....17x7.0 bronze alloy 5x100mm bolt pattern, 48mm inset
TIRES	.....215/4517 (87V AS or 87W summer)
LENGTH / WHEELBASE	.....166.7 / 101.2 in
TURNING CIRCLE	.....36.1 ft
GROUND CLEARANCE	.....4.9 in
HEADROOM (F/R)	.....37.1 / 35.0 in
LEGROOM (F/R)	.....41.9 / 29.9 in
CARGO CAPACITY	.....not stated
WEIGHT	.....Hakone M/T 2799 lb (Hakone A/T 2841 lb)
FUEL / CAPACITY	.....premium unl / 13.2 gal
MPG	.....manual 21/28/24 (city/hwy/comb) (w auto 24/32/27 city/hwy/comb)

BASE PRICE	.....\$29,870
DESTINATION CHARGE	.....955
TOTAL	.....\$30,825

2020 TOYOTA 86 LINEUP

86	.....6 MT	.....\$27,060
	.....6 ECTi auto	.....\$27,780
86 GT6 MT\$30,190
6 ECTi auto\$29,910
86 Hakone Edition6 MT\$29,870
6 ECTi auto\$30,590

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A WEEK WITH : 2020 CADILLAC XT4 FWD SPORT

The Cadillac of small suvs BY JOE SAGE

Cadillacs of yore were flashy, showy luxury land yachts—huge sedans, coupes, convertibles—known as The Standard of the World, with few challengers. The world's perceptions of luxury have been transformed, as has Cadillac.

As the 20th century eased into the 21st, they had thrown out dowdy old velour seats and threw on some Led Zeppelin. They got rid of their biggest sedans and brought in more crossovers. Only the big Escalade SUV survives. Today, there are three sedans in three sizes, then the Escalade and three smaller crossover SUVs, all new in the past few years. Ours is the smallest, the XT4, new in 2019. The new lineup is instantly familiar, each bearing the unmistakable Cadillac grille and crest.

The interior experience is reasonably premium, with a general feeling of spaciousness, plus exemplary legroom and headroom for such a small vehicle (classified variously as compact or subcompact/compact), though the seats felt narrow.

The screen interface is clean and complete. Climate control uses intuitive physical switches (and AC was very good during a very hot week). Drive mode has an atypical readout—as soon as you touch it, it changes to the next setting, before you can see what you were in. Another oddity is the start button, set on a section of the instrument

panel that angles away from natural reach. Audio is a Bose Centerpoint unit, which arrived set on Driver, not its best output to our ears, but totally rocking when set in Normal or Centerpoint.

Power and torque are strong for this weight—with the same turbo as the hot 2.0L midsize CT5 sedan and about the same weight—always delivering, in any drive mode. (The decklid bears a 350T badge, which represents engine torque in newton-meters, with a T for turbo. Enlightening? Or not?)

Our optional 20-inch wheels, though still bearing healthy sidewalls, gave us an extremely firm ride even on smooth asphalt, but changing from Sport to Normal drive mode reduced that, with performance still fine. The nine-speed automatic maintains consistently smooth power and torque through lane-change slaloms and freeway ramp acceleration. Though available with all-wheel drive, ours was a front-driver, but with accurate steering and sophisticated rear suspension that delivered no particular hint of torque steer.

As with high end Europeans, the line between luxury and premium is vague these days. Showy fluff is replaced by attention to powertrain and ride, a refined cabin, and a full range of user tech and features—with transparency of operational layers between the driver and the experience.

SPECIFICATIONS

PLANT	Kansas City KS
ENGINE	2.0L turbo four, 16v DOHC dir inject
HP/TORQUE	237 hp / 258 lb-ft
DRIVETRAIN	FWD (AWD avail)
TRANSMISSION	Hydra-Matic 9T50 9-spd auto
SUSPENSION	F: MacPherson strut w coil-over spring, direct-act stblzr bar; R: 5-link indep w coils, fully isolated cradle
STEERING	elec variable-assist pwr rack & pinion
BRAKES	4-wheel disc, electro-hydraulic assist
WHEELS / TIRES	opt 20" alloy / P245/45R20 AS
LENGTH / WHEELBASE	181.1 / 109.4 in
TURNING CIRCLE	38.0 ft
GROUND CLEARANCE	6.7 in
HEADROOM (F/R)	39.4 / 38.3 in
LEGROOM (F/R)	40.4 / 39.5 in
CARGO CAPACITY	22.5 / 48.0 cu.ft
WEIGHT	(FWD Sport) 3710 lb
TOW CAPACITY	(w pkg) 3500 lb
FUEL CAPACITY	15.9 gal
MPG	24/30/26 (city/hwy/comb)

BASE PRICE \$39,795

CADILLAC USER EXPERIENCE: embedded nav, AM/FM with connected nav w real-time traffic, Bose Centerpoint 13-spr surround audio w aux amp 1500

ENHANCED VISIBILITY PKG: power fold heated auto-dim mirrors, rear camera mirror w washer, auto park assist w brake, rear pedestrian alert, HD surround vision 1500

RED HORIZON TINTCOAT 1225

WHEELS: 20-in alloy w diamond cut, Titan satin finish .. 1100

DRIVER AWARENESS PKG: Intellibeam auto-high beam, follow distance indicator, lane keep assist/dep warn 470

DESTINATION CHARGE 995

TOTAL \$46,585

They don't even say Standard of the World now. But it's a nice badge and nice build for about \$40 grand, well in line with today's high standards. ■



2021 Ford F-150 revealed By Joe Sage

The new 2021 Ford F-150 marks the 14th generation of the top-selling F-Series, starting with the first F-1 pickup in 1948. Though F-250 and F-350 had kicked in earlier, alongside what had become the F-100 in generation two (1953), surprising though it may seem now, the F-150 badge didn't appear until gen six in 1973. Hasn't the F-150 been with us forever? It's easy to seem so.

And by top-selling, we mean top-selling. Not only has F-Series been the best-selling truck for 43 years, with F-150 the most popular in the series, but it has been the best-selling vehicle of any and all types for 38 years running. As the pickup market is becoming ever more competitive, Ford continues to work extra hard to keep that top spot.

Style evolution for 2021 is subtle at a glance, which is a good thing, as to our eye the integration of elements into the new-in-2015 aluminum build had really hit its stride in the most recent refreshes of the outgoing generation. But in fact every body panel is revised, with updated headlamps and "C-clamp" DRL surrounds, new power dome hood, wraparound bumpers, higher front fenders and a slim-waisted contoured midsection.

The truck continues with a fully boxed high-strength steel frame and high-strength, military-

grade aluminum alloy body, while wheels bear larger tires and are set on a notably widened stance.

A new grille is always a quick way to spot a new model, but you'll want to absorb those other form factors, as there are fully 11 different grilles across models for 2021 (three are shown here).

Aerodynamics are best-ever, with new active grille shutters, new automatically deploying active air dam, and new cab and tailgate geometry.

While a full-electric F-150 has been promised in about a year, there are fully six engine choices now (see charts at right), including the only full hybrid powertrain in the segment at this time.

New features are at least as extensive as trim level, grille and engine options, including:

- Pro Power Onboard power source, available in 2.0 kW (or 2.4 kW on the hybrid) or 7.2 kW spec. Whether powering your jobsite or campsite, your need for a generator is a thing of the past (which also frees up bed space).
- Zone Lighting. Ever have to turn your lights on to accomplish a task or find something after dark? With this feature, you can turn any of your various exterior lights on selectively, saving power or just not disturbing the rest of the great outdoors.
- Over-the-Air Updates. Tech features, from en-

tertainment to communications to driver assist, are extensive (including generous voice-activated pinch-to-zoom touchscreens; see right), but best of all, you can now update and upgrade the systems transparently, even while on the go.

- A new Tailgate Work Surface is not only level and flat, but includes built-in rulers, plus cupholder and even pencil and mobile device holders.
- Clamp pockets are also built into the tailgate.
- Near-180-degree Max Recline fold-down seats in the all-new interior allow a quick or long snooze.
- The shift lever knocks down 90 degrees for a maximum Interior Work Surface easily big enough for a 15-inch laptop and document work.
- Available Lockable Rear Under-Seat Storage runs the full width of the cab.
- Towing continues to get plenty of attention, with Pro Trailer Backup Assist, Trailer Reverse Guidance and do-it-by-yourself trailer light check.

The new F-150 will be built at Ford's Dearborn Truck Plant and Kansas City Assembly Plant.

With pandemic quarantines still precluding normal vehicle launch events, actor Denis Leary emceed an online live reveal of the new F-150 at the end of June, just in time for this issue. We look forward to seeing the new trucks in the flesh and of course getting some time behind the wheel—and will report back. ■



2021 FORD F-150 LINEUP

Configs Regular Cab
..... SuperCab
..... SuperCrew

Trim Levels XL
..... XLT
..... Lariat
..... King Ranch
..... Platinum
..... Limited

Drive layouts ...RWD
..... 4x4 w open rear diff
..... 4x4 w electr lock r diff
..... hybrid RWD
..... hybrid 4x4 elec lock r diff

SUSPENSION:
F: indep double-wishbone w coil-over heavy-duty gas shocks, stamped lower control arm; R: leaf spring, solid axle, heavy-duty gas shocks

FUEL CAPACITY:
(all but diesel, hybrid)23, 26, 36 gal
Power Stroke diesel26 gal
PowerBoost hybrid30.6 gal

ENGINES

- All are port fuel inj & direct inj except PS diesel
- All are coil on plug ignition except PS diesel
- All have roller finger follower valvetrain except V6 FFV w direct acting mechanical bucket
- All have electronic engine control system except PS diesel w multicore powertrain control module
- All except PS diesel take 87 oct reg unl fuel; 3.3L V6 FFV and 5.0L V8 also take E85 flex fuel
- Horsepower, torque, fuel economy TBD on all

3.3L Ti-VCT V6 FFV
Naturally-aspirated 60° V6, OHC, alum block/heads, E85 compatible, 12:1 compression

2.7L EcoBoost V6
Twin-turbo & intercooled 60° V6, OHC, compacted graphite iron block, alum heads, 10:1 compr

5.0L Ti-VCT V8
Naturally-aspirated 90° V8, OHC, alum block/heads, E85 compatible, 12:1 compression

3.5L EcoBoost V6
Twin-turbo & intercooled 60° V6, OHC, alum block/heads, 10.5:1 compression

3.0L Power Stroke V6
Turbo & intercooled 60° V6 diesel, compacted graphite iron block, alum heads, 16:1 compr

3.5L PowerBoost Hybrid V6
Twin-turbo & intercooled 60° V6, OHC, alum block/heads, 10.5:1 compression

TECHNOLOGY

- STANDARD:**
- Over-the-air-updates
 - FordPass Connect™ (w remote lock/unlock, vehicle status check, schedule remote start times, Trailer Theft Alert, Trailer Light Check and other truck features)
 - 4" productivity screen in instrument cluster
 - 8" center stack touchscreen
 - Selectable drive modes
 - SYNC® 4, wireless phone connection

- AVAILABLE:**
- 2.0 kW, 2.4 kW, 7.2 kW Pro Power Onboard
 - 12" center touchscreen, voice-activated touchscreen navigation system w pinch-to-zoom capability, 8" productivity screen in instrument cluster, 12" productivity screen
 - 360-degree camera w split-view display
 - Intelligent Access w push-button start
 - 8-speaker Bang & Olufsen audio w HD Radio
 - 18-speaker Unleashed by Bang & Olufsen audio w HD Radio, Sirius XM 360L
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Transitions

BY JOE SAGE

This is the kind of car any time-traveling royal from the distant past would be floored by—with the Executive Package's inclusions in particular—and all the moreso upon realizing it's not just for royalty anymore. Of course things have come equally far since the ability to craft a jewel-encrusted battle sword guaranteed one a favored place in the castle. But when you choose your weapon today, you just about can't lose with this.

The price of entry still keeps it above the heads of many commoners—just that aforementioned package, at \$23,080, exceeds the price of a great many new vehicles themselves, complete. Add the rest of the options and same story, just moreso.

A lot of what makes the LS 500h enticing is included in its pre-option basis, of course—it's the biggest luxury sedan from Lexus, rounded out with advanced hybrid technology that moves this 5000-lb, 206.1-inch-long craft at over 30 mpg.

Its series/parallel hybrid system includes a 295-hp 3.5L aluminum V6 plus two motor generators (one for power, engine start and engine speed control; one with regenerative braking to drive rear wheels), together generating 354 hp total system power and running 0-to-60 mph in 5.1 sec (RWD). Legroom is 41 inches in front, almost 40 in back.

PRICING

BASE PRICE	\$79,980
LEXUS SAFETY SYSTEM+ A: pre-collision w active brake, active steering assist, pedestrian alert, front cross traffic alert, lane change assist	3000
ADAPTIVE VAR AIR SUSP W RAPID HEIGHT	1500
20" SPLIT 5-SPOKE FORGED ALLOY WHEELS	2450
24" HEADS-UP DISPLAY	1200
LED HEADLAMPS, ADAPTIVE FRONT LIGHTING	300
EXECUTIVE PKG W KIRIKO GLASS: quilted-stitch perforated semi-aniline leather interior, 28-way pwr driver seat w multifunction massage, ultrasuede headliner, pwr front seat buckles & heated rear seats, four-zone climate concierge, power side-window sunscreens, 7" touchscreen controller, rear seat knee airbags, Kiriko Glass interior door trim & hand-pleated interior door trim	23,080
PREMIUM AUDIO: Mark Levinson 23-spr, 2400W Quantum Logic	1940
PANORAMIC VIEW MONITOR	800
WOOD & LEATHER TRIMMED HEATED WHEEL	410
ILLUMINATED DOOR SILLS	450
(GROUP): cargo net, trunk mat, wheel lock, key glove, rear bumper applique	380
DESTINATION CHARGE	1025
TOTAL	\$116,495

The LS 500h is a prime example of a transitional era, as hybrid pioneer Toyota-Lexus applies their knowledge to an ever wider range of vehicles with ever more innovative—yet mainstreamed—technologies. The system is not always transparent. We could often feel its complexities through subtle lags or surges in cornering acceleration or aggressive freeway lane changes, themselves transitions. Sport settings can mitigate this to a degree. The trackpad interface controller has improved

SPECIFICATIONS

ENGINE	3.5L V6 24v DOHC alum block/heads, VVT-iW intake, VVT-i exhaust, 13.0:1 compr ratio
MOTOR GENERATOR 1	primary gen, eng start & speed
MOTOR GENERATOR 2	drives rear wheels, regen brake
HYBRID BATTERY PACK	lithium-ion 84-cell, 310.8V nominal / 650V system voltage
HP: ENGINE / TOTAL SYSTEM	295 / 354 hp
TOTAL SYSTEM TORQUE	395 hp
DRIVETRAIN	RWD (AWD avail)
TRANSMISSION	L310 multi-stage hybrid transmission
FINAL DRIVE RATIO	3.615
0-TO-60 / TOP SPEED	(RWD) 5.1 sec / 136 mph
SUSPENSION	F: high mount multi-link, dbl joint; R: multi-link
STEERING	elec pwr vehicle speed-sens rack & pinion
BRAKES	F: 14.0 vented w 4-piston opposed; R: 13.1 vented w 2-piston opposed; F/R: high-friction brake pads
WHEELS	(opt) 20" split 5-spoke forged alloy
TIRES	(per opt) 245/45RF20
LENGTH / WHEELBASE	206.1 / 123.0 in
TURNING CIRCLE	(RWD) 36.8 ft
GROUND CLEARANCE	(RWD w air susp) 6.6 in
HEADROOM (F/R)	(w moonroof) 37.3 / 37.3 in
LEGROOM (F/R)	41.0 / 38.9 in
CARGO CAPACITY	(w/o rear cooler) 15.185 cu.ft
WEIGHT / DISTRIB	(w Exec Pkg RWD) 5060 lb / 51/49%
FUEL / CAPACITY	.91 premium unl / 22.2 gal
MPG	.25/33/28 (city/hwy/comb)

but remains fairly maddening. Overall, of course, you will glide through your world quite blissfully in this luxury flagship. All-wheel drive is available (\$3120, 0-60 in 5.2 sec, 23-31-26 mpg, almost a 3-foot bigger turning circle). The non-hybrid LS 500 starts at \$75,450. ■



Goldenrod: America's iconic Land Speed Record holder—the legend and its restoration

The Goldenrod was thrust like a gleaming golden spear into the heart of the record books with its Land Speed Record of 409.277 mph. But it didn't stop there. This remarkable craft had the first 400 mph wheel-driven record set at the Bonneville Salt Flats; the first 400 mph record with automotive engine power; the first 400 mph record with a multi-engine car; the first 400 mph record with an unsupercharged car; the first 425 mph run at Bonneville (425.99 mph one way); and holds the longest-standing record in land speed racing history—45 years. Bob and Bill Summers, along with crew chief James Crosby, are the American hot rodders who recaptured the land speed record in 1965 and held it for so long.

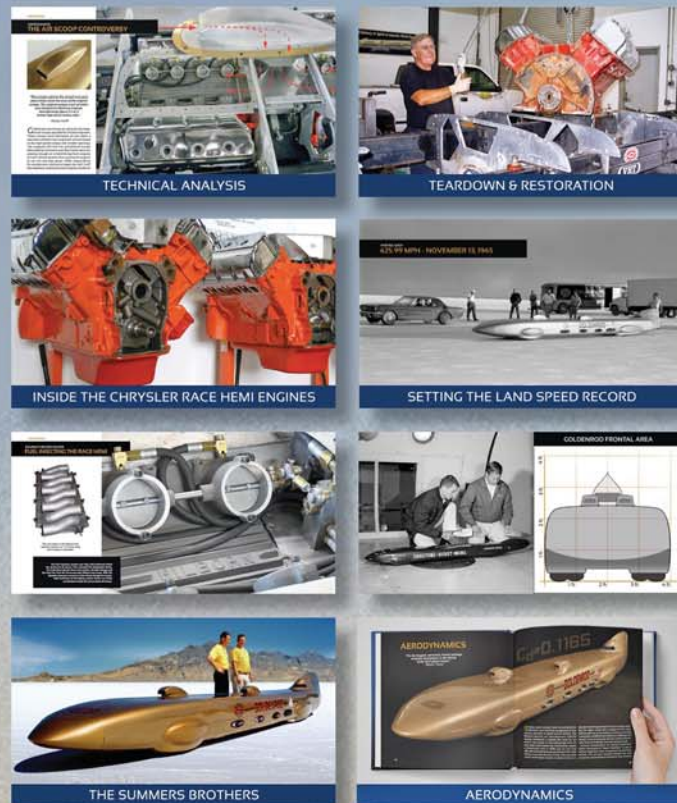
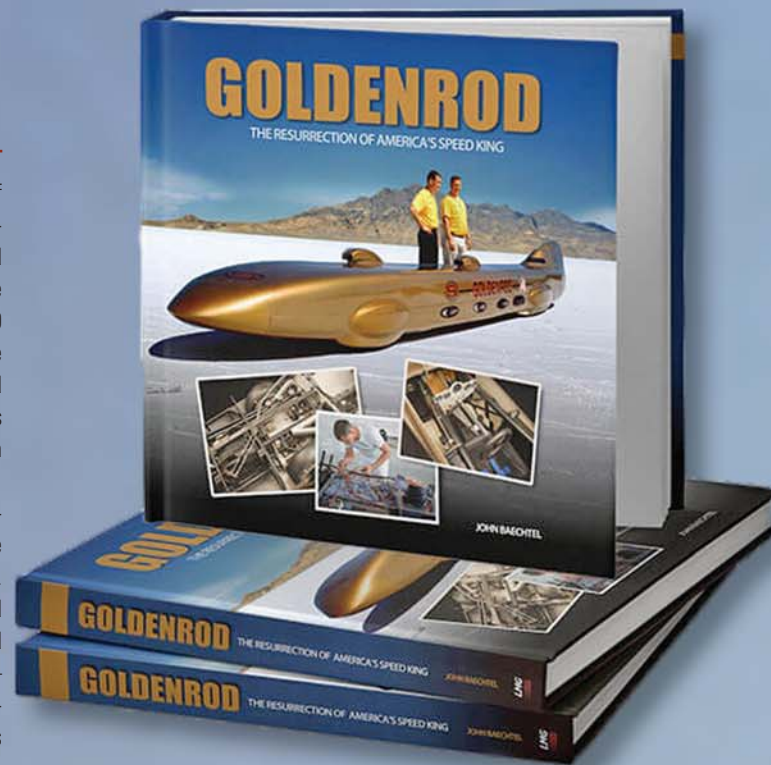
In 2006, John Baechtel, Mike Cook and a dedicated team of volunteers restored the Summers brothers' Goldenrod to its former glory as the centerpiece of the motorsports display at The Henry Ford Museum in Dearborn, Michigan.

After forty years of neglect, the Goldenrod was completely disassembled and rebuilt to essentially the same condition it was in after the 1965 record runs. It took nearly two years—and numerous volunteers and contributors—to bring the car back to original condition. During the teardown and subsequent restoration, an extensive photo record detailing all of the Goldenrod's amazing technical features was established.

Veteran author and 200 MPH Club member John Baechtel has written a full-color, photo-rich book on the detailed history and restoration of the car. It includes rare family photos, original plans and blueprints, Walter Korff's complete aerodynamic development report, a special section on the modified Chrysler Race Hemi engines, the air scoop controversy, a detailed timeline of the record attempt, and full coverage of how the car was later resurrected from ruin to assure the brothers' well deserved place in land speed racing history. No effort has been spared to produce this hardbound collector's quality account of the Goldenrod and the Summers brothers' stunning achievement.

Events surrounding the multiple trips to Bonneville to attack the record are fully chronicled in the book. Parts failures and problems plagued the effort, but the brothers never gave up. Chrysler engineers developed special components for their all new 1964 Race Hemi engines to adapt them for the Bonneville application. The book includes all the engine details, with commentary from the original engineers who built and developed the engines. Aerodynamic designer Walter Korff kept detailed records of the Goldenrod's aerodynamic design elements. His full reports and wind tunnel analysis records are included. Korff's notes provide detailed insight into the aerodynamic development of the Goldenrod's sleek body.

Order Your First Edition Copy of The "Goldenrod Book" Now
Get Your Copy Now for \$99.99 \$79.95 (limited time special offer)
<https://goldenrodbook.com>



Karl Ludvigsen honored by Society of Automotive Historians for *Reid Railton: Man of Speed*

Karl Ludvigsen's book, *Reid Railton: Man of Speed* recently won the coveted Nicholas-Joseph Cugnot Award (English) for 2019. Presented by the Society of Automotive Historians in the United States, this award is made each year to the book that best advances an understanding of the history of the automobile.

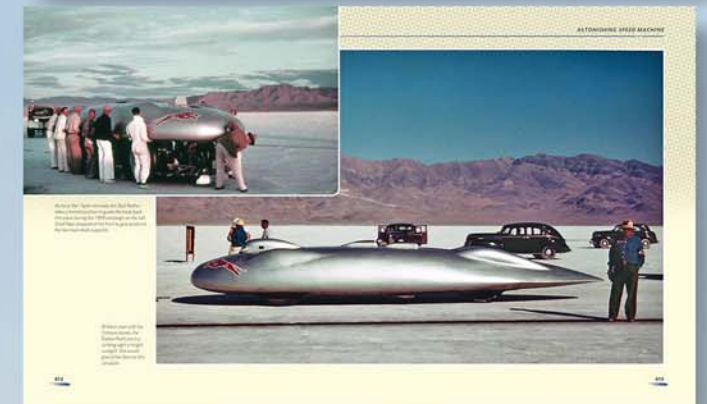
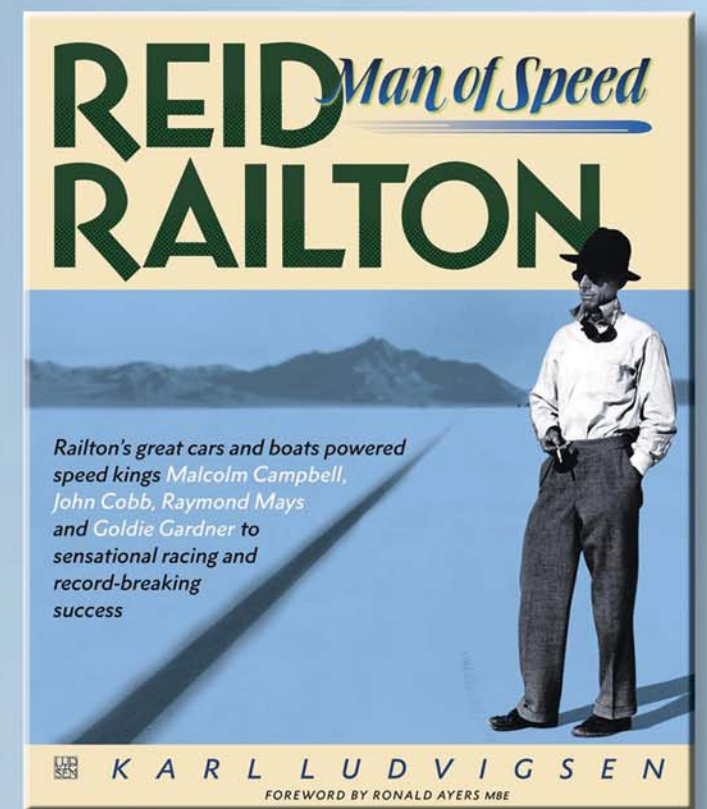
The book now holds six major awards: Specialist Motoring Book of the Year (Royal Automobile Club, UK, 2018); Mercedes-Benz Montagu of Beaulieu Trophy (Guild of Motoring Writers, UK, 2018); Michael Sedgwick Award (Society of Automotive Historians in Britain, UK, 2018); Best Automotive Heritage Book (Automotive Heritage Awards, US, 2019); Nicolas-Joseph Cugnot Award (English) (Society of Automotive Historians, US, 2019); and Thomas McKean Memorial Cup (Antique Automobile Club of America, US, 2019).

Supported by Railton's daughter Sally Railton Joslin, *Reid Railton: Man of Speed* is the first book dedicated to the life and career of Reid Antony Railton, automotive engineer par excellence and creator of an extraordinary range of cars. He rose to renown during the 1930s as chief engineer at Thomson & Taylor, Brooklands-based racing car builders. There, he realized the dreams of that era's top men of speed, including Tim Birkin, Malcolm Campbell, Whitney Straight, John Cobb, Raymond Mays and Goldie Gardner. His great cars powered them all to sensational racing and record-breaking success.

Railton's achievements include design and building Blue Bird cars for land speed records by Sir Malcolm Campbell, smashing the 300 mph barrier in 1935; chassis and suspension for the celebrated ERA, working with Raymond Mays and Peter Berthon; the great Napier-Railton, with which John Cobb achieved the fastest-ever lap at Brooklands in 1935 and set many long-distance records at Bonneville; John Cobb's land-speed record challenger, taking the record at Bonneville in 1947 with 394.2mph, which remained unbroken for 16 years; records in numerous classes with Goldie Gardner's Railton-revised MG EX.135 either side of the war; two successful record-breaking boats for Sir Malcolm Campbell and Crusader for John Cobb, who exceeded 200 mph on Loch Ness in 1952 moments before crashing fatally; with Parry Thomas the Leyland Eight supercar of 1920–23; his own Arabs of 1925–27; road-going Railtons from 1933; a decade of top-level consulting for America's Hudson Motor Company; and in WW2 working with America's Hall-Scott on high-powered engines for Britain's fast patrol boats.

Published by Evro Publishing in April 2018, this magisterial two-volume work by one of the world's foremost automotive historians tells Reid Railton's personal and professional story in superb detail and fascinating depth. Set against the turbulent background of the 1930s and 1940s, its special focus is on Ludvigsen's interpretation of Reid's unique insights—amounting to genius—and technical accomplishments. All are illuminated in 1,000 images in this superbly designed and beautifully produced book.

280x235 mm - 848 pp - 1,000 images BW and color
£150.00 UK - hardback, to volumes in slipcase - ISBN: 978-1-910505-25-0
www.evropublishing.com



New size, new numbers

by Joe Sage

We chuckle as we tell ourselves this is a great little car—funny because there actually was a Mazda GLC years ago, and that's exactly what the initials stood for.

But it's not a car—it's an SUV. Or crossover. Several brands are making more of a distinction on this now, as products exceed the familiar full-mid-compact-subcompact categories. Mazda is a bit ambiguous on the crossover vs SUV thing with the new CX-30, but it falls between the CX-5 and CX-3 in size; we'll be curious where their new single-digit versus two-digit naming scheme goes from here.

The CX-30 was revealed at the LA Auto Show last winter—a visual, speech and walk-around. We've looked forward to getting our hands on one and hitting the road.

Mazda said a couple of years ago that they were going to move into more of a premium mind space—a good positioning move as a smaller manufacturer—and this turned out not to have been much of a stretch at all.

The CX-30 has great proportions, coming across as the size and shape a smaller Mazda crossover was always meant to be. Its high-beltline, low-profile silhouette puts a coupe-like feel atop its small utility bones. Imme-

diately recognizable as a Mazda, front and rear (in an era where many tail ends are unidentifiable), the CX-30 telegraphs the latest evolving trends of their Kodo Soul of Motion styling language. On one hand, it's simple—a kid could draw the basic shape and elements, and you'd recognize it—but as you survey it in three dimensions, it's masterfully applied—simple, complete, clean and balanced.

The feature interface has most layers of operation in a clear staircase, with illustrations and a sentence or two explaining functions and options—a breakthrough implementation—with ease of operation often also supported by knobs. Most systems, you want to set and forget, but this one actually makes you want to revisit. (Radio presets were a bit less intuitive the first time through, then fine.) Storage is plentiful for a smaller vehicle, though one key cupholder is largely blocked by instruments above, unusable for a medium-to-larger cup with straw (we were enjoying many pandemic drive-through meals).

The CX-30 is perhaps heavier than you'd expect, but feels lighter than it is. From our "go," we credited it with ground-hugging sports car-tending performance and han-

dling, though feeling surprisingly light in its sneakers on some lane changes. Sport mode did firm up lateral moves, though shift points felt dramatically different in some scenarios, better overall, but making the car feel heavier during a simple climb (like a freeway ramp).

Driver tech (lane keep, collision warning and such), has exaggerated behavior in many vehicles, but all was fine in the CX-30, with one exception: at interchanges with multiple lanes in each direction facing off for simultaneous left turns onto their freeway ramps, the system was overly terrified, seeming to think this was an impending head-on, a behavior that may need a little more engineering.

We hadn't thought of the CX-30 as an off-roader, but did a turnaround at the edge of a suspended housing development. This put us on unplanned dirt, and we were glad, as the little crossover did quite well with it (ground clearance is almost eight inches, and its relatively simple suspension seemed happy).

The CX-30 is a fine little machine straight out of the box. We use sport mode in many vehicles just to make up for deficiencies—cornering lag, acceleration, that kind of thing—but in this vehicle, we didn't even tend to use it—it's that responsive on its own, not needed as a corrective measure, but fun at times as, well, a sport measure. ■

SPECIFICATIONS

ENGINE2.5L 4-cyl Skyactiv-G w cylinder deact
 HP / TORQUE186 hp / 186 lb-ft
 DRIVETRAINi-Activ AWD
 TRANSMISSIONSkyactiv-Drive 6-spd auto
 TOP SPEED(Premium AWD) 126 mph
 SUSPENSIONF: indep MacPherson strut;
 R: torsion beam
 STEERINGelec power assist
 BRAKESF: 11.6 vented; R: (Prem) 11.9 solid disc
 WHEELS / TIRES(Prem) 18x7J / 215/55R18 M+S
 LENGTH / WHEELBASE173.0 / 104.5 in
 TURNING CIRCLE(curb) 34.76 / (wall) 37.3 ft
 GROUND CLEARANCE(laden/unladen) 6.9 / 7.9 in
 HEADROOM (F/R)(w moonroof) 37.8 / 38.3 in
 LEGROOM (F/R)41.7 / 36.3 in
 CARGO CAPACITY20.2 cu.ft
 WEIGHT3408 lb
 FUEL / CAPACITYregular unl / (AWD) 12.7 gal
 MPG25/33/27 (city/hwy/comb)

BASE PRICE W PREMIUM PKG\$28,200
 PREMIUM INCLUDES: auto LED headlights, heated front seats, leather wheel & shift knob, keyless entry/start, power moonroof, power liftgate, paddle shifters, roof rails, Android/Apple, 8.8" display w Mazda Connect, heads-up display, Bose 12-spr premium audio, ActivSense Safety (driver attention alert, smart cruise w stop-go, lane depart warn, lane-keep assist, smart brake, blind spot mon w rear cross-traffic alert)
 SNOWFLAKE WHITE PEARL MICA200
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 TOTAL\$29,445



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Global speed bump

Coronavirus delays new world record attempt

By Joe Sage
with Valerie Thompson
Lead photo: Lou Fischer
www.BonnevilleStories.com

"LandSpeed" Louise Noth contributed to this article

"Who else is ready to get back to doing what they love...? Looking forward to the days I will be back in one of these speed demons crushing records..."

Valerie Thompson, "Queen of Speed" and Sturgis Hall of Fame member



The land speed record for motorcycles in Australia was set by eight-time record holder Valerie Thompson of Scottsdale in 2018 at the Lake Gairdner salt flats in South Australia, during the 28th Annual Speed Week competition hosted by Dry Lakes Racers Australia (DLRA), with an official run of 328.467 mph, defending her status as "The World's Fastest Female Motorcycle Racer" and earning her membership in DLRA's 200 MPH and 300 MPH Clubs, only the second competitor to gain membership in the 300 MPH Club, plus the honor of their "Fast Lady on the Lake" award.

She was there that year in pursuit of a bigger goal: to become the World's Fastest Motorcycle Racer, period—without any gender qualifier.

That record has been held for just shy of ten years by Rocky Robinson, who recorded 376.363 mph at the Bonneville Salt Flats in 2010 aboard his Top Oil-Ack Attack streamliner.

Valerie's last day at 2018's DLRA event set one more record—the hard way—as she survived a horrific end-over-end airborne crash at 363 mph in the Team "7" Racing Streamliner, making this the world's fastest survived motorcycle crash.

"We had a singular goal of running 377+ mph to capture the world record during the World Speed Trials," says Thompson. "We used Speed Week to test and tune the bike, and I'm happy we set a new record and received the 'Fast Lady on the Lake Award.' The wreck during the World Speed Trials was unfortunate, but we are not giving up on our quest for the new record.

"Most importantly, we proved the superiority of the monocoque carbon fiber design and safety features utilized by Denis Manning and John Jans.

Without their dedication to high speed safety engineering, I would not be talking with you now."

This spring she was ready to tackle Lake Gairdner again—this time on four wheels, in the Treit and Davenport Target 550 Streamliner bearing dual Dodge HEMI supercharged engines putting out over 5,000 hp. Her goal: to break the current AA/Blown Fuel Streamliner land speed record of 415.867 mph held by Tom Burkland and Burkland Racing since 2008. The Target 550 would have to surpass the old record by one percent to set a new World Record under Federation Internationale de l'Automobile (FIA) rules (420.026 mph or better).

The team and the streamliner were already in South Australia in March, and Valerie was within just a couple of days of flying over—when, as dominos rapidly fell in the spreading global coronavirus quarantine, DLRA Speed Week joined a growing list of event cancellations.

The return of the crew to the US was its own challenging logistical travel adventure typical of the times. The craft remains in South Australia, wrapped back up in two shipping containers, as it had arrived there earlier this year.

Thompson's Lake Gairdner goals, long on two wheels, now also four, are interwoven with those at Utah's Bonneville Salt Flats each year. Bonneville Motorcycle Speed Trials (two wheels) this August has been cancelled. SCTA Speed Week in August and USFRA World of Speed in September (both with both two- and four-wheel events) are still on—as of now. Any runs here by Valerie would be two-wheeled, anyway, as salt conditions at Bonneville are seen as currently having a course too short and too thin for the Target 550.

As for Australia, the Target 550 is waiting there, the DLRA event is set to run next year, and all parties hope to pick up where they left off. ■



We had Valerie all set to be on this beautiful cover of our May/June issue, well ahead of time, in honor of her late March World Record run in Australia, but this, too, was postponed.



The San Diego Roadster Club recently presented Valerie with a stylish plaque commemorating the Nolan White Top Speed Car award for her run in the Target 550 land speed racing streamliner.



BestLine Racing signed on as an official sponsor for Valerie Thompson Racing in Australia and created this T-shirt, donating every order to Valerie's GoFundMe racing page. Visit www.racingadditives.com



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A WEEK WITH : 2020 GENESIS G90 RWD 5.0 ULTIMATE

Genesis unchained

BY JOE SAGE

In the world of automotive model years, there are usually two types with extra significance: the refresh (a mid-generation restyling or "facelift") and the full new generation (a complete fundamental redesign of the full layout and engineering).

Genesis is calling this one something else: "a full model change at mid-cycle" (a paradoxical term by those standard definitions). And it is something else: more than anything a restyling, it does accomplish a great deal for the model—and the brand.

The G90 has been almost totally reskinned for 2020—all body panels are new (or revised), other than the hood and doors.

This is our favorite kind of styling evolution: startling for a moment, yet immediately recognizable, very quickly mainstream, relegating the prior styling in this case not to the dustbin of history, but rather to the rich tapestry of ongoing brand equity.

Immediately noticeable is the new grille, one of the sharpest-looking in the big grille club—no pun intended, as it now comes to a point at its lower edge, which makes the prior models look like they were just this grille, waiting to be set free. Its chainlink pattern telegraphs the unchained power sitting behind it, a 420-horse 5.0-liter V8. Study the lower grilles and the sheet metal throughout the front end—all stunningly styled and executed.

Flagship sedan of the Genesis brand, the G90

has rear doors and rear seats that look and feel like near-limo size, though legroom, while generous, remains under 40 inches (helping to keep the turning circle of this big beast, almost as long as a Ford Expedition, under 40 feet). Legroom up front is stunning, nearing 50 inches. The trunk, however, is slightly smaller than that of a Hyundai Sonata, which does also preserve those tighter maneuvers, but is surprising in a vehicle that may be best of all suited to long distance highway driving.

We were reminded of its born-to-cruise nature repeatedly around town, as here it had a couple of shortcomings we couldn't ignore. At a typical surface street corner, the transmission could drop like a stone before surging ahead. And steering could feel loose and, well, electronic, adding some wiggle to the pause and surge. Both of these would not be noticeable on an open highway excursion. (Well, the steering might—we found it behaving like this on straightaways at times, wondering whether the AWD version might eliminate that.)

Genesis is a very low-volume brand (by circumstance if not plan), so we suspect this transmission is the best fit from available options. Building its own custom unit would work against one of the car's most notable features of all—the general look, feel and power of a luxury sedan costing 50 percent more or even double its price—and every-

The G90 driver's seat offers a posture analysis, in which you enter basic biometric info—height, inseam, weight—and it sets the seat position accordingly. In theory. Ranges are wide, so if you're on the cusp, you could for example be selecting a weight over a 40-lb range. We tried it, and our result was of the Han Solo trash compactor variety. We reset it according to our own comfort, and all its indications went into their red zones. Fun to play with once, anyway.

SPECIFICATIONS

PLANT	Ulsan, South Korea
ENGINE	5.0L 32v dual CVT GDI tuned intake V8
HP/TORQUE	420 hp / 383 lb-ft
COMPRESSION RATIO	12.0:1
DRIVETRAIN	RWD (AWD avail)
TRANSMISSION	8-spd auto w/ Shiftronic manual mode and lock-up torque converter
SUSPENSION	Genesis Adaptive Control Suspension w electronic damping; F: 5-link w 25mm solid stblzr bar; R: 5-link w 17mm solid stblzr bar
STEERING	rack mounted motor-driven power w variable gear ratio (VGR)
BRAKES	F: 14.8 vented; R: 13.4 vented; wear warning
WHEELS	multi-spoke chrome alloy; F: 19x8.5J; R: 19x9.5J
TIRES	F: P245/45R19; R: P275/40R19
LENGTH / WHEELBASE	204.9 / 124.4 in
TURNING CIRCLE	39.2 ft
HEADROOM (F/R)	(w sunroof) 41.1 / 38.0 in
LEGROOM (F/R)	46.3 / 37.8 in
CARGO CAPACITY	15.7 cu.ft
WEIGHT	(5.0 RWD) 4751 lb
FUEL CAPACITY	21.9 gal
MPG	16/24/19 (city/hwy/comb)

BASE PRICE	\$75,700
DESTINATION CHARGE	995
TOTAL	\$76,695

thing is included on the G90. Especially among drivers happily accustomed to putting up with the mannerisms of an automatic, this surely keeps the vehicle in an overall very positive position.

The restyling alone takes the Genesis G90 from being a solid luxury contender to being in full battle mode. ■

GENESIS G90 MODELS:

3.3T Premium RWD	\$72,200
3.3T Premium AWD	74,700
5.0L Ultimate RWD	75,700
5.0L Ultimate AWD	78,200



Firmly established

BY JOE SAGE

Toyota Tacoma has been an especially popular truck for years, holding the top market position among midsize pickups, long a category of just two or three, with more than triple the sales volume of its nearest competitor. In the face of a huge resurgence in the segment, with four new entries from the Detroit Three, Tacoma still holds the number one spot, by more than double.

The truck's iterations are also well established, though they do shift and evolve. Any TRD badge grabs attention among performance devotees of many stripes, and TRD Pro trucks are the top dog for off-roaders. Evolution over the past five years has seen TRD Pro Off-Road, TRD Sport, TRD Off-Road and TRD Pro badging, with three of those four, or essentially all, in play currently (see sidebar).

There are fully 33 different basic builds of the Toyota Tacoma in six series currently, with variations including cab size—cab-and-a-half Access Cab or full-crew Double Cab (a naming scheme inconsistent with Tundra, where Double Cab is the cab-and-a-half)—4x4 or 4x2 models, short bed or long bed (atypically not always directly related to cab length), four-cylinder or V6, and manual or automatic transmission. Not every possible combina-

tion is available on each trim, to say the least.

With mission-focused TRD Pro, things are simple—all are V6 Double Cab, with your choice of manual or automatic. We'll note right here that the manual's base price is \$2705 lower than the auto.

If you might prefer an off-roader with the shorter cab and longer bed—or if for some reason you want a nominal off-roader with a 4x2 drivetrain—these are available in TRD Off-Road for \$7-10,000 less than TRD Pro. Note that while it's extremely common for one wheelbase and chassis to be the basis for a shorter-cab-longer-bed versus longer-cab-shorter-bed truck in many lineups, in the case of Tacoma, the longer-cab Double Cab is available (in some models) with either the short or long bed.

TRD Pro—the model we're driving here, higher in rank and price than even the luxe-outfitted Limited—has a number of build details that differentiate it from TRD Off-Road and others. Suspension is TRD-tuned off-road with 2.5-inch Fox internal bypass coil-overs and rear remote reservoir shocks. Sitting atop wider big-sidewall 16-inch wheels, its turning circle remains one of the tightest, its overall height increases by an inch, and ground clearance is slightly more (0.2"). Approach,

breakover and departure angles are all several degrees more than in other models (example: while TRD Off-Road's approach angle is three degrees greater than others, TRD Pro's is another three degrees greater than that).

Other functional and visual features unique to TRD Pro include its black "heritage-inspired" grille with front camera, black badging and overfenders, hood scoop and bedside with TRD Pro graphics, color-keyed mirrors, door handles and rear bumper, Rigid LED fog lights, black taillight sport bezels, power tilt/slide moonroof with sliding shade (also on Limited), those 16-inch black wheels, multi-terrain camera views (an option on TRD Off-Road), extensive analog instrumentation (shared with TRD Off-Road), included front dual-zone climate (also on Limited, optional on TRD Off-Road), TRD Pro black leather interior with 10-way driver's seat with 2-way lumbar plus 4-way passenger seat, TRD Pro shift knob and floor mats, and a top-spec infotainment system shared with Limited.

The 6400-lb tow capacity of the Double Cab 4x4 configuration is lowest among the V6 variants, by a factor of 100 to 400 lb against other builds (while all are thousands higher than the 4-cylinder).

Fuel mileage is a point or two lower in TRD Pro with manual transmission, though the same as in a manual TRD Off-Road.

Options on our truck are all very reasonably priced. One you can't miss is the Desert Air Intake (or "dirt snorkel" to us), a device not intended to battle a mile-high Sonoran Desert monsoon haboob dust storm, but rather to redirect engine air intake away from the wheel wells while sand- or dirt-cruising. At first, you may think this unit is visually a bit much. But in no time, it becomes a significant part of the truck's whole identity—TRD Pro with a dirt snorkel? This says it all.

Around town, power could be more, though it was strong in instances where it was urgently needed and we punched it. We might say the same about brakes. Power probably suffered most from this truck's automatic transmission, which would shift, hunt and surge even at consistent speeds and occasional grades. We note that the big Tundra TRD Pro has an "intelligent" version of the transmission (ECT-i), and that might be all this Tacoma needs. Or, as noted earlier, you can get a manual transmission in the Tacoma and save \$2705 doing so—a win-win in general, or if you are a manual fan in the first place, a triple win.

We took the truck for a session in one of the region's off-highway vehicle (OHV) parks, where, as you would expect, it was a champ. Here, its smaller size and tighter turns are big advantages, supplemented by a powerful set of front, side and rear cameras and inclination meters. Ride and handling are rock solid and precise—and whether those are traits you will or will not prefer for daily driving, it's all part of the build—you will embrace the truck for its overall capabilities. ■

SPECIFICATIONS

PLANT	San Antonio TX
ENGINE	3.5L V6 D-4S injection Atkinson Cycle w VVT-iW intake, VVT-i exhaust
ALTERNATOR	130A
HP/TORQUE	278 hp / 265 lb-ft
DRIVETRAIN	4x4
TRANSMISSION	6-spd ECT auto (man avail)
TRANSFER CASE	(hi/lo) 1.00:1 / 2.57:1
DIFFERENTIAL RATIO	(4x4 auto) 3.909
SUSPENSION	F/R: TRD-tuned off-road w 2.5" Fox internal bypass coil-overs and rear remote reservoir shocks; F: 1.18" front strblzr bar
STEERING	power rack & pinion
BRAKES	F: 10.75 vent disc; R: 10.0 drum
WHEELS	16" machined contrast black alloy
TIRES	P265/70R16
LENGTH / WHEELBASE	212.3 / 127.4 in
GROUND CLEARANCE	9.4 in
BED LENGTH	(short) 60.5 in
TURNING CIRCLE	40.8 ft
APPR-BRKOV-DEPART	35 / 28.5 / 23.9°
HEADROOM (F/R)	39.7 / 38.3 in
LEGROOM (F/R)	42.9 / 32.6 in
WEIGHT	4425 lb
PAYLOAD	(auto) 1175 lb
TOW CAPACITY	(Double Cab 4x4) 6400 lb
FUEL / CAPACITY	reg unl / 21.1 gal
MPG	18/22/20 (city/hwy/comb)

BASE PRICE	\$46,665
DESERT AIR INTAKE	725
TRD PRO GRAPHICS PKG	699
PREDATOR TUBE STEP	649
OPTIONS: TRD air filter (90), door sill protector (79), mini tie-down loop (45), tailgate emblem (160), D-rings (55)	429
DESTINATION CHARGE	1120
TOTAL	\$50,287

(33) BUILDS IN (6) SERIES INCLUDE:
SR: 4cyl or V6, all 6AT, access or double cab, SB/LB, 4x2 or 4x4.....\$26,050 to \$32,315
SR5: (same mix as SR).....\$27,825 to \$35,690
TRD Sport: all V6, 6AT or 6MT, both cabs, SB/LB, 4x2 or 4x4.....\$32,745 to \$37,575
TRD Off Road: all V6, 6AT or 6MT, both cabs, SB/LB, 4x4 or one 4x2.....\$34,000 to \$37,575
Limited: V6, 4x2 or 4x4.....\$38,790 or \$41,865
TRD Pro: V6 4x4, AT/MT.....\$43,960 or \$46,665



Twice the truck?

BY JOE SAGE

If TRD Pro makes you think Toyota Tacoma first, you may not be alone—while the full-size Tundra, all trims, sells about 115,000 trucks a year, midsize Tacoma sells a quarter-million. You may see a lot of Tacoma TRD Pro (and TRD Off-Road) trucks on (and off) the road, but the TRD Pro treatment has also been available on Toyota's big Tundra since 2015.

We've driven various models of both, many times. We've surely driven both on the same day, at a comparo event or two along the way. But this time around, we had both Tacoma and Tundra in our fleet, specifically back-to-back, for a full week each. Both were TRD Pro models, both in Army Green, both with the longer cab, both automatics.

You might think the difference between the two is just size. But there's much more to it.

We like full-sizers perhaps because of our personal height, easier to step in and out and bigger inside—but while Tundra's overall cab height is almost six inches greater than Tacoma, headroom is exactly the same in the front on both (and just a half-inch higher in the rear in the Tundra).

Cabs and beds between the two can make you a little crazy. First off, Double Cab is the shorter

one on Tundra but the longer one on Tacoma (the longer Tundra is CrewMax, while the shorter Tacoma is Access Cab). The bigger-cab Tundra has a 5.5-ft bed, the shorter cab a 6.5-ft bed. Tacoma's shorter cab has a 6-ft bed, its longer cab either a 5- or 6-ft bed. The wheelbase on either cab-and-bed combo of Tundra is the same—145.7 inches. Tacoma's short-cab-longer-bed or long-cab-shorter-bed wheelbase is just 127.4 inches, while the Tacoma-only longer-bed-longer cab's wheelbase is 140.6 inches—still shorter than Tundra, but then so is the bed, but only compared to the longer Tundra cab. Cab interior dimensions—and amenities inside, including a variety of storage bins and spaces—are noticeably greater in the Tundra.

If you're buying based on head count and bed loads, you have one set of tradeoffs.

If you're buying for off-road, the turning circle on Tacoma is about 3.2 feet tighter (unless you get the longest bed combo, in which case it's virtually identical to Tundra). Tundra's ground clearance is 1.2 inches more (on TRD Pro, which on either truck is higher than standard).

And if you're buying for all of the above—people, bed loads and off-roading? Choosing which

one may be your first big off-road truck adventure.

For drivetrain, however, the Tundra completely won us over. For one thing, its 5.7-liter V8 puts out 381 hp and a pro-rata even greater 401 lb-ft of torque—37 and 51 percent more than Tacoma, respectively—and at just a 13 percent higher price. If this sounds like a Tundra win across the board, it is—almost. One look at fuel economy numbers shows you have one more tradeoff to consider.

The engine is not everything, however. Our least favorite component on the Tacoma TRD Pro was its 6-speed ECT automatic, while the Tundra's ECT-i ("intelligent") 6-speed was always powerful and smooth. But another wild card—you can get a 6-speed manual on the Tacoma TRD Pro, not Tundra.

Brakes are also far stronger on Tundra—13.9-in vented discs front and rear, versus Tacoma's 10.75-in front discs and 10-in rear drum brakes. And yes, you can very much feel the difference.

Suspension is highly enhanced on both trucks, both exceptionally good off-road, though quite different. Live rear axle fans have a head start with Tundra, which also has far beefier stabilizer bars, front and rear. Both have big-sidewall off-road tires, but Tundra's bigger size allows this along with 18-inch wheels, for a bit more daily driver style and ride, at no expense to off-roading.

If your off-roading gets really tight—both in

body dimensions (the Tacoma is 5 inches narrower than Tundra) and maneuverability (four feet on most Tacoma builds is a huge difference in turning circles)—you may go straight to Tacoma (unless you do need to bring along more big people and/or more gear or need to tow more).

The Tacoma TRD Pro is an off-roader that shows off its status pretty much always, while Tundra TRD Pro may suit daily duty a bit better as just as a powerful and smooth full-size pickup.

If there's one thing that keeps the Toyota Tundra lineup overall from fully competing with other full-size pickups, it's their lack of a 2500/3500 heavy duty truck. The TRD Pro version goes a long way toward closing that gap. ■

SPECIFICATIONS

PLANT	San Antonio TX
ENGINE	5.7L DOHC alum/alloy 32v EFI dual VVT-i V8
ALTERNATOR	170A
HP/TORQUE	381 hp / 401 lb-ft
DRIVETRAIN	4x4
TRANSMISSION	6-spd ECT-i auto, uphill/downhill logic
TRANSFER CASE	electr contr, active traction contr, auto limited-slip differential; (hi/lo) 1.000/2.640:1
DIFFERENTIAL RATIO	4.30
SUSPENSION	F: indep TRD coil spring high-mounted dbl-wishbone w 2" lift, TRD Fox front shocks w piggyback sensor, 2" stblzr bar; R: live axle w trapezoidal multi-leaf w staggered outboard-mounted TRD Fox shocks w piggyback sensor, 1.42" stblzr bar
STEERING	rack & pinion hydraulic pwr w fluid cooler
BRAKES	13.9 vented disc, opposed 4-cyl calipers
WHEELS	18" BBS forged aluminum TRD
TIRES	P275/65R18
LENGTH / WHEELBASE	228.9 / 145.7 in
GROUND CLEARANCE	10.6 in
BED LENGTH	66.7 in
TURNING CIRCLE	49.0 ft
APPROACH-DEPARTURE	31 / 17°
HEADROOM (F/R)	39.7 / 38.9 in
LEGROOM (F/R)	42.5 / 42.3 in
WEIGHT	(approx based on Limited) 5680 lb
PAYLOAD	(range of other trims) 1440-1560 lb
TOW CAPACITY	(4x4 CrewMax) 9800 lb
FUEL / CAPACITY	regular unl / 38.0 gal
MPG	13/17/14 (city/hwy/comb)

BASE PRICE	\$52,780
SPRAY-IN BEDLINER	579
DOOR SILL PROTECTOR	70
MINI TIE-DOWN W HOOK (SET OF 2)	45
BLACK "TUNDRA" TAILGATE INSERT	99
SPARE TIRE LOCK	75
DESTINATION CHARGE	1495
TOTAL	\$55,143

(20) BUILDS IN (6) SERIES ALL 5.7L V8 & 6-SPD AUTO INCLUDE:

SR : Double Cab only (shorter cab), 4x2 or 4x4	\$33,575 to \$36,955
SR5 : Double Cab or CrewMax, 4x2 or 4x4	\$35,245 to \$40,900
Limited : Double Cab or CrewMax, 4x2 or 4x4	\$42,270 to \$47,185
Platinum : CrewMax only, 4x2	\$48,775
CrewMax only, 4x4	\$51,825
1794 Edition : CrewMax only, 4x2	\$48,775
CrewMax only, 4x4	\$51,825
TRD Pro : Double cab, 4x4 only	\$48,655
CrewMax, 4x4 only	\$52,930

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“America’s Loneliest Road” has a lot goin’ on

You can cover a lot of ground in eight or nine hours. That’s about the drive time from Phoenix straight to Ely, Nevada. From Tucson, a little more; from Flagstaff, you have a head start. And with everything from Las Vegas, St George, and several National Parks in between, you can make a road trip expedition out of it.

About 240 miles from Las Vegas or Salt Lake City, Ely is one of Nevada’s best kept secrets, perfect for people who want to create their own adventures off the beaten path. Sitting on the eastern edge of “The Loneliest Road in America” (US Highway 50 across Nevada, earning its name for hauntingly beautiful landscapes and lots of elbow room), Ely is a great base camp for some of the best outdoor recre-

ation in the Silver State, year ’round, from mountain biking and climbing to hiking and hot springs. It’s also just a short drive to Great Basin National Park, home of the magnificent Lehman Caves and ancient Bristlecone pine forests.

Ely was founded as a stagecoach station along the Pony Express, and its rich history is celebrated in a series of murals that decorate downtown. Up here, you can still stretch out in the wide open spaces, while you’ll also be in the center of plenty of on- and off-road adventures.

DAY TRIPS: Historic towns in the region boast museums that are truly gems, with friendly tours, boutique shopping, dining and plenty of action-filled activities. And you’ll still find Pony Express Trail markers along the way.

Just about 15 minutes from Ely lies one of the more unusual museum experiences you’ll find. The McGill Drugstore was shuttered in the 1950s when the resident pharmacist passed away, and the store was literally frozen in time. Shelves are still stocked with items from the ‘50s like Ipana toothpaste and Dippity-do styling gel. On your way back to Ely, stop at Economy Drug for an old fashioned

soda fountain experience.

In addition to Great Basin National Park, lovers of the outdoors can grab a fishing rod and drive 20 minutes to Cave Lake State Park. Stocked with trout for anglers, Cave Lake also offers swimming, boating, hiking and mountain biking for all levels.

SILVER STATE CLASSIC CHALLENGE: Have you always wanted to enter a major road rally, but may or may not have the supercar or million-dollar classic it usually takes? The annual Silver State Classic Challenge (September 18-20, 2020) is a great opportunity to check this one off anyone’s bucket list. Whether you drive a sports car, pickup or even the proverbial Prius, as long as your vehicle can average 95 mph or more (and meet safety requirements), you can test your mettle in this open road race down Highway 385. For full rules and information on how to enter the event, visit www.ssc.us.

NEVADA NORTHERN RAILWAY: Step back in time at the Nevada Northern Railway museum in Ely, a National Historic Landmark that offers visitors the opportunity to experience an actual working railroad and provides excursions on both steam and diesel locomotives.



Today boasting the best-preserved, least altered and most complete main yard complex remaining from the steam railroad era, the Nevada Northern Railway was established in 1905 to support the area’s booming copper mining industry. The East Ely yard escaped modernization due to its geographic remoteness and the decline of the mining industry it once served.

Now a museum, NNRy offers visitors train rides pulled by beautifully restored 100-plus-year-old steam engines, hundreds of Hands-On-History events and a popular “Be the Engineer” experience, where you actually operate a locomotive on the original mainline. For more info on the Nevada Northern Railway, visit www.nnr.com.

By the time you’re done visiting Ely, the Loneliest Road won’t seem so lonely anymore. Visit www.ElyNevada.net. ■



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A WEEK WITH : 2020 HYUNDAI VENUE SEL

minor miracle

BY JOE SAGE

With a number of smaller SUVs and crossovers already in its stable—Kona, Kona Electric and Nexo fuel cell (where available), then Tucson en route to their larger SUVs—Hyundai is pushing the envelope with an even smaller one. Or is that pulling the envelope, when it's at the small end of the scale?

Small the new Hyundai Venue is, with a length and wheelbase about five and three inches shorter, respectively, than the until-just-now smallest Hyundai Kona. With that coming in below Tucson in size, they had already invented a new category for it: Small SUV. So for Venue? It's an Entry SUV.

This size is about market as much as function. Major touchstones throughout the vehicle's development were both weight and price. And for the same reasons, they do not forecast an AWD model in the future, putting to rest that aspect of what makes an SUV an SUV.

Hyundai acknowledges Venue effectively fills the void left when Accent's hatchback version was dropped a year or so back. (It's perhaps also reminiscent of a "tall wagon" craze some years ago.)

The vehicle's form has big benefits—easy to step into, front or rear, with rear headroom almost as tall as up front. Cargo room is more hatchlike,

but still beats that of a sedan's trunk.

Horsepower is noticeably lower than, say, Kona—121 hp, vs a choice of 147 or 175 in its Hawaiian cousin. But it also weighs about a quarter-ton less.

Features are extensive in our SEL—dual zone climate, heated seats, keyless, nav in an infotainment screen with ease of access, power windows—mirrors—locks, and a wide range of driver tech systems. (Driver tech features were too aggressive for our taste—we turned them all off or way down.)

Shift points were perfect, even in regular drive mode (which we stuck with, giving it little further thought). It's an Intelligent Variable Transmission (IVT), successfully eliminating that CVT feeling.

Simple suspension corners and holds a line like a much lower and wider vehicle (once we turned off lane assistance). Notable sound is transmitted from pavement seams, but mitigation is easy—the audio system performs way beyond its price point (common with Hyundai), with great sound well before equalizer range is used up. Its turning circle is one of the tightest, and this is not guaranteed by small size—it's an achievement in its own right.

The more we drove the Venue, the more we liked it. Entry SUV is a good term, really. Entry crossover would be kind of redundant. Venue has two missions: replace the hatch and whet the appetites of aspiring SUV owners. It succeeds at both. Forgoing AWD is how it achieves all its other goals.

SPECIFICATIONS

ENGINE	1.6L transverse-4 16v DPI DOHC CVT
HP/TORQUE	121 hp / 113 lb-ft
TRANSMISSION	IVT (Intelligent Variable Transmission), gate-type, Shiftronic, hill start assist control
DRIVETRAIN	FWD
SUSPENSION	F: MacPherson strut, coils, gas shocks, stblzr bar; R: coupled torsion beam, twin tube shocks
STEERING	column-mounted motor-driven rack & pinion
BRAKES	F: 11.0 vented disc; R: 8.0 drum
WHEELS / TIRES	17" alloy / 205/55R17
LENGTH / WHEELBASE	159.1 / 99.2 in
TURNING CIRCLE	33.2 ft
GROUND CLEARANCE	6.69 in
HEADROOM (F/R)	39.4 / 38.6 in
LEGROOM (F/R)	41.3 / 34.3 in
CARGO CAPACITY	18.7 / 31.9 cu.ft
WEIGHT	2612-2738 lb
FUEL / CAPACITY	regular unl / 11.9 gal
MPG	30/34/32 (city/hwy/comb)

BASE PRICE	\$19,250
CONVENIENCE PKG:	power sunroof, sliding armrest storage box, leather steering wheel & shift knob, blind spot collision warning, rear cross-traffic collision warning
PREMIUM PKG:	heated front seats & mirrors, LED heads, DRLs & taillights, 17" alloy wheels, keyless entry/start, 8" touchscreen nav w Android/Apple, SiriusXM 90-day, BlueLink connected services 3 yrs
CARPETED FLOOR MATS	155
DESTINATION CHARGE	1140
TOTAL	\$23,445

Venue SE starts at \$17,350, and at that price it has another cool rarity—a 6-speed manual transmission (the automatic is \$1200 more).

Hyundai has built something they are confident will inspire you to shop with them again. ■



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A WEEK WITH : 2020 VOLVO XC90 T8 E-AWD INSCRIPTION

T8 is not a V8, but it is fast!

BY JOE SAGE

The Volvo XC90 T8 overall is a lot like its drivetrain: either very complex or very simple, depending how you look at it. This is the second generation of XC90, introduced in 2015 and receiving endless awards since its inception.

There are T5, T6 and T8 powertrains, the first with a 2.0L 4-cylinder, the next adding both supercharging and turbocharging, and the T8 we're driving here adding a complex battery electric plug-in hybrid system. The names no longer match cylinder counts, but traditions and goals carry on, with the T8 still easily delivering the power of a V8.

XC90 base prices run from a T5 at \$48,350 (the only front-driver) to T6 Inscription at \$62,600. An upper-midpriced R-Design emphasizes sporty style versus Inscription's luxury leanings. The \$73,300 Inscription adds items listed at right, including premium audio and wheels, though you'll see ours added another \$4000 to upgrade both of those again (surprising when already in the top end trim).

The Volvo XC90 comes as a seven- or pricier new six-seater (ours was seven). Legroom is generous up front, average in the other rows, while headroom, thanks to a mildly curvaceous yet generally boxy form, is about the same front to back.

The interior has a cut-crystal-style shift knob, knurled metal controls and other points of elegance—defining touches, though

overall the interior is simply Scandinavian clean and uncluttered. The older Volvo center stack—with dozens of buttons so tiny we joked you'd need a knitting needle to operate them—is replaced by a clean screen, simple at a glance, but still needing multiple layers to accomplish many tasks. New this year is tailored wool upholstery, as on our sample—a surprise, as luxury has long meant leather, but a neat and refreshing alternative (there are still five leathers), comfortable, stylish, still decidedly high-end in look and feel.

Speaking of surprises, others on the road didn't seem to expect the performance delivered by 400 horses and 472 lb-ft in this streamlined big box—smooth and always on tap, with its complex gasoline-electric system all but invisible to the driver. (We could occasionally feel a power change, say while parked but running, about like a nerf ball hitting us from behind.) Steering (for which no specification is given) is—mostly—among the smoothest and most accurate we've driven lately.

An annoyance was the electronic shifter, requiring two distinct yanks to get from Park to N to R or D, and from D or R to the other—four yanks to back out of a space and go, points off as a robber's getaway car despite all that smooth power.

While much of Volvo has migrated to China, the XC90 T8 for the US is still built in Sweden. ■

SPECIFICATIONS

FINAL ASSEMBLY PLANT	Gothenburg, Sweden
ENGINE	2.0L supercharged & turbocharged 4-cyl
ELECTRIC MOTOR	87-hp 7000-rpm
BATTERY	11.6 kWh high-voltage (270-400V)
HP/TORQUE	combined 400 hp / 472 lb-ft
DRIVETRAIN	E-AWD
TRANSMISSION	AW TG-81SD 8-spd auto
0-TO-60	5.3 sec
TOP SPEED	140 mph (elec-only 78 mph)
SUSPENSION	optional 4-corner air suspension
STEERING	na
BRAKES	F: 14.4x1.2; R: 13.4x0.8 disc
WHEELS / TIRES	opt 21" 8-multi-spoke wheels
LENGTH / WHEELBASE	195.0 / 117.5 in
TURNING CIRCLE	41.0 ft
GROUND CLEARANCE	at curb weight 8.8
	w 2 people 8.3 in / w opt air suspension 9.9 in
APPRCH / BRKVR / DEPART	21.4 / 21.3 / 23.3°
WADING DEPTH	17.7 in
HEADROOM (F/2/3)	39.3 / 39.3 / 36.3 in
LEGROOM (F/2/3)	40.9 / 37.0 / 31.9 in
CARGO CAPACITY	41.8 / 85.7 cu.ft
WEIGHT	4993 lb
TOW CAPACITY	5000 lb
FUEL CAPACITY	18.5 gal
MPG	55 MPGe / 26/28/27 (city/hwy/comb)

BASE PRICE: T8 Inscription **\$73,300**

INSCRIPTION INCL: Exterior elements, tailored dash, linear walnut wood inlays, power front seat cushion extensions, 600W Harman Kardon 14-sprk premium audio, high-level interior illumination, 20" Inscription wheels w all-season tires, front park assist.

ADVANCED PKG: Active bending full LED headlights w high-pressure cleaning, 360° surroundview camera, graphical heads-up display 2450

HEATED STEERING WHEEL & REAR SEATS 750

CRYSTAL WHITE METALLIC PAINT 645

INTEGRATED CENTER BOOSTER CUSHION 300

CHARCOAL HEADLINER 200

BOWERS & WILKINS PREMIUM AUDIO 3200

4-CORNER AIR SUSPENSION 1800

21" 8-MULTI-SPOKE WHEELS 800

DESTINATION CHARGE 995

TOTAL **\$84,440**

VOLVO XC90 MODELS:

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XC90 R-Design 56,100

XC90 Inscription 62,600



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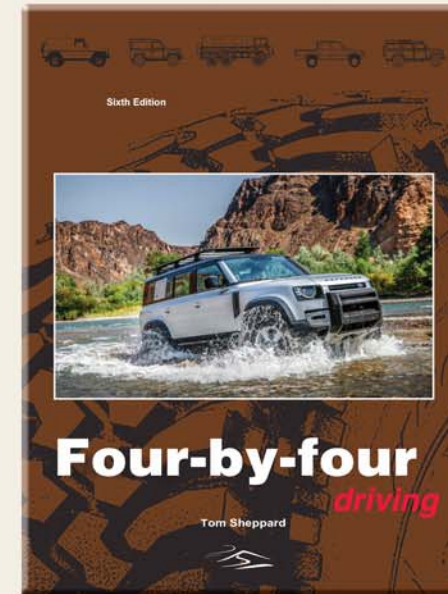
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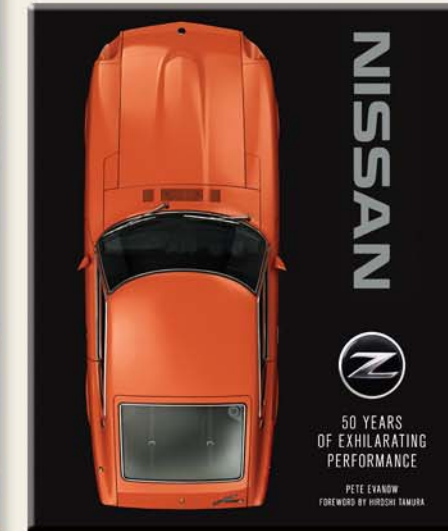
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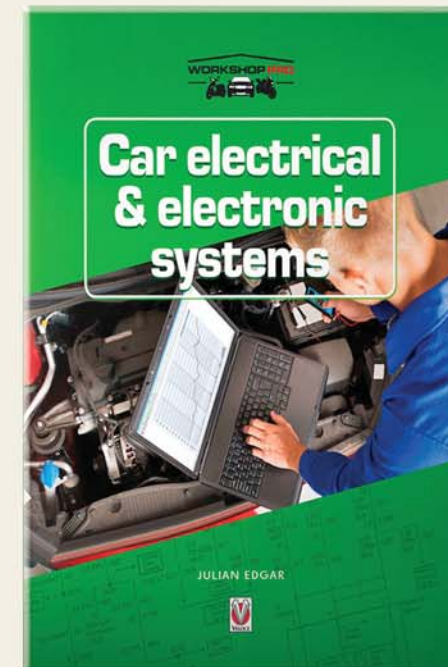
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Four-by-Four Driving

TOM SHEPPARD
 Used as a training manual by special forces in the US and Great Britain, this book doesn't simply tell you how to drive off road; it tells you how a 4x4 driveline functions, and why it reacts the way it does to different situations and substrates—sand, mud, snow, and rocks, on side slopes, ascents, and descents, and through water. Information is not generic—Sheppard delves into the technology and operation of virtually every specific variation of all-wheel-drive vehicle on the market, by brand and model. Following this is a section on recovery, both solo and assisted. Sheppard also tells tales of mechanical sympathy, a light touch that has helped him successfully complete at least a dozen major solo Sahara treks, some completely off tracks.

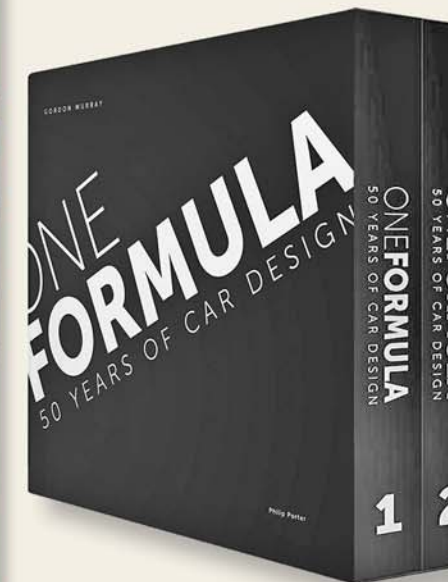
Nissan Z: 50 Years of Exhilarating Performance

PETE EVANOW
 This is the Nissan-official chronicle of Z-car history, from Datsun's planning for the new model in the late 1960s through the latest 50th anniversary 370Z. Datsun 240Z revolutionized the sports car industry and erased established assumptions about Japanese automakers, with a sleek, sexy, fast product. The book also examines the car's significant racing history with successes in IMSA and SCCA sports car racing, including extensive use by Paul Newman for Bob Sharp and John Morton with Brock Racing Enterprises. Special attention is devoted to the Z-fans around the world who have supported the car through thick and thin, and to the early cars' present-day emergence as a rapidly appreciating collector car.



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One Formula - 50 Years of Car Design

PHILIP PORTER WITH GORDON MURRAY CBE
 A close collaboration between legendary automotive designer Gordon Murray and award-winning author Philip Porter, *One Formula* is a comprehensive and punchy two-volume blockbuster two years in the making, covering in detail every one of Murray's 70+ designs—from World Champion Formula 1 cars to his extraordinary flat-packed vehicle for Africa, from his pre-eminent McLaren F1 supercar to brilliant tiny city cars, from the first sports car he built himself to his revolutionary iStream manufacturing system—including those he never built, much of it in Murray's own words. The books are packed with illustrations from his extraordinary archives, pages from his notebooks, original sketches, correspondence, drawings and behind-the-scenes photos, supplemented by stunning period racing shots by many leading photographers, all in two heavy, ultra-stylish volumes. ■



Rolls-Royce 1:8 scale Cullinan

“Small things make perfection, but perfection is no small thing,” Sir Henry Royce once said. In this vein, **Rolls-Royce** Motor Cars now presents to their clients a perfect scale model of their Cullinan SUV. Far more than a mere model, each authentic 1:8 scale replica of a full-sized Cullinan is individually and painstakingly crafted by hand, to the client’s specification, from over 1,000 individual components. This process can take up to 450 hours—more than half the time required to build a full-sized Cullinan at the Home of Rolls-Royce in Goodwood, West Sussex. The replica is hand-painted using Rolls-Royce color-matched paint, then hand-polished to exacting specification; the coachline is even applied using a fine brush, just as on the original. Clients may choose from a palette of around 40,000 standard colors or replicate their own personal bespoke finish. Fully functioning exterior lights are operated by a Cullinan-branded remote control; under the hood is a perfect likeness of the 6.75-liter twin-turbocharged V12 engine. On opening the coach doors, illuminated treadplates are revealed, leading to an interior designed and executed with the materials, skill and attention to detail lavished on Cullinan itself. From the headrest embroidery and wood finishes to seat piping and stitching, these bespoke creations allow clients to recreate their full-size vehicle with astonishing accuracy, or even envision future Cullinans to add to their full-size collection. Presented in a display case almost a meter in length, the

replica is set on a gloss-black base mounted on a plinth allowing it to be appreciated from all angles. The Perspex window can be removed enabling the minutiae of the doors, luggage compartment and engine bay to be viewed in detail.

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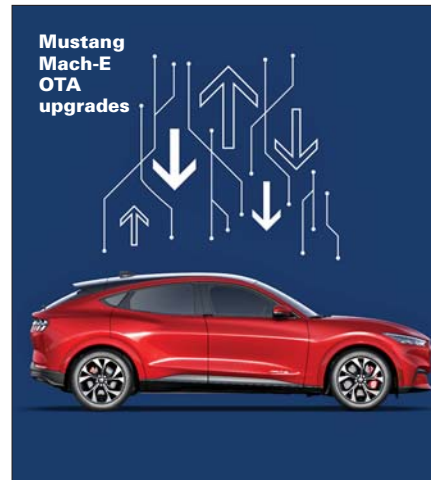
Huber+Suhner RADOX HPC500 high-temperature environment cooled charging cable system

the world’s first cooled charging cable system, for continuous charging at 500 amps even in high-temperature environments. The HPC500 cable and connector build on the proven performance and design of the HPC400 family, as well as extensive field experience and continuous innovation in cooled cable solutions for EV charging stations. Several improvements and new features make the system ready for existing

and future requirements: continuous 500A charging, an IP67 connector protection rating, the option of a ready-to-use metering system, and replaceable contacts for longer service life. Huber + Suhner has also developed a new 24V cooling unit to increase cooling capacity and reduce operational temperatures of the power lines, enabling continuous 500A charging at environmental temperatures of up to 50°C (122°F). The new plug-and-play cooling unit, which is pre-filled with coolant, fits into existing charging stations, significantly reducing installation time. Speeds of both the ventilators on the heat exchanger and the coolant pump are automatically adjusted to achieve the most efficient performance, with normal operating levels requiring lower speed, significantly reducing noise level. A 20 percent reduction in connector weight and improved cable flexibility, compared to the previous model of the HPC system, offers easier handling for end-users. The system “enables continuous charging at 500A for the first time,” said Max Göldi, market manager industry at Huber + Suhner. “This helps

charging station operators prepare for the future with an improved return on investment.” As a key supplier of Electrify America, HPC systems are currently installed across the US, and the company is also part of EV rollout initiatives across Europe. Huber + Suhner has had many first, with its previous model enabling a charging time below 15 minutes while maintaining safe and easy handling.

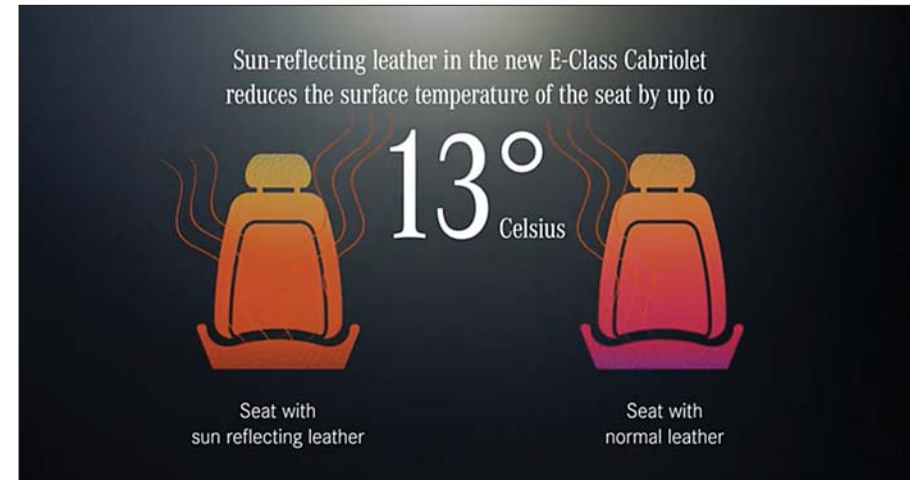
▼ **Ford** says the new Mustang Mach-E EV “gets better with age,” thanks to over-the-air updates that work to continuously improve the SUV over its lifetime, and you



Mustang Mach-E OTA upgrades

won’t even have to leave home. Unlike some vehicles that require owners to wait while a software update takes place, Ford has developed a way to allow secure updates to download in background, and in some cases, be completed in under two minutes. These will go well beyond SYNC updates. Nearly all Mustang Mach-E computer modules can be updated wirelessly, for performance enhancements and even entirely new features over time. Some installations will be virtually invisible to customers, who can select a regular time for updates while parked. Many updates will be completed almost instantly after a customer starts their vehicle, while in-vehicle alerts will say what improvements have been installed. Many can be completed in under two minutes, and more complex updates can be scheduled to take place when customers find it most convenient. Ford expects to deliver its first updates within six months after the first Mustang Mach-E vehicles are in the hands of customers. Owners will receive notifications detailing software updates when they are available, which can then be applied using either Wi-Fi or cellular connections, depending on the update. Mustang Mach-E is just the start when it comes to this technology. During 2020, Ford will begin equipping most redesigned vehicles in the US with advanced over-the-air update capability for quick and easy wireless upgrades that can help enhance quality and capability and improve the ownership experience over time, while reducing dealer trips.

▼ Get in, start up and drive off in comfort, even on a hot Arizona summer day and even after the vehicle has been sitting in the blazing sun with the top down for a



long time, in the **Mercedes-Benz** and Mercedes-AMG E-Class Cabriolet—thanks to sun-reflecting leather, a specially coated leather that heats up much less than untreated leather and remains up to 13 degrees Celsius (55.4° F) cooler in direct sunlight. This joins other climate-beating features in the open-top four-seater E-Class—the AIRCAP® wind deflector system and AIRSCARF® neck-level heating feature. The specially coated leather reflects the near-



Swindon Powertrain EV crate motor

infrared waves of the sun and thus heats up noticeably less and more slowly than standard leather, which absorbs heat radiation. This proves to be a major gain in comfort, especially with dark seat covers. Even with the soft top closed, the interior heats up less thanks to the cool leather. The special color and pigmentation of the sun-reflecting surface has no effect on the normal top-quality appearance and feel.

▼ **Swindon Powertrain** of the UK has been designing and building high-performance road and race engines and components since 1971, today supplying to most

of the British Touring Car grid and having amassed over 80 wins. Since 2010, they have diversified into new road car powertrains, alternative powertrains and electrification, with facilities also in France. In response to market void, their latest is the compact HPD 80kW EV “crate” motor suitable for OEMs, niche vehicle manufacturers, electric car conversion companies and the enthusiast home mechanic. A brushless permanent magnet motor with trans-

mission, open differential and one meter of cabling starts at about \$7850, with options for cooling, inverters and limited slip differential. Weighing just 100 pounds wet and compact in size, the EV crate motor has the highest power to volume spec on sale for automotive applications. As of now, the first customers should receive their orders in August. For more information, visit www.swindonpowertrain.com. ■

UPCOMING FEATURES

Ford Ranger Supercrew 4x4



Verde Canyon Railroad anniversary run



2020 Acura TLX PMC Edition 6-State Road Trip



Fiat 500X Sport AWD



Infiniti Q60 3.0t Red Sport 400 AWD



TAWA Texas Truck Rodeo, NWAPA Mudfest comparos



K1 Speed indoor kart racing



Big Willy Jeep mutant project



Tyson Hugie

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Miracle Car Repair Shop Stool / SKU: 09-BKG-MCR

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Shown: Vintage Iron Speed Shop Clock / SKU: 09-BKG-VI

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The Greasemonkeys have the feeling their full line of durable all-steel portable toolboxes with lift-out tray and a variety of the most cool car guy graphics (five styles now and more coming!) just may be too good to stash tools in—we may have to call them "deco-boxes"!

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Wrench-In-Hand Steel Tool Box / SKU: 10-BKG-WCL

Vintage Pickup Truck Steel Tool Box / SKU: 10-BKG-VT

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— Many thanks! Jackie B.

♥ I just had the most wonderful buying experience! I only hope my father asks for something from The Busted Knuckle Garage for Christmas so I can do business with such a wonderful company once more.
— Cheers! Michelle

♥ My husband just loves everything, especially me for getting him such cool stuff. I'd have to say we will be lifetime customers, oh ya!! Thank you, Greasemonkeys.
— Sincerely, Pam

♥ First, let me be the one thanking you! I honestly cannot remember such extraordinary customer service.
— Thanks again, "JR" Jean



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