

McLAREN SENNA: THERE IS NO WILDER BEAST

CAR **AND** DRIVER

JUL/2018

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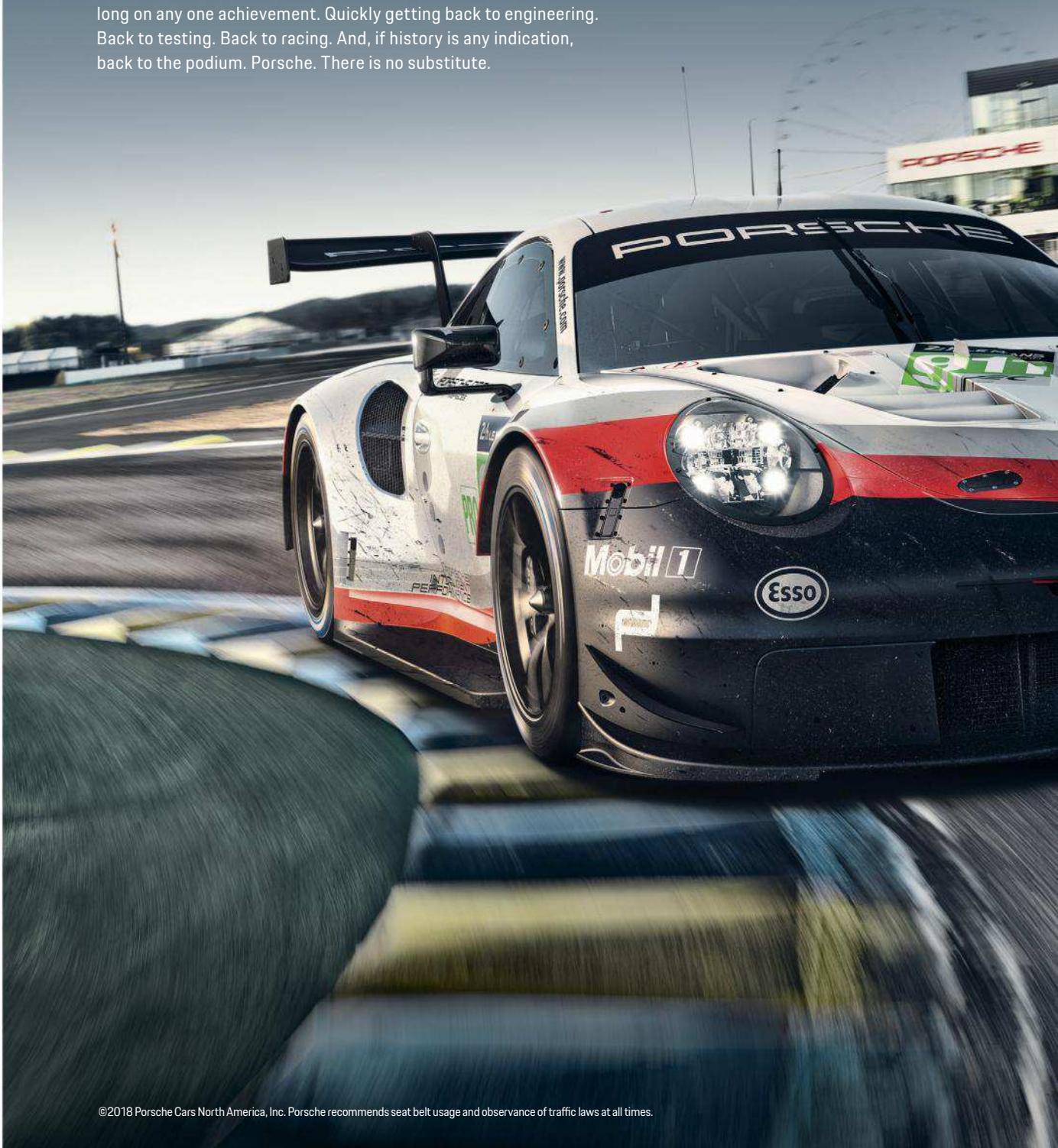


Plus more sporty sport-utes:

LAMBORGHINI URUS IN ROME,
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AND RANGE ROVER VELAR IN INTERNECINE BATTLE
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Features

030

First Drive

2019 McLAREN SENNA

Living up to its name, the \$960,000 Senna installs a new icon at McLaren.

by Eric Tingwall

045

THE SPORTIFICATION OF THE SPORT-UTILITY VEHICLE

046 • *First Drive*

2019 LAMBORGHINI URUS

The crossbred bull.

*by John Pearley
Huffman*

050 • *Comparison Test*

TURNING POINTS

Alfa Romeo Stelvio
Quadrifoglio, Mercedes-AMG GLC63 S coupe,
Porsche Macan Turbo.

by Tony Quiroga

060 • *First Drive*

2019 MERCEDES-BENZ G-CLASS

Even this dinosaur of the SUV segment finally gets some on-road chops.

by Jared Gall

070

Feature

STRAW MAN

How I bought millions of dollars' worth of luxury cars and got blacklisted by Jaguar Land Rover, Mercedes, and Porsche.

by Travis Simpkins

074

Long-Term Test

2016 MAZDA CX-9

Ripped from the pages of *Crossover and Dad*.

by Jeff Sabatini

On the Cover

These SUVs are ready for their moment.

*photography by
Marc Urbano*

Car and Driver[®] vol. 64, no. 1

In this Issue:

“True to its name, the Senna demonstrates deep focus, offers transcendent thrills, and bristles with an unrelenting intensity.”

—ERIC TINGWALL, “MAY THE DOWNFORCE BE WITH YOU”

030





Departments

Columnists

010 . EDDIE ALTERMAN

Intensify the doom cycle.

024 . JOHN PHILLIPS

Snakes rose up in indignation.

026 . DANIEL PUND

I bet we both have the same favorite animal.

028 . EZRA DYER

I was actually hoping you wouldn't read this far.

Upfront

013 . *Reveal of the Month*

VISION MERCEDES-MAYBACH ULTIMATE LUXURY

It coddles business mandarins and serves tea.

016 . *Infographic*

GOATS VS. TURKEYS

Analyzing the starting-grid talent across seven major motorsports series.

018 . *How To*

SO YA WANNA BE A YOUTUBE SUPERSTAR?

Six steps to guaranteed fame.

020 . ROLLIN' IT BACK

Odometer tampering, a crime of the past, leaps into the future.

022 . *Tech Department*

REINVENTING THE WHEEL

Michelin's flexible wheel protects a car's footwear from crumbling roads.

Drivelines

082 . 2019 BENTLEY

CONTINENTAL GT . The two-door gets a dose of the ol' youth serum.

086 . *Tested*

2019 VOLKSWAGEN JETTA

R-LINE . The Golf with a trunk returns, sort of.

088 . 2019 PORSCHE 911

GT3 RS . It's out to get you, but not in the way you'd expect.

090 . *Three-Page Comparo*

JAGUAR F-PACE vs. LAND ROVER RANGE ROVER VELAR

Interneccine tussle.

094 . *Tested*

BUICK REGAL GS . Keep your expectations in check and the handsome Regal GS delivers.

Etc.

007 . BACKFIRES

Thank you, Mike Machnee, for your cogent correction of our improper use of a nautical term. You give us faith in America . . . What's that? Oh, he's Canadian. Of course.

096 . WHAT I'D DO DIFFERENTLY

Albert Biermann.

On the Web

HYUNDAI KONA 1.6L TURBO AWD

Meet the strongest new entry in the subcompact tall-thing class.

CARandDRIVER.com/2018KonaTurbo

VOLKSWAGEN CALIFORNIA

We tour the Golden State in the pop-top van that bears its name.

CARandDRIVER.com/VWCalifornia

2019 BMW M850i xDRIVE PROTOTYPE

Is this the beginning of a happy ending for BMW?

CARandDRIVER.com/2019BMW850i

2018 JAGUAR F-TYPE

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THE ART OF PERFORMANCE

Model Shown: 2018 Jaguar F-TYPE SVR Coupe with optional carbon ceramic brake package. European license plate shown. [†]These features are not a substitute for driving safely with due care and attention, and will not function under all circumstances, speeds, weather and road conditions. The driver should not assume that these features will correct errors of judgment in driving. Please consult your vehicle's owner's manual or your local authorized Jaguar Retailer for more details. *Class is cars sold by luxury automobile brands and claim is based on total package of warranty, maintenance and other coverage programs. For complete details regarding Jaguar EliteCare coverage, please visit JAGUARUSA.COM, call 1.800.4.JAGUAR / 1.800.452.4827 or visit your local Jaguar Retailer. © 2018 Jaguar Land Rover North America, LLC

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A man with short blonde hair, wearing a dark leather motorcycle jacket over a light-colored button-down shirt, is holding a black and blue 'blu' vape pen in his right hand. He is looking directly at the camera with a slight smile. The background is a clear blue sky with a hint of sunset or sunrise at the bottom.

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Backfires:

The joyful noise of the commentariat, rebutted sporadically by Ed.



DUCK AND COVER

You guys are so predictable! When my April issue of *C/D* arrived, I said to myself that you guys are so into BMW, there is no reason to read the cover article. And I was correct! The only shocker was that the Porsche finished last!

—Stark Thompson
Kennett Square, PA

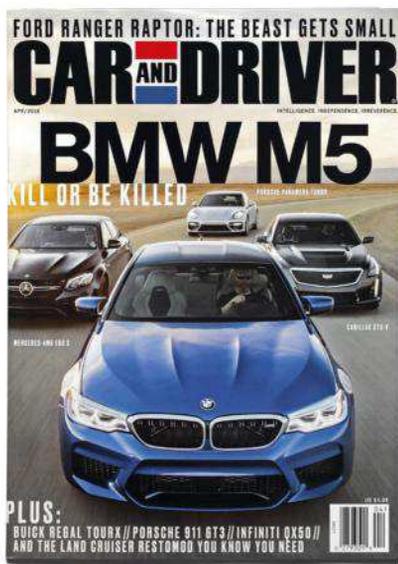
I HAVE THE POWER

I was surprised, after reading your high praise of the Cadillac's handling and performance, that the CTS-V did not score better in the comparo of supersedans ["Power Drunk," April 2018]. By your own testing, it was clearly the top performer, except from a standing start due to its lack of all-wheel drive. It was the quickest in passing maneuvers (tied with the M5 in the 50–70-mph test), with the highest top end by a large margin, and fastest through the slalom by a not-insignificant speed. And while you gave the Caddy the highest marks in the chassis scores, you killed it in the powertrain category. The powertrain must not be that bad to perform so well! Bottom line, this was a performance-sedan comparo and you knocked the best

driver's car because you felt the interior was not up to par. Not good for a magazine purporting to represent drivers. How you weigh the attributes in your final-results section needs some scrutiny. You shouldn't use the same methodology for very different types of autos. By the way, I've happily driven a BMW for the past 18 years, but Cadillac appears to better meet my requirement for a sporting automobile at this time.

—David Tye
Netlandia

In your April test of four high-horsepower sedans, the CTS-V has the most horsepower and torque and the lightest weight, yet it is the slowest of the bunch and has the



“HOW WOULD THE TESLA MODEL S P100D HAVE FARED? SIMILAR PRICE, QUICKER TO 60 MPH, AND TWICE AS MANY TRUNKS!”

worst fuel economy. What gives? Oh, it is also the cheapest, at \$102,935 as tested. What magic do the Germans possess?

—Paul Smelter
Garland, TX

All-wheel-drive traction and smaller-displacement engines—Ed.

So the CTS-V is not only more fun to drive, but it has the superior chassis at a realistic \$24K discount to the winning M5. I thought I was reading *Car and Driver*, not *Thank God BMW Makes a Decent-Driving Car Again So We Can Suck Up to the Germans.*

—Alec C.
Maple Grove, MN

Certainly I am not the only one puerile enough to notice the resemblance of the CTS-V's shifter

to something, shall we say, masculine. I suppose one could argue that Cadillac honestly puts the D in drive.

—Chris Taylor
Manchester, NH

Sometimes a shifter is just a shifter—Ed.

Great comparison of four supersedans in the April issue. How would the Tesla Model S P100D have fared? Similar price, quicker to 60 mph, and twice as many trunks!

—Mark Newman
Houston, TX

Tesla won't send us one—Ed.

In your July 2017 issue, you wrote an article titled "The *Car and Driver* Guide to Automotive Bullshit." One of the things you called BS on was Drift mode. You wrote: "Drift mode. If you need a



special mode to do it, you can't really do it." In the April 2018 issue, a certain Mercedes is reviewed. That Mercedes is the AMG E63 S 4MATIC, which has 603 horsepower and a function labeled "Drift mode," and as I see currently is in the plus category and is somewhat praised. Have less than a year and an AMG really swayed your opinion?

—Anthony Jeffries
Flint, MI

In that guide, we were referring to front-wheel-biased monkeyshines, specifically to the Focus RS's Drift mode, which doesn't send all the torque rearward and keeps the stability control on. We've since sampled AMG's system that completely disconnects the front axle and shuts off the stability control. Having tried both, we can tell you that turning an all-wheel-drive car into a rear-wheel-drive one is no BS—Ed.

REGAL BEAGLE

Finally, an American brand is bringing a true wagon stateside again ["X Games," April 2018]. Wagons

are commonplace overseas. I have even spotted a Chrysler 300C wagon in Europe. I am 45, have three kids, and have a high household income. I'd imagine I represent the ideal demographic Buick would like to see as its target market. Although I would consider buying a TourX, I would give Ms. Barra a deposit today if she announced that a Buick Regal GS wagon were coming here. Peel off the cladding, keep the all-wheel drive, and give it the GS's engine. The TourX is a step in the right direction, but a GS wagon would be a true game changer for Buick.

—E.W.
Littleton, CO

I own a 2011 BMW 328i Sports Wagon: inline-six engine, six-speed auto, hydraulically assisted steering, 47,000 miles.

I am keeping it. Nothing on the market improves on it.

—Lori B.
High Ridge, MO

THE BIG FIX

Bravo on such a well-written and balanced piece on the shortage of available qualified auto

mechanics ["Wanted," April 2018]; however, the broadside at high-school guidance counselors who routinely steer students toward a four-year college or university is not entirely true (though at the end of Benjamin Preston's piece, he did walk that one back a little). As a guidance counselor for over 25 years, I always kept participation in a trade-apprenticeship program open as an option for any student. My degrees never guaranteed employment or wealth. It was a hard sell to disabuse students and their parents of the belief that a college degree is a ticket to the good life, especially when almost no one in the family has a college degree.

I was disappointed to see that there weren't any veteran-assistance programs mentioned in the story. Encouraging and enabling returning servicemen and -women to consider auto-technician careers should be a priority for the industry in partnership with the Veterans Affairs. It could be a really successful twofer. And how

"ALTHOUGH I WOULD CONSIDER BUYING A TOURX, I WOULD GIVE MS. BARRA A DEPOSIT TODAY IF SHE ANNOUNCED THAT A BUICK REGAL GS WAGON WERE COMING HERE."



about securing the services of Edd China (of television's *Wheeler Dealers*) to be a recruiter for the industry?

—Geoff Powers
Shaker Heights, OH

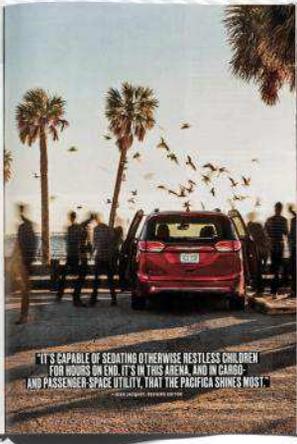
I read your article on the technician shortage with interest. Although it was addressed in the article, it's apparent that the industry still thinks of techs as mechanics, based on the way it pays them—at least in the aftermarket. I've been in the field for over 44 years and specialized in drivability and other electronic diagnostics for the last few decades, yet I was only making \$30 per hour, despite owning tens of thousands of dollars' worth of tools and diagnostic equipment.

When you consider the training and knowledge needed to work on today's very complicated, highly integrated vehicles and their electronics, it's obvious that automotive techs aren't paid fairly. Compare their pay with that of typical electricians, who make a lot more with just a piddling of investment in equipment to do their

jobs. Until the pay scale improves, most students will opt for work in other fields that pay much better without the steep learning curve.

—Gary F.
Honolulu, HI

I'm a 38-year dealer line technician, ASE master for the last 25. Your article on the technician shortage, like others I have read, fails to mention the flat-rate pay system that has been chasing techs away for years. A flat-rate system, which pays a published rate per job, punishes you for being honest and for doing good work and leaves you wondering, "How much am I going to make this week?" There is nothing like watching a dishonest hack get rewarded for his high productivity—and people wonder why my trade has such a bad reputation. Also the guy who said that roughly 80 percent of work today is electrical has never been a flat-rate dealer tech, because you really need 80 percent nontechnical dirty service work or "gravy work" to make a good living with a flat rate. Maybe you can inter-



view actual dealer line techs, research the antiquated flat-rate pay system, and find out why the industry doesn't want to drop it. Then you may learn more about why the automotive-service trade is chasing people away.

—Gareth Leima Cumming, GA

PACIFIED

So, Luke Sellenraad thinks it is madness that Chrysler Pacifica occupants “can’t pair a phone, see the Wi-Fi password, or enter a destination in the navigation system while the vehicle is moving” [Long-Term Test, April 2018]. Please tell me that he was not serious and was actually highlighting an outstanding safety feature in the Pacifica.

—A.J. Briggs Huntington Beach, CA
It’s not so outstanding to be locked out of those functions when you’re a passenger—Ed.

It amazes me that you can pop 44 large for a Gen 6 Chrysler minivan (that has over \$24,000 in electronic doodads as compared with my plain old Gen 5) and still grapple with an elementary

problem: You can’t see at night. When will Chrysler learn that there are standards for this stuff? The Gen 3 had the same problem in spades with its slit headlights, and magazine testers complained back then. I specifically remember a scathing review in *Rod & Truck* about this very problem. (My Gen 5, by the way, has great headlights.)

As for your HVAC issue, it’s been a well-known problem over several generations that has finally—hopefully—been cured by a big recall that is at least guaranteed for the life of the van. There have also been multiple reflashes for the powertrain to address some of the shifting issues you encountered. I have found with my Gen 5, with essentially the same powertrain, that for all the talk about a flat torque curve due to the dual variable valve timing, the torque comes in just above where you really need it, especially in hill-climbing, which is part of the reason for some of the downshifting. This thing needs a turbocharger

to bring the torque curve down below 2000 rpm—1500 rpm would be perfect. Either that or change the gearing, as these things are ridiculously overdriven, hence the spectacular highway mileage.

—Michael McLernon Midland, ON

Wow! How many sheets of four-by-eight-foot plywood do you guys have to haul? You seem a bit overly enamored with the foldaway second-row seats in the Chrysler Pacifica. Other than that, in every comparison you made with the Honda, the Chrysler came in second. The head-

“WHEN WILL CHRYSLER LEARN THAT THERE ARE STANDARDS FOR THIS STUFF? THE GEN 3 MINIVAN HAD THE SAME PROBLEM IN SPADES WITH ITS SLIT HEADLIGHTS, AND MAGAZINE TESTERS COMPLAINED BACK THEN.”

lights suck, the tranny is balky, the thing rusts out in less than a year, and the depreciation rate is terrible. Even though the seats fold away, you admit they’re immovable and uncomfortable. Oh, wait! I forgot! The infotainment system keeps the children “engaged.” That seems, though, to be a prime example of pretty poor parenting. God forbid we should have to engage with our children!

I’ll just keep driving around in my 2011 Odyssey, which is, even currently, probably worth more than your rusted-out year-old Pacifica. The foldaway third-row seats in the Honda provide plenty of hauling capacity for me and mine. By the way, the Odyssey can be equipped as an eight-passenger hauler. C’mon guys! It’s a Chrysler!

—Dave Wymard Fort Lauderdale, FL
A long-term test is not a comparison test, but since you’ve led us here, we have to point out

that the Pacifica is also available as an eight-seater—Ed.

EL DUDERINO

I’ve been reading your magazine since I was 16 years old (over 20 years now) and have never commented before. I just wanted to say it was nice to see a *Big Lebowski* reference in one of your long-term updates [Fleet Files, April 2018]; it’s humorous things like this and the fact that you actually still test and review vehicles that keep me renewing. This will probably be the last print magazine that I subscribe to, as the others I used to read have started to take themselves much too seriously and have turned into travel and lifestyle journals. As much as I enjoy my motorcycles and my classic muscle car, it’s the family Forester that goes on the trips now that I have two young kids, and unlike my younger self, I enjoy reading entertaining reviews about cross-overs and minivans.

—Alex Uhl Sioux City, IA

Explained: Stop Gap

Why do you measure braking distances from 70 mph while other outlets measure from 60 mph?

—Wallace Deaver Vaughan, ON

There are a few reasons that we perform stops from 70 mph. Not only is the higher speed more in line with real-world highway velocities, but it’s also a better test of a braking system’s ability to deal with heat and

fade since stopping from 70 requires the brakes to dissipate 1.4 times the kinetic energy of a 60-mph stop. The 70-mph speed also yields distances that better illustrate the differences in braking systems. Stops from 60 typically cluster around 105 to 130 feet. Stopping from 70 increases the distance required to stop, which expands the range between good and bad braking systems. The best brakes will stop a car from 70 in less than 140 feet, while weaker brakes will take more than 200 feet. A greater spread in braking distances makes for a more obvious assessment of what’s good, what’s okay, and what’s bad—Ed.

Editor's Letter:

Ford's announcement, in late April, that it will phase out all its passenger cars except for the Mustang and the Focus Active might look like a timely and smart response to shifting consumer preferences for crossovers over cars. It is not.



This move has been a long time coming, whereas the overwhelming popularity of crossovers is a relatively new and fragile thing; bigger vehicles wouldn't account for two-thirds of new-car sales if it weren't for suppressed fuel prices, CAFE loopholes, a heat-retaining

economy, and the dynamic improvements to the vehicles themselves. But Ford's impulse to simplify, to streamline itself into what could essentially become The Mustang and F-150 Company, has roots in the administration of the man widely regarded as Ford's 21st-century savior.

When Alan Mulally took over in 2006, Ford was a drunken giant of a company, with a menagerie of far-flung luxury brands from which it proved incapable of extracting maximum value. Tata has made much better use of Jaguar and Land Rover, and Geely of Volvo, than Ford ever could, despite its economies of scale. Mulally saw the complexity of the Ford he took over and deemed it unmanageable; he divested the portfolio of its premium brands and pared it down to "One Ford." Ford would be it, the true focus of the company. Lincoln would be figured out eventually.

Without Volvo, Jaguar, Land Rover, Aston Martin, and even Mercury commanding higher prices, Mulally was forced to charge nearly \$40K for top-trim Fusions and Tauruses. Their higher MSRPs took the traditional American sedan out of the traditional American budget, suppressing sales and increasing incentives. Which, in turn, led to longer product cycles to pay back those cars' engineering and marketing investments. And stale cars on showroom floors only led to further erosion of demand.

Two CEOs later, Ford looks up and declares: "Nobody's buying sedans!" as if this wasn't a hand it dealt itself long ago, and as if the truth isn't more nuanced. But one thing's clear: Reducing the breadth of offerings will stifle Ford's flexibility. It could also intensify the doom cycle.

What happens to SUV sales if gas goes up to \$5 a gallon? What happens if a new generation of buyers comes to see crossovers as minivan-lame? What happens to Ford if car enthusiasts, those powerful influencers of purchases, feel abandoned by the brand and stop recommending its vehicles? "You can have any color you want, as long as it's black" is no vision for the future.

—Eddie Alterman

Clever Tony Quiroga, channeling his inner Walter Sobchak eulogizing Donny in the GT350 review: "... we've explored the beaches from La Jolla to Leo Carrillo and up to Pismo."

—Mike Sheahan
Clermont, FL

STROKER ACE

In the April issue, Mr. Quiroga, while describing Infiniti's VC-Turbo engine, mistakenly (I believe) states the engine can alter its stroke ["Golf Clap"]. The way I understand this mechanism, it is only changing where the stroke takes place in the bore, not the actual length of the stroke. Please clarify.

—Lance Beltman
Hamilton, MI

That's no mistake. Infiniti's VC-Turbo engine not only changes the location of top dead center, it also changes the length of the stroke by 0.05 inch—Ed.

Regarding this statement: "Infiniti's engine can alter its stroke... by 0.05 inch, which changes engine displacement and thus the compression ratio, two things that have been, up till now, fixed. The change modifies the compression ratio from a low of 8.0:1 to a high of 14.0:1." Does a 0.05-inch change in the stroke really make this much of a difference? A half inch would be more believable.

—Greg Williams
Lake Oswego, OR

Small changes can make a big difference. Even a tiny change in the stroke and top-dead-center location has a huge

effect on the compression ratio—Ed.

LIVING ON THE LAND

Regarding your test of the resurrected Toyota FJ43 Land Cruiser [April 2018], and I quote: "drives with the woolly disconnectedness of an ox cart,"

"adequately powerful" brakes, the steering wheel "has the feel and exactitude of a farm tractor's," "ancient steel ladder chassis," "quick as a modern subcompact," "violent airflow around the covered-wagon body," "ineffectiveness of the noisy Vintage Air HVAC system," "looks and drives... much like a duck-hunting blind," "costs as much as a new Lamborghini Huracán," and finally, "the FJ Company intends to sell up to 24 Signature trucks." What does this prove? There are 24 buyers out there with more money than brains.

—Steve Clinton
Orange, CA

PANCAKES, PLEASE

I was hemming and hawing about renewing my subscription to your publication. Read Quiroga's piece on the GT3 ["Track Marks," April 2018]. Loved it. Keep up the good work. Renewal on the way.

—John Brady
Yardley, PA

A Porsche 911 GT3 equipped with the GT3 Touring package?! That's like buying a double-barreled shotgun and declining the free Lynyrd Skynyrd T-shirt.

—Tyler Nelson
Irvine, CA

Lucky Tony to test this beauty, and it costs less than the Toyota Land Cruiser FJ43 in the same issue. Tony's article was the definition of passion and beautifully written. We are jealous.

—Mike Kunza
Riverside, CA

SWAB 900

You want some interesting bacteria ["Swab That Saab!" April 2018]? Try the back seat of my '63 Impala SS convertible; alas, I sold it long ago. Okay—dirty-minded guys—my dog used to ride in back.

—Carl A. Singer
Passaic, NJ

ROLL ON

In "Lean on Me" [April 2018], you say that a vehicle lists while cornering. If you are going by nautical terminology, a ship is said to heel while making a turn. Listing is a static condition, a deviation from vertical caused by a weight imbalance such as a ship having flooded spaces on one side of the longitudinal centerline; an automotive example is a pickup truck with a heavy payload stacked all to the driver's side. Roll-stability systems reduce the tendency to heel. A load-leveling suspension would counteract a list.

—Mike Machnee
Winnipeg, MB

Sail away, sail away, sail away—Ed.

I wish Josh Jacquot's Tech Department article "Lean on Me" had mentioned Project Sound, the active suspension developed by the late MIT professor Amar Bose and

the Bose Corporation more than 25 years ago. The system was truly magic but was never put into production by an automaker due to cost and weight issues using then available components. The technology is currently found in the fatigue-reducing Bose Ride seat for big rigs. Perhaps more modern components would give the system new life in vehicles. Imagine a Bentley Bentayga or Mercedes G-wagen that could corner like a Porsche Cayman S and actually jump over speed bumps when asked.

—Gregory Scott
West Roxbury, MA

The Bose Ride technology Scott refers to is now owned by Clear-Motion, which aims to put an active suspension system into production—Ed.

DUMPS LIKE A TRUCK

Phillips, it's great that you can enjoy your local dump site [John Phillips, April 2018]. Guess you were looking at a deadline and needed a word count. Printworthy? Not so much. Are you on the new season of *Hoarders*? Good luck with that, and grab your drool cup on the way out. Good riddance.

—John S.
Brentwood, TN

In his column on salvage yards, Phillips writes: "I extract guilty pleasure from examining the cars whose upholstery and airbags are blood-bespattered, along with those sad victims of animal colli-

sions..." Does *Car and Driver* management know about this? That is just plain creepy. Get this guy some professional counseling and fast!

—John Polniaszek
Palm Coast, FL

Management?—Ed.

WORDS ARE WORDS

Regarding the use of foul language in letters to the magazine: In my view, it is inappropriate to think, say, or print it. It serves no purpose. Bad habit? For many, perhaps, but also indicative of a lazy and unimaginative mind to me. I realize some readers may consider my opinion "horse excrement." That's okay because I respect their views and am entertained by them. However, I encourage *Car and Driver* to install a vulgar-and/or useless-word program for its editors. Alternatively, a disclaimer (i.e., "offensive language") could be put on the front cover, similar to TV programs.

—Art Gordon
Silver Lagoon, AB

In regard to complaints about words exceeding two syllables and the occasional profane but appropriate verbiage, I would kindly suggest those offended check the three small words on the front cover under *Car and Driver* before they rant or threaten to unsubscribe. Maybe they shouldn't be reading in the first place.

—Luke Luyckx
Delmar, NY

THE ALLEN CASE

So let's be honest, the magazine business is

dying, and I won't feel bad for you guys when this rag folds, especially since you published the piece that I am sure all your staff thought was so cute on Tim Allen's mistake he made in the 1970s [Letter of the Month, April 2018].

I do not think this letter was funny, and I am requesting my subscription be canceled because I see what small-minded pricks you guys are. If you knew the facts on Allen, you would know that he was looking at life in prison (not so funny). So while I will be recycling your rag as toilet paper, Allen will be buying and driving his massive fleet of sports cars while you miserable pigs will be driving your 15-year-old Toyota Echos home to your elephantlike wives!

Are you guys aware that we have an opioid epidemic that is wiping out a generation of people? Do you realize how many lives were destroyed with the War on Drugs? This is a public-health issue, not a criminal-justice issue.

I typed this with my middle finger.

—Jason Z.
Camp Hill, PA

Come to think of it, Wild Hogs was a more heinous crime—Ed.

PARTING SHOT

You should change the name of this mag to *Car and Pretentious* Ass. I'm out.

—Ray McCausland
Springfield, IL

Doesn't fit on the cover—Ed. ■



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001



Reveal of the Month

MAYBACH, MAYBACH NOT

THE ULTIMATE LUXURY CONCEPT CODDLES BUSINESS MANDARINS, SERVES TEA. *by James Tate*

THE VISION MERCEDES-MAYBACH Ultimate Luxury concept was built to do three things: preview the future of Mercedes-Benz's in-car technology, express Mercedes' intent to grow the Maybach brand, and provide a look at the company's plans for the EV powertrains that will motivate its upcoming EQ line. Apparently "appeal to American tastes" was not in the brief.

Unveiled at the Beijing auto show in April, the Ultimate Luxury was designed specifically for the China market, from the ebony trim throughout the interior (the wood is used in traditional Chinese furniture making) to the tea service in the center console. Beneath the flourishes, however, is a vehicle concept of consequence. Mercedes will eventually release a GLS-based Maybach SUV, the long-term goal being to grow the nascent ultraluxury subbrand into something as strong, globally, as the AMG line.

001 MERCEDES NOTES THAT SUV AND SEDAN BODY STYLES ARE THE MOST POPULAR IN CHINA. THEY GO TOGETHER LIKE LAMB AND TUNA FISH.

▼ STYLING

The look of the Vision Mercedes-Maybach is going to draw plenty of comments, but don't put too much stock in this design, especially for the U.S. market. If anything like the Ultimate Luxury were to make it to production, it'd likely be for Chinese consumers, who disproportionately prefer high-end sedans over SUVs compared with the rest of the world—hence the choice to essentially build an S-class sedan on a GLS chassis rather than create a more traditional SUV profile.

As puzzling as it is to contemplate the decision-making process that went into this thing, it does suggest that Mercedes is zeroing in on a few design signatures for future Maybach models. The body-colored longitudinal element that runs through





002



003

the panoramic roof and rear window is an evolution of the spar that bisected the back glass on the Vision Mercedes-Maybach 6 coupe—and, in the realm of real production cars, graces that other pillar of conspicuous billionizing, the Bugatti Chiron. Subtler cues to expect on future Maybach products include the three-light clusters front and rear and the already familiar big-mouthed vertical-slat grille.

But, yeah, there is the unavoidable ridiculousness of it all, this Maybach equivalent of a C3 Corvette on a K5 Blazer chassis. It forgoes the utility of an SUV and the appealing styling of a car. Fenders bulge to accommodate the 24-inch wheels, trading a big Benz sedan's normally elegant, understated shape for one that's more donkified plush-toy S-class.

▼ INTERIOR

As you might expect for a Maybach, the Ultimate Luxury is intended to be chauffeur-driven. To that end, Mercedes-Benz claims the cockpit is “reduced to the essentials”—the essentials being ultra-high-end nappa seats, exquisite ebony trim, and the dual 12.3-inch display screens that Mercedes dubs its Wide-screen Cockpit. Make the driver too comfortable and next thing you know, he'll think himself entitled to a raise. The massive center console gives the front seats a look not dissimilar to those walk-in tubs advertised on cable-news channels. The view from the two rear seats is all white leather, exposed rose-gold seat frames, and the aforementioned center-console tea service made of—naturally—the finest china, set on a tray of ebony, which Mercedes notes is known in China as a “magic wood.” Ahem.

002
YOU KNOW HOW WHEN YOU CHARTER A PLANE, IT ALWAYS HAS A WHITE LEATHER INTERIOR AND YOU CAN'T BRING RED WINE ON BOARD WITH YOU?

003
MERCEDES REFERS TO THE HAND-APPLIED EXTERIOR COLOR AS MAYBACH'S “SIGNATURE” FINISH. THOUGH IT'S NOT (YET?) AVAILABLE ON THE ONLY PRODUCTION MAYBACH.



More relevant are some of the gadgets and technology updates found inside. The “comprehensive touch-control concept” seems bound for production; it's an evolution of Mercedes' infotainment system that adds touch sensitivity to the main COMAND screen. Less imminent is the voice-control logic, which Mercedes says adapts to new words or even a change of language. The system also varies its responses to occupants for a more conversational exchange and enhanced creepiness.

▼ MECHANICALS

The Vision Mercedes-Maybach Ultimate Luxury is both longer and wider than the current GLS by five inches, but that's all Mercedes will say for now. The company would rather talk about the Vision's powertrain. It's all electric, with an 80-kWh battery supporting a permanent-magnet synchronous motor at each wheel, the same setup that Mercedes used for the SLS AMG E-Cell. That gives it all-wheel drive with fully variable torque distribution and a claimed 750 horsepower. Mercedes also cites a range of more than 200 miles, an electronically limited top speed of 155 mph, and the ability to gain 60 miles of range in five minutes by way of 350-kW DC fast charging.

Daimler is investing heavily in EVs and will roll out a whole new Mercedes-EQ subbrand to push the technology. The company intends to bring an electric GLC platform-mate to market in 2019, with a planned \$12 billion investment yielding nine more EVs by 2022. While it's conceivable that a production Maybach SUV could forgo third-row seating in favor of a more opulent second row, it seems unlikely that such a vehicle, especially an electrically powered one, would be upon us just yet. And we really hope it doesn't look like this Lada-Maybach.

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LC 500h

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#Winning

GOATS vs. TURKEYS

ANALYZING THE STARTING-GRID TALENT ACROSS SEVEN MAJOR MOTORSPORTS SERIES. by Clifford Atiyeh

AS THE GREAT RICKY BOBBY said in *Talladega Nights*, “If you ain’t first, you’re last.” Which got us thinking: What’s it like to never win—ever? In general, roughly half the drivers on the grid in any major race haven’t won in their current series. Others have never even stood on the podium’s second- or third-place step. But if they’re not at the front of the field, these drivers are still at the top of their game. So don’t pity the guy at the back of the pack—his bank account is probably still winning.

THE BIG SHOW Since even top-level racing grids in some series can vary from event to event—particularly in the U.S.—we based our figures on the roster from each series’ most recent marquee race as of press time: 2017 Monaco Grand Prix, 2017 Indianapolis 500, 2018 Daytona 500, and the like.

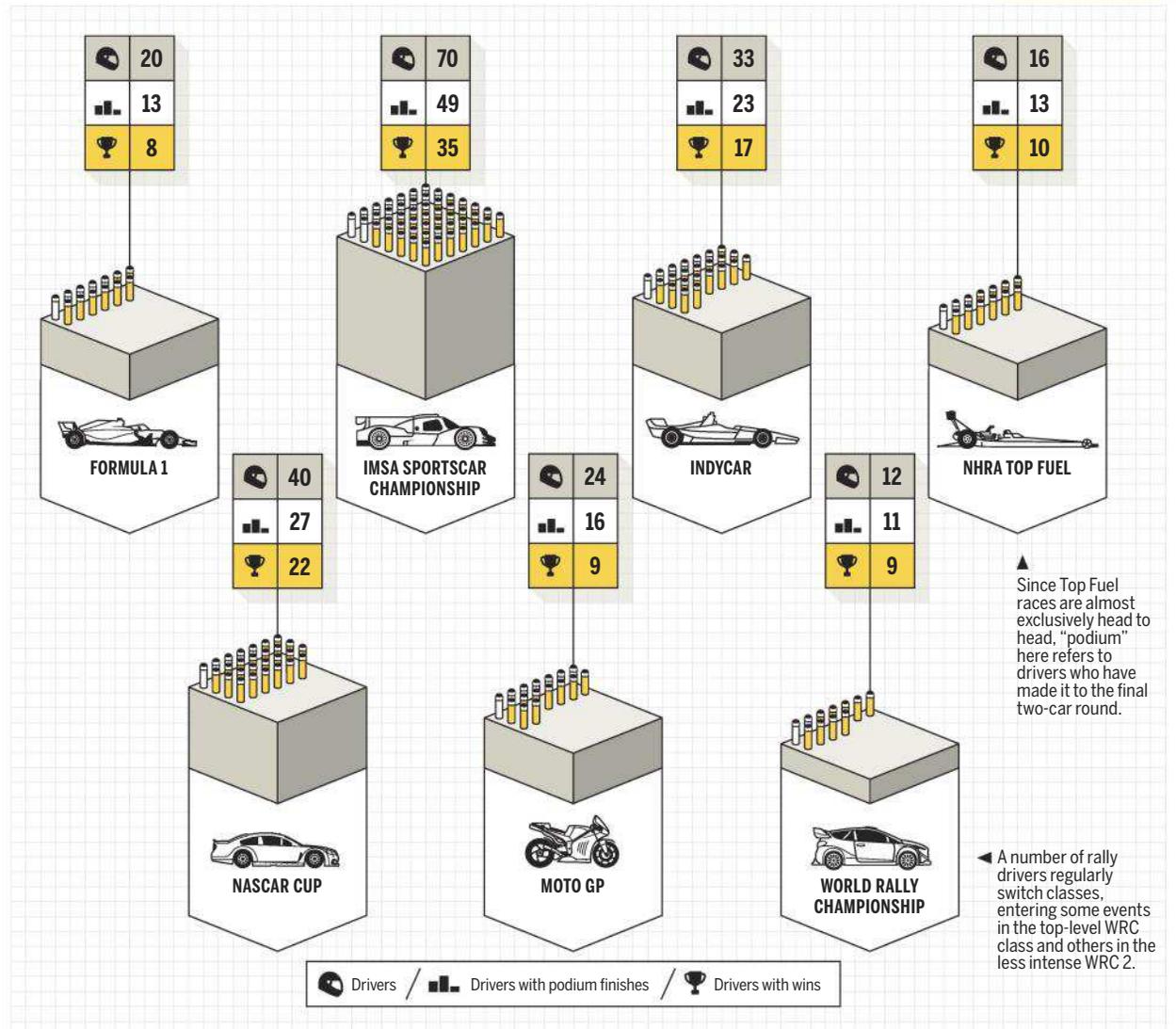
TRADING PLACES

The number of passes in a given race is a fair yardstick of a series’ entertainment value. Overtaking is relatively rare in F1 due to the tight track layouts. By comparison, a NASCAR oval is one continuous passing zone.

TOTAL PASSES

2018 Daytona 500: 6267

2017 Formula 1 season: 435



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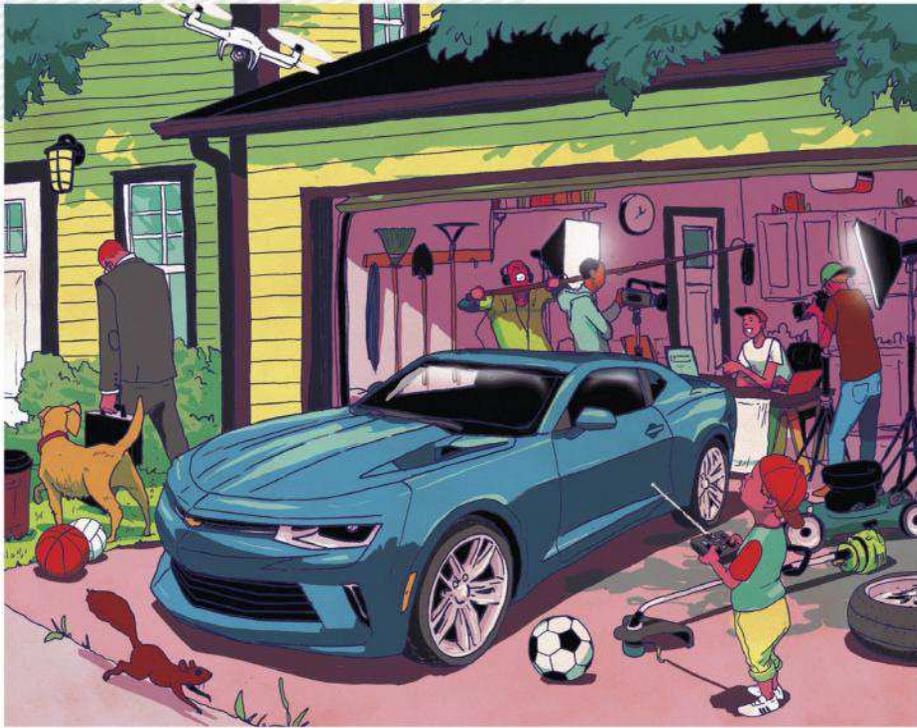
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How To

SO YA WANNA BE A YOUTUBE SUPERSTAR?

LIVE LARGE, A BIG HOUSE, FIVE CARS, YOU'RE IN CHARGE. SIX STEPS TO GUARANTEED FAME. *by John Pearley Huffman*

YOUTUBE IS FREE-FORM CHAOS open to anyone with an ax to grind, a crying need for attention, or an obsession that must be shared. The most popular YouTubers, such as Swedish gamer PewDiePie, who currently has 62.5 million subscribers to his channel, can net as much as \$15 million per year. Car 'Tubers don't harvest that level of lettuce, but several now earn their livings posting videos to the Google-owned site. YouTube is a demanding mistress, but success can be predicted. And it's not about being slick or glamorous, even if that doesn't necessarily hurt. Herewith, a guide to online-video prosperity:

Step 1: Know the Score

Make peace with the fact that you will be playing by YouTube's rules. It's a massive entity, and it does not care about you. Even if a video gets a million views, it may not generate enough revenue just through YouTube to pay for itself. YouTube monetizes videos by placing ads before and/or within them. Payments are determined by the site's inscrutable algorithms and range from about 50 cents to \$10 for every thousand views,

depending on audience demographics. But your viewers need to either click on the ad or watch it through and not hit the "Skip Ad" button for any of it to work. One million views at \$3 per 1000 pays \$750 if 25 percent of your viewers sit through the ad—25 to 30 percent being the typical watch-through rate. But a million views is a distant dream for most 'Tubers. "When we moved to California to start making these videos," explains Matt Farah, founder of The Smoking Tire,

"we lost money from 2009 to 2014. The financial situation was extremely up and down."

Step 2: Specialize

Find a niche and obsess on it. Doug DeMuro's shtick is pinnacle car geek, grinding into the minutiae on every car. Samcrac is all about salvage auctions. For comic antics, TheHoonigans has you covered. You can't be all things to all people, and it's tough to duplicate Petrolicious's drool shots without a budget to match.

Step 3: Keep It Simple

"I get emails from people all the time: 'I'm going to get a drone. I've got six 4K cameras. I'm going to shoot the best videos,'" says DeMuro. "And what I've learned is that you don't need all that stuff to shoot the best videos. Having the best tech doesn't mean having the best content. That is not what YouTube audiences are looking for." Farah's videos attracted bigger audiences after he pared them down to one camera with few edits. Remember, YouTube isn't television.

Step 4: Leverage the Audience

"The people who go to YouTube for their content do not watch cable TV," Farah says. "My audience is upper-middle-class men—asterisk: who don't watch cable TV." So he embeds ads for sunglasses, watches, and gourmet coffee in his videos before even uploading them to YouTube. Revenue from those ads goes straight to Farah's tiny production company. If you don't have the entrepreneurial *cojones* to sell yourself to sponsors and the slick patter to sustain those relationships over time, there's always barber college.

Step 5: Be Authentic

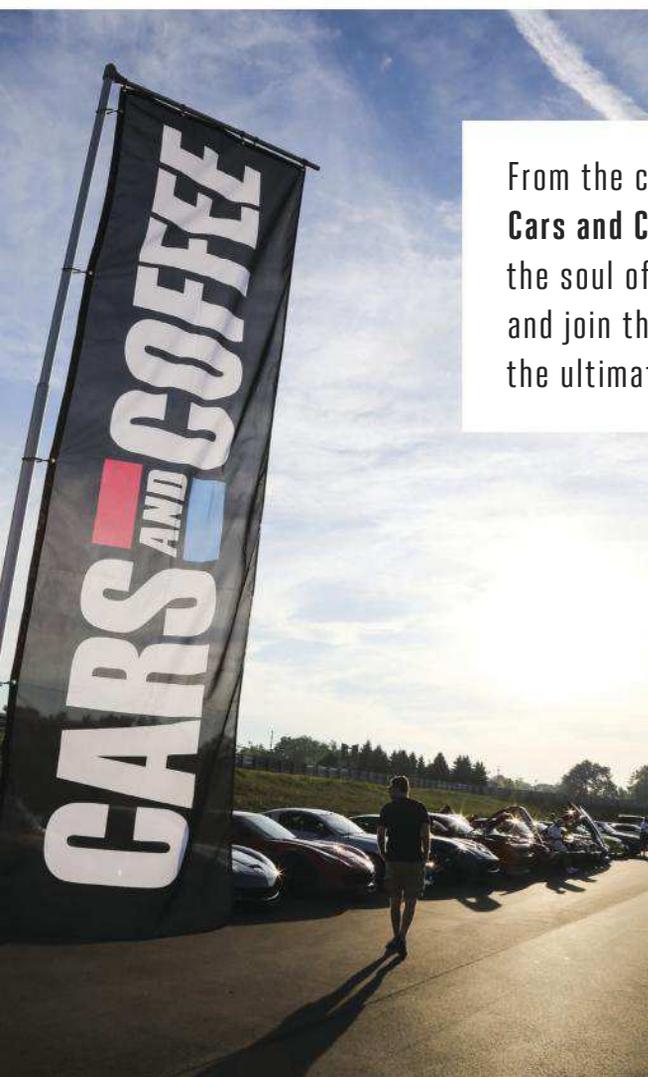
YouTube viewers know the game the creators are playing. Come across as a sellout or a know-nothing and the audience will disappear. You can praise your sponsors, but it helps to be genuine about it. As the late great George Burns once said, "Sincerity—if you can fake that, you've got it made."

Step 6: Be Relentless and Move

Being a YouTube superstar means producing videos practically every day. And not just any videos, but popular ones. Anything less and you'll be up Vimeo Creek without a paddle. Farah is in Southern California and DeMuro has just moved there. It's where the sun shines all the time and you can shoot every day. Just prepare yourself for the traffic.



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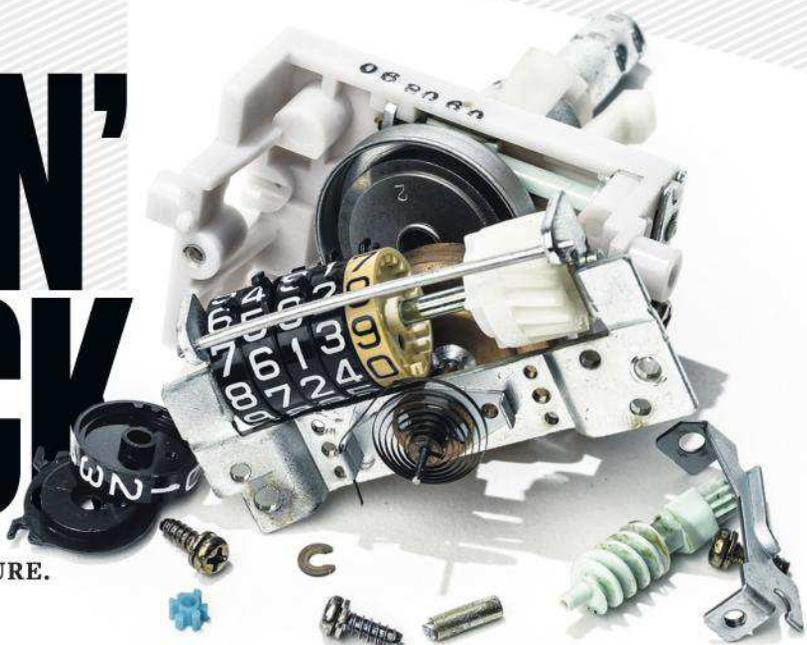
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ROLLIN' IT BACK

ODOMETER TAMPERING, A CRIME OF THE PAST, LEAPS INTO THE FUTURE.

by Benjamin Preston



■ **WHETHER OR NOT FERRARI** actually had a hand in the odometer-fraud scandal that rocked a Palm Beach dealership last year, the whole thing looks bad. The diagnostic computer that Ferrari has used since 2008 requires authorization from Maranello before a technician somewhere else in the world can reset the mileage on a car to zero—a functionality that Ferrari says is meant for instances of odometer malfunction, is consistent with the federal odometer law, and will work only if the car’s mileage is below 311 miles (500 kilometers).

But the resulting imbroglgio shines a light on an uncomfortable truth: Odometer tampering is still possible, and not just on older cars. Today, the act is the confluence of high-tech fraud and good old-fashioned records falsification. NHTSA estimates that more than 450,000 vehicles are sold each year with falsified odometer readings, costing car buyers in the U.S. over \$1 billion.

Certainly most of those tampered with are older vehicles, in which rolling back the mileage is relatively easy. And there are legitimate reasons for changing the mileage in an instrument cluster, particularly in a new car or truck. A modern cluster is a complex computerized component, and it can fail. When that happens, it needs to be replaced and the new one made to agree with the rest of the car’s systems.

That doesn’t mean changing an odometer reading on a new car is easy. As the segmented LCD numbers of old have bloomed into high-definition full-color graphics, the cluster’s role among the vehicle’s other devices has changed, too. Modern vehicle systems are connected through the CAN bus, or Controller Area Network, which links the vehicle’s various modules to sensors they all share to cut back on wiring and redundancy.

“In the old days, anybody could crack open an odometer and roll it back,” Mike Schoenherr, director of engineering at Continental, says. “Now you have to have some pretty specialized knowledge to do anything.” The odometer reading can also be stored in and used by other modules, which differ from brand to brand. The software that runs the odometer and the vehicle’s other systems is reliant upon complex algorithms that route information to the appropriate location in the vehicle.

Matt Thomas of Southern Electronics, an instrument-cluster repair facility in Richmond, Virginia, says that some vehicles’

odometer displays won’t work unless mileage data agrees on all modules. And Schoenherr explains: “There are a lot of things that go on in that algorithm. The odometer information can be in several places, and it’s moving around. Only the software, as it’s running, knows where it is. Just looking at numbers, it would be almost impossible to know where it is.” Almost.

The instrument clusters that Continental builds are locked before they leave the supplier’s manufacturing facility. Continental works with automakers to ensure that the units are secure within specific vehicle architectures. But the necessary reparability of clusters leaves them vulnerable.

Manufacturers have to share security-key information with dealerships and service providers so that clusters and other parts can be replaced without fouling the whole works. “The algorithms today are pretty difficult to access, but the information gets out

there and gives someone the ability to do the hacking,” says Schoenherr. There can be dozens of data points scattered in modules around the vehicle, and accessing all of them is incredibly difficult—and, in some makes, nearly impossible without illegal software. If someone misses even one or two, a technician down the road will be able to tell that the odometer has been altered.

The difficulty in pulling off the fraud is only the beginning. In the past, the lack of a paper trail documenting certain mileage landmarks made it hard to prove whether or not a car being sold as a 40,000-mile cream puff was actually a 120,000-mile time bomb. That is changing. More vehicle-specific information is available—and, more importantly, accessible—than ever before. Just this April, Carfax collected its 20 billionth point of vehicle data, an accident report for a 2010 Toyota Prius. More repair facilities than ever are recording mileage during service visits and logging that information in databases. In some states, government-required safety and emissions inspections include mileage on the reports. Some states are also toying with the idea of introducing mileage-based vehicle-use fees. If an odometer has been rolled back illegally, there’s an ever higher likelihood that the truth will eventually emerge in a vehicle-history database.

But in order for that to happen, someone has to ask. Too often, that doesn’t occur until a buyer has already paid for a dud.

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001
The flexible flanges are mounted to the aluminum wheel at the factory, but any tire can be installed via conventional methods.

Tech Department

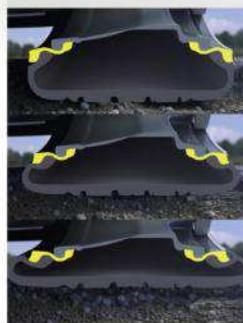
REINVENTING THE WHEEL

MICHELIN'S FLEXIBLE WHEEL PROTECTS A CAR'S FOOTWEAR FROM CRUMBLING ROADS.
by Eric Tingwall

THE PROLIFERATION OF LOW-PROFILE tires is evidence that form often wins over function. This automotive fashion statement is wholly detached from our current reality of ever heavier vehicles pounding over increasingly derelict roads, and drivers pay the price when forced to replace damaged tires and/or wheels. With little hope of reining in automotive stylists, tire manufacturer Michelin has developed a wheel that bends to both designers' desires and tire-eating potholes. The company's flexible wheel soaks up the hard impacts that often result in torn and bulging sidewalls and bent and cracked wheels. Driving on it, Michelin engineers were able to hit a three-inch-deep test pothole at 34 mph without damaging a typical low-profile 285/30R-21 tire. The same pothole flattened an identical tire on a conventional wheel at half the speed.

Michelin's innovation is a pair of flexible flanges, one mounted on each side of a specialized aluminum wheel. The company is coy about what's inside these rubber-coated elements, only revealing that they use a construction similar to a tire's. During a pothole strike, the flanges deform to protect both the tire sidewalls and the wheel.

The flexible wheel is narrower than a conventional one that takes the same-size tire, and its spokes stand proud of the rim so they sit nearly flush with the tire side-



DURING A POTHOLE STRIKE, THE FLANGES DEFLECT RELATIVELY LITTLE COMPARED WITH THE COMPRESSION OF THE TIRE, BUT THEIR COMPLIANCE IS ENOUGH TO REDUCE THE LIKELIHOOD OF PINCHING THE SIDEWALLS TO THE POINT THAT INTERNAL BELTS BREAK OR THE RUBBER TEARS.

wall. An optional cosmetic finisher protects the wheel, hides the outer flange, fills the space between the spokes and the flange, and momentarily deflects as the flange presses into it during impacts.

Any tire can be mounted on the flexible wheel with equipment that's commonplace in tire shops. Michelin only advises against installing run-flats. Without pressure in the tire, the flexible wheel's flanges will fail within 10 miles, well short of the tire's 50-mile run-flat range.

The wheel's additional compliance has the added benefit of reducing impact harshness and noise, and Michelin claims that there's no penalty to rolling resistance, tire life, or measurable handling performance. The company says pro drivers have logged the same Nürburgring lap times on the flexible wheel as they did on a traditional setup, although some of the drivers reported less steering feedback from the flanged wheel.

Under development since 2012, the deformable wheel should hit the road in the coming year. Wheel manufacturer Maxion has licensed the technology from Michelin and is engaged in development programs with multiple automakers. The first factory fitment will likely be on a luxury car with 19-inch or larger wheels. When that happens, form will have found its match in function.



DOT APPROVED

Driverless vehicles will need solutions for a slew of new problems, tires being one of them. Navya, a French manufacturer of automated shuttles, believes Michelin's flexible wheels could compensate for computers that don't steer around potholes; its *Autonom Cab* wore the rims for its CES debut.



PERFORMANCE ART

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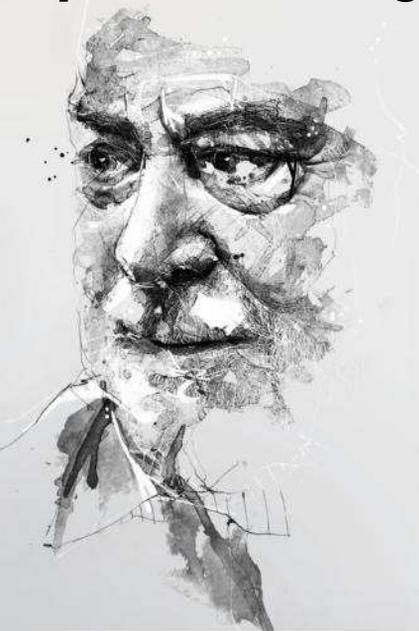
Check out the NSX at your local Acura dealer, or build your own at nsx.acura.com/build.

John Phillips // Back when Detroit hosted Formula 1 races—from 1982 to 1988—there was a semiregular press scrum called “Breakfast with Bernie,” where F1 boss Bernie Ecclestone fabulously and extemporaneously displayed how many ways he could not answer a question. During

one of those fact-free fetes, I found myself alongside Ken Tyrrell, then a Formula 1 constructor and, in his own way, as funny and acerbic as Bernie. I asked him about Bernie’s height. Tyrrell tilted his head like the RCA dog as he scrutinized Bernie standing on the far side of the room. Finally, he said, “Do you have a ruler?”

It’s hard for me to grasp that Bernie—the former used-car salesman—and Max Mosley—the Oxford-educated patrician—no longer pull the strings in F1. Although, I should add, both could easily reanimate as Ferdinand Piëch, reins of power yet in hand right after the world has finally, positively seen the last of them. I’ve been a lifelong Bernie critic, given his pernicious business tactics, but maybe Bernie as Dictator was the only way it would work. He faced, for instance, former FIA president Jean-Marie Balestre, said to have been a Nazi collaborator; Baron Huschke von Hanstein, a onetime SS colonel who fronted the German and Austrian races; and Max himself, whose father, Oswald, was the founder of the British Union of Fascists and whose mother, Diana, scheduled her wedding in Joseph Goebbels’s home, Adolf Hitler in attendance. So, there’s that.

And it’s easy to forget that Max and Bernie were long on opposite sides of a bureaucratic Berlin Wall—Max as FIA president, trying to harness the F1 teams to a Paris-disciplined toboggan while stamping out illegal traction control, and Bernie the provocateur at the Formula One Constructors’ Association, gleefully relieving promoters and sponsors of cash while facing bribery and tax-avoidance indignities. Bernie had been a conductor



of the F1 bandwagon for 46 years. I’m right now trying to think of anybody I’ve known for 46 years.

Max, too, is MIA in F1, having preceded Bernie meteorically in career flameouts. Max, remember, was videotaped enjoying an S&M orgy with five women. Usually, four have been enough for me. The newspaper *News of the World*, which was famous for rarely printing any, broke the story and claimed that the ladies had worn Nazi garb. No way, insisted Max, adding, “It was entirely consensual, harmless and light-hearted, and ended with a cup of tea . . .” He bought a copy of the paper to show to wife Jean, surely a moment that qualifies for the Embarrassment Hall of Fame. “She had no idea that once in a while I got up to that sort of thing,” noted Max in his

autobiography, “. . . something I did occasionally when the mood took me.” In England, the leering and titillation just would not stop. On the Continent, Max’s F1 acolytes asked, “So what?”

A former lawyer, Max dragged *News of the World* to court. Its owner was Rupert Murdoch, for whom I once worked and who once asked, “What is it about car racing that people like?” (I was terrified of the Rupe, who reminded me of Donald Sutherland playing a deranged despot from down under trying to corrupt democracy worldwide.) In Max’s suit against the newspaper, he triumphed, then marched to the European Court of Human Rights, where he lost. His notion was to hatch legislation to assure that private citizens be warned of any story about to be published that might invade their privacy. Peter Thiel should have underwritten it all.

Around the same time and despite 40 years of friendship with Max, Bernie butted heads with him over money. Mind you, Bernie was then chummy with Murdoch, and it’s likely he was further pressured by the directors of CVC Capital Partners, whose backroom machinations in Formula 1 have never been comprehended by anybody on the planet, including—as history now suggests—Bernie.

Eventually, *News of the World* hacked into the phone of a murdered teenager, a ploy so reptilian that snakes rose up in indignation along the Thames, and the Rupe put a bullet between the newspaper’s legally blind eyes. At the time, if you phoned Max, his voicemail message was: “I hope you realize you will go to prison for hacking my phone.” God, I love that.

What I didn’t know was that, for nearly a decade, Max was the chairman of the European New Car Assessment Programme, lobbying for stricter crash tests, for modernizing freeways evincing high injury rates, for reducing sulfur levels in fuel, and for making F1 “carbon neutral,” whatever that means.

Today Formula 1 is ruled by the walrus-mustachioed cipher Chase Carey. In faithful F1 fashion, it is only Chase who knows Chase’s mandate. But I doubt he’ll ever supply as much raw entertainment as Bernie and Max. Gratuitous drama is welcome nowhere except F1, where it’s integral to the show.

By the way, Bernie stands five feet, three inches tall. Napoleon was five seven, give or take. Both were rulers, of course, though I still don’t have one.



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Daniel Pund // There are, by my rough estimation, three levels of crazy. 1. There are people who you suspect are crazy. 2. There are people who you are absolutely certain are crazy. And 3. There are people who race motorcycles at the Isle of Man TT.

Until recently, I only knew people in categories 1 and 2. I now know a number 3. He's a compact Brit named Steve Plater, and he's notched two overall wins in the world's most insane motorsports event. Well, okay, I don't really know him. I have met him. I shook his hand. I'm pretty sure we could be good friends. I mean, we both are *Homo sapiens* and, um, I bet we both have the same favorite animal and stuff.

Anyway, Steve (that's what I call him although he doesn't know that) is driving a Porsche 911 GT3 RS around the Isle of Man's 37.7-mile circuit of public roads with Mark Higgins. Higgins (whom I refer to as Higgy when talking about him out of his earshot) is a rally driver who currently holds the automobile lap record around the TT course. He's a Manxman. That means he grew up on this windswept sodden rock stranded in the Irish Sea.

So Steve and Higgy are leading a small caravan of GT3 RSs, old and new, and performing a sort of surreal Abbott and Costello routine over two-way radios. They're ribbing each other like old mates about being slow or old or having sheep affections. But the bulk of their tour-guide running commentary goes like this: "Right. Here on the bike, we'd be near the top of sixth gear at about 195 mph." I look around from the relative comfort of the GT3 RS I'm in and say to myself: "Here?



A gaggle of Porsche 911 GT3 RSs on the Isle of Man TT course at considerably less than 195 mph.



Just leaving town? Sandwiched between trees of substantial girth that line both sides of the narrow, heaving road? That cannot be. The audio and visual parts of this tour must be out of sync. Also, why am I talking to myself? Can people hear me?"

I was not alone. Once we'd stopped, I had a chance to chat with the head of Porsche's GT department, Andreas Preuninger (I call him Andy); he, too, was agape: "I was thinking, 'But that is not possible!'" And Andy, er, Herr Preuninger is a man quite familiar with achieving high speeds on public highways. But this place, where there are no posted speed limits outside of towns, even when the roads aren't shut down for the race, well, this is different.

How can this place still exist? How can a routinely deadly motorcycle race still be

allowed to occur? Okay, the Isle of Man looks like a place where you'd expect to turn your head and see a phalanx of Vikings charging over the nearest hill, all dead teeth and dirty scar tissue. But it's 2018. Killing is a more regulated affair these days. Hell, I'm told how to fasten a seatbelt every time I get on a plane.

Here it's all gallows humor. "This is where [so-and-so] went off the cliff at 120 mph. Actually he went very far off the cliff," Steve cracks. The roadside trees are cushioned only with the leaves of a vine that seems to cover all the trunks here. On the other hand, the roadside stone buildings and walls (topped with rows of jagged teeth made of more stones propped on end) have no padding.

I'd come to the Isle of Man just to see this strange throwback of a place, even if the race was many weeks away. Turns out, Preuninger and the Porsche PR team in Great Britain also wanted to see the place. So they organized a trip with a museum's worth of historic and new 911 RS models, a couple of IOM experts, and, to justify the whole affair, a few journalists.

I suppose the track-ready, bewinged GT3 RS is as close to a racing motorcycle as Porsche has ever made. And like the Isle of Man's narrow, treacherous roads, the GT3 RS straddles the wall between street and track. The inspiration for the GT3 RS line was the 1973 Carrera 2.7 RS, the godhead of 911s. After that homologation special, the RS badge banged around Porsche, popping up occasionally but not really sticking until the 2004 996-generation GT3 RS. Since then, the company has produced a GT3 RS for every subsequent generation, each bigger, quicker, and more powerful than the last. And Lord knows that the more recent cars, with their stout crash structures and airbags and stability control, have become vastly safer. But in a modern world covered in warning labels and padded edges, there's something refreshingly daring about a car this capable, this fast, being allowed on the road. Such is the mechanical and aerodynamic stick of the newer car that by the time it finally releases its grip on the pavement, there will be very large consequences. And it will be the driver's fault. The mere existence of these cars in an active-lane-keeping, robotic-braking, semiautomated world is unseemly, unsanitary.

I'm going to miss these people and these places and these cars if I live long enough to see them die.

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Ezra Dyer // The first time I ran out of gas, it was on the way back from Atlantic City in a champagne-and-gold 1985 Cadillac Seville. That sexy front-wheel-drive hunchback had a fake convertible top, a fake spare tire on the trunk, and, as it turned out, two fake gallons of gas

in the tank. The Caddy, a hand-me-down from my grandparents, had a digital gas gauge that was downright braggadocious in its precision—now, thanks to state-of-the-art digital technology, you could know the exact volume of fuel, give or take a couple gallons. If you’ve never been to Atlantic City, a gold Cadillac running out of gas is the official city metaphor.

But for a faulty gauge, that embarrassing episode wouldn’t have happened. I am not, by nature, a gambler. And there’s definitely a connection between gambling and driving around on empty, because my friends who have an affinity for casinos are also the ones who tend to run out of gas [see our Mazda CX-9 wrap, p. 074]. Not because they don’t have gas money, but because running on fumes apparently adds a little of that hitting-on-15 frisson to your daily drive. The downside is that sometimes you lose all your chips and end up on the side of the road calling me for help. And I’m going to make fun of you, because running out of gas is an avoidable mistake, like taking a Facebook quiz called “What’s Your Social Security Number?” or buying tickets to a Jeff Dunham show. You’re an adult and should know better.

But since so many people don’t know better, I once tested a product called Magic Tank that’s supposed to get your car to a gas station after you sputter to a halt.



Does this fuel gauge indicate that a quarter tank of gas remains or that Dyer is already stranded?



Which brings me to the second time I ran out of gas, in a Ford Fiesta with the EcoBoost 1.0-liter three-cylinder. The Fiesta’s gas gauge is calibrated to protect you from yourself, and the little hatchback made it another 13 miles after the range readout fell to zero. But eventually the twee three shut down, suddenly and without drama, and I coasted to the shoulder to see if Magic Tank could save me.

The stuff isn’t flammable and is somehow formulated to sit in your trunk for years. Apparently, it mixes with whatever fumes are lurking in your fuel system and forms something your car can run on long enough to get to a gas station. I pulled out the included cardboard funnel, jammed it into the Fiesta’s filler, and promptly poured Magic Tank all over the rear tire.

Turns out there’s a bypass in the filler neck, and you need a funnel from the car’s tool kit to push past it and avoid dousing your shoes. But suitably fueled, the Fiesta fired right up and made it to a nearby station. I recommended the product to my range-challenged friends, who surely ignored me. What fun is it to tempt fate if you know there’s a backup plan?

The third time I ran out of gas was quite recently, in a red Lamborghini Huracán Performante. You might say that information constitutes burying the lede, but I was actually hoping you wouldn’t read this far. Because if you were plotting a graph of shame versus spectacle, this data point would be in the upper-right corner, possibly off that page and onto another one charting confusion versus incompetence. I should add that this particular Performante was covered with decals that screamed “Lamborghini Esperienza” and “Pirelli” and “Pertamina,” which is, ironically, a gas company.

The first time I fired up the Huracán, the gauge cluster flashed a warning to fill up. But the fuel gauge—a bar graph—showed a quarter tank. So I decided to take a quick rip out into the countryside before I circled back to the gas station. Shortly after I’d warped past a dump truck on a 55-mph two-lane, I hit the brakes to turn onto an adjacent road and the cacophonous V-10 went silent.

The car restarted but ran fitfully as I limped back toward town. I didn’t make it. As it happens, the Huracán’s bar-graph gas gauge stretches all the way across when the tank is full, and there’s a thin little needle that moves left with the display as the tank empties. But the last quarter of that graph, in red, never moves, no matter how little fuel you have. When the tank is empty, you don’t see the needle, either. I had plenty of time to think about user-interface philosophies while my neighbor Tim went for gas and while the passing traffic stopped to gawk at the Nürburging-slaying Italian exotic parked on the shoulder. It was like the automotive version of the nightmare where you’re giving a speech to the class assembly naked. Perhaps the tricky gas gauge is Lamborghini’s way of hazing new owners. If so, I approve.

My Performante *esperienza* might’ve prompted me to contemplate the nature of finite resources, or humility, but I think that my ignominious strandings point to a more important life lesson: Below half a tank, you’re gambling. 🇺🇸

The 2018
C A M R Y



***Not available in beige.**

There's nothing wrong with beige. It's a perfectly legitimate color for an armchair or a pantsuit. It's just not right for the more aggressive 2018 Camry. So we made an executive decision: no beige exterior. Not even a light khaki. It is, however, available in ten colors, like Ruby Flare Pearl.¹ Camry has returned with a bit of attitude. And it's a rather dramatic departure from its past. So if beige is your thing, you're kind of out of luck.





May the Downforce Be with You

Living up to its name, the \$960,000 Senna installs a new icon at McLaren.

*by Eric Tingwall
photography by Greg Pajo*

**2019
McLaren
Senna**





C

ar names are freighted with meaning. If McLaren were to name a car after its founder, Bruce McLaren, it would probably endow it with many Bruce-like qualities. Such a machine would need to be powerful like a gorilla, yet soft and yielding like a Nerf ball. So thank goodness McLaren chose to name its masterstroke not for the company's progenitor, but for the Brazilian racer who won each of his three Formula 1 championships while driving for the team McLaren started.

True to its name, the Senna demonstrates deep focus, offers transcendent thrills, and bristles with an unrelenting intensity. Molded from carbon fiber and honed in a

wind tunnel, it is a 789-hp attack on road courses and the air that surrounds them. This latest addition to McLaren's Ultimate Series (as opposed to its Sports Series 570S and Super Series 720S) is arguably the first with the gravitas to move the brand beyond the storied F1. And while it is entirely unlike the Ferrari Enzo, the two cars will surely be mentioned in the same breath as automotive legends named after automotive legends.

In the coming years, McLaren will split its top-tier Ultimate Series into a three-pronged assault on the offshore bank accounts of the world's ultrawealthy. The 903-hp hybrid P1 and its eventual successor trade in bleeding-edge technology. The upcoming three-seater, known for the moment as BP23, will be a grand tourer with a top speed that measures up to the F1's 240 mph.

And then there's the Senna. It can't claim to be the most expensive, or the most exclusive, or the most powerful, or the fastest McLaren. But as a purpose-built track car, it lays the deepest roots to the company's 55-year racing history and distills McLaren's lightweight and functional design ethos to its

purest form. Likely to check in around 2850 pounds, the Senna is McLaren's lightest production car since the F1. At 155 mph, 1764 pounds of downforce press through the car's rubber and into the tarmac.

The Senna's brutalist design is the result of styling the car "aerodynamic element by aerodynamic element," as Dan Parry-Williams, director of engineering design, puts it. Aerodynamics dominated the discussion to the extent that the engineers and the designers sparred over one-tenth of an inch of width in the rear fenders. That nuance is largely obscured, though, by the arresting visuals—swollen air ducts, a skyscraping wing, a race-car-





worthy rear diffuser, and a front overhang that rivals the Mark V Lincoln Continental's. But even if it's obvious that design took a back seat on this one, the Senna's purposeful shape is as captivating as the company's sculptural 720S.

The technical tour continues inside. Lift the butterfly door and you'll catch glimpses of the patchwork carbon fiber that forms the Monocage III chassis. Woven, stitched, and sheet-molded sections combine as strength, rigidity, and weight targets demanded. Repositioned for greater leverage, the pressurized-gas-filled door struts are inside the cabin and shrink to roughly a quarter the size of the 720S's. Eliminating its characteristic door ducts and fitting small ticket windows allowed McLaren to offer the optional glass inserts that enhance the speed-drunk sensation of riding in a Senna. We're told that 60 percent of Senna buyers have taken the seven-pound penalty for a glimpse of the roads they'll skim.

The carbon-fiber-shell bucket seats are customized for each buyer with one of three padding thicknesses. The high shelf behind the driver and passenger—the only storage space in the car—is sized for two helmets and race suits, and the options list includes a \$6710 push-to-drink system. Ancillary switchgear such as the electronic door releases, the window switches, and the push-button ignition are relegated to the ceiling, and the transmission selector slides fore and aft with the driver's seat, so it's always within reach of the person who's stitched into



Opposite top: The pads on the carbon-fiber-shell seats are strategically placed to reduce human rear-centerline swampiness during heated driving.

position with a six-point harness, a HANS device, and a full-face helmet.

The car we'll drive is VP736-P15, one of 12—or 10, or possibly just 9, depending on whom you ask—Senna validation prototypes in existence. No matter how you count it, this particular car is worth far more than the roughly \$960,000 starting price for each of the 500 production Sennas. (Every car is already spoken for.) And its duty doesn't cease after Senna engineering is complete. VP736-P15 will likely be harvested for parts and repurposed for development of the non-road-legal GTR variant. That's right—there will be an even more intense version.

Dynamically, this prototype is a finished car. We expect only one noteworthy change for production, which begins shortly. The swan-neck pylons that grab the wing from the top side have been restyled to reveal more of the hydraulically actuated linkages that continuously adjust the wing's pitch to balance downforce against drag and stand the wing on its front edge to act as an air brake. The wing works in tandem with a pair of active airfoils located in the ducts beneath the headlights to manage the center of pressure.

Our test track is England's Silverstone circuit, where, in 1988, Ayrton Senna earned his only Grand Prix win in the U.K. The forecast in Towcester (pronounced *toaster*, obviously) called for sun and temperatures in the 60s, which translates from the King's English to American as a blustery 40 degrees with a vaguely bright spot glowing behind a low blanket of dreary clouds. The sky threatens rain all day.

After five reconnaissance laps of Silverstone's 1.9-mile International circuit in a 720S, we graduate to two six-lap stints in



for a dramatic windup like the best naturally aspirated mills. And while it blares a righteous and raw soundtrack, for anyone watching trackside, the engine can't compete with the din of the air being funneled over, under, around, and through the car.

The Senna rides on McLaren's RaceActive Chassis Control II suspension, an evolution of the P1's setup that links the dampers across the car to manage both roll and heave. It also drops the nose 1.5 inches and the rear 1.2 inches in Race mode. On Silverstone's smooth tarmac, though, there's no knowing if the Senna can float over real-world road imperfections as the

the Senna. As if to goad us into making every one of those laps count, McLaren's presentation highlights exactly where the Senna outpaces the more powerful P1, and the theme is clear: Carry your speed deeper. Senna drivers can stay in it 82 feet longer down the back straight before braking for the violently fast Stowe corner.

Like all McLarens since the 2012 MP4-12C, the Senna is spun from a carbon-fiber chassis and has a twin-turbo V-8 and a seven-speed dual-clutch transmission cranking the rear wheels. Compared with the 720S's, the Senna's 4.0-liter V-8 features new camshafts, higher-flow fuel pumps, a redesigned intake fed by the roof scoop, and a carbon-fiber intake manifold that saves six pounds. Turned up to 789 horsepower—79 horses more than the 720S—the engine makes peak power 250 rpm earlier, at 7250 rpm. Torque peaks at 590 pound-feet (up 22 on the 720S) at 5500 rpm on the way to a 7500-rpm redline. Those rpm figures tell the story of an engine that eschews the typical low-end turbocharged shove

720S does. Legally, owners can drive the Senna on the road, but any trip that doesn't end at a track will be only a tease. In McLaren's words, the car is "legalised for road use, but not sanitised to suit it."

Parry-Williams acknowledges that the Senna's extreme capabilities are also its kryptonite. One of McLaren's greatest challenges was to make this car engaging at the relatively low speeds of road driving, he says. That's clear even as we learn our way around Silverstone. Below its limits, the Senna could be negotiating the Capital Beltway at rush hour for all its effortlessness.

At speed, that translates into fluid precision. The standard Pirelli P Zero Trofeo R tires, size 315/30ZR-20 in back, feel as if they could peel the paint from the curbing even without the downforce amplifying their stick. The nose of the car points in on cue, and the steering weights with the smallest deviation from on-center.

Assisted by the brake booster from the P1 GTR, the Senna's left pedal is even stiffer than the 720S's. It's as natural as it is reassuring in this environment, where there's no such thing as casual





2019 McLaren Senna

VEHICLE TYPE: mid-engine, rear-wheel-drive, 2-passenger, 2-door coupe

BASE PRICE: \$960,000 (est)

ENGINE: twin-turbocharged and intercooled DOHC 32-valve V-8, aluminum block and heads, port fuel injection

DISPLACEMENT: 244 cu in, 3994 cc

POWER: 789 hp @ 7250 rpm

TORQUE: 590 lb-ft @ 5500 rpm

TRANSMISSION: 7-speed dual-clutch automatic with manual shifting mode

DIMENSIONS

WHEELBASE: 105.1 in

LENGTH: 186.8 in

WIDTH: 77.1 in

HEIGHT: 48.4 in

CURB WEIGHT: 2850 lb

PERFORMANCE (C/D EST)

ZERO TO 60 MPH: 2.6 sec

ZERO TO 100 MPH: 5.1 sec

1/4-MILE: 9.8 sec

TOP SPEED: 211 mph

FUEL ECONOMY

EPA COMBINED/CITY/HWY: 17/15/21 mpg

(C/D est)

braking. The Senna marks McLaren's first use of CCM-R brakes, a sort of hybrid between traditional carbon-ceramic rotors and the carbon-carbon units used widely in racing. The discs are baked continuously for months during their manufacture, rewarding patience with greater friction and increased rotor life in track use. It takes a conscious effort to push our braking points far enough down the track to truly test the stoppers.

As high as they are, the Senna's cornering limits remain within reach thanks to a delicate mid-engine balance and high-speed poise. There's a learning curve to piloting this much downforce, though. Grasping it means taking corners with almost foolish nerve, and the test comes twice a lap in the high-speed sweepers at the ends of both straights. Passing pit lane on our last lap, we dab the brake pedal, downshift one gear, and hurry back to the throttle with perfect timing. The Senna arcs gracefully into the right-hander, even as its front tires wriggle the steering wheel and the rear end pivots. To fully experience the Senna, you must trust the tires and trust the downforce, but mostly you must trust the driver.

Describing his experience in a Formula 1 car, Senna spoke of driving by instinct and unlocking another dimension. We don't have the skills or the time to capture such transcendence in our 12-lap tease of the car that wears his name. But we do find ourselves relishing another euphoric high that Senna knew well—the broaching of previously unexplored limits. And as it is for us, so is it for the McLaren brand itself: The Senna represents an act of daring, of boundary pushing. With the strict adherence to low weight and functional aerodynamics elevating the Senna to another plane, McLaren has built a car with immense personality: a car that's worthy of its special name. ■

Top left: Obvious aero. Above left: Hidden aero. Top right: Like certain staffers, the brake rotors do their best work after being baked for months.



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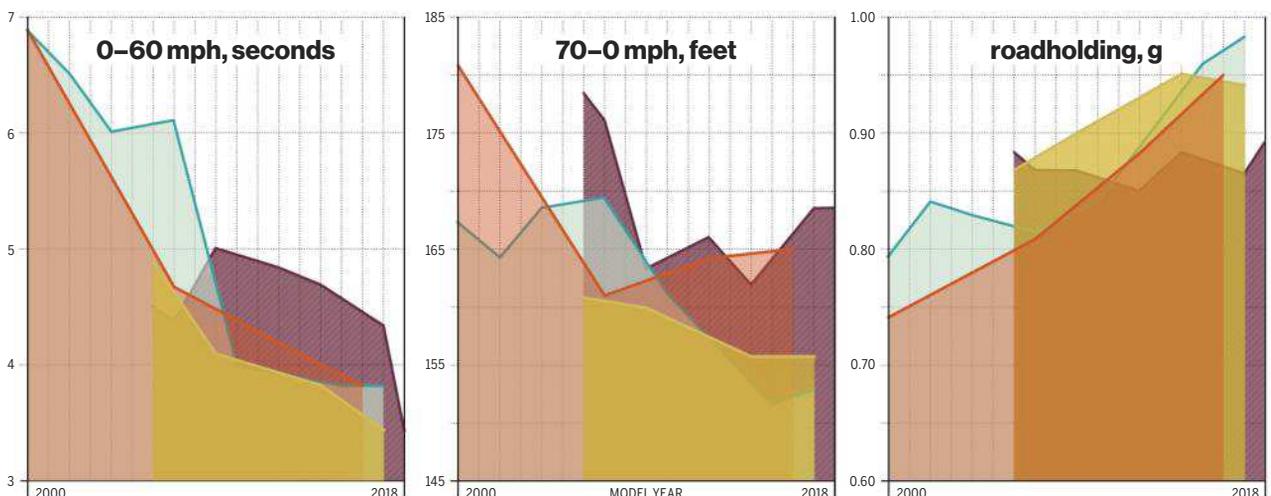
THE SPORTIFICATION OF THE SPORT-UTILITY VEHICLE

The SUV market is now so large and varied that there's a model for any purse or purpose. Our purpose is usually performance (and we're not going to talk about our purses). Luckily, the high-performance members of that market have, over the past 15 or so years, become absurdly capable and actually, you know, fun to drive. Here, then, is our survey of the state of the sportified sport-utility vehicle.

Bonus!//
Throughout this section, we reveal the enabling technologies that can transform SUVs from lumbering oafs into totally graceful oafs.

The Pace of Sport-Ute Sportification

● BMW X5/X5 M ● Jeep Grand Cherokee SRT8/SRT/Trackhawk ● Mercedes-Benz ML55 AMG/ML63 AMG/AMG GLE63 ● Porsche Cayenne Turbo S



THE CROSS



BRED BULL

The love child of the Volkswagen Group's might and Lamborghini's desire to remain healthy, the **2019 Lamborghini Urus** is a most unlikely automotive hybrid.
by John Pearley Huffman



Astonish. It has always been what a Lamborghini does best. Lambos drop jaws, dilate pupils, inspire goosebumps, and knock frontal lobes back into the parietal lobes. They are impractical, intemperate, impossible to see out of, and get stupid hot inside, but, damn, look at them. Now here is the new 2019 Urus, the first Lamborghini that does none of those things.

It's the counter-Countach.

Purely as a business proposition, the Urus was unavoidable. The market is obsessed with crossovers; ignoring that, and the profits that go with it, is a formula for permanent business marginalization. Lamborghini needs a crossover to anchor its cash flow, stabilize sales, and recruit new customers who may want an Aventador or Huracán but need a vehicle that functions as a daily driver. If Lamborghini sells the 3500 Uri it intends to move annually, it will effectively double its global sales volume.

The Urus is the first V-8-powered Lambo since the Jalpa left production in 1988. But while the Jalpa's 255-hp 3.5-liter V-8 was purely an independent Lamborghini design, the Urus is a product of the Volkswagen Group and leverages the assets of that huge corporation. So the Urus's 641-hp twin-turbocharged 4.0-liter V-8 uses the same engine block found in the Porsche Cayenne and Panamera. Lamborghini vaguely claims that it has applied some demon tweaks, including specific cylinder heads, but the V-8 is assembled at a Volkswagen plant in Hungary and shipped to Lamborghini as a complete unit.



As the only turbocharged engine in the Lambo lineup, it's not as charismatic as the Huracán's V-10 or the Aventador's V-12, but the hungry Hungarian V-8 under the Urus's hood does define the vehicle's character. Lamborghini has fitted an exhaust system that burbles with menace even at idle and snarls ferociously under load as the engine approaches its 6800-rpm redline. The twin-scroll turbos between the cylinder banks endow it with low-end thump. There's 627 pound-feet of torque between 2250 and 4500 rpm—and plenty below and above those points—so the V-8 gives the Urus a responsive muscularity that's as mesmerizing as a Lamborghini should be. Even though it grunts unlike any other Lambo engine.

The V-8 feeds a version of ZF's familiar eight-speed automatic transmission, which can be manually shifted using the paddles behind the steering wheel. In turn, it sends torque to a Torsen center differential that can dispatch up to 70 percent of the thrust to the front axle or a maximum of 87 percent rearward. But the real trick is the torque-vectoring differential at the rear that coordinates with a rear-wheel-steering system to add nimbleness at all speeds.

Alas, what the VW Group gene pool gives, it also takes away. The Urus sits on the same large SUV platform used for Audi's Q7 and upcoming Q8, Bentley's Bentayga, and Porsche's Cayenne. In

2019 Lamborghini Urus

VEHICLE TYPE: front-engine, all-wheel-drive, 4- or 5-passenger, 4-door hatchback

BASE PRICE: \$207,000 (est)

ENGINE: twin-turbocharged and intercooled DOHC 32-valve V-8, aluminum block and heads, direct fuel injection

DISPLACEMENT: 244 cu in, 3996 cc

POWER: 641 hp @ 6000 rpm

TORQUE: 627 lb-ft @ 2250 rpm

TRANSMISSION: 8-speed automatic with manual shifting mode

DIMENSIONS

WHEELBASE: 118.2 in

LENGTH: 201.3 in

WIDTH: 79.4 in

HEIGHT: 64.5 in

CARGO VOLUME: 22 cu ft

CURB WEIGHT: 5000 lb

PERFORMANCE

(C/D EST)

ZERO TO 60 MPH: 3.4 sec

ZERO TO 100 MPH: 8.6 sec

1/4-MILE: 11.8 sec

TOP SPEED: 190 mph

FUEL ECONOMY

EPA COMBINED/CITY/

HWY: 16/13/21 mpg

(C/D est)

the universe of crossover crossbreeding, there's nothing wrong with VW's MLB Evo platform, but it is engineered primarily to Audi's preferences, with the engine hanging out forward of the front-axle line.

In fact, the Urus's body shell is built at the same Bratislava, Slovakia, plant where the Q7 and Cayenne are made and is shipped to Lamborghini's new Urus assembly line in Sant'Agata Bolognese, Italy, with its mostly aluminum skin already painted. From there, Lamborghini assured us, everything is assembled by genuine humans. Robots are on hand, however, to move parts to various work stations.

The Urus's 118.2-inch wheelbase is a slight 0.3 inch longer than the Q7's, and its 201.3-inch overall length stretches 1.7 inches farther than that Audi. But conceptually, the Urus is closer to the swoopy-roofed BMW X6 and the upcoming Q8 than the three-row Q7. Both front seats are buckets and more aggressive than expected for a crossover, while a standard bench allows three across in the back. Most Urus buyers are likely to opt for the two-bucket rear-seat option, however, which is more in keeping with the Lamborghini vibe.

Hexagonal shapes dominate the Urus's dash, which features many aviation-style controls. Does the start button really need to be under a red flip cover? And the shifter is a big handle that simulates a jet's throttle and is framed by smaller "Tamburo" levers, the left one selecting from up to six "Anima" drive modes: Strada (street), Sport (sport), Corsa (race), Neve (snow), and the optional Sabbia (sand) and Terra (off-road). The right control activates the customizable Ego mode. Think of it as Jungian on the left and Freudian on the right.

A lot of the interior is pure exotic-car theater, but it's from the driver's seat that the Urus feels most like other Lamborghinis. Yeah, you're sitting upright and relatively high, but it's easy to suspend one's disbelief and pretend that the engine isn't in the

Above: See? It's on dirt. Now get it off the dirt. Opposite: The Urus's controls prove that rich guys want to play fighter pilot as much as little kids do.

wrong place and that there aren't two too many doors. Surrounded in contrast-stitched Alcantara and carbon fiber, it feels as much X-wing fighter as family hauler.

And this is a blisteringly fast beast. We expect a zero-to-60-mph time of just 3.4 seconds, and Lamborghini claims that the Urus will run to a top speed of 190 mph. The Alfa Romeo Stelvio Quadrifoglio and Mercedes-AMG GLC63 S coupe hit 60 mph in 3.3 seconds, so they're likely a bit quicker than the Urus to that speed [see "Turning Points," p. 050]. But neither of those sport-utes can touch the Lambo's terminal velocity.

Equipped with the optional 23-inch Pirelli P Zero tires and running in the aggressive Corsa mode, the Urus has grip that seems to go on forever, right up until the moment it doesn't. During a few proctored laps around the Vallelunga circuit outside Rome, we found the Urus's steering to be surprisingly quick and that the nose would turn in sweetly. But burn into a corner a little hot and the nose will push. A Lamborghini isn't supposed to understeer, is it?

Racetracks are great fun, but the Urus is more impressive on the road, where it lopes along feeling understressed and composed, even if stiffly sprung. At a cruise, the exhaust quiets down, the transmission heads for high, and engine speeds drop to barely above idle. Lamborghini has built long-legged tourers before, such as the 350GT and the Espada, and in an oblique way, the Urus represents a return of those cars' long-lost talents.

Beyond that, the Urus also brings back some of the ability of the legendary LM002 SUV that Lamborghini built in the late 1980s and early 1990s. This ute is nowhere near as narrowly

focused as that raw off-roader, but it is easy to hustle around a small dirt course set up outside Vallelunga. Moab and the Rubicon may still be beyond its capabilities, though.

Few of us will ever drop \$200,000-plus on a new Urus. But Lamborghini occupies an outsize part of enthusiasts' collective imaginings. If the Urus succeeds and allows the company to create more spectacular machines as it stares down the electrified future, it will have served all our dreams well.



The Enablers: Technologies That Make SUVs Sportier //

You know well enough not to rock the vending machine. So how is it that what is essentially a vending machine on four wheels can round a curve at twice the posted speed without spilling its snacks? The six chassis and drivetrain technologies here and on the following pages reveal how once unwieldy sport-utilities have become as unnaturally capable as they are today.

ENABLER #1

Roll Control

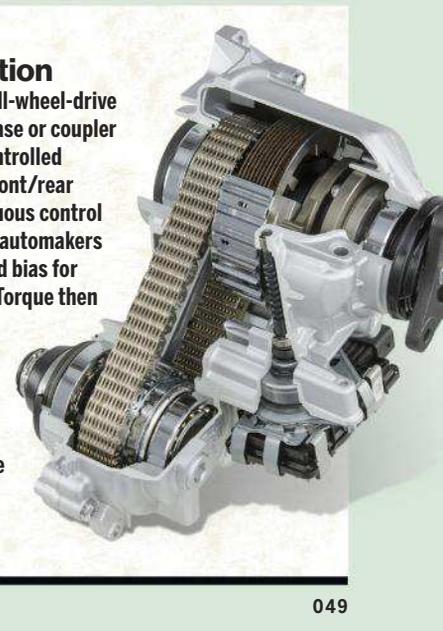
Active anti-roll bars insert an electric motor or hydraulic actuator between two torsion bars connecting the left and right suspensions on an axle. In curves, the active element exerts torque that amplifies the effect of a conventional anti-roll bar to counter body roll, in some cases with nearly 1000 pound-feet of twist. For companies that want their crossovers to have off-road capability, some active anti-roll bars can uncouple the left and right wheels for truly independent suspensions.



ENABLER #2

Center of Attention

Today's most advanced all-wheel-drive systems use a transfer case or coupler with an electronically controlled clutch pack to vary the front/rear torque split. With continuous control over torque distribution, automakers can increase the rearward bias for more dynamic handling. Torque then can be routed instantaneously to the front axle as the driving style, weather, or vehicle mode dictates; when wheelslip is detected; and to enable psychotic straight-line acceleration.



TURNING

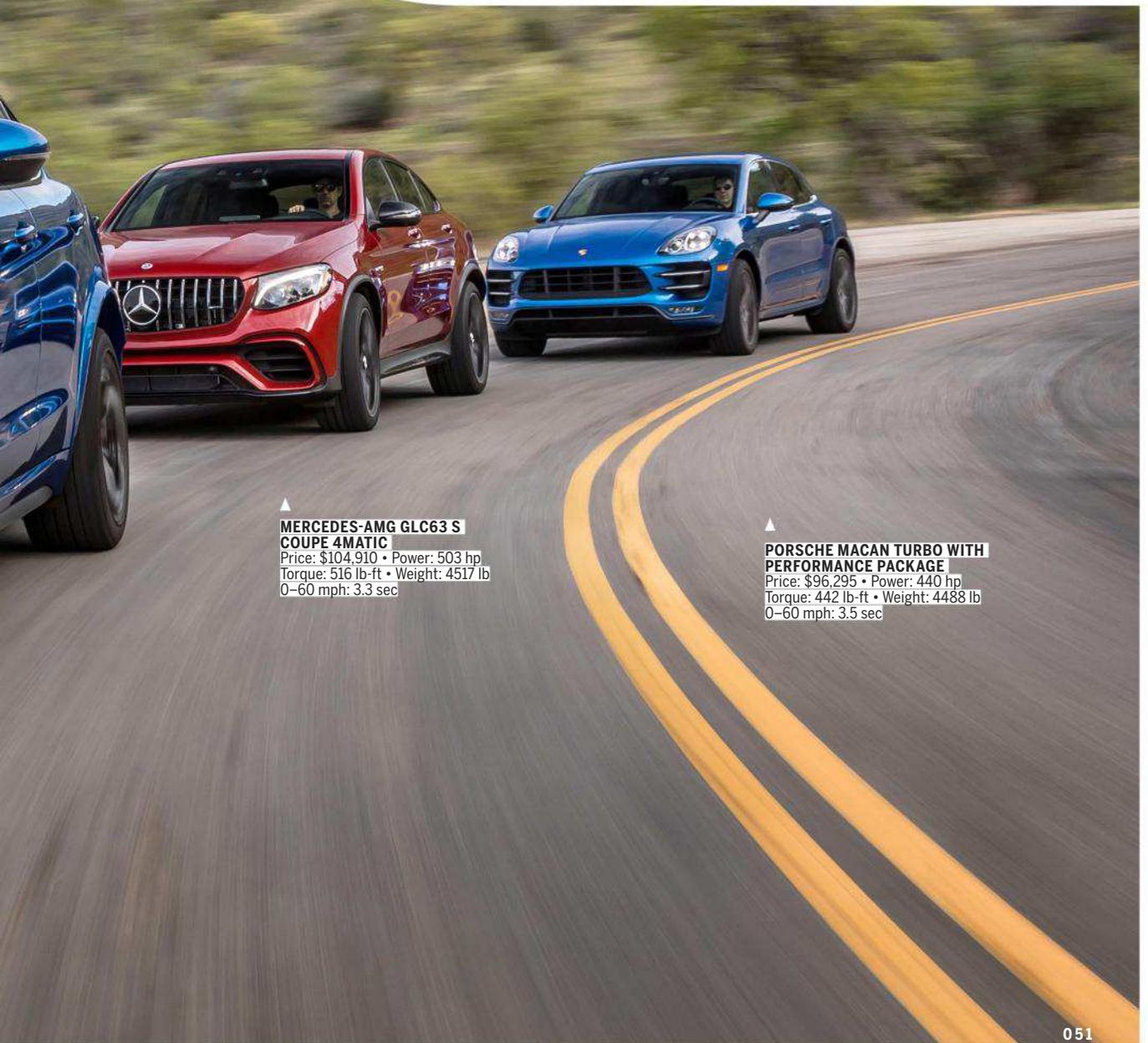


▲
**ALFA ROMEO STELVIO
QUADRIFOGLIO**
Price: \$85,340 • Power: 505 hp
Torque: 443 lb-ft • Weight: 4340 lb
0-60 mph: 3.3 sec

POINTS

Thanks to these three Europeans, SUVs are finally having their sports-sedan moment, in which we forget about their compromises and just enjoy the drive.

by Tony Quiroga
photography by Marc Urbano



▲
**MERCEDES-AMG GLC63 S
COUPE 4MATIC**
Price: \$104,910 • Power: 503 hp
Torque: 516 lb-ft • Weight: 4517 lb
0–60 mph: 3.3 sec

▲
**PORSCHE MACAN TURBO WITH
PERFORMANCE PACKAGE**
Price: \$96,295 • Power: 440 hp
Torque: 442 lb-ft • Weight: 4488 lb
0–60 mph: 3.5 sec

FIFTY YEARS AGO IN THESE PAGES, THEN SENIOR EDITOR DAVID E. DAVIS JR. CANONIZED THE BMW 2002 IN A PIECE CALLED “TURN YOUR HYMNALS TO 2002.” DAVIS RECOGNIZED AND CELEBRATED THE MOMENT THAT A SMALL, UPRIGHT GERMAN CAR BECAME A FORCE IN THE MARKET, AND THE STORY CEMENTED THE BMW LEGEND. WHILE THE SPORTS SEDAN WASN'T BORN THAT DAY, DAVID E.'S ANALYSIS ANNOUNCED THE ARRIVAL, IMPORTANCE, AND VITALITY OF A PRAGMATIC MACHINE WITH THE SOUL OF A SPORTS CAR.



Will an SUV ever have the same sort of moment? Could one ever transcend its inherent dynamic limitations and be as good as a sports sedan or even a sports car? Will one ever come along that changes the way we see SUVs? Did I lock the front door?

More than a few *C/D* staffers think the SUV species is too wrong—too high, too heavy, too compromised, too much everything. It's entirely possible they're right, but those naysayers haven't just spent three days and more than 500 miles smoothing out the wrinkled topography of the Los Padres National Forest in three of the fieriest SUVs ever to land on dealer lots.

Imagine an SUV on a mountain road. Now imagine having fun while driving it there. We couldn't either, until this trio arrived,

with their evident commonalities. They're all within a few inches of one another. They each start at about \$80,000. All three have two turbochargers and can clip off 60 mph in less than four seconds. Each calibrates size, power, and handling in a way that has so far eluded the SUV species.

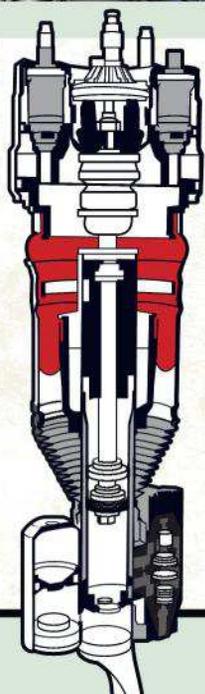
We'll now open the floor for questions.

Where are the Jeep Grand Cherokee Trackhawk and Maserati Levante? Both too big. Where's the BMW? It doesn't make anything this audacious in size Small. Ford recently announced an Edge ST, no? Not quite the same thing. I just read about the new 550-hp Jaguar F-Pace SVR; why isn't that here? It won't arrive until later this year.

No more questions.

What we do have is a Porsche Macan Turbo with Performance package. Instead of the standard Turbo's 400 horsepower and 406 pound-feet of torque, the \$10,500 Performance package dials up the boost to give 440 horsepower and 442 pound-feet. Connected to the twin-turbocharged 3.6-liter V-6 is a seven-speed dual-clutch automatic that'll tear off launch-control starts faster than a fat man tears into a bag of pork rinds. While the dual-clutch transmission and engine are pure Porsche, the Macan's platform is adapted from the previous-generation Audi Q5. If you have any doubt that this is a real Porsche, though, the options list should convince you. To help the Macan handle, it arrived with PTV Plus (\$1490)—a combination electronically controlled limited-slip differential and brake-based torque-vectoring system that helps the ute rotate around corners—and the wider tires that are included with the \$3300 21-inch wheel option. Add in a few more nonessential extras and the total comes to \$96,295.

The most expensive SUV in the test is also the only V-8 of the



ENABLER #3

Air Supply

Changing the amount of air in a pneumatic spring turns two dynamic tuning knobs: those for the spring rates and the ride height. The pressurized air can provide a cushy ride or a firm one. With ride-height control, lowering the vehicle helps highway aerodynamics and drops the center of gravity to benefit handling, while jacking up the body increases ground clearance for off-road travel.

group. Although the Mercedes-AMG GLC63 S coupe's base price is \$81,745, options knocked it onto the wrong side of \$100,000. Let's get this out of the way: We vastly prefer the wagonish practicality and styling of the regular-roof GLC, but it tops out at 469 horsepower. Opting for the coupe allows for the 503-hp S tune of the twin-turbo 4.0-liter V-8. It is said that the meek shall inherit the earth, but also that the power hungry will have to live with the fact that their GLC63 S coupe has the same awkward proportions of the 1981 AMC Eagle SX/4. At least the AMG GT-like front end will keep your eyes off the awkward rear.

The Macan Turbo's V-6 is a bit outgunned. The GLC63 S coupe packs a supercar's V-8. And the Stelvio QF's turbo V-6 is a raucous little number.

Naming your SUV after a mountain pass with 48 switchbacks is a bold move, but Alfa Romeo is a bold company. Bold is putting a man being swallowed by a snake on your logo. Bold is sticking a big four-leaf clover to the front fenders because, honestly, you're going to need some luck. An SUV on the outside, the Stelvio shares its engine and Giorgio platform with the sublime Giulia Quadrifoglio sedan. Like the Giulia QF, it has a 505-hp twin-turbo 2.9-liter V-6, eight-speed

automatic, and the most eager steering this side of an Alfa Romeo 4C. Pricing starts at \$81,590, and while it's possible to approach \$100,000 with carbon-ceramic brakes, Sparco racing seats, and special paint, Alfa provided a \$85,340 example with the standard seats and iron rotors for this test.

Enter all the specs and performance data into a spreadsheet and it would be hard to tell these three apart. But while the objective scores are close, subtle and important character differences helped us find the SUV that changes how we think about the class. Now, about that moment.

3. MERCEDES-AMG GLC63 S COUPE 4MATIC

Everyone loved the GLC63 S. What's not to love? Against a backdrop of V-6s, the Benz has a supercar engine, so it feels a bit more exotic than the others. More V-16 than minivan. We didn't encounter any scenario in which this V-8 didn't shine. Even its as-tested 15-mpg fuel economy matched the smaller V-6s'.

AMG's 4.0-liter is entirely unfazed by the GLC's 4517 pounds. Stuffing a clutch pack where there'd normally be a torque converter enables launch control, or Race Start in Benz-speak. From a standstill, the GLC63 S will rev to 3500 rpm before the clutch engages and the baby rhino hurtles itself forward. A run to 60 takes a face-flattening 3.3 seconds, and the quarter-mile is a blitz that comes in less than 12 Mississipp-



Mercedes-AMG GLC63 S coupe 4MATIC **[+]** Supercar engine, Panamericana front end, interior by Maybach, superb build quality, secure handling. **[-]** American Motors styling, light on feedback, overactive safety systems. **[=]** Luxury subdues playfulness.



pis—11.7 seconds at 119 mph to be exact. It's entirely possible that the engine in our GLC believed it was in an AMG GT S. Supercar engine. Supercar numbers.

Keeping the GLC off the double yellow is a chassis that wears large Michelin Pilot Sport 4S tires over 21-inch wheels. Grip is right in line with the others, at 0.94 g, but if you leave the optional collision-warning system on, it will shut down any aggressive cornering without warning. With the system disabled, the Mercedes bends in with barely any body roll and the tires just don't let go. Its resolute stability helped the GLC win the slalom, but next to the others, the AMG is short on playfulness and slightly deprived of steering feedback. These elements conspire to make the GLC feel duller than the Stelvio and Macan.

None of the competitors could match the AMG's interior, though. A couple of our drivers complained about the firmness of the seats, but we unanimously agreed that the cabin is a class above the Porsche's and Alfa's. From the way the center vents click through their adjustments to the smooth and flawless leather, the AMG looks the six-figure part.



If the AMC Eagle SX/4 had 35 years' more development, a stellar V-8, four doors, and were built by Mercedes, it would be just like the GLC63 S coupe.



	2018 ALFA ROMEO STELVIO QUADRIFOGLIO	2018 MERCEDES-AMG GLC63 S COUPE 4MATIC	2017 PORSCHE MACAN TURBO WITH PERFORM- ANCE PACKAGE
PRICE AS TESTED	\$85,340	\$104,910	\$96,295
BASE PRICE	\$81,590	\$81,745	\$87,495
DIMENSIONS			
LENGTH	185.1 in	186.8 in	184.7 in
WIDTH	77.0 in	76.0 in	76.1 in
HEIGHT	66.3 in	62.4 in	63.0 in
WHEELBASE	110.9 in	113.1 in	110.5 in
FRONT TRACK	61.2 in	65.4 in	64.9 in
REAR TRACK	63.3 in	64.9 in	65.3 in
INTERIOR VOLUME	F: 49 cu ft R: 40 cu ft	F: 50 cu ft R: 45 cu ft	F: 52 cu ft R: 44 cu ft
CARGO BEHIND	F: 57 cu ft R: 19 cu ft	F: 49 cu ft R: 18 cu ft	F: 53 cu ft R: 18 cu ft
POWERTRAIN			
ENGINE	twin-turbocharged DOHC 24-valve V-6 176 cu in (2891 cc)	twin-turbocharged DOHC 32-valve V-8 243 cu in (3982 cc)	twin-turbocharged DOHC 24-valve V-6 220 cu in (3605 cc)
POWER HP @ RPM	505 @ 6500	503 @ 6200	440 @ 6700
TORQUE LB-FT @ RPM	443 @ 2500	516 @ 1750	442 @ 1500
REDLINE/FUEL CUTOFF	7000/7400 rpm	7000/7000 rpm	6800/7000 rpm
LB PER HP	8.6	9.0	10.2
DRIVELINE			
TRANSMISSION	8-speed automatic	9-speed automatic	7-speed dual-clutch automatic
DRIVEN WHEELS	all	all	all
GEAR RATIO:1/MPH PER 1000 RPM/MAX MPH	1 5.00/4.5/33 2 3.20/7.0/52 3 2.14/10.5/78 4 1.72/13.0/96 5 1.31/17.1/127 6 1.00/22.4/166 7 0.82/27.3/176 8 0.64/35.1/176	1 5.35/4.8/34 2 3.24/7.9/55 3 2.25/11.4/80 4 1.64/15.6/109 5 1.21/21.2/148 6 1.00/25.7/174 7 0.86/29.8/174 8 0.72/35.6/174 9 0.60/42.8/174	1 3.69/4.9/34 2 2.15/8.4/59 3 1.41/12.8/90 4 1.03/17.5/123 5 0.79/22.8/160 6 0.63/28.6/169 7 0.52/34.6/169
FINAL-DRIVE RATIO:1	3.73, torque-vectoring rear differential	3.27, limited-slip rear differential	4.67, limited-slip rear differential
CHASSIS			
SUSPENSION	F: multilink, coil springs, anti-roll bar R: multilink, coil springs, anti-roll bar	F: multilink, air springs, anti-roll bar R: multilink, air springs, anti-roll bar	F: multilink, air springs, anti-roll bar R: multilink, air springs, anti-roll bar
BRAKES	F: 14.2-in vented, cross-drilled disc R: 13.8-in vented, cross-drilled disc	F: 15.4-in vented, cross-drilled disc R: 14.2-in vented, cross-drilled, grooved disc	F: 15.4-in vented, grooved disc R: 14.0-in vented disc
STABILITY CONTROL	partially defeatable	fully defeatable, competition mode, launch control	partially defeatable, launch control
TIRES	Pirelli P Zero PZ4 F: 255/45R-20 101Y R: 285/40R-20 104Y	Michelin Pilot Sport 4S F: 265/40ZR-21 (105Y) R: 295/35ZR-21 (107Y)	Continental ContiSportContact 5P F: 265/40R-21 101Y R: 295/35R-21 103Y
CAR AND DRIVER TEST RESULTS			
ACCELERATION			
0-30 MPH	1.2 sec	1.2 sec	1.2 sec
0-60 MPH	3.3 sec	3.3 sec	3.5 sec
0-100 MPH	8.4 sec	8.1 sec	9.4 sec
0-150 MPH	22.6 sec	21.8 sec	26.8 sec
1/4-MILE @ MPH	11.8 sec @ 117	11.7 sec @ 119	12.1 sec @ 113
ROLLING START, 5-60 MPH	4.3 sec	4.2 sec	4.3 sec
TOP GEAR, 30-50 MPH	2.4 sec	2.3 sec	2.4 sec
TOP GEAR, 50-70 MPH	2.6 sec	2.7 sec	3.1 sec
TOP SPEED	176 mph (drag ltd, mfr's claim)	174 mph (gov ltd, mfr's claim)	169 mph (drag ltd, mfr's claim)
CHASSIS			
BRAKING, 70-0 MPH	155 ft	158 ft	156 ft
ROADHOLDING, 300-FT-DIA SKIDPAD	0.95 g	0.94 g	0.94 g
610-FT SLALOM	45.0 mph*	45.3 mph	45.2 mph*
WEIGHT			
CURB	4340 lb	4517 lb	4488 lb
%FRONT/%REAR	52.9/47.1	55.1/44.9	56.5/43.5
FUEL			
TANK	16.9 gal	17.4 gal	19.8 gal
RATING	91 octane	91 octane	93 octane
EPA COMBINED/CITY/HWY	19/17/23 mpg	18/15/22 mpg	19/17/23 mpg
C/D 500-MILE TRIP	15 mpg	15 mpg	15 mpg
SOUND LEVEL			
IDLE	47 dBA	40 dBA	40 dBA
FULL THROTTLE	80 dBA	78 dBA	80 dBA
70-MPH CRUISE	66 dBA	67 dBA	63 dBA

*Stability-control inhibited.

Interrupting the peace is the roar of the tires. When swapping cars, whoever climbed into the GLC would, after a few miles behind the wheel, inevitably whine over the walkie-talkies: “It’s so loud in here.” The hum is inescapable, even if the Mercedes only registers one decibel more at 70 mph than the Alfa. The AMG also lets in more tire slap—the whack-smack of rubber hitting an impact.

Buy it for its engine, buy it for its interior, buy it because it’s screwed together with care. For those wanting a slightly less filtered driving experience, who appreciate the little yips, tics, and reactions of a sports car in their SUV, there are better options.

2. PORSCHE MACAN TURBO WITH PERFORMANCE PACKAGE

Do one launch-control start and you’ll have no doubt that the Macan is a Porsche. Despite the Macan’s horsepower deficit, launch control keeps the 440-hp ute in the fight by revving the engine to 5200 rpm before engaging the clutch. If you’ve ever neutral-slammed an automatic—revved it up in neutral and then slammed it into drive—the Macan at takeoff will feel familiar. Except the Macan is designed to do it, and will do it willingly over and over again without turning the transmission into fusilli. The dual-clutch automatic simply takes the forces in stride before delegating the torque to the all-wheel-drive system. That’s how a Macan Turbo hits 60 mph in 3.5 seconds. Like a boss.

It’s all Porsche inside, too. The herringbone arrangement of buttons surrounding the shifter, the large center-mounted tachometer, and the intuitive touchscreen are pure 911. The driver’s seat adjusts to a more comfortable position than its competitors offer, and the expansive view forward over the subtle curves of the hood is also reminiscent of Zuffenhausen’s other vehicles. Cabin noise is subdued; the big

It speaks volumes about the sportification of this class that the Porsche is the most comfortable entry but not the most fun to drive.



Porsche Macan Turbo with Performance package [+] Snappy dual-clutch automatic transmission, refinement, ride quality meets handling, fast without the fuss. [-] Fast without the fuss, engine could use some more sugar. [=] A German opera.

tires don’t hum and the wind doesn’t rush. A mellow thrum of the engine comes through, but only when the V-6 is pressed into action. Despite rolling on the same-size tires as the AMG, the Porsche rides with a suppleness that escapes the others.

Comfort is but one of the Macan’s seductions. Load up some g-forces and another siren calls. Quick steering with near-Porsche 911 levels of feedback combines with a tightly controlled chassis to make approaching the limits incredibly easy. Not to go all Billy Mays on you, but it’s so easy, even your kids could do it. Thanks to the PTV Plus system, you can give it gas on corner exit, and instead of plowing, the Macan tucks in as if it’s hinged in the middle. Point



Do you hate your detector?

It was your best friend, now it never shuts up.

The good news: New cars have a safety feature, the blind-spot warning system. Many models use K-band radar to “see” nearby cars.

The bad news: Onboard radar turns each of these “seeing” cars into mobile K-band false alarms. A blind-spot system may tag along with you for miles. You’re stuck, not knowing which car to maneuver away from. GPS is no solution. It doesn’t work on mobile fakes.



V1 wins war against false alarms: New computer code weeds out phony K-band alerts.

Why you will love V1

Problem solved: V1 has an algorithm that recognizes these mobile false alarms and excludes them, yet never blocks a real threat. We’ve named it **Junk-K Fighter**. And it’s now built into all new V1s.

Detectors that don’t detect: It’s easy to make a detector without false alarms. Just give up on long-range warnings. Our competitors play that game, we don’t.

First obligation of V1: V1 will never miss a threat. Quiet is nice, but missing an ambush is fatal. That’s why we don’t use GPS. GPS knows only location, and if the frequency range of a new threat is the same as that of a blocked alarm, *sorry*, but GPS programming demands silence at that location, even if it’s a trap. V1 will never fail you that way.

Satisfaction guaranteed: Try it for 30 days. If it doesn’t satisfy for any reason, send it back for a full refund.

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- Carrying Case - \$29 Concealed Display - \$39
- SAVVY® - \$69 V1connection™ - \$49 V1connection™ LE - \$49

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Alfa Romeo has no experience making SUVs. It's a sports-car and sports-sedan company. That's obvious in every move the Stelvio QF makes.

its core, when you really drill down into it, the Macan has the same handling nonchalance as an Audi.

While the Macan integrates all its controls and systems into a harmonious gestalt, we were left wishing for a hair more drama and excitement. To drive the Macan is to love it, and it is arguably the best all-around SUV in the test, but it doesn't always draw you in the way the Alfa does. It doesn't feel as alive. Driving should be a reciprocal experience, bringing you closer and closer to the machinery. The Macan pulls you near, but it stares through you, never making eye contact. You're left feeling as if you're more into it than it is into you.

1. ALFA ROMEO STELVIO QUADRIFOGLIO

The moment we'd all been waiting for arrived. Everyone, at one point while at the wheel of the Stelvio Quadrifoglio, forgot it was an SUV and stopped driving it like one. Get over sitting up high and it will convince you that it's a sports sedan. Not just any sports sedan, either—a really good sports sedan with rear-wheel drive

and shoot and the Macan does the rest. Modern Audis have the same sort of go-fast ease and unerring stability as the Macan. Did we mention that the Macan is essentially an Audi under the skin and hangs its engine ahead of the front-axle line like one? See, it's a Porsche in so many ways, but at

and 505 horsepower. You know, like the one it's based on.

The 4340-pound Stelvio has no idea it's too big to be a lap dog. Like the 10Best-winning Giulia, a quick turn of the wheel is all that's required to realize that you're sitting in something special. The electrically assisted steering doesn't just talk, it communicates with the unfiltered gestures and fervor of an unassisted rack. It's sharp, quick, and perfectly matched to the stiff chassis. Aim for an apex and the nose grabs it with an eagerness we've never experienced in an SUV. It simply cuts and hustles as if it's been studying VHS tapes of Barry Sanders and Walter Payton.

Alfa Romeo Stelvio Quadrifoglio [+] Sports-sedan moves, alive and kicking, astonishing grip, spacious cabin, a V-6 raised by V-12s.

[-] Choppy ride, questionable interior materials. [=] A giant-killer that kills the notion that SUVs must be lumbering giants.

ENABLER #4

Vector Corrector

Torque vectoring—the act of driving an outer wheel faster and with more torque than the inner one in a corner—helps SUVs turn like sports sedans. There are two ways to accomplish this: The cheap and lightweight method brakes the inside wheels to induce yaw. The heavier and costlier—but more effective—approach requires a torque-vectoring rear differential. In curves, an electronically actuated clutch pack on the appropriate side of the differential housing closes to route torque through a planetary gearset, which overdrives the outer wheel.



FINAL RESULTS



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ALFA ROMEO STELVIO Q4
Maximum points available

RANK	1	2	3
VEHICLE			
DRIVER COMFORT 10	8	10	8
ERGONOMICS 10	7	9	8
REAR-SEAT COMFORT 5	5	4	4
REAR-SEAT SPACE* 5	3	5	5
CARGO SPACE* 5	5	3	1
FEATURES/AMENITIES* 10	5	7	10
FIT AND FINISH 10	7	9	10
INTERIOR STYLING 10	8	9	10
EXTERIOR STYLING 10	10	7	6
REBATES/EXTRAS* 5	0	0	0
AS-TESTED PRICE* 20	20	17	15
SUBTOTAL 100	78	80	77
POWERTRAIN			
1/4-MILE ACCELERATION* 20	20	18	20
FLEXIBILITY* 5	3	3	3
FUEL ECONOMY* 10	10	10	10
ENGINE NVH 10	9	8	10
TRANSMISSION 10	9	9	8
SUBTOTAL 55	51	48	51
CHASSIS			
PERFORMANCE* 20	20	20	20
STEERING FEEL 10	10	9	7
BRAKE FEEL 10	7	10	9
HANDLING 10	10	9	8
RIDE 10	8	9	8
SUBTOTAL 60	55	57	52
EXPERIENCE			
FUN TO DRIVE 25	25	22	21
TOTAL 240	209	207	201

*These objective scores are calculated from the vehicles' dimensions, capacities, rebates and extras, and/or test results.

Cornering grip is phenomenal, the staggered Pirelli P Zero PZ4s hanging on at up to 0.95 g. And when the breakaway happens, it plays out in slo-mo, with the front tires gradually giving way to understeer. Powering out of a corner is as easy as stomping on the accelerator. In normal use, all the output goes to the rear wheels; should they become overwhelmed, the system routes up to 60 percent of the engine torque to the front axle.

The fervor comes from the 2.9-liter V-6. As in the Giulia Quadrifoglio, the Stelvio's twin-turbo powerplant idles with the twitchy energy of a hyperactive eight-year-old. "Let's go, already!" it complains as it fidgets and shakes the body at idle. "Don't make me throw a check-engine light at you!"

Give it what it wants and the V-6 will have you giggling. Held against the brake, the engine will rev to about 3500 and do a burnout. Let off the left pedal and the front end joins in to snap the Stelvio to 60 mph in 3.3 seconds. A quarter-mile takes 11.8 seconds at 117 mph. That time is one tick behind the Camaro ZL1 1LE's. All the while, the Alfa belts out a raspy chorus that sounds how a Ferrari V-6 might, because that's basically what it is.

Even though the Stelvio is blissfully unaware that it's an SUV, it offers the most cargo space and the most comfortable rear seat of the trio. Some interior materials, such as the soft leather on the instrument panel and the doors, are in line with the Mercedes', but there are a lot of hard and ugly plastic bits that are best ignored. And while you're ignoring things, try to look away from the Atari-grade graphics of the navigation system's map.

A few other grievances: The brakes are annoyingly grabby, the ride could be a touch softer, and the Stelvio feels the need to automatically engage the parking brake when you put it in park but not disengage it when you toggle to drive. Oh, and there's the whole *elefante* in the room: quality. We can say that nothing broke during our time with the Stelvio. There were no check-engine lights, no warnings, nothing. But the fact that we're mentioning it speaks to previous encounters with the brand that celebrates swallowing men whole.

What pushed the Stelvio into the winner's circle here is the way it so effectively bridges the gap between the sports sedan and the SUV. When you drive a Stelvio hard, you will love driving an SUV, and we can't recall ever having said such a thing.



G-WHIZ

Even this dinosaur of the SUV segment finally gets some on-road chops in the first big redesign of the **Mercedes-Benz G-class**.
by Jared Gall

When the term “SUV” first entered common use, the S referred to a sort of sport that had nothing to do with speed and everything to do with honest, go-anywhere capability. With a fair bit of ground clearance, three locking differentials, and a low-range transfer case, the Mercedes-Benz Geländewagen was the ultimate SUV.

It still is. The three locking diffs remain—as does low range—and on our drive of the fully redesigned G-wagen in southern France, we used them to crawl up and down rocky slopes steeper than 30 degrees. The G being utterly unstressed by this, we even showboated a little, stopping on the way down and reversing uphill. Like its predecessor, the new G-class is so capable off-road, you feel as if the only place you can’t go is back in time.

Which is a nice change. Until now, driving a G-class felt exactly like going back in time. This proto-ute was a relic of the ’70s, with an appeal that was as quizzical as it was enduring. The interior was as narrow as a bicycle. You sat so close to the windshield that you couldn’t wear a baseball cap. The thing leaned in turns like a dog on final approach to a fire hydrant. Heck, the 2018 model still used recirculating-ball steering.

When they set out to improve the G for 2019, then, Mercedes engineers had a low bar to clear—dachshund-steeplechase low. Nonetheless, they worked from the (wildly inclined) ground up. To the casual observer, it’s the same two-Lego vehicle, but everything down to the frame is new. And critically, it now includes an independent front suspension. Without that big log crashing around up front, Benz’s brick

ENABLER #5

Fluid Dynamics

Adaptive dampers, which adjust to the driver’s behavior, the road conditions, and/or a selectable driving mode, are nearly ubiquitous in high-end sporty crossovers. The most common form uses electronically controlled valves within the damper, but the many variations of adaptive dampers all perform the same basic function: They allow the balance between ride quality and body control to be fine-tuned in real time. Stiffer Sport modes rein in body motions for sharper chassis responses during dynamic driving, while looser control delivers daily comfort.

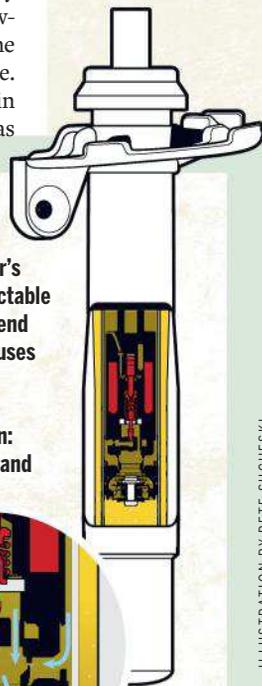


ILLUSTRATION BY PETE SUCHESKI



The G's exterior updates are best described as a light chamfering. Inside, however, is a different matter altogether.





past. Previous AMGs sat lower than their counterparts—a particularly contradictory upgrade in an off-road vehicle—but that's no longer the case. Now the biggest difference between the two is that the AMG has front and rear anti-roll bars. While the independent front suspension goes a long way toward taming the G's ride and the sturdy ladder frame helps keep its center of gravity low, the inescapable fact remains: The G is still a tall truck. It doesn't lean in corners nearly as much as its positively nautical predecessor did, but the tires squeal early and surrender to understeer shortly thereafter. The AMG should unlock a couple hundredths of a g more in cornering grip, but you're always aware of the G's towering height.

In the engine room, both the G550 and the G63 now pack twin-turbo 4.0-liter V-8s, backed by Mercedes' nine-speed automatic. The G550's 4.0-liter is unchanged from last year's, making 416 horsepower and 450 pound-feet of torque. In place of the old twin-turbo 5.5-liter, the G63 uses a hotter version of the 550's 4.0. With 577 horsepower and 627 pound-feet of torque, the G63 should hit 60 mph in just 4.5 seconds. It gives the impression that it could turn any hill into a ramp.

In Germany, the original model was available with 71 horses in 1979. In 2017, when Mercedes built the 300,000th G, it was spec'd through voting on Facebook—

You can tell that this G63 is an off-roader because of its elaborate computer animations and its hose-it-out, mud-hungry white leather interior.

and you can follow its adventure on social media. How times have changed. Has all this modernization robbed the G-wagen of some of its charm? Absolutely. However, now that charm has been augmented by some much-needed substance. In adding some on-road poise to the G's remarkable capability in the dirt, Mercedes ensures that it remains one hell of an SUV. ■

2019 Mercedes-Benz G550/ Mercedes-AMG G63

VEHICLE TYPE: front-engine, all-wheel-drive, 5-passenger, 4-door hatchback

BASE PRICE: \$125,000–\$145,000 (est)

ENGINES: twin-turbocharged and intercooled DOHC 32-valve 4.0-liter V-8, aluminum block and heads, direct fuel injection, 416 or 577 hp, 450 or 627 lb-ft

TRANSMISSION: 9-speed automatic with manual shifting mode

DIMENSIONS
WHEELBASE: 113.8 in
LENGTH: 189.7–191.9 in
WIDTH: 76.0–79.3 in
HEIGHT: 77.2–77.4 in
PASSENGER VOLUME: 107 cu ft

CURB WEIGHT: 5650–5700 lb

PERFORMANCE (C/D EST)

ZERO TO 60 MPH: 4.5–5.5 sec

ZERO TO 100 MPH: 11.5–15.1 sec

1/4-MILE: 13.0–14.2 sec

TOP SPEED: 130–149 mph

FUEL ECONOMY

EPA COMBINED/CITY/HWY: 15/14/16 mpg (C/D est)

rides far more like a modern vehicle, soaking up bumps without making occupants feel as if they're doing the off-roading they will almost certainly never do. Overall length is up 2.1 inches, and the new G550 is a necessary 2.5 inches wider. These changes affect the proportions dramatically. From behind, all G-wagens now have the broad-shouldered bulk of the wild, portal-axle G550 4x4²—particularly the wider AMG version.

The increased width pays dividends inside, where occupants used to be too literally cocooned. Now there's room to flap your elbows without giving anyone a black eye. Mercedes shuffled the G's new length to gain significant legroom advantages front and rear. Where tall drivers had trouble getting comfortable up front in the old truck and were hopeless in the rear, now our 99th-percentile tester is perfectly comfortable in any seat. The wagen's upright profile means headroom is never an issue, and the clean-sheet design includes an interior that finally feels like a modern Mercedes instead of a factory-bedazzled restomod. Mercedes says even the seats are "ergonomically designed." The nicest thing anyone might have said about their predecessors is that they were "something to sit on," like some overturned bucket or a knee-high rock.

AMG was involved in the development of this G-class from the beginning, and so the differences between the regular and up-powered versions of the truck are less pronounced now than they were in the

ENABLER #6

Stick 'n' Slide
 European automakers introduced the idea of summer-tire-shod sport-utilities with the original BMW X5 and the Mercedes-Benz ML55 AMG for 2000, but better roadholding performance didn't come solely from mounting stickier rubber. Steve Calder, technical marketing manager at Michelin, says that the combination of sports-car grip and a high center of gravity was made possible in large part by advancements in stability-control systems. Precise control systems and smarter algorithms protect drivers from themselves, preventing or compensating for behaviors that could cause a utility vehicle to roll before the tires slide.



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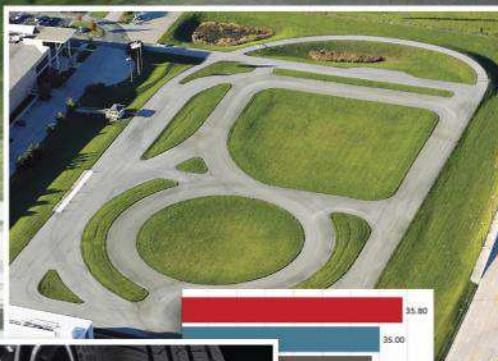


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Straw Man

How I bought millions of dollars' worth of luxury cars and got blacklisted by Jaguar Land Rover, Mercedes, and Porsche. ||| by Travis Simpkins

In the summer of 2013, I was an unemployed ex-con, twice over, living next door to my mother-in-law in a house with no floors. Being June in Georgia, it was hotter than two hamsters farting in a wool sock. Work was rare. Even my dog looked disappointed in me. Something had to happen. Soon. So I bought a new Porsche Cayenne.

Then in August, I bought a new Range Rover, and another of each in September. A Rover plus a pair of Porsches in October, and in November, I paid cash for six more luxury vehicles. Before my Thanksgiving leftovers had disappeared from the fridge, I had purchased more than a dozen vehicles and spent nearly a million dollars. My wife was happy because I finally put floors in the house (laminates, but they looked damn good), and even my mother-in-law was less ornery after I paid back the bail she posted for me earlier that year.

But my new lifestyle wasn't all champagne wishes and caviar dreams. On Christmas Eve, I woke up on a bench in the Charleston, South Carolina, airport, hung over, with pieces of a vending-machine Moon Pie stuck to my shirt. I had been holed up in a La Quinta for days, hoping against hope that a transport truck would deliver my new Range Rover to the local dealership. There was an eight-month wait on them then, even if you were a Kardashian, so I kept telling myself it would be worth it. But as the stockings were hung by the chimney with care, it became clear that I had a better chance of Saint Nick himself delivering the Range Rover. So I paid cash for the next flight back to Atlanta, which didn't leave until Christmas Day. When I got to the front of the security line with no luggage and a six-figure cashier's check, the TSA agent had some questions. I'm sure you do, too.

I explained then, as I will now, the details of exporting luxury vehicles to China's gray market. Keep in mind that I have only a state college education, the first two years of which were earned in prison.

Though still far from a true democracy, China has adopted many of Adam Smith's economic principles, creating something of a meritocracy and laying the foundation for the Chinese version of the American Dream. Flush with wealth, the Chinese have also taken a shine to cars—big ones, with lots of leather, executive rear seating, and panoramic sunroofs that open up like a Colorado sunrise.

But China puts a heavy 25 percent tariff on new-car imports, in part to encourage manufacturers to build cars in its country. Combine this with car companies charging steeper prices for luxury vehicles there than they do in the U.S., and it is easy to see how exporters can turn a profit, even after shipping across the ocean and paying the likes of me. For example, the current base price of a new Range Rover is \$88,345 here, but it starts at 1,518,000 yuan in China, which is about \$240,000.

See, I wasn't keeping any of these cars. I was buying them for a company in San Diego, which was fronting me the money. I was a straw buyer, the bottom rung of the ladder, kind of like a multilevel marketing recruit but without the ambition. It is slightly more glamorous than the life of a roadie or a towel boy, but only just. Important—critical, even—but not in any individual sense. In a band, I am the guy with a tambourine. Or maybe a cowbell.

The TSA guy listened to all this before he ran a background check on me, which probably raised a few eyebrows, due to my criminal record. But he wished me well and gave me his number, saying that this whole export business was something he was interested in, and that working for the TSA on Christmas Day sucked.

There are many ways for someone without education, experience, or ingenuity to make money in America. You will not get rich day-trading or flipping houses. Bitcoin? Bless your heart. But an enterprising individual can make \$10,000 this month buying luxury cars. You need a heartbeat, a driver's license, and that's about it. It is not as simple as it sounds, but it's not that hard, either. The manufacturers and their dealers have worked to design a foolproof system that will prevent you from buying a car to export to another country. Foolproof never works, though, as it underestimates the ingenuity of the fool.

Rewind back to the old, broke, and unemployed me on the porch. Hot. Out of ice, Coke, and most everything else. Even running low on Ten High. An old friend, always her own kind of trouble, says she'll pay me to ride up to Tennessee with her. All I have to do is take a check into the Porsche dealership and sign the purchase documents. After a few months without work, I had grown comfortable doing nothing. But a half gallon of Ten High runs \$14.99, and \$750 would buy . . . 11 million gallons? I was drinking early that day.

At the Porsche store, things seemed to go well, considering I was prom-date drunk. I remained upright, produced the cashier's check, and signed. "My boyfriend is going to buy me a Cayenne so I won't tell his wife about us," my friend lied. She had arranged the deal the week before. "Y'all don't ask him any questions or take so long that he sobers up."

We drove the Porsche to a storage unit a few miles away. I signed a release for the truck driver who would pick up the Cayenne and left the keys and paperwork with the Go Store It manager. I got my \$750.

When the driver of the multicar transport truck pulled off the expressway, he knew he was picking up a new Porsche

Cayenne that, according to his bill of lading, would wind its way through the Appalachian Mountains to the port in Baltimore, Maryland. After U.S. Customs and Border Protection verified that it was not stolen, presumably it would then be driven onto a roll-on/roll-off vessel and sail to China. The truck driver, however, seeing the Porsche dealership, did the natural thing and pulled in. Whereupon he presented his papers and advised somebody that he was there to pick up Travis Simpkins's new Cayenne.

If you think that you have the right to sell a car you own to whomever you like, you are absolutely correct. You also have the right to not sell it, which is why luxury-car dealers—BMW, Jaguar Land Rover, Mercedes-Benz, and Porsche, specifically—refuse to sell new cars to known or suspected exporters and maintain blacklists to prevent the likes of me from doing what I had just been caught doing.

In short order, I received a phone call from the dealership's general manager. He was angry. He had reason to be. I had signed a document promising not to export the car and agreeing to pay \$8500 if I did, a piece of paper I quite obviously regarded as legally binding as a pinkie swear. But if Porsche caught him in bed with me on this sale, the dealership could possibly be fined even more than that or be punished in other ways, like having its allocation of new vehicles reduced.

We both said some regrettable things in an email exchange that followed. He indicated he would not be processing the paperwork on the Cayenne, I would not be getting a title, that I was an exporter, and he knew it because the truck driver had shown him the bill of lading. I informed him that he had already committed a criminal act, which may or may not have been true since I just made it up. He demanded that I return the Cayenne immediately, with no miles on it. I asked him if he was unfamiliar with the perils of rolling back an odometer. Had he not seen *Ferris Bueller's Day Off*? We both threatened to have the other thrown in jail. Southern jails being, well, southern jails, we both knew that while I would be catching up with old friends, he might discover exactly what happens when the rabbit gets the gun.

Mr. General Manager's parting blow was that I hadn't heard the last from him. He was right: A fantastic gift basket from Blackberry Farm was delivered to my house, courtesy of the dealership. Apparently the GM forgot to let his marketing department know. But he did FedEx the tag office in Georgia with the deal paperwork. I don't know where the law fell on

our transaction, but those jelly jars were so good they ought to be illegal.

I made friends with my first Land Rover sales consultant about a month after buying that Cayenne. Let's call her Ashley. She was as pretty as a homecoming queen and not much older. She loved *Garden & Gun* magazine, which she complained was always stolen from the lounge, so I bought her a subscription. A dealer's lounge is a nice place to spend an afternoon. This one smelled like cedar and summer camp, and it had something like 17 different Keurig coffees, plus pastries and a staggering variety of granola bars.

Just across the street from Ashley's Land Rover store, the same dealership chain had a Porsche showroom with a similar lounge. I was relaxing there, in the process of buying another Cayenne a couple weeks after she had sold me a Range Rover Sport, when in she walked with her sales manager. I tried to hide behind one of those big fake plants, hoping they'd leave before the Porsche manager came back with my keys and bill of sale. I eat when I'm nervous, which, aside from making me improperly sized for hiding behind anything, led to my devouring quite a few granola bars while peering through the leaves.

It worked out okay. I got the Cayenne, though I paid the price on that one later in the evening when the snacks turned on me. And so did that dealer chain eventually, but only after I had bought more cars from them. I am not banned from their property, but I'm definitely not welcome there today. Screw 'em. They never even sent me a gift basket.

A straw buyer typically has the shelf life and career trajectory of a Trump appointee. Cash purchases are difficult, as they set off all the alarms for a dealer, but finance purchases present the problem of having multiple loans pending at once. It's tricky. I do not know what kind of noises U.S. Customs and Border Protection makes in verifying that a car is cleared for export, but it must tell someone your car is going swimming. Because when I went back to dealerships to buy more cars, most of the time I was politely told that I had been identified as an exporter. If you are clever, quick, or lucky, you might get three on the boats before you're blacklisted.

I did better because I was, um, creative. What's the statute of limitations for fraud, anyway? Plus I did some recruiting and some management. Exporters always need an operator. When your business



////// A single car can
earn a straw buyer
anywhere from
\$500 to \$7000 in
commission. It's
enough to take the
kids to Disneyland
but nothing you
can build a career on.

model involves handing \$100,000 checks to people who answer a Craigslist ad, all kinds of things can happen.

Deals were most vulnerable just before delivery, when the dealership's finance and insurance department got the paperwork for final sign-off. I would head to a municipal airport close to the dealer and call the sales manager with a live air-traffic-control feed playing in the background from my tablet. I'd ask if he could send a car for me. (I had actually driven there in a shit-box rental, which I'd stashed in the airport parking lot.) I'd then go stand next to one of the pretty planes to wait for the salesman to pick me up. Little things like that go a long way. I suspect some of the people who were selling new cars to me saw through my deceptions but did the deals anyway just to make their numbers. I can't be sure. It's hard to pull the wool over a car dealer's eyes, but if you give him a bag of wool, he usually takes it from there.

A single car can earn a straw buyer anywhere from \$500 to \$7000 in commission. It's enough to take the kids to Disneyland but nothing you can build a career on. At the beginning of 2014, I did receive a 1099

for \$30,500 from the company in San Diego. And though I continued cowboying around the Southeast trying to buy cars that year, success was fleeting. The jig was well and truly up when a Land Rover dealer refused to sell my mom a vehicle in 2015 because our last name set off a DEFCON warning. I haven't bought a car for export in almost two years, although I still have my ear to the ground, so to speak.

While I was lyin' and buyin', there was also the specter of getting into more serious trouble. It was during this time that the manufacturers had convinced the feds to go after our little industry, charging straw buyers and exporters with fraud and contending that these were illegal exports. Secret Service and Homeland Security agents were using civil forfeiture statutes to impound cars and freeze bank accounts, sometimes with the help of local law enforcement. As with any police crackdown, it was also a scare tactic; one non-export agreement I signed even mentioned terrorism and "threats/risks to U.S. national security." In 2015, federal prosecutors got called off the cases, many of which were settled with the return of the seized cars and money.

That same year, the Chinese government endorsed the gray market by creating a program that makes it easier for Chinese dealers to bring in vehicles directly from foreign markets through its free-trade zone. So-called parallel imports accounted for 14 percent of the cars imported into China last year. I imagine this makes auto executives reach for whatever they reach for in times of trouble. Maalox? Scotch? Someone's throat?

There are a dozen exporters who will hire you today. Google will get you to them, and if you need more help than that, you are not cut out for the business. What they'll tell you is the same thing I will: There is probably a Mercedes dealership close to you, and that dealership probably has a black GLS450 with a panoramic sunroof and an MSRP below \$83,000. Go there. Point at the car. Say you want to buy it. Get a sales agreement with a total drive-out cost on it. Good luck; you'll need it.

If you get that far, I'll meet you around the corner with a cashier's check. I'll give you \$2000 and another \$1000 when you send me the title. By the time the car gets to the port, you and I will have . . . well, I'm not sure. Helped move the needle on the trade deficit? Not hardly. Participated in the arbitrage that keeps free markets honest? Maybe. Split \$6000? Absolutely. ■

Long-Term Test: When the tires get worn and the factory warranty runs out, that's where we come in. *Car and Driver* is your source for the 40,000-mile evaluation.

2016 MAZDA CX-9

Arrival: Nov/2016
Departure: Mar/2018

What we drive, more often than not.
—by Jeff Sabatini

Welcome to *Crossover and Dad*, the first magazine devoted to those high-riding, two-box vehicles that no self-respecting car guy wants but everyone is buying! Going forward, the rebooted *C/D* will be so replete with crossover news and reviews that it will resemble the overflowing cargo area behind the third row on your last family vacation. Yes, we know it's your wife's car. Our promise to you both: Absolutely no minivans—ever!

Fear not: There's no way that's happening, no matter how much the auto business careens off in such a direction. And make no mistake, the car world *has* turned upside down. Buick, which may be the stodgiest, most historically sedan-centric

Rants & Raves
“The engine is wonderfully diesel-like in every way, save for its pleasant smoothness.”
—Alexander Stoklosa

“There's so much to like about the CX-9. It's attractive, athletic, refined, and yet practical.”
—Mike Sutton

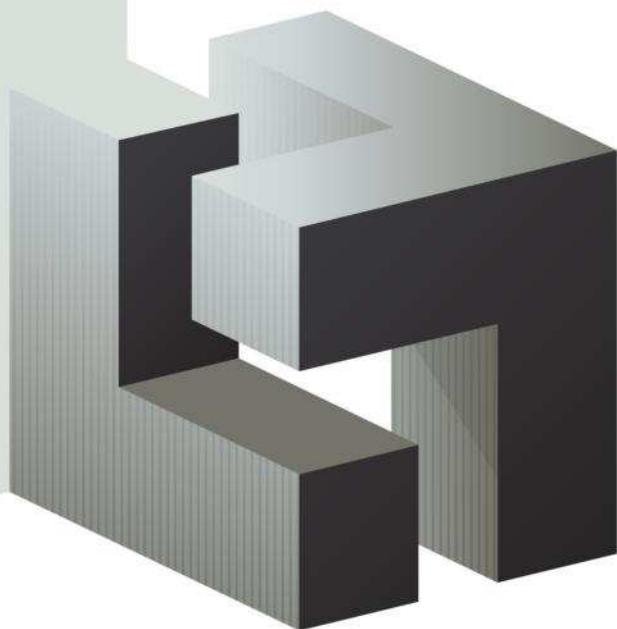
mainstream brand, reports that 79 percent of its sales volume in the first quarter came from crossovers. As for Porsche, we can't remember the last month that the Macan didn't outsell the 718 and 911 combined. [Also see p. 010.] Our test fleet on any given day seems to have more rows of seats than nearby Michigan Stadium.

But the news is not all doom and gloom for us car folk. The flood of crossovers has only made those few clever ones stand in greater relief, machines that manage to tick all (or most) of the practicality boxes without forgetting to reward the driver. Mazda's seven-passenger CX-9 is among this select group, providing better-than-average driving dynamics in a great-looking, right-sized package. Putting one into our long-term fleet was a given, not open to debate.

To ensure there would be no shame in our game, we ordered the CX-9 in Signature trim, the full-monty spec that started at \$44,915 for the 2016 model year (the price has since increased by \$375). This included, among other equipment, all-wheel drive, 20-inch wheels, a moonroof, LED lighting, and driver-assist systems (adaptive cruise, blind-spot monitoring, lane keeping, and automated braking). We added some dealer accessories and paid \$300 for the Machine Gray paint that made our CX-9 look like a chrome-trimmed artillery shell, bringing the total to \$45,955.

But it was less the long list of features that initially impressed us and more the CX-9's natty two-tone black-and-reddish leather interior with open-pore rosewood trim. “This interior shames some Acura, Cadillac, and Lexus vehicles,” pronounced technical director Eric Tingwall. “That's not the highest bar to clear, but it's impressive considering the Ford-era Mazdas.”

Indeed, from the first time the CX-9 rolled into the *C/D* garage, it was evident that this new model had little in common with the vehicle it replaced, which was the



**“DRIVING AROUND ON
BACK ROADS, THIS BIG THREE-
ROW SUV FEELS SO MUCH
SMALLER THAN IT REALLY IS.”**

—NATHAN SCHROEDER, DESIGN DIRECTOR





last vestige of Mazda's decades-long partnership with Ford. The most significant change comes under the hood, where a turbocharged version of Mazda's 2.5-liter four, rated at 250 horsepower and 310 pound-feet of torque, replaces the Ford V-6. Mazda no longer offers a six in any of its vehicles, and it's easy to see why. The switch to the turbo four resulted in a 22-mpg average over 40,000 miles, a 4-mpg improvement over our long-term 2008 CX-9 powered by a 3.7-liter V-6.

The CX-9's new powertrain makes it both lighter and quicker, with curb weight dropping below 4400 pounds. The CX-9 managed 7.1 seconds in a zero-to-60-mph sprint when new, and it trimmed a tenth of a second off that time at the conclusion of our test. On flat-foot acceleration, the CX-9 would get noisy at high revs, but with peak power occurring at 5000 rpm, it is unnecessary to chase the 6300-rpm redline. The engine favors low-end grunt anyway, with its full torque output available at a diesel-like 2000 rpm. "This turbo 2.5-liter is the little engine that could," wrote deputy online editor Dave VanderWerp, "tugging this large vehicle very capably around town."

Ride quality—even on its 20-inch wheels—and roll control were routinely praised in the logbook, as was the CX-9's sedanlike handling and steering feel. Grip improved from 0.83 g to 0.85 once the CX-9's tires were worn in, and its outstanding braking performance was consistent, with the CX-9 stopping from 70 mph in 168 feet at both ends of its service. (Full disclosure: We did have the front rotors turned due to warping just before final testing.)



The turbocharged 2.5-liter four-cylinder is exceptionally smooth and quiet at idle and torquey and punchy at low revs. We miss the old V-6 not at all.

More than one commenter mentioned how small the CX-9 drove given its largish size. About that ish: The CX-9 is one of the smaller seven-passenger, three-row crossovers on the market, and its third row is neither particularly commodious nor easy to get to, as the CX-9 offers only a second-row bench seat rather than captain's chairs. We found its "occasional-use" third row more of a feature than a problem, as the size and handling trade-off is one we'll always make. Which is why the new CX-9 is our reigning comparison-test champ in its class and has landed on our 10Best Trucks and SUVs list for two years running. As one logbook scribe put it: "A compromised third row is as common in this segment as four wheels and doors. Just buy a minivan already."

Service Timeline: All-in-the-family crossover.

Key: ● - Repairs ● - Damage ● - Maintenance
● - Normal Wear ● - Oil Additions

November 29, 2016
514 miles: Mazda CX-9 begins its long-term test.

December 16, 2016
1754 miles: We install Bridgestone Blizzak DM-V2 winter tires (\$783).

January 26, 2017
4612 miles: Body shop replaces chrome strip on the rear bumper that was damaged in a parking incident, \$177

March 7, 2017
7237 miles: Dealer performs an oil change, tire rotation, and inspection, \$105

April 20, 2017
10,409 miles: We refit factory Falken Ziex CT50 A/S tires.

June 2, 2017
16,836 miles: The tailgate-hinge nuts are torqued per a service bulletin at no cost. Dealer replaces the cabin air filter and

completes an oil change, tire rotation, and inspection, \$180

September 5, 2017
24,811 miles: A Montana lube shop performs an oil change and inspection, \$75

November 28, 2017
31,865 miles:

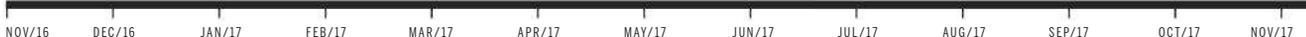
Dealer changes the oil, inspects the vehicle, and replaces the cabin and engine air filters and all wiper blades, \$264

December 4, 2017
32,196 miles: We reinstall winter tires.

February 8, 2018
36,461 miles: The

cracked windshield is replaced, \$602

February 13, 2018
37,309 miles: Dealer replaces both fuel-sending units during a 14-day repair prompted by our running out of gas three times, once while the gauge showed an eighth of a tank remaining, \$0



Complaints about the big Mazda were few. Some of the taller members of our staff felt that the front seats needed longer cushions. Those who hate head-up displays hated this one, too, and grumbled that turning it off in the infotainment settings was overly complicated. The cockpit ambient light was deemed too bright at nighttime by some, while others didn't notice. Having recently spent many months with our now gone long-term Honda Pilot made it easy for everyone to notice the CX-9's paucity of storage bins and cubbies.

Sometimes the infotainment system would freeze at startup; often, the fix was to shut off the CX-9 and turn it on again. And of course, since it doesn't yet speak Android Auto or Apple CarPlay, this system that we once lauded as among the industry's best is beginning to feel a little dated—"like an iPhone 4," wrote one editor. Mazda knows that it lags in this area and has announced future support for both phone-mirroring technologies, with details still forthcoming.

The CX-9 proved mostly reliable during its tenure, needing five routine service visits for oil changes and such. The dealer also performed two no-charge repairs to

Rants & Raves

"The CX-9's interior quality is a model by which all other crossovers should be judged—it's that good."
—Greg Fink

"Feels well worth the price."
—Joseph Capparella

"The ride is terrific, making this a truly desirable long-distance cruiser."
—John Phillips

"I'd buy one of these even though I'm single and under 30. It looks expensive, feels expensive, and drives expensive."
—Alexander Stoklosa

"Mazda did cheap out on a few things: no driver's-seat tilt function, the adaptive cruise gives up at low speed, and this infotainment system is fairly out of date."
—Dave VanderWerp



March 14, 2018
39,011 miles: Dealer performs an oil change and inspection, \$75

March 24, 2018
40,562 miles: We reinstall all-seasons.

March 26, 2018
40,601 miles: Dealer updates the powertrain-

control module at no charge per a service bulletin. The brake rotors are resurfaced to address pulsing during deceleration, \$421

March 26, 2018
40,602 miles: Long-term test ends.

OPERATING COSTS (FOR 40,000 MILES)

MAINTENANCE	\$615
NORMAL WEAR	\$84
REPAIR	\$421
GASOLINE (@ \$2.89 PER GALLON)	\$5255
DAMAGE AND DESTRUCTION	\$779
SERVICE	
DEALER VISITS (SCHEDULED/UNSCHEDULED) ...	5/2
DAYS OUT OF SERVICE	14
UNSCHEDULED OIL ADDITIONS	0 qt

address service bulletins from Mazda, including updating the powertrain-control-module software. We had to have a cracked windshield replaced, and we took the CX-9 to the body shop for repairs after a minor parking mishap caused damage to the chrome rear-bumper trim.

We did have a few scarier encounters with the CX-9, ones that seemed innocuous at first but threatened one editor's road trip. They were related to what we'll call here conventional range anxiety. It started at around 30,000 miles, when a staffer ran the CX-9 out of gas twice in one week. Which seems stupid, except that in the first instance, the CX-9 stalled just as the estimated-range display changed from one mile to zero, and the second time, it still showed eight miles of range. Our collective takeaway from the experience can be summarized by the note that showed up in the logbook after the second incident: "Don't gamble with the estimated range."

More than 3000 miles passed before the issue recurred. The CX-9 was in rural Virginia, en route to Universal Studios Florida. The editor behind the wheel was





planning to pull over for gas at his next opportunity when the vehicle sputtered to a stop. This time, the CX-9 estimated the distance to empty at a substantial 41 miles. It would later take our local dealer 14 days to fix the running-on-empty problem by replacing both fuel-sending units. But the more immediate issue for our vacationing editor and his family was that they were stuck on the side of the road, and when they called Mazda's roadside-assistance number and waited about a half hour for a callback, they were told that there were no tow trucks in Mazda's network that could assist them. Oh, hey, thanks. Glad we waited.

A Virginia State Police trooper happened upon the scene shortly thereafter and arranged a gas-can delivery, and so the editor was able to make it two miles down the road to the next filling station. He never allowed the CX-9's gas gauge to drop below a quarter tank again, and he was thus able to buy plenty of expensive Wizarding World of Harry Potter souvenirs for his children. And they all lived happily ever after.

The whole of our 40,000-mile test was equally fairy-tale-like. For 16 months, we never grew tired of the CX-9. Its smart engineering and superior value acted as a salve to the frequent suffering of those middle-aged family men on staff who watch their younger and less attached coworkers drive off weekend

after weekend behind the wheels of the sportiest cars in our stable. As deputy editor and parent Daniel Pund succinctly put it, "The Mazda CX-9 is really the only mainstream three-row SUV I can actually see myself buying and driving." 🇺🇸

The fit and finish of the CX-9's interior is about as good as it gets with nonluxury-brand vehicles. Who cares about how a three-row crossover handles? The driver.



Rants & Raves
 "The CX-9 rides surprisingly well given its sportier-than-average demeanor."
 —Dave VanderWerp

"It's so peaceful on the highway that I almost fell asleep at the wheel."
 —David Beard

"The fat field of tall wagons has become synonymous with boredom, but the CX-9 at least instills a gratifying sense of driver control."
 —John Phillips

"The driver's seat is comfortable and perfectly supportive. I never felt fatigued during four 500-plus-mile days sandwiched around our amusement-park trip."
 —Rusty Blackwell

2016 MAZDA CX-9 SIGNATURE AWD

PRICE AS TESTED	\$45,955
BASE PRICE	\$44,915
VEHICLE TYPE: front-engine, all-wheel-drive, 7-passenger, 4-door hatchback	
ENGINE: turbocharged and intercooled DOHC 16-valve Miller-capable inline-4, aluminum block and head, direct fuel injection	
DISPLACEMENT	152 cu in, 2488 cc
POWER	250 hp @ 5000 rpm
TORQUE	310 lb-ft @ 2000 rpm
TRANSMISSION: 6-speed automatic with manual shifting mode	
WHEELBASE	115.3 in
LENGTH	199.4 in
WIDTH	77.5 in
HEIGHT	69.0 in
CURB WEIGHT	4393 lb

WARRANTY

3 years/36,000 miles bumper to bumper
 5 years/60,000 miles power train
 5 years/unlimited miles corrosion protection
 5 years/60,000 miles roadside assistance

MODEL-YEAR CHANGES

2017: Forward collision avoidance comes standard on the Touring trim.

2018: Mazda revises the second-row sliding mechanism and makes G-Vectoring Control standard. The brand also adds a heated steering wheel, heated outboard second-row seats, front parking sensors, traffic-sign recognition, and additional power-front-seat functions to select trims.

CAR AND DRIVER TEST RESULTS

PERFORMANCE

ZERO TO 60 MPH:

NEW	7.1 sec
40,000	7.0 sec

ZERO TO 100 MPH:

NEW	19.9 sec
40,000	19.2 sec

ZERO TO 120 MPH:

NEW	36.8 sec
40,000	34.2 sec

ROLLING START, 5–60 MPH:

NEW	7.7 sec
40,000	7.5 sec

1/4-MILE:

NEW	15.5 sec @ 90 mph
40,000	15.4 sec @ 91 mph

BRAKING, 70–0 MPH:

NEW	168 ft
40,000	168 ft

ROADHOLDING, 300-FT-DIA SKIDPAD:

NEW	0.83 g*
40,000	0.85 g*

TOP SPEED

132 mph (governor limited)

EPA FUEL ECONOMY,

COMBINED/CITY/HWY

23/21/26 mpg

C/D-OBSERVED FUEL ECONOMY

22 mpg

LIFE EXPECTANCIES (estimated from 40,000-mile test)

TIRES

50,000 miles

FRONT BRAKE PADS

65,000 miles

REAR BRAKE PADS

55,000 miles

WHAT BITS AND PIECES COST

HEADLAMPS (LEFT/RIGHT)

\$2301/\$1368

ENGINE AIR FILTER

\$35

OIL FILTER

\$8

WHEEL

\$704

TIRE

\$252

WIPER BLADES

(LEFT/RIGHT/REAR)

\$34/\$25/\$30

FRONT BRAKE PADS

\$170

*Stability-control inhibited.

FIVE-YEAR DEPRECIATION

Depreciation data from ALG. Based on 15,000 miles per year.

\$45,955 \$27,200 \$25,175 \$22,125 \$17,975 \$15,100

\$50K \$40K \$30K \$20K \$10K \$0

YEAR 0 1 2 3 4 5

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▼ *Newcomer*

2018 ALFA ROMEO GIULIA QUADRIFOGLIO

Arrival: Mar/2018

Miles: 3215 • Observed mpg: 19

SAY WHAT YOU will about the reliability of Alfa Romeo's cars; our newest long-term test vehicle, a blood-red Giulia Quadrifoglio, made it well past its engine break-in period before it needed to pay an unscheduled visit to the service department. Heck, we could have broken in two of the 505-hp twin-turbo 2.9-liter V-6s before the "service electronic throttle control" warning first flashed, followed by a check-engine light. The Giulia spent a week in the shop, but the technicians could find no cause for the alarms. While they were crawling around our new hotness, though, they found a small coolant leak. Tightening a loose hose clamp

stemmed the flow. Also, the car smells like some kid is doing a wood-burning craft inside it. We have no idea why. An ominous beginning to a 40,000-mile test of an Italian car? You could look at it that way. For now, we're thinking of this incident as the QF's way of clearing its throat, not as a harbinger of coming doom. We shall see.

This early stumble hasn't (yet) extinguished the affection we have for our ass-kicking and pretty sports sedan. We ordered our car covered in \$2200 of Rosso Competizione paint; bolted on dark-finish, five-hole 19-inch wheels for \$500; paid \$400 for a steering wheel with carbon-fiber trim; and added \$1200 worth of driver-assist systems. Grand total: \$79,595. We passed on the pricey carbon-fiber-back Sparco racing buckets and the carbon-ceramic brakes, because the car sits and stops just fine as is. Still, \$80K isn't cheap. But if anything is to be this car's undoing, we're guessing it won't be the price. —*Daniel Pund*

▼ *Newcomer*

2018 KIA STINGER GT AWD

Arrival: Mar/2018

Miles: 3910 • Observed mpg: 20

KIA DELIVERED OUR STINGER in the spring wearing 18-inch all-season tires, a zero-cost option, instead of the car's standard 19-inch summer tires. Though there's no financial burden associated with the mediocre footwear, there is a 0.06-g penalty in lateral acceleration: Our car circled the skidpad at 0.85 g versus 0.91 g for the last summer-tire-equipped Stinger GT we tested. Now that summer is here, Kia will supply a set of standard summer tires for the balance of the loan.

Our GT1-trim car's price starts at \$46,350 but leapt to \$48,400 as tested thanks to its \$2000 Advanced Driver Assistance System—a suite of predictive and preventive safety features—and a \$50 cargo net. But the Stinger's performance justifies the price: Its twin-turbocharged 3.3-liter is the same V-6 we've praised for propelling the rear-drive version of the car to a ludicrous 12.9-second quarter-mile. All-wheel-drive Stingers aren't as quick, ours turning in a 13.2-second run. Sixty arrives in a launch-controlled 4.7 seconds (versus 4.4 seconds for the rear-driver) and is accompanied by a persistent transmission-overheat warning. This eventually manifests in limp-home mode after repeated runs with the eight-speed shifting itself. We could be off to a better start.

We know the Stinger isn't a limit-driving fiend, even on summer tires. Its biggest merit is its ride comfort, and its sedanlike hatch body is both comely and utilitarian. Possibly that will be sufficient to assuage our annoyance at this Stinger's performance compromises. —*Josh Jacquot*



2017 FORD F-150 RAPTOR SUPERCREW
36,081 MILES

2017 PORSCHE 718 BOXSTER S
24,463 MILES

2017 FORD MUSTANG SHELBY GT350
28,866 MILES

2017 BMW M2
33,652 MILES



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An enviable age-reversing process produces a Bentley **Continental GT** that is lithier, livelier, and better-looking. **by Joe Lorio**

▼
AUSTRIA'S GROSSGLOCKNER HIGH Alpine Road had just opened for the season when we nosed the 2019 Bentley Continental GT through the tollgate. With spritzing rain and the melting snowpack wetting the pavement, we began our 8200-foot ascent, winding and unwinding the wheel through one switchback after another as we stair-stepped into the clouds and then descended through a thick fog. The previous Continental GT would not have been happy on this road. Sure, it could have stormed up the mountain, pulled along by the ample thrust of its W-12 engine, but it would have suffered through the turns, impatiently waiting to unleash its torque once the wheels were again pointed straight. Although this is still a luxurious GT, not a playful sports car, the new Continental is surprisingly at home on the mountain pass. Instead of overburdening its front tires, it maximizes all four contact patches, steers faithfully,

[+] Twelve-cylinder thrust, luxe environs, newfound athleticism.
[-] Tight back seat, plutocratic pricing.

and exhibits a graceful fluidity that its predecessor never knew. The Grossglockner revealed a new Continental GT that felt fitter, fleetier, more energetic—as if the car had been given an elixir of youth.

That run up the pass dovetailed with the new car's visual impression.

First introduced in 2003 and reworked for 2011, the Continental GT led the brand out of musty obscurity, with nearly 70,000 sold so far—a huge number for Bentley. “It has become our icon,” says lead exterior designer JP Gregory. “It’s very important that it be instantly recognizable.” The signature look is retained, as are the car’s key design elements, and yet the new version seems wider and lower, even though those dimensions have changed by less than an inch. Credit the broader, more upright grille, set lower in a more sculpted fascia. It’s flanked by new headlamps with 82 matrix LEDs (which unfortunately will be dumbed down for the U.S. market, with simple high- and low-beam functionality rather than the ability to switch off individual LEDs to avoid dazzling oncoming drivers). Design-wise, the most critical change is the front overhang’s loss of more than four inches. The wheelbase grows by 4.1 inches, but the rear overhang is longer; it all helps to dramatically improve the proportions. There’s a longer hood, too, which is also lower because the engine sits deeper and farther back in the chassis. The body panels are aluminum—except

Drivelines



Dries the best

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26 more horsepower, due largely to different ECU mapping. Its altered block makes room for the front driveshaft because the engine moves some five inches rearward in the chassis, a change that helps reduce the front-weight bias from 58 to 55 percent, according to Bentley. The W-12 mates to an eight-speed dual-clutch automatic transmission, Porsche's PDK, which Bentley tunes for this application. This is the first ever dual-clutch in a Bentley, and it is excellent, with low-speed smoothness rivaling a torque-converter automatic's and an unassailable shift strategy. There are shift paddles (now located on the steering wheel rather than the column), should you want to call the shots. Once again, the engine drives all four wheels. But whereas the previous system had a 40/60 front-to-rear torque split, the new one defaults to rear-wheel drive; when it detects slippage, it can direct a maximum of 38 percent of the torque to the front wheels—except in Sport mode, when just 17 percent can be sent forward.

The standard suspension uses new three-chamber air springs versus the old GT's two-chamber units; their greater volume is the source of the new GT's more compliant ride. The air springs work with the standard active anti-roll bars first seen in the Bentayga (called Bentley Dynamic Ride), which are powered by a 48-volt electrical system. Brake-based torque vectoring—introduced on the GT3-R—can slow the inside rear wheel when entering a corner to aid turn-in as well as brake an inside front wheel when exiting to help

the trunklid, which is composite—helping the car shed nearly 170 pounds, according to Bentley. At an estimated 5000 pounds, though, the Continental is still a hefty machine.

The greater changes are mechanical. The old car shared a platform with the staid Volkswagen Phaeton; the new model uses the VW Group's MSB architecture, seen also in the Porsche Panamera. The W-12 engine configuration returns, but this is a new version. Introduced in the Bentayga, it now boasts port and direct fuel injection, two twin-scroll turbochargers, and a dual-mass flywheel, yet it's 66 pounds lighter. Output here is 626 horsepower (versus 582 before) from 6.0 liters, along with 664 pound-feet of torque, which pours forth from 1350 to 4500 rpm. The W-12 will be the only engine at launch, but given that the V-8 was chosen by roughly two-thirds of buyers of the outgoing car, we expect it to return, probably a year or so after the new car arrives next spring.

Compared with the version in the Bentayga, the W-12 in the Continental makes

the car pivot out of a corner. Vented cast-iron rotors measure 16.5 inches up front and 15.0 at the rear; Bentley boasts that this makes them the largest iron rotors ever fitted to a production car. The fronts are squeezed by 10-piston calipers, with four-piston units acting on the rears.

Less weight on the nose, a more rear-biased variable torque split, torque vectoring, and those active anti-roll bars all go a long way toward explaining the Continental's newfound appetite for curves. Out on the highway, the Continental GT remains a serene mile eater. One new aspect, though, is "sailing mode," which decouples the engine and transmission and drops the revs to idle speed when you lift off the gas under certain conditions at high speeds. Dip deeply into the long-travel accelerator and the car hurtles forward with eye-widening quickness, speed building

Yes, we know it's the highly processed skin of a dead animal, but this Continental GT's leather looks like a perfectly toasted marshmallow.



Drivelines



2019 BENTLEY CONTINENTAL GT

VEHICLE TYPE: front-engine, all-wheel-drive, 4-passenger, 2-door coupe

BASE PRICE: \$220,000 (est)

ENGINE: twin-turbocharged and intercooled DOHC 48-valve W-12, aluminum block and heads, port and direct fuel injection

DISPLACEMENT: 363 cu in, 5952 cc
POWER: 626 hp @ 6000 rpm

TORQUE: 664 lb-ft @ 1350 rpm

TRANSMISSION: 8-speed dual-clutch automatic with manual shifting mode

DIMENSIONS

WHEELBASE: 112.2 in

LENGTH: 190.9 in

WIDTH: 76.9 in

HEIGHT: 55.3 in

PASSENGER VOLUME: 92 cu ft

TRUNK VOLUME: 13 cu ft

CURB WEIGHT: 5000 lb

PERFORMANCE (C/D EST)

ZERO TO 60 MPH: 3.4 sec

ZERO TO 100 MPH: 7.9 sec

1/4-MILE: 11.7 sec

TOP SPEED: 207 mph

FUEL ECONOMY

EPA COMBINED/CITY/HWY: 16/13/22 mpg (C/D est)

uninterruptedly through the eight-speed's ultraquick shifts. We estimate that the Continental GT can reach 60 mph in 3.4 seconds, and the W-12 shows no sign of running out of steam even into triple-digit speeds—top speed is a claimed 207 mph. Yet the W-12 doesn't sing like a V-12. At most, it emits a discreet bass rumble, but only in Sport mode when you come off the throttle; there are none of the extroverted crackles and pops of, say, a Jag V-8.

A change in the exhaust note is one of the most apparent differences when switching from Comfort or the mid-level Bentley drive mode to Sport (a fourth choice is Custom), even if the modes also adjust the suspension, steering, transmission, and engine response. That the Continental GT does not vary wildly in its responses proves to be part of its charm. Rather than trying to make this car appeal to a broad spectrum of (rich) customers, the engineers aimed for cohesive character, one that blends comfort and performance in equal measure. In any mode, the steering retains a pleasant heft and linearity, and the adaptive air springs, in conjunction with the active anti-roll bars, all but eliminate body roll with no cost to ride quality. The big Pirelli P Zeros (265/40ZR-21 front, 305/35ZR-21 rear) acknowledge pavement imperfections, but the chassis is undisturbed by midcorner bumps.

The GT's interior is its most traditional attribute. Swathed in acres of leather with quilting both stitched and embossed, even the usually neglected interior spaces—the A-pillars, the sides of the console, the lower dash and door panels—are posh. Glossy wood trim (or, new for 2019, ribbed aluminum) stretches across the dash and onto the door panels, while the controls and switches are rendered in chrome. Unlike in past Bentleys, however, the ritzy finishes aren't compensating for dated electronics. The new Bentley Rotating Display [see "Triple Play"] permits modern functionality without compromising Bentley's analog heritage. Ahead of the driver is a digital instrument cluster, which is configurable, and there's an optional head-up display. Against trend, Bentley doesn't believe that stark minimalism is the key to style. The high, broad center console includes plenty of physical buttons and knurled-edge knobs, all of which operate with a quality feel that no haptic flat panel can impart.

The roughly \$220,000 Continental GT's fitness regimen does not erode its distinctiveness. Instead, its renewed mechanicals and toned bod make it a more athletic, better-looking version—an enviable change for all of us headed in the opposite direction.



hide and seek

TRIPLE PLAY

According to the Continental GT's exterior designer, JP Gregory, the design team didn't want the GT's 12.3-inch touchscreen to dominate its interior, but they did want to add some theater. Their answer is the Bentley Rotating Display. The three-sided tumbler features the touchscreen on one side, three traditional analog gauges (outside temperature, a compass, and a timer) on the second, and a continuation of the wood veneer that stretches across the dash on the third. When the car is off, you'll only see the veneer side. Key on the ignition, and the unit rotates to show either setup (whichever was displayed when the engine was shut off). With the car on, a button toggles between the gauges and the screen, which is huge, sharply rendered, and easy to use. Physical buttons below it and on-screen touch-points along the side provide quick shortcuts, and the home screen can simultaneously display up to three functions. Because the unit retracts slightly into the dash before it spins around, the rotation is a complex operation requiring two motors. In total, there are 40 moving elements, including better-looking cooling fans. The cost of this optional bit of theater? A cool \$6270. —JL





TESTED

Re-Boot

The Golf with a trunk returns, sort of, in the 2019 VW **Jetta**. *—by Jeff Sabatini*

▼ **IF YOU OBSERVE CLOSELY**, the new, seventh-generation Volkswagen Jetta has a tell. Ignore the strakes on the hood that make it appear something like a shrunken Passat. Don't be fooled by the shiny chrome exhaust tips integrated into the rear-bumper valance—they're fake. Instead, trace the major character line from the little badge on the passenger front fender back along its length. There, hiding within the crease in the metal, is the Jetta's fuel-filler door. Look familiar? Of course it does: It's nearly the same shape as on the Golf, the Jetta's once-again platform-mate.

For 2019, the Jetta moves to the MQB platform, VW's do-everything, be-everything architecture, which made its U.S. debut in the 2015 Golf (and also underpins the Tiguan and Atlas as well as the Audi A3 and TT). The Jetta now shares many components with the seventh-gen Golf, including its steering and front suspension, crash structures, HVAC, infotainment software, and even its 13.2-gallon gas tank. But no sheetmetal. Certainly the relationship is more complicated than it was in the era when the Jetta was a Rabbit with a trunk grafted to its hindquarters.

But it's from axle to axle and under the hood that the sedan diverges most from the hatch. VW stretches the Jetta's wheelbase to 105.7 inches, nearly two inches longer than the Golf's, and the

Jetta's overhangs make it almost a foot and a half longer overall. Yet the sedan is not legitimately cavernous inside. Rear passengers get 1.8 inches more legroom than in the Golf, though they'll sacrifice almost an inch of headroom. And don't plan on seating three adults across the back, as the Jetta's middle seat is cramped. About that trunk: It has shrunk in the new model relative to the previous Jetta, although the Golf's comparatively enormous cargo hold is more a testament to efficient hatchback packaging than any deficiency of the sedan.

The Jetta's turbocharged 1.4-liter four carries over from last year and is the only engine available—at least until the sporting GLI launches next year. With just 147 horsepower, the 1.4 is down 23 horsepower to the Golf's 1.8-liter; although, when paired with manual transmissions, both engines make 184 pound-feet of torque. (Automatic Golfs have 199 pound-feet.)

The new Jetta gets upgraded gearboxes: a new automatic with eight gears rather than six, and a slick six-speed manual that replaces the commodity-car five-speed. Fuel economy grows by as much as 7 mpg, with all Jettas now hitting 30 mpg in the city and 40 on the highway, per the EPA. Sadly, the manual is available only on base S-trim cars, with other trims, including the R-Line tested here, getting the automatic.

The Jetta feels punchy, with excellent throttle response and virtually no turbo lag. If you boot it off the line, even the automatic-equipped car will squeal its front tires and trip the traction-control system. However, a clean launch with the eight-speed produces only a 7.7-second zero-to-60-mph time, merely average for the class.

[+] Lower price, new tech features, drives like a Golf ... almost.
[-] Almost only counts in horseshoes and hand grenades, not in handling and braking.

Drivelines

The most recent Golf we tested isn't any quicker, although it is more fun to explore the upper reaches of its tachometer, where its bigger engine shines. Revving beyond 5000 in the Jetta yields no reward, aural or otherwise, and the automatic will grab a higher gear by 6000 rpm anyway. Although you can shift the eight-speed yourself, this transmission favors smooth over snap.

Indeed, smooth is the Jetta's mien, a yacht rocker rather than a hard rocker. It is noticeably and measurably quieter than the Golf. Also softer, with more body roll and less feedback through the steering and chassis. But otherwise the siblings drive and ride similarly, with a light steering weight and good impact absorption. The new Jetta uses the same front struts and steering system as the Golf, although Volkswagen reverted to a rear torsion beam for the Jetta. In a small concession to sportiness, R-Line models get a brake-based torque-vectoring system on the front axle. Bridgestone Ecopia EP422 Plus tires in either 16- or 17-inch size shunt steering feel but don't keep the Jetta from matching the Golf's 0.83-g roadholding. Braking performance is poor, however, with the Jetta covering 191 feet to stop from 70 mph, which puts it behind the Golf and at the back of the compact segment.

The new Jetta leapfrogs its platform-mate in one area: Digital Cockpit. Four years ago, a larger version of this 10.3-inch reconfigurable screen, which replaces the traditional speedometer and tachometer, was auto-show hoopla from Audi. Now Volkswagen offers it as an enticement to spend \$25,265 for the SEL trim; it's a feature unavailable on any Golf save for the stratospherically priced, \$40,000-plus Golf R. Even without it, though, lower-trim Jettas have a great analog cockpit. One pod encircles the main instrument panel and infotainment system, with the touchscreen perched high on the dash-

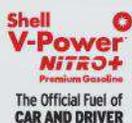
2019 VOLKSWAGEN JETTA R-LINE

VEHICLE TYPE: front-engine, front-wheel-drive, 5-passenger, 4-door sedan
PRICE AS TESTED: \$24,140
BASE PRICE: \$23,845
ENGINE: turbocharged and intercooled DOHC 16-valve inline-4, aluminum block and head, direct fuel injection
DISPLACEMENT: 85 cu in, 1395 cc
POWER: 147 hp @ 5000 rpm
TORQUE: 184 lb-ft @ 1400 rpm
TRANSMISSION: 8-speed automatic with manual shifting mode
DIMENSIONS
WHEELBASE: 105.7 in
LENGTH: 185.1 in
WIDTH: 70.8 in
HEIGHT: 57.4 in
PASSENGER VOLUME: 94 cu ft
TRUNK VOLUME: 14 cu ft
CURB WEIGHT: 3055 lb

C/D TEST RESULTS

ZERO TO 60 MPH: 7.7 sec
ZERO TO 100 MPH: 22.5 sec
ZERO TO 110 MPH: 29.5 sec
ROLLING START, 5-60 MPH: 8.6 sec
1/4-MILE: 16.1 sec @ 87 mph
TOP SPEED: 127 mph (governor limited)
BRAKING, 70-0 MPH: 191 ft
ROADHOLDING, 300-FT-DIA SKIDPAD: 0.83 g*
FUEL ECONOMY
EPA COMBINED/CITY/HWY: 34/30/40 mpg
C/D OBSERVED: 32 mpg

*Stability-control inhibited.



board and canted toward the driver. This seamless control center proclaims the Jetta's driver-centric mission even if it's not actually a driver's car.

The Jetta is good, certainly better than previous generations. The old cut-rate interior is much improved. The Jetta now offers one of the most comprehensive feature sets in its class, and the price even gets an across-the-board trim. You can drive one away for as little as \$19,395, which undercuts competitors like the Honda Civic and the Toyota Corolla by a few hundred dollars. But like most carmakers, Volkswagen reserves the stuff you want—whether it's a bigger touchscreen or an upgraded audio system or adaptive cruise control—for the higher trim levels. The Jetta is less expensive than the Golf, too, by more than \$2000. Also, you get what you pay for. The Jetta is not as much fun to drive as the Golf. Its performance attributes are not as well balanced. If you look again at that little rhomboid aperture on the Jetta's flank but this time widen your gaze, you'll notice that it is not the snug-fitting puzzle piece of its twin, the Golf, where its sides run parallel to the fender-panel edges. That's the real tell, a metaphor for all the ways this new Jetta is not as precise, not as perfectly executed, as its exceptional sibling.

The new Jetta's exterior design is pleasant enough, if not exactly distinctive. Its interior no longer feels as if it were plucked from the bargain bin.





The Wolf of Weissach

The Porsche **911 GT3 RS** is out to get you, but not in the way you'd expect. *—by Tony Quiroga*

ONCE UPON A TIME, there was a Porsche 911. Not an ordinary 911, mind you. The 911 GT3 RS is a near race car masquerading in a 911's frock. Porsche designed this RS to be the most direct, ferocious, and precise street-legal sports car in the brand's hierarchy. Yes, we're aware that a 700-hp GT2 RS exists, but arguments for the GT2 RS as Porsche's ultimate predator collapse with every huff and puff of its turbochargers. In the GT3 RS, you get claw-sharp throttle response and the 9000-rpm bawl of a 520-hp naturally aspirated flat-six exhaling through a titanium exhaust. The regular GT3's 500-hp unit is an electronically neutered version of the same engine. But unlike in the lesser GT3, there's no manual available in the RS, only a seven-speed dual-clutch automatic.

"My, what a deep voice you have."

"The better to greet you with, my dear," responds the RS.

Ball joints replace bushings at the ends of the suspension links, ensuring constant feedback between the steering and the road. Michelin Pilot Sport Cup 2 track tires are standard and are pretty much the only rubber in the chassis. The directness works. The best track cars reassure, and the RS's clarity of feedback fosters trust. But not the false trust of the wolf. There are no feints. No alarms. No surprises. Speeds go up, lap times fall. All of it tucks under the wide body shared with the 911 Turbo. Even with the Turbo's flared fenders, the 20-inch front and 21-inch rear wheels barely fit.

"My, what big tires you have."

"The better to grip you with," responds the RS.

To reduce weight, there's a magnesium roof and a carbon-fiber hood. An \$18,000 Weissach package makes the roof, anti-roll bars, and a few interior pieces out of carbon fiber, which accounts for a 13-pound weight loss. New NACA ducts in the hood feed the front brakes, allowing engineers to redirect the air flowing through the front bumper to increase downforce.

Hanging off the back is an adjustable wing that helps the RS more than double the standard 911 GT3's downforce to 317 pounds at 124 mph. In a 130-mph right-hander, the change in the RS's steering from heavy to I-should-really-work-out-more is one clue that the tires are burdened with a greater load. Another clue is that the GT3 just sticks without any drama. Higher cornering speeds are not only possible, but encouraged.

"My, what a big wing you have."

"The better to hold you down with," responds the RS.

Price and rarity confirm that this is no ordinary 911. The company hasn't set a limit on how many it will build, but the RS is made in Flacht, Germany, where Porsche's motorsports division is headquartered. Consider this: Your RS might be assembled alongside the next Le Mans winner, a privilege that will cost you at least \$188,550. Figuring out a way to get one becomes all-consuming. Sell everything, get a loan, learn to count cards, invest in Bitcoin, short Tesla on margin, and it's yours.

"My, what a big price you have."

"The better to eat you with," responds the RS.

2019 PORSCHE 911 GT3 RS

VEHICLE TYPE: rear-engine, rear-wheel-drive, 2-passenger, 2-door coupe
BASE PRICE: \$188,550
ENGINE: DOHC 24-valve flat-6, aluminum block and heads, direct fuel injection
DISPLACEMENT: 244 cu in, 3996 cc
POWER: 520 hp @ 8250 rpm
TORQUE: 346 lb-ft @ 6000 rpm
TRANSMISSION: 7-speed dual-clutch automatic with manual shifting mode
DIMENSIONS
WHEELBASE: 96.6 in
LENGTH: 179.4 in
WIDTH: 74.0 in
HEIGHT: 51.1 in
PASSENGER VOLUME: 47 cu ft
CARGO VOLUME: 14 cu ft
CURB WEIGHT: 3200 lb
PERFORMANCE (C/D EST)
ZERO TO 60 MPH: 2.9 sec
ZERO TO 100 MPH: 6.8 sec
1/4-MILE: 11.0 sec
TOP SPEED: 193 mph
FUEL ECONOMY
EPA COMBINED/CITY/HWY: 17/15/19 mpg (C/D est)

[+] One bite and it'll make you think you've turned pro.
[-] Not inconspicuous, Porsche dealers don't accept bread crumbs.



Drivelines



THREE-PAGE COMPARO

Brothers in Arms

Jaguar's **F-Pace** and Land Rover's **Range Rover Velar** tussle in this sibling rivalry. *by Josh Jacquot*

▼ **IT WON'T SURPRISE YOU** to learn that we here at *C/D* regularly disagree with one another. It's often about trivial matters such as how long a Geo Metro can run without oil in its crankcase (we'll settle that argument in next month's issue). Occasionally, we squabble over more pressing issues, like whether or not the cost of executive editor Jared Gall's Steel Trap deodorant will increase with the hike in Chinese trade tariffs. But in the matter of the Jaguar F-Pace versus the Land Rover Range Rover Velar, we reached a rarely achieved consensus: The Jag wins this showdown of platform-mates because it's more enjoyable to drive every day.

This alphanumeric soup of mini comparison tests pits Jaguar's F-Pace 30t Portfolio LE against Land Rover's Range Rover Velar P250 R-Dynamic SE. Though you'd not gather it from their names, both use the company's base powerplant, a turbocharged 2.0-liter inline-four. The Jag's 30t designation means its version of JLR's Ingenium engine cranks out 296 horsepower. But because America loves choices, Jag also has an F-Pace 25t with the same 247-hp mill found in the Velar we tested. We chose to bring the 296-hp Jaguar to meet the 247-hp Land Rover because their prices aligned best, and because the Velar offers



only the lower-output version of the gas four. Further complicating the powertrain options are JLR's 180-hp four-cylinder diesel and 380-hp supercharged 3.0-liter V-6, which are available in both utes.

To judge from the spec sheets, these are very similar SUVs. Both are built on JLR's aluminum-intensive D7a platform. Both come standard with eight-speed automatic transmissions and all-wheel drive, ride on 113.1-inch wheelbases, and use the same multilink front and rear suspensions supported by coil springs. But we don't judge from the spec sheets. We judge on the road and at the test track, and it's in those places that the Jaguar's engine and chassis do much of the convincing. Its power advantage, thanks to a ball-bearing turbo with a bigger compressor housing and 5.8 psi more boost, yields a 1.2-second-quicker zero-to-60-mpg run (6.2 versus 7.4 seconds). It also carries a 1.0-second advantage through the quarter-mile. It's a power difference that matters not just when the ute is driven with purpose but also in daily utility. Most telling is the F-Pace's 2.0-second lead (7.1 versus 9.1 seconds) in our 5-to-60-mpg rolling-start test, where its edge in flexibility translates into a more usable real-world SUV. Need to squeeze into a hole in traffic or punch around a couple of slow movers on a two-lane? The Jaguar is there. The F-Pace's pleasant, if mild, growl, which doesn't give it away as a four-cylinder, won't even wake your mother-in-law.

The F-Pace's dynamic superiority extends into every input at its wheel, which turns a variable-ratio steering rack with a marginally quicker overall ratio than the Rover's. There's an unvarnished honesty in its steering that's not present in the Velar's helm. Not that the Rover isn't capable on the road—all its controls perform their duties resolutely but without the Jag's eagerness. Driven aggressively, the Rover never lost the Jag's tail on our 10Best loop. But the F-Pace is easily the better communicator of the road's condition and the available grip. It supplies a complete report,

Drivelines



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CAR AND DRIVER

2018 JAGUAR F-PAGE 30t PORTFOLIO LE

\$65,255
\$62,995

2018 LAND ROVER RANGE ROVER VELAR P250 R-DYNAMIC SE

\$68,191
\$61,095

PRICE AS TESTED
BASE PRICE

DIMENSIONS

LENGTH	186.3 in
WIDTH	76.2 in
HEIGHT	65.0 in
WHEELBASE	113.1 in
FRONT TRACK	64.6 in
REAR TRACK	65.1 in
INTERIOR VOLUME	F: 51 cu ft R: 45 cu ft
CARGO BEHIND	F: 64 cu ft R: 34 cu ft

LENGTH	189.1 in
WIDTH	76.0 in
HEIGHT	65.6 in
WHEELBASE	113.1 in
FRONT TRACK	64.6 in
REAR TRACK	65.2 in
INTERIOR VOLUME	F: 51 cu ft R: 45 cu ft
CARGO BEHIND	F: 70 cu ft R: 34 cu ft

POWERTRAIN

ENGINE

turbocharged DOHC
16-valve inline-4
122 cu in (1998 cc)

turbocharged DOHC
16-valve inline-4
122 cu in (1998 cc)

POWER HP @ RPM	296 @ 5500
TORQUE LB-FT @ RPM	295 @ 1500
LB PER HP	14.6

POWER HP @ RPM	247 @ 5500
TORQUE LB-FT @ RPM	269 @ 1200
LB PER HP	17.8

DRIVELINE

TRANSMISSION

DRIVEN WHEELS

8-speed automatic
all

8-speed automatic
all

CHASSIS

TIRES

Goodyear Eagle F1 AT
SUV 4X4
255/50R-20 109W M+S

Pirelli Scorpion Verde All
Season
255/50R-20 109W M+S

C/D TEST RESULTS

ACCELERATION

0-30 MPH	2.1 sec
0-60 MPH	6.2 sec
0-100 MPH	16.3 sec
0-120 MPH	27.4 sec
1/4-MILE @ MPH	14.7 sec @ 95
ROLLING START, 5-60 MPH	7.1 sec
TOP GEAR, 30-50 MPH	3.8 sec
TOP GEAR, 50-70 MPH	4.6 sec
TOP SPEED	145 mph (gov ltd, mfr's claim)

0-30 MPH	2.4 sec
0-60 MPH	7.4 sec
0-100 MPH	20.4 sec
0-120 MPH	38.1 sec
1/4-MILE @ MPH	15.7 sec @ 89
ROLLING START, 5-60 MPH	9.1 sec
TOP GEAR, 30-50 MPH	4.8 sec
TOP GEAR, 50-70 MPH	5.3 sec
TOP SPEED	135 mph (gov ltd, mfr's claim)

CHASSIS

BRAKING, 70-0 MPH

ROADHOLDING, 300-FT-DIA SKIDPAD

167 ft

174 ft

0.85 g

0.84 g

WEIGHT

CURB

%FRONT/%REAR

4332 lb

4392 lb

50.3/49.7

50.1/49.9

FUEL

TANK

RATING

EPA COMBINED/ CITY/HWY

C/D 200-MILE TRIP

16.6 gal

16.6 gal

91 octane

91 octane

24/22/27 mpg

23/21/27 mpg

22 mpg

21 mpg

telegraphing undulations and bumps into the driver's hands. And though that busyness doesn't always befit a luxury SUV, it clearly spells out the F-Pace's limits. You can probably guess that the Rover's ride is the more comfortable of the two. Both sport-utilities wear all-season rubber sized 255/50R-20, but the F-Pace's Goodyears help give it a slight edge over the Velar's Pirellis on the skidpad, where it circled at 0.85 g to the Rover's 0.84 g.

Brake feel and response on the road are a wash, but the Velar exhibited moderate fade at the track, where it also required an additional seven feet to stop from 70 mph compared with the Jag. As it weighs only 60 pounds more than the 4332-pound F-Pace, the Velar's Pirelli tires are the likely culprits.

Stiffer spring and base damping rates are the Jag's allies on the road, but with four driving modes to the Velar's six—three of

We find the twins attractive. But the Velar's interior is not only more elegant than the F-Pace's, it also seems to be of a higher quality.





which are off-road specific—and with a half inch less front-suspension travel, the F-Pace lacks the Velar’s dirt-going latitude. Air springs, which adjust ride height and improve water-fording depth, are a Velar feature when you opt for the V-6, as is an automatic-locking rear differential. So if you’re that exceptionally rare crossover buyer with a desire to befool your luxury vehicle, the Velar is your huckleberry.

Inside, the Rover is a pioneering starship to the Jag’s aging F-14. Its entire interior treatment is more elegant. Its materials are finer, its shapes more polished, its style more modern. A big part of that style, however, stems from its reliance on dual touchscreens, which smooth and sanitize its surfaces by freeing them of buttons. And because there are no buttons, many secondary controls are buried in the menus and submenus. Improving the situation somewhat are three knobs managing volume, temperature, and drive mode. The F-Pace uses real buttons to toggle

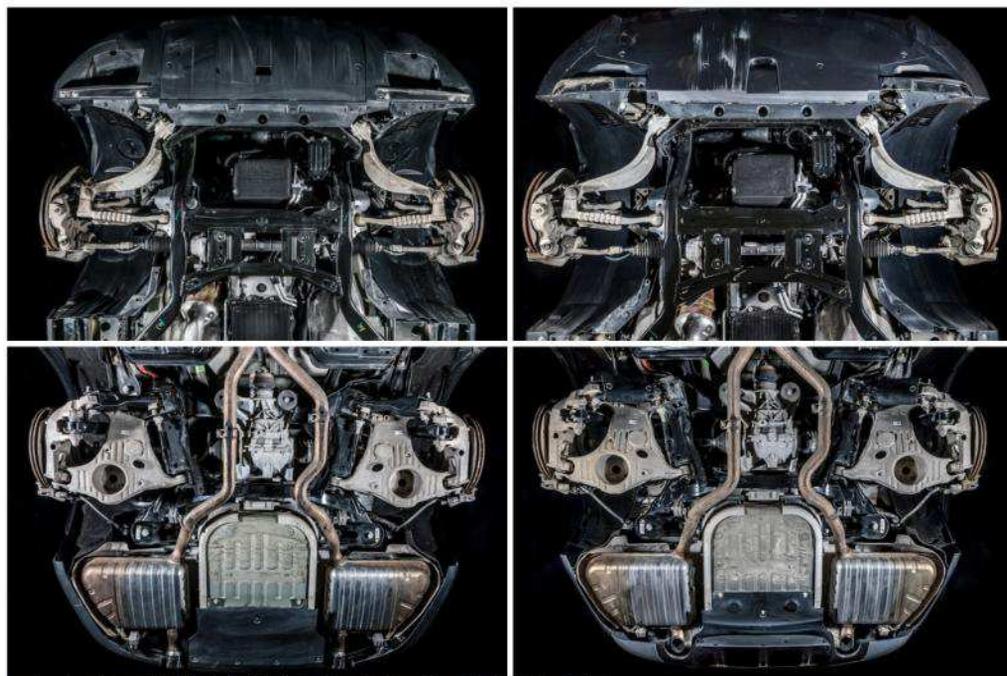
For us, exposed exhaust finishers always trump a superfake plastic skid plate/diffuser. Interior choice: circus peanuts or nougat.

between drive modes and to operate the ventilation system. The result is that, on balance, its controls are more quickly found, more intuitive, and easier to use than the Velar’s.

Up front, the Jag’s seat bottoms are well contoured and provide more cushion without posing any competition to the fine folks at Barcalounger. Three across in the back seat is no fun in either, but it’s a contest the Velar wins by having more headroom and a greater sense of airiness. It also has six more cubic feet of cargo space than the F-Pace when its rear seats are folded flat. Both SUVs’ rear seatbacks provide 40/20/40 split folding.

As noted earlier, the Jaguar doesn’t win this comparo on the spec sheet. It wins largely on subjective matters, the smallest nuances of character that coalesce to reveal a more engaging SUV. It has driverly ambition. It encourages hustling, while the Rover merely tolerates it. That it’s quicker and has an as-tested price about \$3000 less than the Velar’s simply seals the deal.

You can tell the sporty truck’s chassis (left) from the off-roader’s (right) because it looks . . . almost exactly the same.



2. Land Rover Range Rover Velar
 [+] Starship controls, stunning interior, more capable off-road.
 [-] Starship controls, less engaging on-road.
 [=] A very fine luxury crossover with a side of off-road capability.

1. Jaguar F-Pace
 [+] Comfortable at speed, quick enough, playful.
 [-] Busier ride, smaller back seat.
 [=] The one we’d prefer to drive home.

UNDERBODY PHOTOGRAPHY BY MARC URBANO

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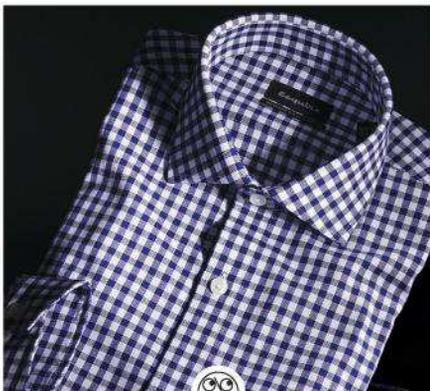
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Bland Sport

Keep your expectations in check and the handsome **Regal GS** delivers. *by Alexander Stoklosa*

▼ **DON'T GET TOO EXCITED**—the latest Regal GS isn't what you think it is. Yes, it has torque-vectoring all-wheel drive, a 310-hp 3.6-liter V-6, and knockout good looks, all of which are sure to flash as hot pings on most people's performance-car radar. In actuality, the Regal GS is merely a nice near-luxury car with a V-6 engine. As in competitors such as the Acura TLX, Lincoln MKZ, and Toyota Camry, the six mostly signifies a higher station in the lineup—in this case, the Regal's top trim level—not a dog whistle to driving enthusiasts.

We can see how Buick could have you fooled, though. The GS looks fast. Even the regular Regal—dubbed Sportback on account of its sloping rear hatch and vestigial trunklet, which are shared with the GS—starts out lithe and sleek. If Buick assumed that Audi's use of (but failure to trademark) the same name for its similar A5 Sportback might get people talking about the two cars in the same sentence, well, that's just good marketing. And so long as that conversation stays focused on matters cosmetic, the Buick and the Audi can safely cohabitate within its clauses.

That wouldn't have been possible had Buick—and Opel, the German brand that GM just sold to the PSA Group yet that still builds the Regal and sells its own version of it called the Insignia—

not kept the GS's detailing restrained. A small red GS badge floats inconspicuously in the grille, and the larger front intakes, GS-specific 19-inch wheels, and red-painted Brembo front brake calipers don't overshadow the Regal's sensational shape.

With its 3.6-inch-longer wheelbase, extra 2.7 inches of overall length, 0.7-inch-lower roof, and additional 0.2 inch of width, the Buick feels significantly larger inside than its predecessor. Behind the roomy rear seat lives a 32-cubic-foot cargo hold, which can be expanded to 61 cubes by laying the 40/20/40 split-folding rear seatbacks down flat. For reference, Buick's largest two-row crossover, the Envision, stores 27 and 57 cubic feet, respectively. We only wish the GS had a power-opening mechanism like the one on the Regal TourX station wagon's tailgate. Burdened by the huge rear window and that dummy trunklid, this car's hatch is a heavy lift.

So, too, is the GS overall. While this Regal is 202 pounds lighter than the last all-wheel-drive GS we tested back in 2014, its curb weight still nears two tons. By comparison, a front-drive, four-cylinder Regal Sportback we tested was 394 pounds lighter.

Buick makes life even harder for the GS by fitting the standard Sportback with the turbocharged 2.0-liter four from the previous-generation Regal Turbo and GS models. Making 250 horsepower, the four-pot scoots a front-drive Regal to 60 mph in 5.6 seconds, quicker than Acura's 290-hp TLX and Toyota's 301-hp Camry. In the fight between the GS's substantial mass

[+] So easy on the eyes, roomy, tuned well for its mission.
[-] GS branding a dead end, seriously heavy, no paddle shifters.

Drivelines



These aggressively bolstered, racing-style front seats are writing checks that the relatively mild-mannered GS can't (and doesn't want to) cash.

and its 60-hp boost over the Sportback, the engine loses. Despite the advantage of an all-wheel-drive launch, this sportiest Regal is only 0.2 second quicker to 60 mph than its Sportback sibling.

The top Regal's mass also dulls its performance edge when deviating from a straight line, where its road-crushing heft makes the car feel inert. Wearing the same Continental all-season tires as the Sportback we tested (but on one-inch-larger wheels), the GS merely matches that car's good but not great 0.87-g showing on our skidpad. It also needs a couple extra feet to stop from 70 mph.

At least the GKN-sourced twin-clutch torque-vectoring rear differential isn't fluff. Though also offered on the base Regal and tuned less adventurously than it is in Ford's Focus RS, the diff keeps torque steer at bay by overdriving the Regal's outside rear wheel to help direct the car through turns. But exploiting this capability requires the driver to stomp on the gas midcorner. Pass this test of will and the corrective tail yaw suppresses understeer for a time. It creeps back in during long sweepers as the stability control reins in the throttle, and the low-grip all-season tires succumb to a use for which they were never intended.

The GS isn't an extravagantly improved Regal, which is sort of okay given how composed the base car drives. It's just false advertising. We were expecting more—more performance, more handling, more yuks, especially considering that Buick tosses in adaptive dampers and three drive

2018 BUICK REGAL GS

VEHICLE TYPE: front-engine, all-wheel-drive, 5-passenger, 4-door hatchback

PRICE AS TESTED: \$44,115

BASE PRICE: \$39,995

ENGINE: DOHC 24-valve V-6, aluminum block and heads, direct fuel injection

DISPLACEMENT: 223 cu in, 3649 cc

POWER: 310 hp @ 6800 rpm

TORQUE: 282 lb-ft @ 5200 rpm

TRANSMISSION: 9-speed automatic with manual shifting mode

DIMENSIONS

WHEELBASE: 111.4 in

LENGTH: 192.9 in

WIDTH: 73.3 in

HEIGHT: 57.3 in

PASSENGER VOLUME: 98 cu ft

CARGO VOLUME: 32 cu ft

CURB WEIGHT: 3820 lb

C/D TEST RESULTS

ZERO TO 60 MPH: 5.4 sec

ZERO TO 100 MPH: 13.5 sec

ZERO TO 120 MPH: 20.5 sec

ROLLING START, 5-60 MPH: 5.7 sec

1/4-MILE: 13.9 sec @ 101 mph

TOP SPEED: 155 mph (drag limited, C/D est)

BRAKING, 70-0 MPH: 164 ft

ROADHOLDING, 300-FT-DIA

SKIDPAD: 0.87 g

FUEL ECONOMY

EPA COMBINED/CITY/HWY: 22/19/27 mpg

C/D OBSERVED: 20 mpg

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modes: Touring, Sport, and GS. The latter two firm up the suspension and produce quicker and more frequent downshifts from the transmission.

Regardless of its drive mode, the Regal remains true to its easygoing baseline tune even as it delivers slightly sharper responses. There's just a small nod to the sporty side with each button press. This is a rare bit of technical subtlety that we can't help being impressed by, despite our overall disillusionment with the car. Such detail work deserves praise in this age of endlessly adjustable, never-quite-right computerized chassis.

Lacking paddle shifters seems like a sin, even in light of the GS's relaxed nature, though the nine-speed transmission's second and third gears are so tightly spaced that you can't avoid the fuel cutoff during the 3-4 upshift when toggling the shifter yourself. Left to its own devices, the GS skips third altogether under full throttle to avoid any redline-to-redline hiccups.

Also disrupting the Regal's cohesive chi are its ambitiously bolstered front sport seats, which appear to have fallen off a truck headed for the Corvette's Bowling Green, Kentucky, plant. The chairs' faux cutouts for racing harnesses look ridiculous, though the seats are comfortable and have standard massaging, heating, and ventilating functions.

For \$39,995 to start, the Regal GS is a roomy, premium-ish mid-sizer that's comfortable letting Audi and BMW keep their customers. Its interior feels adequately upscale for its price. And given that the GS tops out at just over \$46,000—about the same as Acura's six-cylinder TLX SH-AWD A-Spec—it's a good value, too. As long as you're clear that this is simply a good-looking Buick with a V-6 and not a frisky sports sedan. ■

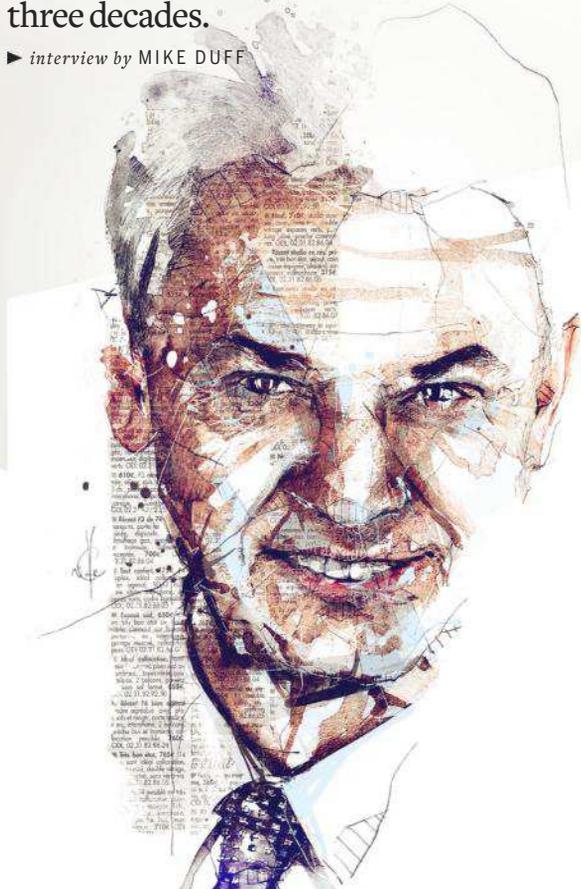


What I'd Do Differently

Albert Biermann, 61

Hyundai's head of performance development tells us about growing up at the Nürburgring and why he left BMW after three decades.

► interview by MIKE DUFF



C/D: When did you know you were going to work with cars?

AB: That was pretty clear in 1973 when there was a touring-car race at the Nürburgring and the 3.0 CSL was fighting with the Capris. I had a flag I had made at home with a BMW logo on a wooden pole, and I waved it every time Hans Stuck went past. After qualifying, I went to the paddock, and he saw me with my flag and signed my jacket.

You joined BMW as a young chassis engineer after college, but you worked on BMWs in your leisure time as well.

Yes, with the Linder racing team. They were racing the 323 and later the 325. There were racetracks where we were almost competitive with the 325 against the big cars, but the engine power was not really enough. I moved to

BMW Motorsport, my dream job, but I was told that I wouldn't work on the new E30 race car, as the experienced guys deserved that. But everyone was so involved with the road car that I was the only guy available and I got to do it.

The E30 M3 went on to be one of the most successful race cars of all time. What was your biggest contribution?

The roll cage. I was trying to make it from aluminum, which everybody used then because it was light, but it was a nightmare because of the complexity of my design. Then I got the idea to switch to steel—at that time, only things like Safari rally cars used it—and also to weld it to the body structure; aluminum had to be bolted. The result was a car with more than double the stiffness of

the old 635 racer, yet the cage weighed seven pounds less.

You went to BMW of North America, where it sounds as if you saved us from some rubbish.

In the early 1990s, the U.S. marketing people were saying that "BMW's are too uncomfortable; we want a softer car." Of course, I didn't want this, so I built an E36 in Munich with everything soft: all-season tires, soft brake pads, soft steering, soft shocks. We also did a normal car, then one fitted with the M-Technic parts kit, the sporty stuff. There was a big ride-and-drive event for the board and the problem went away; people could see that the soft car was completely wrong for us, but the result was that we offered M-Technic as an option in the U.S.

How did you become BMW's chief engineer?

There was a project to make an M version of the [second-gen] X5, but the engineers didn't like the idea of turbocharging or an SUV. Management wanted change, so they hired me as R&D boss. The X5 M was maybe a year from production and I had to radically change it, give it more character and make it as much of an M car as possible.

How did Hyundai get to you?

They just called me on a Friday evening. I said, "No, I'm not interested." I started to think about Hyundai and what it was doing with Kia, and also about how far South Korea had come in a short time. But the key thing was that M was heading somewhere I didn't want to go. The guys who used to do crazy projects were gone. So I was thinking maybe Hyundai isn't a bad idea at the end of my career. Then a few things happened, like the double-clutch transmission was canceled for the M5, and I thought, "This is not my game anymore," and I left. My plan had been to retire after this M5 launched, but suddenly I had a new adventure.

What excited you about Hyundai?

Respect! People are excited about what you do and what you achieve. I met vice chairman Chung Eui-sun and was impressed by the regard he had for engineering. Before, it felt like I was the guy who was making mistakes and spending all the money!

Korea had little history in motorsports until recently. Do you think that's vital for driving road-car development?

Definitely, and it's a great training camp for engineers because, in motorsport, you get the feedback of what you have done very fast. Making mistakes and learning is key for good engineers, and that is the problem these days—how little responsibility engineers get early on. When I talk about my career to the junior engineers in Korea, they cannot believe that I was given so much responsibility when I was younger than they are. That's something we're working on.

What would you do differently?

Probably not too much. I had good jobs in BMW and liked every job I did. Even today, the car I am working on is my hero, whether it's a Santa Fe or the new Veloster N.

You'd have kept an E30 racer, though, right?

I would have had to buy it! A few years ago after the Nürburgring 24-hour race, there was a display of historic cars in the old paddock. I saw an E30 M3 and went to have a look—it was one of my cars from '87; I had worked on it. I thought then, "One day." 🇺🇸

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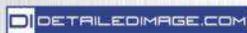
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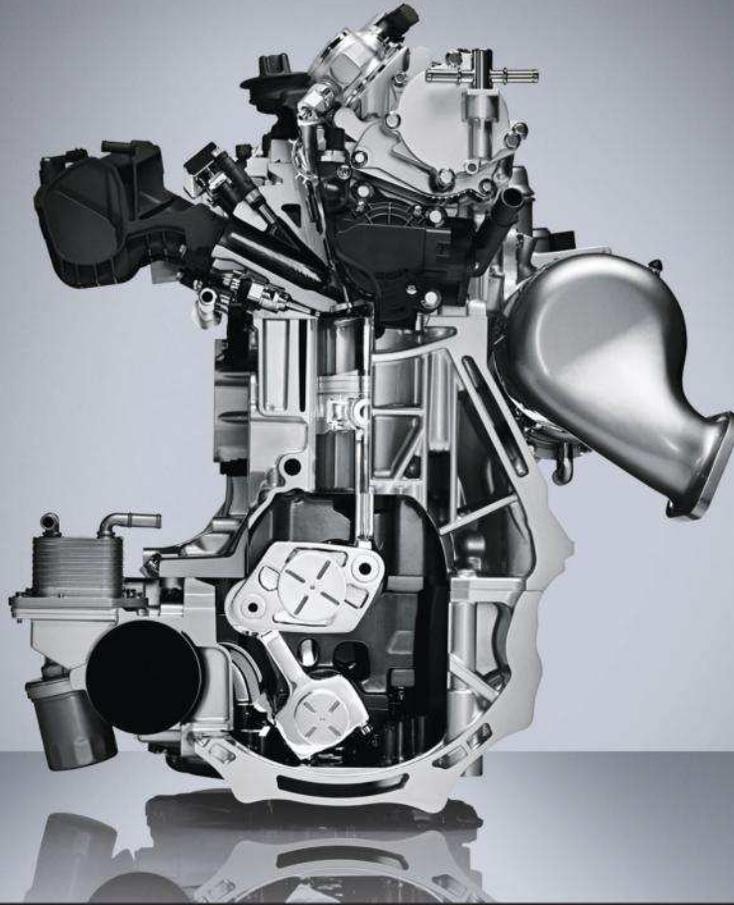
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