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Automobile

DECEMBER 2018

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Cruisin' With Callum

By Todd Lassa

At Detroit's Woodward Dream

Cruise, any mention of Jaguar cars would be tangential at best. But for Jaguar design chief lan Callum, the acres of Motor City muscle and American sheetmetal are among his greatest inspirations. We head to Woodward in a '32 Ford with Callum. where he marvels at the machines and mingles with the masses.



Many drivers think they're good enough to step into a race car and perform at the sport's highest levels, but few actually are. When presented with an opportunity to race in the 24 Hours of the Nürburgring in a Mercedes-AMG GT4, contributor Jethro Bovingdon finds out if he has the right stuff—a trial by fire made all the more difficult by racing at night and in the rain.



Heat-Seeking Senna

By Arthur St. Antoine and Andy Pilgrim The line continues to blur between where a street car ends and a race car begins, and the new McLaren Senna is the ultimate expression of this phenomenon—right down to its name. How does a machine like this evolve, and how does it perform in its natural habitat? Our own hot shoes find out.



360 Degrees of Subaru

By Aaron Gold

Looking back on 50 years of history often reveals a tale hard to explain. Take Subaru and its gestation in America. We drive its first car—the tiny 360—and wonder how it survived, given we barely survived steering one for a day in New Jersey. But the 360 served as a bridge to a future that is now as bright as ever.

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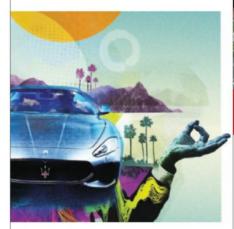
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By Mike Floyd

How much is the classic car of your dreams worth to you?

The Asphalt Jungle

By Arthur St. Antoine The brilliant simplicity of a Maserati brings about a change.



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Noise, Vibration & Harshness

By Jamie Kitman

Jaguar is electrifying the past, and that bodes well for the future.

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The cars of now and the future, painting a bigger picture, and hot-rod toasters.

20 Years of TT

By Nelson Ireson

The **Audi TT** turns 20 this year. We head to the Isle of Man for a drive of the latest model and a lesson in TT racing history.

Automobile

DECEMBER 2018

By Design

By Robert Cumberford

It's our annual look at the **Best of Show** of the Pebble Beach Concours d'Elegance, and it's déjà vu to a decade ago with the Alfa Romeo 8C 2900B Touring Berlinetta.



AUTOMOTIVE LIFESTYLE

Four-Seasons Wrap-Up

By Aaron Gold

Yes, the Infiniti QX30 has German genetics, but it also has Japanese charm, as we found out during the past 12 months.

Four-Seasons Intro

By Conner Golden

Korea continues to produce ever better cars, and the Kia Stinger is one that enthusiasts like us want to get to know better.



Automobile PLUS

By Doug Newcomb

What are automakers working on now to speed up the future of the car? We find out. We also let you know about some fun gadgets for cars of all ages.

Market Watch

By Rory Jurnecka

Ferrari 250 GTO price tags are at astonishing levels. Why does the famous car continue to be the belle of the auction ball? We ask expert Wayne Carini of "Chasing Classic Cars" fame.

Catching up With ...

By Billy Rehbock

CEO of Volkswagen of America Hinrich J. Woebcken talks about autonomy, trucks, sedans, and VW's R-Line models.

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LIVE! Intercontinental GT Challenge - Practice and Qualifying, Laguna Seca 8 Hours LIVE! Michelin

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LIVE! Virgin Australia Supercars, Auckland

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Auto Mundial Motorsport Mundial

Automobile

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VOLUME 33, NO.6

DECEMBER 2018

BUYING I'm astounded, like all ably are (if you're a must the prices these 24-kara but I'm not necessarily stated and the prices these 24-kara but I'm not necessarily stated and the prices these 24-kara but I'm not necessarily stated and the prices these 24-kara but I'm not necessarily stated and the prices these 24-kara but I'm not necessarily stated and I'm astounded, like all ably are (if you're a must he prices these 24-kara but I'm not necessarily stated and I'm astounded, like all ably are (if you're a must he prices these 24-kara but I'm not necessarily stated and I'm astounded, like all ably are (if you're a must he prices these 24-kara but I'm not necessarily stated and I'm not necessarily state

ANYONE OUT THERE have \$48,405,000 incinerating a hole in your wallet for a used car? It seems patently absurd on the surface, but yes, there are enough people of certain means on the planet to bid up that much in an attempt to buy a single automobile—in this case the now mythical unicorn called the Ferrari 250 GTO.

It's a price that set a record for a car sold at auction, occurring during the 2018 RM Sotheby's event in Monterey, California, for a 1962 GTO. But that's almost chump change compared to what David MacNeil, the owner of WeatherTech, paid for a 250 GTO earlier in 2018 in a private sale. MacNeil reportedly dropped more than \$70 million to acquire one. That is not a typo. What in the

wide world of sports is driving the mega-rich to possess these Enzo Ferrari masterpieces at those astronomical prices? We ask a guy who would know: Wayne Carini, of "Chasing Classic Cars" fame, who also specializes in Ferrari restoration and owns a classic car sales operation, F40 Motorsports. You can check out Carini's take on the state of the GTO market and what's behind all of the record-breaking megabucks deals on page 96.

Most 250 GTOs usually have another thing going for them: motorsports pedigree. Knowing that a car was driven in some of the greatest races by legendary drivers pins them to a moment in history, a provenance that normal roadgoing cars can't match. In fact, many of the top sellers at RM Sotheby's were cars with a distinct racing history, among them a 1966 Ford GT40 Mark

II that was part of Ford's historic 1-2-3 sweep of the 1966 24 Hours of Le Mans (\$9,795,000), a 1957 Porsche 550A Spyder integral to Porsche's American racing heritage (\$4,900,000), and a 1956 Maserati A6G/2000 Zagato racer that at \$4,515,000 represented an auction record for the model.

Another record-setter was the one-off 1963 Aston Martin DP215 Grand Touring Competition Prototype, also with a racing history, which we suggested in the November issue could reset the bar for a British car sold at auction. Whoa, did it ever. At \$21,455,000, it topped the mark—set earlier this year at the Bonhams Goodwood Festival of Speed sale for a 1961 Aston Martin MP209 DB4GT Zagato—by some \$8 million.

I'm astounded, like almost all of you reading this probably are (if you're a multimillionaire, you're excused), by the prices these 24-karat-gold-heeled buyers are paying, but I'm not necessarily surprised. In many ways these cars

can be considered Monets, Picassos, or Van Goghs, only the artists are the likes of Pininfarina, Lyons, and Scaglione. And like the fine art market, the car market can and does fluctuate, as *Automobile* features editor Rory Jurnecka often high-

lights in his Market Watch feature.

Back in the real world, what does all this record-setting auction action mean to you and me? Not much. But if you're like me, you deeply appreciate what these cars represent, their place in the pantheon of automobiledom. My wife and I were just at the Louvre in Paris and had a chance to see the Mona Lisa. I was struck by the crowds around it, the fervor to get a look at it, a photo of it. These cars are the exact same thing. They evoke raw emotion and reverence. Like the Mona Lisa, their intrinsic worth is only what someone is willing to pay for them depending on the market. In the end, they're inanimate objects, but ones worth honoring and admiring.

While price certainly is an object for the majority of us

who can only afford to spend tens of thousands on a car as opposed to tens of millions, what you'll never be able to put a number on is your own personal passion and enthusiasm for that special machine you have to own. And although auctions and local sales have been the go-to places for decades, finding said car or cars has become easier than ever thanks to the wonders of the interwebs. The classic vehicle market has opened up nationally and internationally thanks to sites like eBay Motors, Bringatrailer.com and many more. Now you can find even the most obscure models on the planet. Right, Jamie Kitman?

To be sure, the rich are different from you and me in a lot of ways (something I'm reminded of every year during Monterey Car Week). But I suspect their motivations are

often the same when it comes to chasing after that car they simply have to have, when they hear that gavel crash down and know they finally own it.

Have you ever bought a car at auction? If so, what was the experience like for you? Also, what would you like to see more of from our auction coverage? Let us know at **letters@automobilemag.com.AM**





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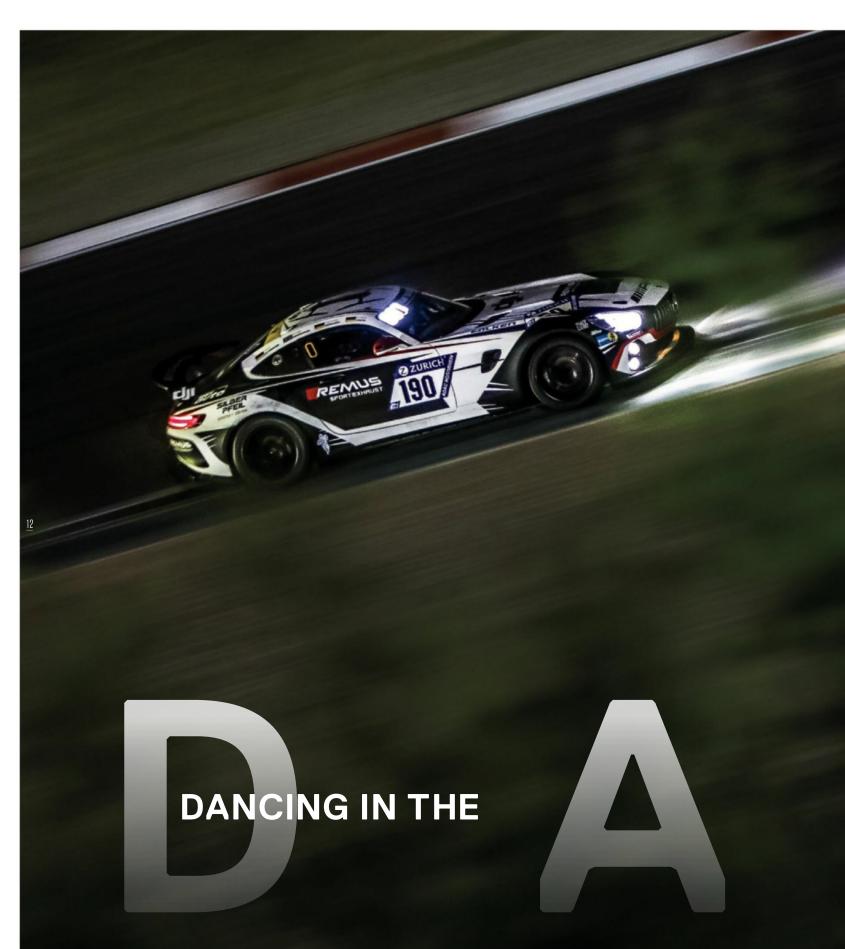
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A WILD RIDE IN THE NÜRBURGRING 24 CAN FEEL LIKE A DREAM— AND A NIGHTMARE

BY JETHRO BOVINGDON





bench in the back of a truck while still wearing a sweaty race suit, I feel on top of the world. I've just had one of the greatest driving experiences of my life: hammering into dusk at impossible speed, howling past slower traffic, and looking on in awe as the leading pack of GT3 cars muscle past in a shower of sparks, flames, and attitude. The Green Hell is at its most heavenly on a balmy,

dry evening, and my race car—a 500-hp AMG GT4—is getting faster and faster in the cool, dense air. If this is what the Nürburgring 24-hour is all about, sign me up forever.

Even better, my teammates and I have concocted a plan to maximize our night running: We'll double-stint because conditions are so good and save our secret weapon—five-time DTM champion, four-time Nürburgring 24 winner, and all-around legend Bernd Schneider (bottom right)—for the morning. Rain is forecast, and Schneider's experience and freakish talent will make all the difference. I sleep as sound as can be for two hours or so.

Waking up under harsh LED lights is a bit of a shock. My back aches, and one of my legs is numb where it's rested over a gear bag. But what's worse is that sound. It's a faint but unmistakable "shhhhhhh" at first, like aluminum foil being swished around the room. Then it builds to a gentle but insistent drumming. Rain. My heart sinks. The precipitation that was scheduled for 6 a.m. has come early. And it isn't going anywhere until well after the race ends at 3:30 p.m.

My double stint starts in 20 minutes or so, at 2:30 a.m.—just when the rain really kicks off. As I stumble out of the truck and into the garage, Pim de Wit, our performance engineer (he looks at the data and tells us why we're slower than Schneider), tells me, "Monsoon rain, possibly ice rain [he means hail, but it sounds so much scarier when a German spits out 'ice rain'] is coming fast." I nod confidently. Then head for the restroom.

"DON'T BE AN ASS. KEEP IT OUT OF THE BARRIERS. BE BRAVE." THE LATTER IS KEY.

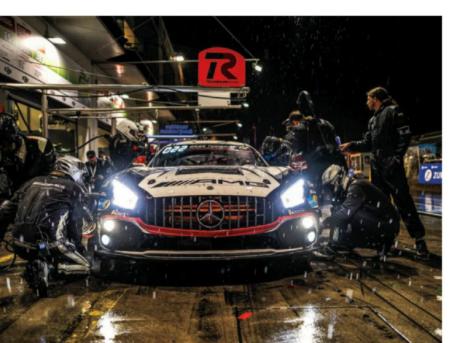
Rain is of course a part of racing. But rain at the 'Ring is different. It's somehow bigger, wetter, and more dangerous. And the sheer scale of the track, its hemmed-in narrowness and its total lack of runoff areas, make it hugely intimidating even for the experienced. Me? I've done the N24 before but always in mercifully dry conditions and in cars slower than our monster AMG. We're running in the top 25. Falling into the cold clutches of those endless shimmering barriers is the stuff of nightmares.











So I wait in the pit lane, sky flashing great purple streaks of lightning. Christian Gebhardt, another of my teammates, brings the car in, and I rip open the door, pull out his radio and drink connectors, and stand back for him to climb out. Then I fold myself into the seat. He straps me into the harnesses, and my earpiece chirps to life. It's Marius Dietrich, our race engineer, calm as can be. "OK, Jethro, reset fuel, select driver position four. You have new wet tires. We expect more and more rain. Sixty kph in the pit lane, watch the white line on pit exit." Then a pause. "Take it easy." And with that I'm given the signal to join the mayhem.

At this precise moment I long for a track with endless runoff areas, an overzealous race director throwing out the red flag at the first hint of drizzle, and a nice, quiet car. This is the other side of old-school no-holds-barred racing, and suddenly it seems more foolhardy than heroic. But I have just a few seconds to contemplate what's ahead. The moment I cross the line at the end of the pit lane, there's no time to think. That's probably for the better, as surely I'd just pull over, park it, and hitch a lift to the hotel bar. We all would.

The N24 combines the modern grand prix circuit with the craggy old Nordschleife to make a circuit of more than 15 miles. That means for the first minute or so there is some margin for error on the smooth Formula 1-spec tarmac. It's a great chance to get a feel for the car and work some heat into the tires. Racing "wets" are amazing things; the AMG still has loads of braking capacity and surprisingly good traction. I'm running engine map one, which saves fuel and reduces torque, but it still reels in everything but the fearsome GT3s at an alarming pace. Weirdly, I'm not so worried about the corners. I can feel the understeer or oversteer build. Hydroplaning, on the other hand, scares the bejesus out of me. Just how quickly can I go on the faster sections before I start floating and sail into the barriers? Erm, who knows?



Turning left for the first time from the expanses of the well-lit GP track and being swallowed up by the darkness of the Nordschleife is unforgettable. I distinctly remember saying, "Here we go ... " aloud to myself. Then, silently, giving myself a set of simple instructions: "Don't be an ass. Keep it out of the barriers. Be brave." The latter is key. Your natural instinct is to creep around as carefully as possible, but to do so just sends your confidence spiraling into the pits of hell. Tires lose temperature, the ABS starts working overtime, the car runs away from you on turn-in as the front tires skate over the surface and the rear tries to bite you as soon as you dare think of opening the throttle.

I know this because my first lap indeed plays out like a nightmare. I'm not brave, and the car and the track punish

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me over and over again with scary near misses. Think back to your school days and the moment of panic when you realize you haven't prepared nearly enough for an exam. You get a hot feeling up your neck and a sudden burst of furious heart pumping that literally shakes your ribcage. Now imagine that half-second physical reaction to swelling panic coming over and over again. You're drowning. That's a wet lap of the 'Ring in the dead of night.

The second lap is slightly better, but I still feel like I'm walking the car around the circuit. When I make it back to the GP section and begin lap three, I'm determined to start actually driving. So I pick up the pace. I keep the throttle wide open on the straights even when the speeds creep up to 150 mph. I brake a little later, turn in a bit harder, and use the wider "wet line" more confidently.

Every lap there's a new crash and more yellow flags and Code 60s (at the scene of bigger crashes, a 60-kph temporary speed limit is imposed), and my car feels a little better. I wouldn't say I'm driving fast, but nothing comes past me except the odd super-committed GT3 car, and I'm picking off other GT4s pretty easily. Even so, this really is endurance rather than enjoyment. My internal coaching is now interrupted by proper shouting: "This is horrible. ... Why am I doing this? ... Please stop raining!"

Finally, after 11 laps, my stint is over, and the plan for me to do a double is abandoned. I hand over to Schneider, or "Five-Time" as he's known within the team. The No. 190 Mercedes disappears into the gloom and the spray as I stand in the pit lane soaked from sweat, exhausted, and so, so relieved. I wasn't an ass. I kept it out of the barriers. I was brave. Eventually.



What owners say about V1...



Bill P., Phoenix, AZ

Where's the radar? An arrow lights up, pointing either Ahead, to the side, or Behind. And, amazingly, it's never wrong.



Arnie R., Atlanta, GA

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Glenna R., Dallas, TX

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***** Chas S., Charlotte, NC

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Cal L., Trenton, NJ

I've owned my V1 since 2001, and I've had it upgraded twice. I trust the arrows to point out every radar trap. When I know where, I know how to defend.



*** Ed H., Las Vegas, NV

How can anyone not be smitten by the Arrows? Radar ahead needs a different defense than radar behind. When I know where, I know what to do. When I put the threat behind me, the arrows confirm it. Without the arrows, you're guessing.



******* Rob R., Sacramento, CA

This is the slam dunk best radar detector. No databases to keep updating, or other "features" I'll never use. Instead V1 tells me the important stuff—the Bogey Counter tells you how many threats within range and the red arrows tell where they are.

Trust...V1 earns it one ambush at a time.



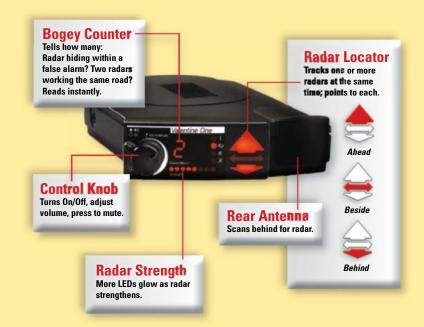
Harold B., Houston, TX

On my way home this afternoon I was following another detector user. I could see red blinking in his windshield as we went past the first radar. Thinking the danger was behind, Mr. Ordinary Detector User hit the gas.

Uh-Oh. V1's Radar Locator was showing two arrows, one pointing toward the trap now behind, and a second arrow ahead. The "2" on the Bogey Counter confirmed we were being double teamed.

Sure enough, Mr. O. D. User cruised into the second trap up the hill at 15 over and got himself a blue-light special.

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After the Nordschleife's oppressive darkness, the pit garage feels floodlit and weirdly disconnected to the mayhem playing out on the track. "Good job, mate," Pim says. "Nobody around us was going as quickly." I glance at the screens, and we're running in 22nd. I am utterly elated. Then I realize the race is barely past the halfway mark just as Fabian Jung, team manager, delivers a line that almost floors me. "Bernd is in for a double. Then it's you again. Sorry."

Those incredible earlier laps in the dry—sun setting and the 4.0-liter twin-turbo V-8 flinging the car along with a sense of unstoppable force—seem so long ago. Flying into the Foxhole in sixth gear and keeping the throttle pinned to the bulkhead into the compression at the bottom, jumping over the big rise before the fast left of Schwedenkreuz at well above 150 mph, working through the endless thirdand fourth-gear twists and turns toward the end of the lap and feeling the GT4's incredible stability—it's all out of reach.

I won't feel the euphoria of a fast, dry lap again, nor will I get the amazing physical sensation of leaning and leaning on the car and it pushing back, barely shrugging at what you ask it to do. Now it's just rain and survival. I eat a schnitzel from a cardboard box and go back to my bench. Sleep doesn't come easily. But I do sleep. A bit. And when I awake the plan has changed.

Patrick Simon, who's experienced and very, very quick, will be in next, so I can relax. Schneider has seen it all before, but even he looks a little ruffled. "How was it?" I ask. His eyes widen. "No grip. Understeer, oversteer ... all the time." He mimes the car slipping out of his hands. "It's ****ing dangerous." I've been with Schneider for the best part of a week, and it's the first time I've heard him curse. His thoughts mirror mine exactly.





Sunrise
brings little
respite as the
fog rolls in
and the rain
gets harder.
It gets so
bad that
the race is
stopped then
restarted
despite
weather
worsening.
No. 190
survives the
mayhem.
AMG builds
a hell of a
race car.



I hope this sense of impending dread doesn't make me feel ungrateful. To be a part of this event is pure magic, and even in dire conditions there are moments you just can't buy: rushing into the dark with lightning splitting great chasms in the sky; GT3 cars dancing past, front wheels a blur as the driver catches every mini-slide; the rear of the cars sparking over curbs or into compressions. Every lap is a privilege. But the stakes are high in every sense.

And so it continues. Another fearsomely slippery stint, this time with the added bonus of heavy fog and more near misses. More unbelievably exciting overtakes and more shouting into my crash helmet. Through it all, though, the AMG GT4 just keeps going, passing slower cars and hanging on gamefully to the GT3s. The race is stopped for fog then restarts. Fittingly, Schneider takes the checkered flag. We finish 22nd overall, first in class, and with only GT3 cars ahead of us. It's over. Thank God. Take me home. Can't wait until next year.

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THE ART OF PERFORMANCE

on those rare winter evenings, I felt ... bliss. The GranTurismo Convertible is hardly a new automobile, having served as the flagship of Maserati's range since its introduction way back in 2007. Changes in the ensuing years have been mostly cosmetic (a small nod to modernity is

to shoulder. But in those few precious moments



EPIPHANY IN A MASERATI



IN MY CAREER, while behind the steering wheels of automobiles of every type and color, I have experienced moments of joy too numerous to count. Usually I am alone, free to focus on the charisma of the machine and the splendor of the passing landscape as I think to myself, "This is why I love cars."

There was the time I piloted a Lamborghini Aventador Roadster, roof off and cockpit open to the cobalt sky above, up Going-to-the-Sun Road in Montana's Glacier National Park, the narrow twolane wriggling against a perilous drop-off, snowdusted mountains rising nearby and beyond, the

V-12 behind me purring with muted power and primed—at the slightest touch of my right foot-to explode in mechanized fury. The week I spent driving a Dodge Challenger R/T through the American Southwest, just me and the Hemi V-8 and the rush of warm desert air as we discovered landlocked saltwater seas, endless dunes of pure white sand, and Trinity, the delivery room of the world's first atomic bomb. The afternoon on California's Highway 1 at the helm of Reeves Callaway's open-cockpit C16 Speedster, fresh from its Concept Lawn debut at the 2007 Pebble Beach Concours d'Elegance, me the first outsider to don one of the car's two paint-matched Stand 21 helmets and take the 700-horsepower supercharged beast out for a romp, no windshield to filter the view, no motorist immune to the shock of spying the silver UFO with the exposed, helmeted alien fast approaching in the opposite lane.

All of those and more were joyous experiences, yes, but a slow burn, the kind of happiness you feel on a perfect afternoon at the beach or during an afternoon barbecue with friends and family, the steaks rare and the beers cold and the conversation warm-hearted.

But recently I drove a 2018 Maserati Gran-Turismo Convertible Sport. Although I cannot be certain why, I felt a shock of emotion I have felt on only a handful of occasions in my life, all of them 40 years ago. Call it what you will bliss, rapture, an epiphany. One afternoon in the Maser, seemingly from out of nowhere, it struck me. It changed me, too.

The last time I experienced anything like it was back in college. During my sophomore year at the University of Michigan, I lived alone in a small top-floor dorm room overlooking one of the school's sports fields with the main campus buildings beyond. I had a routine. With classes done for the day, I'd hit the dorm's dining hall early, the better to avoid the dinner crowds and, more important, to catch the evening's special lasagna before it congealed too much. Afterward, back in my room, I'd grind some fresh coffee beans (before the Starbucks invasion, only a few specialty stores in Ann Arbor sold them) and brew up a small carafe in my little Krups machine. Suitably energized, I'd don gloves and a down parka (it was always dark and always cold) and head back to campus for a walk in the crisp winter twilight. And on a few nights, whether it was the caffeine or the orange and ice-blue of the dusky sky or the etch of a crescent moon above or just being young and having everything in front of me, I'd feel, as I walked through the chill of the coming night, a wave of elation. Absolute peace. A contentment where I

THE CAR IS AS
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GRANTURISMO'S
ANALOG ESSENCE
COMES THROUGH TO
YOUR FINGERTIPS
UNFILTERED AND
UNAPOLOGETIC.

20

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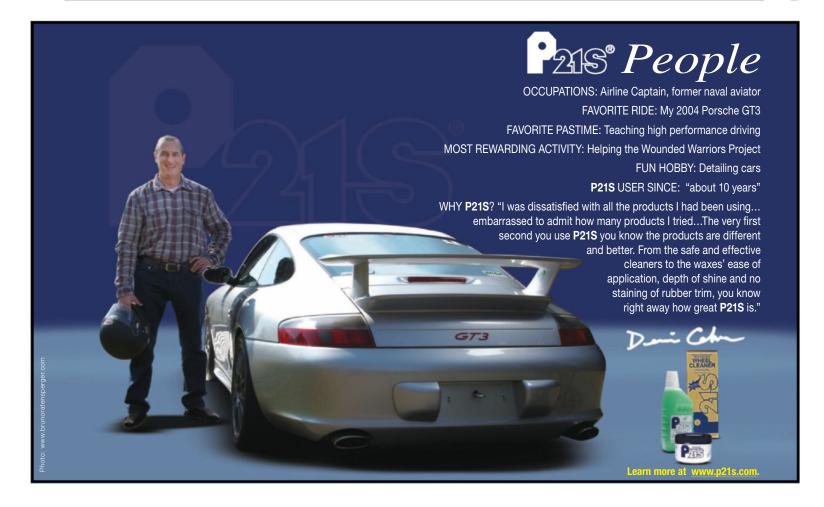
Dated, perhaps, but this sensuous Maserati is expressive and thrilling in ways that far faster, far more modern sporting automobiles simply aren't. The car is as "digital" as an anvil. That is not a criticism. Instead, the GranTurismo's analog essence comes through to your fingertips unfiltered and unapologetic. (The steering isn't even electronically boosted.) The V-8, unmuted by turbos, simply howls with passion and power. Just listening to the Ferrari-sourced powerhouse for a half-hour could lift the pall from the worst of bad days.

I spent a memorable afternoon hurling the GranTurismo around my favorite mountain two-lanes in Malibu, the top folded away, the exhaust playing a 32-valve aria as I flipped the shift paddles up and down through the gearbox. For an old chassis, the GranTurismo proved remarkably solid and quiver-free—especially given the lack of a roof structure. It even sticks well, charging hard through corners despite its touring nature and 4,300 pounds. This is sports car driving the way it used to be, with no sense that computers are doing much of the work for you, the connection between you and the machine palpable and enchanting.

And then it happened. I was driving home along Pacific Coast Highway, the sun warm on my face, the ocean to my right sparkling green and blue and

breaking gently on the shore. The Maserati's V-8 was alive with the chorus of whirling valves and cams and rods, the radio playing one perfect tune after the other—Springsteen, Seger, the Stones, Warren Zevon. I expected nothing more than to savor my good fortune at being able to drive this car in the here and now. But suddenly, as if a spigot had opened inside me, I felt flooded by a euphoria I hadn't felt since those long-ago moments out amid the Michigan winter dusk. Briefly, intensely, everything was right and at peace and I had not a care in the world. I had no thoughts of bills or deadlines or the world's injustices or all the things I'd done wrong up to now. Once again I felt that accord with the earth, as if I understood without knowing what or why. I was so overcome I almost pulled over, but instead I kept driving, hoping the feeling would continue. It did.

When I got home, before I'd uttered a word, my wife and daughter said almost in unison, "You look different." They could see it, and I was. In a beautiful car, I'd felt that elusive bliss I'd thought lost to a moment in time. And now I could hope that someday, if I were lucky, it might come again. AM



NVH



ELECTRIFIED WITH CLASS



READERS OF THIS space know I've always been soft in the head where old cars are concerned. It's probably why I can't think of a single retro-themed car I haven't liked-unless you count the Chevrolet SSR, which promised so much in the realm of looks but delivered so little in the department of chassis.

I applauded the New Beetle in 1998, cheerfully signed off on the Chrysler PT Cruiser in 2000, dug the Mini Cooper in 2001, and heaped praise upon the Fiat 500 of 2007.

I've also loved all the factory-correct reissues and restos, all the way back to the short-lived

Nissan factory-supported 240Z restorations of 20-some years ago. "\$25,000!" people exclaimed at the time. It seems cheap now, and I've no problem with the big bucks being spent on continuation Astons and the like.

So it's no surprise I'm 100 percent behind the Jaguar Land Rover Classic program, which charges many spendingtons sterling to recreate things like continuation XKSSs and lost D-types while exacting somewhat less but still plenty enough for restorations to better-than-new condition of more affordable classics like Jaguar E-types and, lately, first-generation Range Rovers.

In these days of sameness and automotive androgyny, there's something kind of genius in proactively advertising your heritage while having others underwrite the expense of preserving these potent reminders of your authenticity and enhancing your overall business in the process. In these troubled times, with car companies desperately trying to figure their way into the future, here's an idea that's comparatively easy to scale up. In JLR's heritage vehicles, you find pretty much ideal source material. It's not right for everybody, but it is surely sensible in a country so well stocked with underemployed automotive craftsmen. It reminds us of a happier time when businesses weren't too busy to pick up the small bills found in the street, content to run operations that paid for themselves while doing real work and delivering a personal service.

Still, I really hadn't expected the all-electric E-type from JLR's Reborn program announced at Pebble Beach. With its lithium-ion battery pack and 220-kW (290-horsepower) electric motor, the electric Jaguar roadster (or coupe) accelerates as briskly as a gasoline-powered E-type, has a quoted range of 170 miles, and manages to maintain the original's weight distribution. The reversible removal of a boat anchor-like 900 pounds of conventional engine and gearbox allows for a lot of batteries to go in. It feels like a fast, modern electric car but looks and drives like a vintage E-type.

In May, hundreds of millions saw an opalescent blue E-type Zero drive off with the Duke and Duchess of Sussex, headed to their sunset wedding reception. The other day in Monterey, California, up the road from Pebble Beach, I got to drive it. Repainted a silvery, shimmery bronze, it was a delight.

The Zero is meant to stand for its emissions, not your chances of avoiding bad jokes about Lucas electrics from folks who know a little about cars, or rather just enough to know to put down British electrical systems. Those who know more refrain from such cracks, except as sport, because in point of fact Lucas components are only ordinarily bad, not epically bad as legend has it. Then again, Zero may also stand for the three zeroes that come after \$375 when you ask how much it costs. A customer's existing car can be converted for a more reasonable \$75,000. It's also quite conceivable, JLR hinted, that with minor adjustments to mounting points, the battery drivetrain kit could be installed in any XK-powered Jaguar, suggesting a massive list of conversion candidates from the 1948 XK120 to the last XJ6s of 1985.

Jaguar's leap into electric vehicles is more serious than most, and elements of the powerplant from its new I-Pace reside in the E-type Zero. Which is promising. The I-Pace, which I drove down to Pebble from San Jose, was excellent, let down only by a low-speed, rough-road ride that was combine-harvester diabolical.

With its old-school 15-inch wheels, this electrified E-type reflects well on the modern product, being only the most beautiful car in the world. And Jaguar's other modern products reflect well on it: for example, the XE-based, 592-horsepower Project 8 sedan. This is one serious high-performance automobile. I only drove 4 miles in it, but holy smokes. Or as we say in French, early smirks. AM

22



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PLEASE, PLEASE, please tell me the photo of the 2020 Shelby GT500 in your New and Future Cars issue (September/October) was photoshopped! Turning to the next page, I recognized the uncanny resemblance of the Shelby's front fascia to that of the 2019 Hyundai Veloster N. The Mustang's looks have been wonderfully evolutionary, especially over the past several years.

But is the new 'Stang doomed to resemble a whale shark?

TERRY GIROUX

San Angelo, Texas

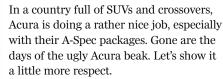
The good news is you are correct: Our image is an artist's rendering of the GT500. But we can't tell you it's wrong.—**Ed.**

I found myself comparing the covers of your August and September/October issues, each featuring a 2019 Corvette. I love the new Y2. In my opinion the designers got it right, if that is indeed what it looks like in reality. Sales will go through the roof. The ZR1 and the entire C7 lineup is so busy with black scoops, vents, and ducts, they all look like Hot Wheels caricatures. They only look good in black, which conceals all those add-ons. Kudos to Chevrolet on the midengine Corvette!

TIM FULTZ

Angola, Indiana

I'm sure I'm not the only one to notice that you erroneously placed a picture of the Acura MDX next to the writeup on the Acura RDX. What bothers me is that your folks wouldn't notice the subtle yet obvious differences between the two.



JOSH HARRISON

Sandy, Utah

Not only did we fail to correct that error, we also—as others have likewise written to point out—managed to use a photo of a Ford Explorer when it should have been an Expedition. We've administered 500 lashings to ourselves.—Ed.

There is a great assortment of drool-worthy photos and renderings in your New and Future Cars issue, particularly the imaginary Lincolnstang. But among the fantasies and extravagances, the bestlooking thing in the book is the old Javelin edging out the Mustang, both dressed up for racing (page 77).

KEVIN GOFF

Atlanta, Georgia

I find it hard to believe the mid-engine Corvette will finally be built and even harder to believe it will sell at the same price as the C7. I remember everyone saying the Ford GT would sell for \$150,000. We know how that turned out. Then there are the rumblings that Audi plans to discontinue the R8. My suggestion to Chevy: Keep the price as low as possible. My suggestion to Audi: Don't tell people you are completely redesigning the R8 and then put out the same basic, ugly car. Also remember: Using the same ugly, oversized grille on your mid-engine supercar as you do on your front-engine sedans and SUVs is not a good idea.

STEVE THOMPSON

North Bend, Ohio

First, I want to compliment you on your outstanding September/October issue. The update on future vehicles couldn't have been better, and the unique jet-propelled Chevy truck feature was most interesting. Second, I was just about to write to Robert Cumberford about an idea for Ford to save at least one car. I envision a Taurus-based four-door coupe similar to the BMW X6 or the Mercedes GLC or GLE coupes. This Taurus might be ideal for buyers who still want a car but with a touch of SUV hauling convenience. An

elegant Lincoln version could also be produced. Speaking of Lincoln, your vision of a Lincoln coupe built on the Mustang frame is certainly beautiful. As an alternative to the Taurus-based car, could Ford modify the Mustang frame to also create some four-door coupes?

DON SUMNERS

Houston, Texas

The September/October issue made my day. I read Monsieur St. Antoine's piece about how one judges what a sensible speed is ("How Slow Is Fast Enough?"). As always, he was right on the money. But a New Orleans story was mentioned, and as someone with a bit of a checkered past, I could relate. I want to hear more about this Big Easy story.

Tucson, Arizona

GREAT WERK

I read the Gunther Werks 400R article twice and drooled over TED7's photos four separate times on the day your August issue arrived at my door. The 911 that Peter Nam has created is gorgeous and begs to be driven; I see why the order books are nearly full already. I will take this 1985 911 air-cooled restomod over a 2018 Carrera any day of the week.

DAVID SPREITZER

Newport Beach, California

THE BIGGER PICTURE

Congratulations on a superb August issue. I subscribe to four automotive magazines and am getting tired of reading about all of the same cars from each magazine. I realize there are only so many new cars available to test, but it seems every auto magazine I pick up prints the same tests. When I read your stories about the Knight Rider replicas, the Tucker, and the next generation of car restorers, this issue gave me hope the people who write for you have a love for all cars old and new. Please keep digging and continuing to print wonderful stories like these. The automotive industry has been around for more than 100 years, and I'm sure there are thousands more stories that need to be told.

DOUGLAS HENDERSON

London, Ohio

Congrats on your excellent and relevant August issue. Every article showcased iconic vehicles from many generations and, just as important, the people who share the drive and passion necessary to keep the beloved automobile alive. May the students being groomed to become automotive artisans as featured in your "Cradle of the Craft" article enjoy a lifetime as involved with cars as John Staluppi has, as detailed in your "Still Dreaming" piece. People. Vision. Passion and drive. A lot of people today need to realize a cell phone should not be their most cherished possession.

TED HOFFMAN

Reading, Pennsylvania

RIDE ANOTHER DAY

I enjoyed Jamie Kitman's harrowing account of falling off of his Uscooter ("You've Got to Get Back On the Scooter," September/October). I myself understand the association between speed and pain, as I was hit by a car walking across an intersection that I must have crossed thousands of times before. The brain has a remarkable feature when getting hit by thousands of pounds of metal moving at 30 mph: It simply blots out the whole experience so you don't have to endure the surely terrifying sensation of being slammed into the pavement. I do remember, however, the broken leg. I suppose I must now get back in the saddle, but definitely without an electric motor to bring me up to speed. Thanks for the good reads, as always.

MAX ZEPF

Sacramento, California

THUMB FACTS

Robert Cumberford's articles are among my favorites in *Automobile*. However, his Genesis Essentia review in the September/October issue needs a minor correction. The steering wheel thumbwheels were not lifted from Tesla; rather, they are present in my Jaguar XK. One controls the cruise control, the other the audio. Has Cumberford ever reviewed the XK? I think it was Jaguar's best attempt to mimic the styling of the XKE.

MURRAY MORTON

Coral Springs, Florida



By Design



by ROBERT CUMBERFORD

ANOTHER BEST OF SHOW AWARD FOR THE SAME DESIGN

1937 Alfa Romeo 8C 2900B TOURING BERLINETTA COUPE

photography by PETER SINGHOF

BEST WHEEL COVERS ever? They're certainly extraordinary and were on this car at the 1937 Paris auto show. THE HOOD TAPERS downward sharply from the windshield base to the top of the grille, which is excellent for aerodynamics.

TO PARAPHRASE GEORGE ORWELL,

all Alfa Romeo 8C 2900B Carrozzeria Touring coupes are beautiful, but some are more beautiful than others.

This year's Pebble Beach Concours d'Elegance Best of Show winner is a magnificent car, a worthy recipient of the Billionaire Car Club's ultimate grand prize. But in my not at all humble opinion, it is not as good as is the nearly but not quite identical 1938 Alfa 8C (chassis No. 412035) that won BoS 10 years ago and was later featured in By Design. How can I say that, when the two Alfas have exactly the same basic form and characteristics, even almost the same very dark blue paint?

The difference lies in the details. Touring sought to improve each version of the same design theme, employing a "practice makes perfect" approach. The 2018 winner (chassis No. 412020) was the first 8C 2900B Lungo (long) chassis clothed in the basic coupe

THE BODY SIDE trim strip is actually in two parts; the upper section extends past the lower one at the front but stops at the trunklid cut at the rear.



Back then I also mentioned "the wart-like rear lamp cluster, stuck on as though it were an afterthought." On this earlier car it was nicely flush to the surface beneath a license plate recess simply left off of the later one, as were catwalk-mounted horn grilles, to considerable aesthetic advantage. The bright trim for the trunklid keyhole is just below the backlight on the 2018 winning car, while on 035 it punctuates the pointed tail of the roof where it intersects with the tapering lower body. I believe there were only five or six of these flowing Touring Berlinettas; most of the 8C 2900Bs having been short-chassis sports cars for Le Mans and the Mille Miglia, won four times by Alfa 8C 2900s.

On this car the hood side louvers are aligned with the cowl/hood cut, but on the later car there were bright metal accents on each louver, and they continued for four additional trim pieces onto the cowl sides as well, giving the impression of an even longer hood. Headlamp shells were plated on the 2008 winner, painted on this one. And the 035's grille was longer, continuing below the starting crank trim cap in a soft curve at the bottom, though this car has a lower point, just clearing that cap.

Wire wheels had magnificent concentrically ribbed covers for aerodynamics, and I suspect it was more to allow them to be admired than for brake cooling that rear fender skirts on some coupes were perforated with various slot designs. This car has none, but 035 had six per skirt. Whether they were true to the original Touring design, I can't say. Years ago I saw a pair of solid skirts being cut in Phil Reilly's restoration shop in California. None of the 8C 2900s left are in anything like original condition. Good as they were, the artisans of Carrozzeria Touring never achieved superb finishes like all remaining cars now sport—save perhaps the pale blue example in the Alfa Romeo Museum in Arese. All are 80 years old and have been primped and pampered and "improved." The one Phil Hill bought to race at Pebble Beach in 1951 has been hyper-restored for Ralph Lauren and painted Pebble Beach trophy black, not Italian racing red. Sic transit gloria mundi. AM

THE DOOR-WINDOW trim is almost dead straight, in contrast to the very rounded nof profile.

The very rounded not profile.

The SOLID SKIRT completes the rare fender form as though it were to the very rounded not profile.

The solid Beach of Show at the Pebblis Beach of Show at the Pebblis Beach of Show at the Pebblis Beach four and Show the selection of the Show at the Pebblis Beach of Show



2

Front View

- **1.** Trim strips on the bumpers, front and rear, provide a datum line for the entire composition.
- 2. These grilles on the lower catwalk are not exactly disgraceful, but they are clearly not a positive element. They were eliminated on the 1938 8C 2900B that was Best of Show ten years earlier than this 1937

first execution of Touring's elegant berlinetta.

- **3.** The nominally horizontal elements of the grille texture arc upward when seen from dead ahead on this car but are less curved on the later car.
- **4.** Traditional outside-the-grille slots as seen on generations of Alfa Romeo racers are

unobtrusive on this nearly black car. Too bad, as they're a really nice design element.

- **5.** The perfection of the front fender form is maintained in the head-on view.
- **6.** The grille frame is nearly pointed on this early car, softened into a rounder curve on the longer grille of the 2008 BoS winner.





Rear 3/4 View

3

Interior View



- **1.** To modern eyes, this tidy little cluster of lamps is pitifully inadequate but is applied neatly to the trunklid right at the lower edge of ...
- 2. ... the large rectangular license-plate recess, which was left off later evolutions of the basic design.
- **3.** This bright trim piece flows in an elegant arc when viewed in profile, but there is

- a noticeable break at the front of the door.
- **4.** Top and bottom of the door window are parallel to the ground plane, as are the bumper trims.
- **5.** The body widens all the way to the bottom of the doors then turns under in a tight radius.
- **6.** There is no "almost" to the front fender form. It is perfect.
- **1.** The way this lower instrument panel perimeter trim drops below the steering column is elegance personified and a tribute to exquisite craftsmanship.
- **2.** The same goes for the juxtaposition of polished wood for the glove box door on the leather-covered panel.
- **3.** Elaborate graphics on the faces of the two giant gauges are impressive.
- **4.** A single-piece hard rubber steering wheel may seem out of place to modern eyes, but this is exactly how the cars were equipped in their time.
- **5.** Polished wood sill caps go perfectly with the understated elegance of beautifully executed leatherwork.
- **6.** Not as elaborately contoured as seats tend to be today, these are nonetheless shaped to provide some lateral support in hard cornering.

- 7. The throttle placed between the clutch and brake pedals was typical of race cars for decades to facilitate heel-and-toe footwork—back when the term was actually an accurate description of the art of rev matching.
- The happy owners pose with their big prize, but what really counts is having the Alfa Romeo 8C 2900B.









a grin anywhere near the size of the one on the face of Jaguar design chief Ian Callum at this year's Woodward Avenue Dream Cruise, we didn't see them.

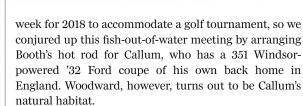
"Fun!" he exclaims. "It's fantastic to drive a '32 Ford, which is a car after my own heart," he

says of the 1932 Highboy borrowed from Carl and Jeanne Booth. Callum has pulled off of Woodward Avenue to wait for his younger brother, Moray, Ford's design vice president, to meet up with Ian's makeshift entourage.

"First thing he did was try to catch up to the Jaguar I-Pace by laying down a good patch of rubber," Carl Booth says of Callum and his Ford's V-8 engine and its sensitive throttle. "He said, 'Wow! That pedal is quick to respond."

Callum has attended the Pebble Beach Concours d'Elegance, an event usually held the same weekend as the Dream Cruise, for decades. But Pebble moved back a





The makeshift entourage includes Bill Jagenow, driving his Flathead Ford Model T roadster; Autumn Riggle, driving Jeanne Booth in a lowered, custom 1956 Lincoln Premier—Jagenow and Riggle are partners in Brothers Custom Automotive, which built the Booths' and Moray's hot rods—and Bill's 12-year-old son, Louis "Liam" Jagenow VII, riding shotgun in our Jaguar I-Pace photo car. I briefly imagine Liam participating in the Dream Cruise silently in such an EV in a quarter century or so.

Moray Callum arrives in a Lincoln Navigator, and we take a couple more laps of Woodward before gathering in front of Pasteiner's Auto Zone Hobbies (car models and books).

"He's got a goatee beard," Ian says of Moray. "It's most peculiar."

The two brothers don't see each other often enough. That may change.

"I've retired from being a judge at Pebble Beach," Ian says. "I've done it for 18 years. So I'll probably be here next year," when the events are again on the same weekend. "I'll probably go to Pebble on Thursday and come back here Friday and Saturday."











At Pasteiner's with Buck Mook (above), Steve Pasteiner Jr. (above right), and Steve Jr., Steve Sr., and Wayne Cherry (left). As Ian and I go to leave Pasteiner's classics-jammed parking lot, a woman steps forward.

"Excuse me? Hi, my name is Catherine Johnston. I was told that you designed my car, the Jag F-Type." $\,$

"Yeah, I did!" Ian allows, adding that he did it with a team. "I have it here."

"And you're in tears!"

"I love that car. It is my most favorite car in the world, and I wanted to thank you."

So far, the Dream Cruise isn't that different for Callum than meeting prominent Jaguar owners at Pebble. And there are other designers to catch up with: Peter Davis, who worked for Fiat in Italy in the '90s when Ian Callum was there for Ford; Wayne Cherry, General Motors' sixth design chief; and Howard "Buck" Mook, a colleague during Ian's 12 years at Ford. When the designers split up, Ian finds a 1941 Willys Gasser a block away.

"A friend of mine in England has got a Willys like that," he says. "He actually drives it on the road. He's got a cage in it; it's a complete drag racer. It's quite interesting because it makes a lot of noise. ... Wow. Look at that! That's a blower and a half."

"I used to work on Corvettes," says Bob Kinzer, owner of the Willys. "That's an 'outlaw' fiberglass body."

"The engine's remarkable," Callum tells Kinzer. "Do you know how much horsepower?"

"At least 750," Kinzer replies. Like the cars on the Pebble grass, Kinzer trailered his car from Utica, Michigan, to 14 Mile Road, a couple of blocks away, then drove it the rest of the distance to his parking slot just off the curb.





Next, Callum studies a dark green '65 Ford Mustang 2+2 fastback with a 289 V-8 and "Special Edition" painted on the rear quarter-panels. It's not the sort of paint job that would earn it a space on the 18th fairway, but it's the kind of homespun work that speaks to the spirit of the Dream Cruise.

"When it came out, I was struck by this very strong, powerful face," Callum says. "That lovely shaped grille. It was very purposeful. And I really fell for that, it is really in some sort of way a kind of European car, which is a nice balance."

Owner Keith Collins reveals it was white with blue stripes—the classic "A Man and a Woman" paint combo—when he bought it in Florida. "I'm still working on it," Collins says. "Actually, it took a year to do all the major stuff on it."

Callum is impressed with all these do-it-yourselfers and shade-tree mechanics on Woodward.

"I do appreciate a lot of the owners of the cars at Pebble Beach who do it because they love the cars, but it's as much about the investment as it is about building them, which is fine," he says. "I've got a few such investments myself. But everybody here is here because they love the car. They're not interested in what it costs, what it's worth. It's worth more to the soul than to the wallet."

Callum spots a '56 Chevy with a crate motor, not unlike a car he sold recently. He did much of the work on his '56 Chevy, including modern mechanical upgrades.







Aesthetically, he's fine with retro rods, not so much rat rods.

"I like honest cars," he says. "But cars that have been patinaed and scratched intentionally, I don't have a lot of time for that."

As we continue walking, Callum says he'd like to have a 1963-65 Buick Riviera and considers the Bill Mitchell design era, at least up to the early '70s, the pinnacle of American design. He likes post-Virgil Exner Mopars as well, pointing to a '69 Dodge Dart GT convertible.

"See, I like that. The simplicity of them. After the failings of the '50s, they discovered this thing called 'elegance."

Callum also points out a passing Meyers Manx and a 1969 Pontiac Firebird.

"The '68, '69 Firebird is one of Mr. Tata's favorite cars," he says, referring to Ratan Tata, who as then-chairman of Tata Group bought Jaguar Land Rover for Tata Motors from Ford in 2010.

Speaking of Ford, we encounter Mook again, who leads us to a wild yellow Mustang II, a V-8 with chrome SVT valve covers under the hood, owned by Greg Sauve. Mook

The All-New Corolla Hatchback From Formula Drift to Avenue A. We took what we learned from Toyota Racing — the power slides, burnouts and banks of Formula Drift — and brought that knowledge to your daily drive. Corolla Hatchback's lower, wider profile drops the center of gravity for better handling around curves. With its 2.0L Dynamic Force Engine that yields 168 hp, you'll have the power you need to impress on your daily circuit. Let's Go Places. MEXEN TIRE TOYOTA Prototype shown with options. Dramatization. Vehicle modified for Formula Drift competition. ©2018 Toyota Motor Sales, U.S.A., Inc.









is also responsible for the '66 Pontiac GTO-based "Monkeemobile." As for the Mustang II, Callum isn't enamored with his friend's most notorious design.

"[Lee] Iacocca said nobody over 30 was allowed to work on the new Mustang," Mook explains. "We had a contest for two weeks. We had to do sketches, full-sized tape and everything, and Iacocca chose my design."

"I remember your sketches," Callum says.

"They were very exaggerated," Mook admits. "We always used to do that here in America."

Soon, Callum is off to a local Jaguar dealer's party at the M1 Concourse in Pontiac, 8 miles to the north. That's too much like a Pebble Beach event, so instead we meet up with him later at the party of GM executive Jim Hall and his wife, Pam. Jaguar's design director eyes the Halls' '63 Corvette and designer Dave Rand's '66 Jaguar E-type Series 1. Woodward has a reputation as an all-American muscle car and hot rod festival, but Callum understands Jaguar's place among the Fords, Chevys, and Dodges.

"Jaguar's the affordable exotic," he says. "That was the mission. For a lot of people, these classics and these hot rods are affordable classics. They're affordable exotics to them. It touches their heart the way that a normal car will not touch."

He fawns over a 1969 Dodge Super Bee parked behind Rand's E-type and tells me, "I want you to say in your story that this is the car I'd go home with." ${\sf AM}$





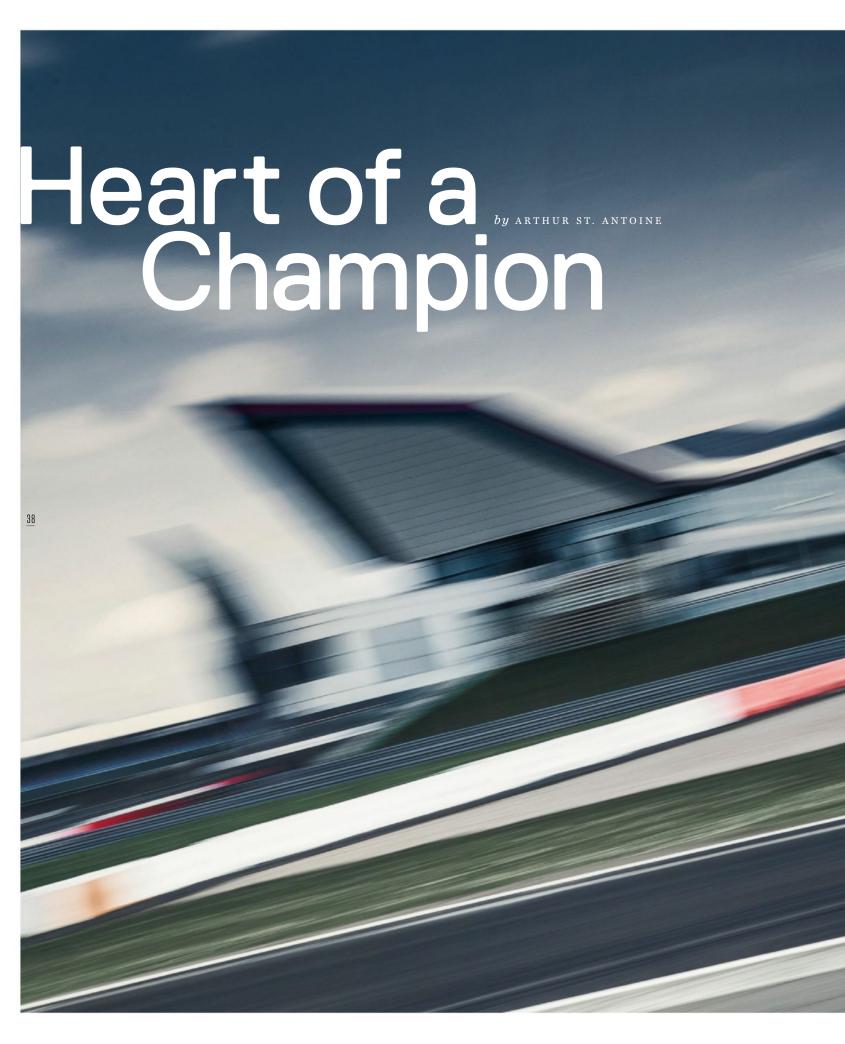














THERE'S NO WAY we're going to make it. The digital speedometer in front of me has just passed 160 mph as the sweeping right-hander called Stowe charges at us like an angry fighting bull. My right foot is still flat to the floor because the McLaren test driver riding shotgun told me, "Go deeper on this lap," and so, against every

screaming fiber in my body, I do.

The braking marker I used on the previous lap flashes by as the speedo hits 163, and a millisecond later my right foot decides all by itself, "This is deep enough." I slam the brake pedal, crack off two thunderbolt downshifts with the left paddle, then squeeze back onto the gas as the 2019 McLaren Senna prototype lunges into the turn. Its active rear wing and twin front aero blades angle into our self-made gale to crush the carbonfiber chassis into the asphalt, the

roof-mounted snorkel intake roars furiously as it feasts on air, and the huge Pirelli P Zero Trofeo R tires wince under the g load as the Senna, impossibly, almost magically, claws through Stowe and onto a short straight. I have maybe 2 seconds to catch some breath and realize we're still in one piece before braking hard for the Vale left-right flick, but there isn't even time for that because the McLaren shoe's voice is crackling through my helmet intercom again. "Next lap, go a little deeper."

No street-legal car I've driven compares with McLaren's mind-blowing homage to the man who many consider the greatest racing driver who ever lived. If the late Ayrton Senna—who won three Formula 1 world championships driving for McLaren—were alive today, I have no doubt the Brazilian would be honored to see his name and signature twin-S logo on this machine. The Senna is a masterwork of zero compromises. Just like its namesake.



40



"We have a relationship with the Senna family," says Andy Palmer, vehicle line director for McLaren's Ultimate Series. "The time was right for this car, and more important, the car was right for what the family wanted for Ayrton's name. I assume they would get requests about lending Ayrton's name to other sports cars, but they just felt that this was the right one for them to do that. We're very pleased, obviously."

McLaren will build just 500 Sennas, at a starting cost of just less than \$1 million. If you want one, though, too late: Senna production sold out long before the car was even finalized. (McLaren auctioned off the 500th copy, donating the \$2.7 million winning bid to the Ayrton Senna Institute, a nonprofit dedicated to educating and assisting underprivileged young people in Brazil.) The first customer deliveries are taking place as you read this.

"Zero compromises" means it looks more like a racing machine than a sporting automobile. Indeed, McLaren calls it "the ultimate road-legal track car." "It really is about every element for a reason," says Dan Parry-Williams, director of engineering design. "Function taking precedence over aesthetics, at least more than we've done before."

The Senna isn't lovely or elegant in the manner of, say, a Lamborghini Huracán, but there's an undeniable beauty in a design so committed to the mission of speed. And if you doubt what "committed" means, know this: If McLaren's own 903-horsepower P1 hybrid supercar were to challenge a Senna on a racetrack, it would be left gasping in the quickly receding wake of the Senna's superheated exhaust fumes.

The Senna owes much of its staggering track prowess to its light weight. Crafted almost entirely of carbon fiber



around McLaren's latest, ultra-rigid Monocage III tub, the Senna weighs just 2,641 pounds dry—roughly 400 pounds less than the P1. You want an audio system? That's \$5,680 and 16.1 pounds extra. Air conditioning? That's free, but you have to ask for it. Parking sensors, rearview camera, and side parking cameras? Also free, but again, only if you ask for the added weight. Hey, this is a company that even fussed over the Senna's nuts and bolts until they were 33 percent lighter.

Part II of the Senna's magic track act owes to aerodynamics. Look at that cowcatcher jutting from the car's nose: The carbon-fiber splitter is 5.9 inches longer than the P1's, vastly improving downforce. Below each LED headlight lies an active aero blade that moves in unison with the active rear wing to boost cornering power and maintain handling balance. The carbon-fiber rear wing itself, massive in size but weighing just 11 pounds, adjusts its angle constantly to maximize cornering grip and stopping power. (On straights, the wing flattens out for minimum drag.) In total, the aero blades, rear wing, and sculpted bodywork combine to produce up to 1,800 pounds of downforce at speed-40 percent more than the P1. To give you an idea of what that means on the track, McLaren's test drivers, going into Silverstone's Stowe corner at the end of the long Hangar Straight, are braking 25 meters (82 feet) later in the Senna than in the P1. Going into the same corner, I braked so late all the nearby pubs closed, but still the Senna had stopping power to spare.

With the feathery weight and aero mastery comes power. Lots of power. The Senna uses essentially the same 4.0-liter twin-turbo V-8 found in McLaren's 720S, but it's been upgraded with a reworked intake manifold (fed by that cool snorkel on the roof), revised cams, and two high-flow fuel pumps. The result is 789 screaming horsepower in a car that weighs less than 3,000 pounds all up. If that sounds





like a recipe for astonishing quickness, eat up: The Senna can blitz from 0 to 60 mph in just 2.7 seconds. Top speed is a claimed 211 mph. The shifter, by the way, is a lightly reworked version of the dual-clutch seven-speed used in the 720S, but the Senna's incorporates an F1-bred feature dubbed Ignition Cut. In Sport mode, the system momentarily halts the spark during gear changes to improve shift speed. At the same time, a corresponding *crack* from the exhaust pipes pumps even more adrenaline into your veins.

The Senna's cockpit is sparse and suave. The upwardswinging doors make entry a breeze, and the carbonfiber seat shells wear only enough pads for comfort and support. (The pads are intentionally spaced apart to allow

"I WORRY IT'S RUINED ME FOR OTHER CARS."

Patrick George — JALOPNIK



CHPLLETGER

SRT HFII CAT WITH 707 HP

DOMESTIC. NOT DOMESTICATED.



for airflow between them.) Many of the controls not used while driving—engine start/stop, chassis mode selection, and the door-opening switches—are mounted out of the way in a pod above the rearview mirror. Gear-selection and launch-control buttons move fore and aft with the driver-seat cushion. The Alcantara-wrapped three-spoke steering wheel wears not a single button or switch; it's all business. When you're ready to go, a folding digital display glides up to present the driver with a tach and other essential info. The view to the front is pure IMAX—you could almost be in a single-seater—and the doors feature

special transparent lower panels that provide a sizzling view of the tarmac whistling below you. Drivers who plan to keep doing laps in their Sennas until they run out of gas can also order a race-car-like "push to drink" feature that'll pump liquid refreshment straight into their helmets.

To the Senna's engine, aero, and minimal weight McLaren adds a remarkable suspension. Dubbed RaceActive Chassis Control II, the system builds on the PI's setup via revised software. In Race mode (which I used during my lapping sessions), the chassis lowers by 1.5 inches. The Senna also features McLaren's first-ever center-locking wheels,





THE SPECS

ON SALE: All 500 sold PRICE: \$958,966 (base) **ENGINE:** 4.0L twin-turbo 32-valve DOHC V-8/789 hp @ 7,250 rpm, 590 lb-ft @ 6,700 rpm TRANSMISSION: 7-speed dual-clutch automatic LAYOUT: 2-door, 2-passenger, mid-engine, RWD coupe EPA MILEAGE: 15/20 mpg city/hwy (est) L×W×H: 186.8 x 77.1 x 48.4 in WHEELBASE: 105.0 in **WEIGHT:** 2,900 lb (est) 0-60 MPH: 2.7 sec TOP SPEED: 211 mph

already flying, but I did as told and pressed even harder on the gas, and the Senna seemed to suck itself into the asphalt as it screamed through the bend. Not a bobble, not even a whiff of countersteer needed from me. If NASA ever runs out of centrifuges, it should borrow a Senna for astronaut training. That's the scary magic of high-downforce active aero for you: More speed produces more downforce, which produces more speed and more downforce. You can't help but wonder when it will all just suddenly let go and you'll fly off the circuit toward downtown London. Maybe Andy was able to run the Senna right to its lung-crushing limits, but only on a few laps through Abbey or Stowe did I actually feel the Pirellis nibbling at the edge of adhesion, the understeer ever so slight. Mostly, the Senna just did everything I asked of it, and a lot more.

Perhaps the Senna's most remarkable virtue? It's a peach. For all of its benchmark-setting powers, this McLaren is as approachable and friendly as a 720S—maybe even more so. (I did some warmup laps in a 720S, and with little downforce to keep it steady, its rear end could get playful in corners, whereas the Senna was utterly bolted down.) The Senna's steering is smooth and accurate, the chassis unfailingly predictable, the engine and shifter work as happily at low speeds as they do full-bore, and the ride is remarkably poised. (Admittedly, I did not drive the car on the road; that drive comes soon.) Do owners of million-dollar cars



each sporting a single F1-like bolt. Inside each wheel lies a massive, lightweight carbon-ceramic brake disc that requires seven months to produce. Hammering on these binders produces stopping force akin to slamming into a parked dump truck.

Check out my colleague Andy Pilgrim's sidebar for the professional driver's viewpoint (he drove the car separately, in Portugal), but after my two five-lap sessions at Silverstone, the Senna had beat me to a pulp. Turn 1, called Abbey, is a right-hander taken in fourth gear after the briefest dab of the brakes. The first time I accelerated out of the turn, I almost couldn't believe what I was experiencing. The Senna simply leaped forward, and we were already doing 120 mph. (This is a car, by the way, that can do the quarter mile in 9.9 seconds.) And there was more shock to come.

Cresting the rise into the quick left-hand Farm Curve, my McLaren ride-along, British Touring Car racer Josh Cook, instantly took to the intercom. "More throttle!" We were



At left, the Senna's upward-swinging doors make entry and exit a breeze. Although it's a fully street-legal road car, on a track it could blow away many so-called race cars.

use them as daily drivers? I expect most Senna owners will do the majority of their wheeling on closed race courses, where they can experience at least some of the car's astonishing capabilities. Still, I won't be surprised when I see a Senna rumbling through the streets of Los Angeles soon. Anyone lucky enough to own this phenomenal work of performance art will likely find it impossible to resist taking it out for a strut.

Ayrton Senna left countless observers awestruck with his driving performances during his all too brief career in Grand Prix racing. Now, a quarter-century later, this McLaren, one of the greatest supercars ever made, has done the same. AM

AYRTON SENNA CLAIMED the first of his 41 F1 wins at the Autódromo do Estoril racetrack in Portugal on April 21, 1985. Thinking of that while walking down the track's pit lane hammered home the point that the McLaren Senna is a special car—especially if you're a fan of the man and F1. I've heard people say it's ugly, but to my eyes it has a striking presence and exudes unapologetic functionality. I think it looks impressive.

McLaren provided a 720S for our first laps of Estoril. Yes, to find our way around a circuit most of us had never seen before, we warmed up in the massively fast 720S. Imagine it as a 710-hp rent-a-car type of thing. Worth noting: The 720S is rather well balanced, but it doesn't have much in the way of aerodynamic downforce to help you, especially compared to other 700-plus-horsepower cars now available (see our November issue). To get a fast lap in a 720S, you have to slide it around a lot, including through high-speed turns. Thankfully, the car's balance is so amenable and communicative that slipping and sliding all day at complete nutter speeds is twitch-free and enjoyable.

After a few laps in the 720S learner car, it was time to jump into the Senna. I was excited and tried to take as much out of

every minute as I could. Estoril, apart from one horrible "slow them down" chicane, is exactly as Senna found it when he won his first F1 race. But thank goodness we didn't have the horrendous rain the F1 field did on that particular April day.

If you have almost 800 hp, you'd better have plenty of stopping capability. The Senna can pull 2.1 g in deceleration,



THE STIFFER
SUSPENSION SETUP
MAKES ANY STEERING
INPUT AN ALMOST
INSTANTANEOUS
INSTRUCTION TO THE
TIRE PATCH, SO IT'S
UP TO THE DRIVER TO
CONTROL THIS.



a number that's serious race car good. The brake feel is excellent and easy to modulate; I could just tickle the ABS or modulate deceleration to rotate the car on corner entry. You enter the brake zone for the 50-mph first turn at more than 180 mph, so you need amazing stoppers. The car passed that test with zero trouble.

The steering is quick but not too quick. Although the Senna comes with Pirelli P Zero Trofeo R tires, they're still street tires. To get the most from them, they need a slower steering rate than race tires, especially after they heat up. Once I slowed my hands down, I could manage the plentiful front grip much better. Slowing my hands gave my steering input more time to speak to the tire patch through the suspension. The Senna is sprung on the stiff side to handle the almost 1,800 pounds of total downforce it can generate at 155 mph. The stiffer suspension setup makes any steering input an almost instantaneous instruction to the tire patch, so it's up to the driver to control this.









That downforce figure is just amazing. To help save the tires, the active aero limits downforce to an 1,800-pound maximum, but the downforce level could in theory be even greater. For comparison, a Corvette ZR1 or Porsche GT2 RS will produce about 450 pounds of downforce at 155 mph and a maximum of around 1,000 pounds at their top speed of roughly 212 mph. That's not really any comparison to the Senna. In terms of cornering speeds, those cars are like GT3 racers whereas the Senna is like a prototype racer.

The suspension setup is impressive for its overall front-to-rear chassis balance. As stiff as it is, once I got my steering wheel rate figured out on corner entry, I could use the steering and a slight throttle lift or slight left-foot braking to move the car and control rotation. This was very useful entering the midspeed kinks. Downforce helped to make the Turn 5 kink easy to take flat out at more than 130 mph. The ability to rotate the car on corner entry to midcorner takes away the need for the front tires to do all the work, allowing me to carry more speed and making the car a joy to drive. I could also use these same techniques for post-apex/cornerexit power-down situations. It worked particularly well for putting the power down early in the Interior Parabolica A MODERN-DAY GT3
RACE CAR WOULD BE
AROUND 6 POUNDS PER
HORSEPOWER. THE
SENNA IS 3.7 POUNDS PER
HORSEPOWER, INCLUDING
FUEL AND A DRIVER.

Turn 6 and the really quick and long Ayrton Senna Parabolica Turn 13. This car is so much fun to drive at full rip; I tip my hat to McLaren's engineers and test drivers for its development.

I often find acceleration to be the least impressive part of a high-performance road car, especially when you get it on a track where everything around you goes equally as quick. However, the Senna is

something else. The 720S has roughly 4.6 pounds per horsepower when you include fuel and a driver. You might be surprised to find a modernday GT3 race car would be around 6 pounds per horsepower. The Senna is 3.7 pounds per horsepower, including fuel and a driver. It really does feel like a prototype race car on acceleration, especially up to 100 mph, when the downforce is lower—and the car still pulled strongly to more than 180 mph on Estoril's front straight.

For lap time, this is certainly the quickest street car I've ever driven on a racetrack. I imagine McLaren felt a fair amount of pressure when it began this project to create a car worthy of carrying the Senna name, but it can rest easy knowing it succeeded. AM









Blood brothers.



LEGENDARY PERFORMANCE ROOTED IN A VICTORIOUS PAST.

They're back. The Sauber C37 marks the first F1° showing for Alfa Romeo in over 30 years, while Giulia Quadrifoglio helps lead the brand's North American comeback. Although they run in different circles, these vehicles

share a special bond: DNA that's steeped in pacesetting innovation. Alfa Romeo has long leveraged racetrack technology with street-smart design — and its partnership with the Alfa Romeo Sauber F1 Team launches an exciting new chapter that benefits the brand and fans alike.





DOUGLAS, ISLE OF MAN

WHAT DOES A small island in the Irish Sea and the legendarily perilous motorcycle race held there have to do with a design-forward German sports coupe?

The thread begins in 1938, when former mechanic and backup rider Ewald Kluge rode a DKW motorcycle to victory in the TT Lightweight class. DKW, you might know, is one of four ancestor companies of modern-day Audi represented by the marque's interlocking-rings logo. NSU picked up the thread in 1965 with the Prinz TT, a rear-engine, rear-drive, four-wheeled homage to NSU's motorcycling successes in the 1950s, including a TT class win in 1954. Then, in 1998, Audi brought its TT to production, and two successful generations later we're celebrating the car's 20th anniversary at the place that spawned it all.

What's not to love about the history tied to a brilliant, gorgeous little sports car with deep motorsports roots, even if that history was made on two wheels rather than four? For the record, there are a few points of

fact worth clearing up.

Although DKW was part of Auto Union (together with Audi, Horch, and Wanderer) at the time of Kluge's 1938 TT win, the Auto Union that DKW belonged to ceased to exist shortly after the end of World War II, when the Soviets took over the newly formed East Germany, dissolved the company, kicked it out of the Zwickau facility, and seized all assets. An all-new company with a similar name was formed from the wreckage in West Germany, and a new headquarters was set up in Ingolstadt, but not until 1949. The Zwickau plant went on to build the oft-lampooned Trabant until the 1990s, when it came under the Volkswagen Group umbrella and thereby back into Audi's orbit.

As for NSU, at the time of its victory on the Isle of Man, it was an independent company. Not until 1969, when the VW Group acquired NSU, did the marque come into the four-ring fold—and only



THE NEW SEVEN-SPEED ARRANGEMENT ALLOWS FOR THE FIRST SIX GEARS TO BE A BIT CLOSER, AIDING ACCELERATION, AND THE SEVENTH GEAR TO BE A BIT TALLER.

TT





just. NSU's tenure with Audi didn't last long; by 1977 the latter dropped the NSU brand completely.

Claiming any sort of direct lineage from the Tourist Trophy to the Audi TT is, therefore, a bit suspect. But it's also unnecessary to justify or sell what is, fundamentally, an excellent car. The TT features stunning design and impressive performance, and its history—or arguable lack thereof—mitigates none of the joy that comes with driving it.

We know this because we've just driven the latest TTS Competition over a closed section of the Snaefell Mountain portion of the TT race circuit. Hustled at a brisk seven-tenths, the TT is lively, rewarding, and deceptively fast—it requires very little effort to maintain triple-digit speeds over the winding, undulating mountain pass. Of course, we're nowhere near the 180-plus-mph speeds of a modern Isle of Man TT motorcycle racer over this section, but we're also nowhere near as close to death.

"Composed" is perhaps the most apt description of the TTS' handling. There are few situations that leave it out of sorts, and despite the typical Audi front-cantilevered engine location, the Quattro all-wheel-drive system does a good job vectoring the torque around to keep the chassis feeling neutral and pointed in the direction the driver



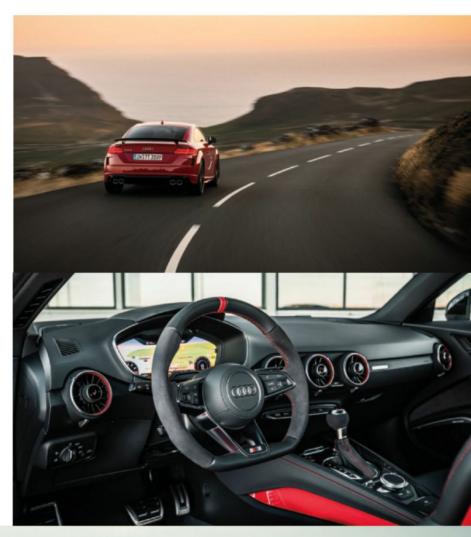
intends. Steering feel isn't tremendous or particularly tactile, but it's enough to let you know when grip is about to run out, and the ratio is quick but not so quick it makes it hard to be smooth. It's better suited to the fast, sweeping, smooth-surfaced curves of Snaefell than the more frenetic inputs required over the bumpier, 1.5-lane interior island roads. All in all, it's a well-rounded package.

But this isn't just the TT's 20th anniversary; this is also the midcycle update. The main technical change is an additional gear in the dual-clutch transmission, up from six to seven. The new seven-speed arrangement allows for the first six gears to be a bit closer, aiding acceleration, and the seventh gear to be a bit taller, improving cruising economy slightly. In practice, the difference is not massively obvious, but the transmission still shifts crisply and quickly, and it's still a pleasure to use.

The new shorter gearing means more low-end mechanical torque, too, which means better in-gear acceleration at any speed. The TT carries forward its standard 220-hp, 258-lb-ft 2.0-liter turbo-four, and the TTS pumps up the 2.0-liter turbo's output and also continues with the same 292 hp and 280 lb-ft of torque as last year's model. Quattro is standard on every American TT—and it was welcome on the back way between Ballaugh (site of the famous bridge jump) and Kirk Michael, making the most of the TT's lowend grunt out of every corner.

Otherwise, the differences are mostly those of appearance and equipment. U.S. cars get a new front bumper design and some new competition-themed package options but not the updated 3-D-style grille of the European car; we heard mumblings of something about U.S. license plates not allowing for much fun to be had.

As for those competition-themed packages, there's the Audi TT S line Competition, not to be confused with the Audi TTS Competition. Although the S line treatment has been around for a while, the 2019 TT gets a few updates to its S line package, which includes aluminum S line door









2019 Audi TT

SPECS

ON SALE: **Early 2019** PRICE: TBD **ENGINE:** TT & TTS: 2.0-liter turbo DOHC 16-valve I-4 TT: 220 hp @ 4,500-6,200 rpm, 258 lb-ft @ 1,600-4,400 rpm TTS: 292 hp @ 5,400-6,200 rpm, 280 lb-ft @ 1.900-3,500 rpm TRANSMISSION: 7-speed dual-clutch automatic LAYOUT: 2-door, 2+2-passenger, front-engine, AWD coupe **EPA MILEAGE:** 23/30 mpg city/hwy (est) L x W x H: 165.0 x 72.1 x 52.8 in WHEELBASE: 98.6 in **WEIGHT:** 3,241 lb (est) 0-60 MPH: 4.6 sec/5.3 sec (TTS)/(TT)
TOP SPEED: 155 mph/130 mph (TTS)/(TT)

 $\downarrow \downarrow$

sills, a three-spoke flat-bottom steering wheel, unique contrast stitching, brushed aluminum inlays, Alcantara and leather sport seats with embossing, a new Sport mode for the Virtual Cockpit display, 19-inch Audi Sport wheels, gloss black exterior details, red brake calipers, a spoiler, and a 0.4-inch-lower S line sport suspension.

The TTS Competition package, on the other hand, is a new treatment for the midrange TT and includes an Alcantara and leather flat-bottom steering wheel with 12 o'clock position indicator, brushed aluminum inlays, Alcantara and leather sport seats, an extended interior leather package, color-themed interior elements, 20-inch wheels, gloss black exterior details, a new spoiler and exhaust, and red brake calipers. With the 20-inch wheels and the sporty suspension tune, the TTS Competition was fast but skittish over the less maintained roads on the north side of the Isle, a trait we noticed as we hustled from The Cronk to the Point of Ayre lighthouse near Bride.

A 20th Anniversary version of the TT will be offered, too, called the TT 20 Years. Audi will build just 999 examples for the global market, with only 40 coupes and 40 roadsters destined for the U.S. We don't expect prices to rise much from their current mid-\$40,000s (TT) and mid-\$50,000s (TTS) starting points. AM

AN EVOLUTION OF STYLE

IT'S NOT OFTEN an automaker produces a car that goes on to revive—or become—a design icon. In 1997 and 1998, the Volkswagen Group managed it twice, first with the New Beetle and then again with the first-generation Audi TT. Parked beside each other, there's even a familial resemblance, though it's one of cousins rather than siblings. And although the New Beetle and its descendants have been successful, the TT is the car that has continued to groom and grow a reputation for striking design.

In our first drive of the American-spec Audi TT in 1999 (June 1999), we interviewed then-New York Museum of Modern Art curator Christopher Mount, who said the TT had a "puzzle-like quality to the design that's a fascinating



AUDI TT CONCEPT



1st GENERATION AUDI TT



2ND GENERATION AUDI TT



3RD GENERATION AUDI TT

alternative to envelope [car] design. There is something artificial about one-piece design. The TT shows how a car is made."

Why would an art curator's opinion about a car matter? Because that car is a widely recognized textbook example of a school of art and design: Bauhaus. And what more perfect implementation of a philosophy that seeks to tie art with function into a total package than a vehicle, the rolling embodiment of modern industry, style, and freedom?

It hasn't been all Bauhaus and butterflies, however. The second-generation TT took the familiar architectural shape and modified it; the third has taken it even further. Now the TT is much more masculine, high-tech, and sporty in its appearance—and much more of a piece, more of an "envelope" design. Gone is the timeless, rolling-sculpture visual, now replaced with a machine that seems to lunge forward when at rest. But the TT's original thread is still there, if only just.

"In the sketches, I always

had the first generation of the Audi TT in mind," said the third-generation TT's designer, Jürgen Löffler, upon its debut in 2014. "Because the TT genes should again be clearly visible in the new design. Then again and again I looked at the design of the first Lamborghini Countach in detail. The tight surfaces and the reduction have inspired me. But the Porsche 911 was a role model for me. To further develop a model and interpret it in a modern way without losing the basic genetics was a clear goal for me with the new TT design."

Löffler set a high bar for himself, though the TT has only two decades to build on, compared to the 911's 50-plus years of design heritage. Nevertheless, as the car rolls into its 20th year on sale, it's hard to deny that Löffler, Audi, and the TT have done a remarkable job of staying relevant, fresh, and on top in a famously fickle field.—N.I.









by
AARON
GOLD
photography by
ROBIN
TRAJANO

INDELIBLE IMPRESSION

QX30 S to our Four Seasons fleet is a lot like asking someone why they got a tattoo when they were drunk. Although the details are fuzzy now, it seemed like a good idea at the time. Unlike the tattoo, however, we'll never regret adding the Infiniti to our long-term test stable.

The QX30 was an intriguing and somewhat controversial vehicle when it first debuted, and it piqued our interest immediately. More of a big hatchback than a (sub)compact crossover, it's also a close relative of the Mercedes-Benz GLA-Class—a German-Japanese mashup that led to more than a few scratched heads. Although they share plenty of genetic traits, one thing was evident from the outset: The Infiniti won the beauty contest.

Indeed, the QX30's exterior styling found plenty of fans from the day it rolled into our parking garage. Associate editor Conner Golden preached the Infiniti's gospel early.

"Forget compact crossover, this thing is the size of a Focus, and it's gratifying to drive a compact luxury hatchback," he wrote in the first logbook entry. "We don't get cars like this on our shores very often—or at least we didn't used to—so it still feels intrinsically special. Infiniti has come a long way with its design language, and I think the QX30 is one of its best. I like the proportions and the star-spoke wheel design."



5

Infiniti's compact crossover has style—and enough substance for the segment



Senior editor Nelson Ireson chimed in, "I love the look of this car. That's all the more impressive because it's a crossover—and I hate crossovers."

Augmenting the QX30's slick and sharp looks was its unusual Liquid Copper hue, which attracted attention wherever we went. "People stop and look at the car and admire the way the paint seems to change with natural sunlight," wrote graphic designer Michael Cruz-Garcia. Golden added, "The Liquid Copper paint is one of the most interesting and polarizing hues I've seen. Some say pink, I say rose gold. I like it."

The praise continued for the QX30's interior layout. "Given the combination of Infiniti and Benz bits, it could have been a disaster," wrote editor-in-chief Mike Floyd. "But they took the best of both and mixed it into a cohesive whole." Cruz-Garcia expressed similar sentiments. "The mix of smooth finished metals with high-quality plastics adds a touch of luxury that reflects the interior of a Mercedes," he wrote. "Sturdy and comfortable leather seats put you at ease when driving long distances." Other staffers felt it was a good idea that Infiniti installed its own infotainment setup instead of the Mercedes COMAND system, and Infiniti's standard AroundView 360-degree monitor was cited as a top-notch feature.

However, both Floyd and Cruz-Garcia took issue with the cabin's overall space, one of the traditional selling points of a crossover. "Despite the pronouncements that

this is some sort of crossover, it's a hatchback, plain and simple," Floyd said. "It's smaller inside than your average compact sedan, and its swoopy lines are a major drawback for rearseat passengers in the form of a claustrophobic feel." Cruz-Garcia agreed: "The back seats can use a bit more room to accommodate three people

comfortably. There really isn't any room once a child seat is added in there." In addition to the rear-seat passenger issues, cargo capacity is small for the segment at 19.2 cubic feet with the second-row seats up and just 34.0 with the 60/40 setup down.

Out on Los Angeles streets (the Infiniti also made forays into Arizona and Nevada during its stay) we found the QX30's ride and handling satisfying, thanks in large part to its MacPherson front, multilink rear suspension setup and 19-inch tire and wheel package. "The more I drive the QX30, the more I like it," Floyd said. "It's nimble and drives like a car, which it basically is, with a well-balanced, oncenter steering feel."

Ireson, as usual, waxed poetic: "Wielded with impatient severity, the QX30 dances with nimble grace through the lethargic, texting hordes of L.A. traffic." Online editor Ed Tahaney was of two minds about it, however: "The QX30 feels pretty good on the highway, but it's a bit of a slug around town."

Although we're sure Infiniti would prefer we ignore the QX30's German lineage, we couldn't help but delve deeper into the differences (and similarities) between the two cars. That said, most of us saw the partnership as a good thing on balance.

"While driving it around, I'd think, 'Wow! This is the best-driving Infiniti they make,' before realizing that I'm enjoying the fruits of the Mercedes-Infiniti partnership,"

"WIELDED WITH IMPATIENT SEVERITY, THE QX30 DANCES WITH GRACE THROUGH THE LETHARGIC, TEXTING HORDES OF L.A. TRAFFIC."





The car's styling drew ise from our staff, and the pink-tinged Liquid per paint turned heads

Golden said. "I wasn't the biggest fan of the GLA, but with the Infiniti badge, I think it works. It's much more in line with the Japanese luxury brand than with Benz, and it fits Infiniti's lineup perfectly."

In order to get a better feel for how closely related the two really are, we devoted an entire online piece to a comparison between the QX and the Benz. While the QX30 deploys the same 2.0-liter turbocharged I-4 as the Mercedes, with the same 208 horsepower and 258 lb-ft of torque, the biggest difference we noticed was with each car's transmission tuning. Both use the same seven-speed dual-clutch gearbox, but several staffers took issue with how Infiniti set up its version of the hardware—at least on the 2017 model we tested.

"The transmission makes low-speed driving, and especially traffic, miserable," associate editor Billy Rehbock said. Floyd advised to "make sure you're in Sport mode, as the gearbox is slow on pickup in regular Eco mode." Cruz-Garcia echoed the team's sentiments. "The transmission isn't the smoothest in the first couple of gears," he said.

Another complaint: The start/stop feature. "Man, I hate start/stop," Floyd said. "I wish there were a way to shut it off permanently." Even those who didn't share the editor-in-chief's degree of dislike saw a problem. "It always turns off right as I'm about to start moving, causing a slight delay while the engine turns back on," noted recently departed (to a new career) senior editor Kirill Ougarov. Executive editor Mac Morrison condemned start/stop in general, noting,

The Infiniti QX30 is a German-Japanese mashup, but in terms of build quality, it leans to the East. Aside from routine maintenance, we never needed to return to the dealership.



"I've given up trying to understand the logic of so many of these start/stop systems and when they choose to turn a car off. Sometimes they do it at every stop, sometimes they seem to forget to do it, and sometimes, even when I hit the switch to deactivate the function, I still find it kicking in every once in a while for no apparent rhyme or reason."

Enough about what we liked and didn't: How did the QX30 hold up during its stay? Although its temperature gauge would occasionally climb when we worked the car hard, drawing some notice among our editors, it never hit

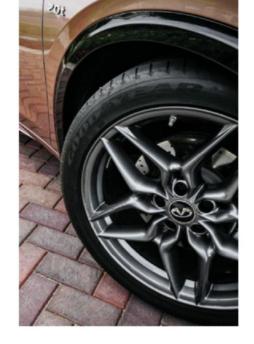
the red. (We noted similar behavior in other QX30s and GLAs we drove.) Our overall recorded average fuel economy was decent by small crossover standards—22.5 mpg—but that was far below the 27-mpg EPA combined number. (Even with our lead-foot tendencies, that's quite a bit off.) The 14.8-gallon fuel tank made it hard to go more than 300 miles between fill-ups.

A slight misreading of the owner's manual led us to South Bay Infiniti at 5,395 miles for our first (and, it turned out, only) service appointment. In fact, the QX30 is meant to cover 10,000 miles between oil changes (yes, even before

the first one), or possibly longer—like many new cars, it can calculate oil change intervals based on how the car is driven. Rather than correct us, the dealership happily changed the oil, rotated the tires, topped off the fluids, and billed us \$93.97. After that we kept our eye on the maintenance minder, which did not request service for the rest of the QX30's stay. Lesson learned: Read the manual. Carefully.

Two days later, we got an alert from the Infiniti's tire pressure monitoring system, and a trip to American Tire Depot found a nail in one of the rear paws. The flat repair was free, but rebalancing the tire cost us a cool \$15. And that was it—our only unscheduled repair.

At the end of Four Seasons, the QX30 left our fleet well liked, if not loved. "It wouldn't be a bad car to live with by any means," Rehbock said. Others went as far as to call the compact Infiniti the marque's best car. "All in all, it's a car that sells itself, even if I'm not the target buyer," Ireson said. To be sure, this Infiniti is far, far better than a drunken tattoo—unless of course that tattoo is of, say, a QX30. AM

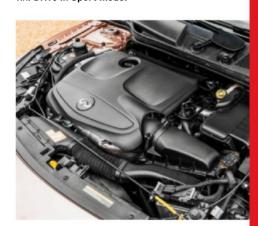


THE SPECS

OUR 2017 INFINITI QX30 S

This hatchback shares its powertrain with Mercedes' GLA, but the Benz's transmission tuning is better, with the QX30 upshifting too clunkily at low speeds. Our fix: Drive in Sport mode.







\$43,695

FNGINE

2.0L turbo DOHC 16-valve I-4/208 hp @ 5,500 rpm, 258 lb-ft @ 1,200-4,000 rpm

TRANSMISSION

7-speed dual-clutch automatic

LAYOUT

4-door, 5-passenger, front-engine, FWD crossover

EPA MILEAGE

24/33/27 mpg (city/hwy/combined)

L×W×H

174.2 x 82.0 x 58.1 in

WHEELBASE

106.3 in **WEIGHT**

3,364 lb

0-60 MPH

6.2 sec

TOP SPEED

OUR CAR

ODOMETER START/END

698/13,652

GALLONS OF FUEL USED

574.97 gal

OBSERVED FUEL ECON

22.5 mpg

TOTAL FUEL COST \$1,862.90

AVERAGE COST/

AVERAGE CUSI/

GALLON \$3.24

MAINTENANCE

1 x Oil change/tire rotation, \$93.97

RECALLS AND TSBS

None

OUT OF POCKET

Tire plug and rebalance, \$15.00

OUR OPTIONS

Liquid Copper paint, \$500; Sport Leather package, \$1,500 (heated Nappa leather seats, Nappa leather stitched dash insert, front passenger seat storage, black dinamica headliner and A-pillar, leatherette door, console, and dash trim); Sport Technology package, \$1,200 (blind-spot warning, lane departure warning, forward emergency braking, adaptive cruise control, automatic high-beams); Sport LED package, \$1,000 (LED headlights, active front lighting, enhanced interior ambient lighting)



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FOUR

SEASONS

Introduction



WE'VE DRIVEN ENOUGH midsize sport sedans over the years to know what we want. Along with a nimble, rear-wheel-drive chassis and a horsepower figure north of the 300 mark, we usually think of something with a German, American, or Italian bloodline. Korean roots? Not so much. But then we spent some quality time with the 2018 Kia Stinger GT. It reset our mentality, so much so that we decided to bring one in for a year's worth of evaluation.

The Stinger is the culmination of almost a decade of teasing by the automaker. Kia first hinted at a vehicle with true sporting intentions in 2011 with the Kia GT concept, and again in 2014 with the GT4 Stinger concept. Then it finally dropped the real production version at the 2017 Detroit auto show, thanks in part to the contributions of some German imports.

Indeed, the halls of Kia HQ probably smell a bit like bratwurst and spilled hefeweizen these days, as the company lured some top engineering talent away from

Germany to help the marque turn up the heat. Chief among them is Hyundai Motor Group head of vehicle testing and high-performance development Albert Biermann, the man who orchestrated the Stinger's dynamic symphony—and the former chief engineer of BMW's M division. Fellow BMW alumni Thomas Schemera and Fayez Rahman also play key roles at the group. These people know how to develop a proper sport sedan.

While Biermann's squad handled the Stinger's performance and handling,

president and chief design officer for Kia Motors Corporation (and fellow German native) Peter Schreyer and his team sculpted the Stinger's styling. Draped in a shell featuring a coupelike greenhouse, an aggressive front fascia that advances Kia's late-model mug, and a functional, integrated liftback, the Stinger deserved a Four Seasons bid on its looks alone. Associate editor Billy

"IT'S FAST. REALLY
FAST. HITTING
FREEWAY SPEEDS
IS NO PROBLEM,
AND OUR TESTER
WAS ALL TOO
EAGER TO GET UP
TO SPEED."





Rehbock experienced the pseudo-celebrity treatment behind the wheel of a Stinger GT prior to the arrival of our Four Seasons tester. "I watched heads turn and follow the car as I passed in a parking lot and got loads of remarks from onlookers as I got in or out," Rehbock wrote. "A guy in a Chrysler 300 nearly pressed his face against his window trying to get a better look."

Another big part of the Stinger's appeal is its unique nature, given its liftback versatility and tweener status in both the size and luxury arenas. "A segment straddler, it's neither a large sedan nor a midsizer, and it's neither premium nor mainstream in its fit and finish," senior editor Nelson Ireson said. "It's somewhere in the center of the overlapping Venn diagram of all of these traits. And while that might mean it's hard for some people to appreciate, it's also what makes the Stinger GT so good for so many uses."

Kia presently offers the Stinger in five trim levels and two powertrain configurations, starting with a base



Although the turbo-four is a compelling offering, we like a little more pep in our step, so we opted for the Stinger GT.







2.0-liter turbocharged four-cylinder pushing a healthy 255 hp and 260 lb-ft of torque to the rear wheels through an eight-speed automatic transmission of Kia's own design. All-wheel drive is available for \$2,200 and can be had from the bottom to the top of the Stinger range.

Although the turbo-four is a compelling offering, we like a little more pep in our step, so we opted for the Stinger GT. Its eight-speed is mated to a 3.3-liter twinturbo V-6 that has seen duty in several recent Hyundai Group models. The engine is rated at 365 hp and a healthy 376 lb-ft, enough to hustle our rear-wheel-drive model from 0 to 60 mph in a Kia-claimed 4.7 seconds. We could have opted for the AWD upgrade, but given that our tester will spend the majority of its time in sunny California, AWD seemed like an unnecessary complication.

Not all GTs are created equal, however, with the GT1 and GT2 trims sitting above the base GT. Ours is a well-equipped GT2 in HiChroma Red, weighing in at \$50,175. Unlike the Germans, there isn't much à la carte ordering to be had. If you want more features, you've got to ascend the trim hierarchy. Because the GT2 is the top trim in the Stinger heap, it comes fully loaded; the only option on our car is a \$75 rear bumper applique. It's a comprehensive package that's a requirement when you start pushing up into this price bracket.





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Performance-wise, the GT2 comes with a limited-slip differential and electronically adjustable suspension, along with 19-inch wheels wrapped in a set of Michelin Pilot Sport 4 tires (225/40R19 front, 255/35R19 rear). A Brembo brake package slows things down. Strangely, the electronic shift-by-wire system is exclusive to the GT2 trim. As far as we can tell, it doesn't do anything differently than the regular shifter except clean up the interior aesthetics a bit, as the T-handle unit on lower-line Stingers is a bit awkward.

In addition to the fancy e-shifter, there are myriad infotainment and comfort features, including a 15-speaker Harman Kardon sound system and an 8.0-inch touchscreen with voice command and navigation. Our Stinger also features Nappa leather trim and power 16-way adjustable driver and 12-way adjustable passenger seats. They're heated too, as is the power-adjustable steering wheel.

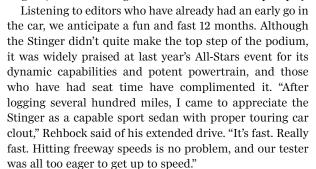








The electronic shifter found on higher-trim Stinger GTs is a big step up from the base "T-handle" shifter.



We're eager to find out if this is the start of something truly magical for Kia or just a bulgogi-flavored flash in the pan. But based on our time so far with the Stinger GT—including the first stints in our Four Seasons car—we're expecting to snap more necks, field more questions, and get chased down over the next year by a public curious to know what this quick Korean sport sedan is all about. AM

A full range of nannies and other convenience features are in the mix as well, including radar cruise control, blind-spot monitoring, forward collision warning and avoidance, lane departure, lane keep assist, rear cross-traffic alert, and automatic high-beams. Oh, and don't forget the rainsensing wipers (not that we need them much out here in Los Angeles). The GT2 also gets a trim-exclusive head-up display.







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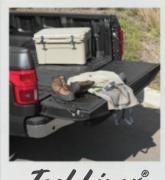


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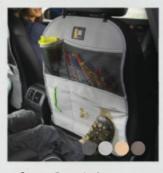




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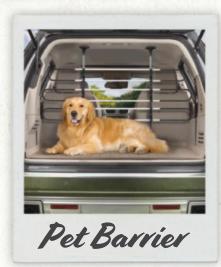




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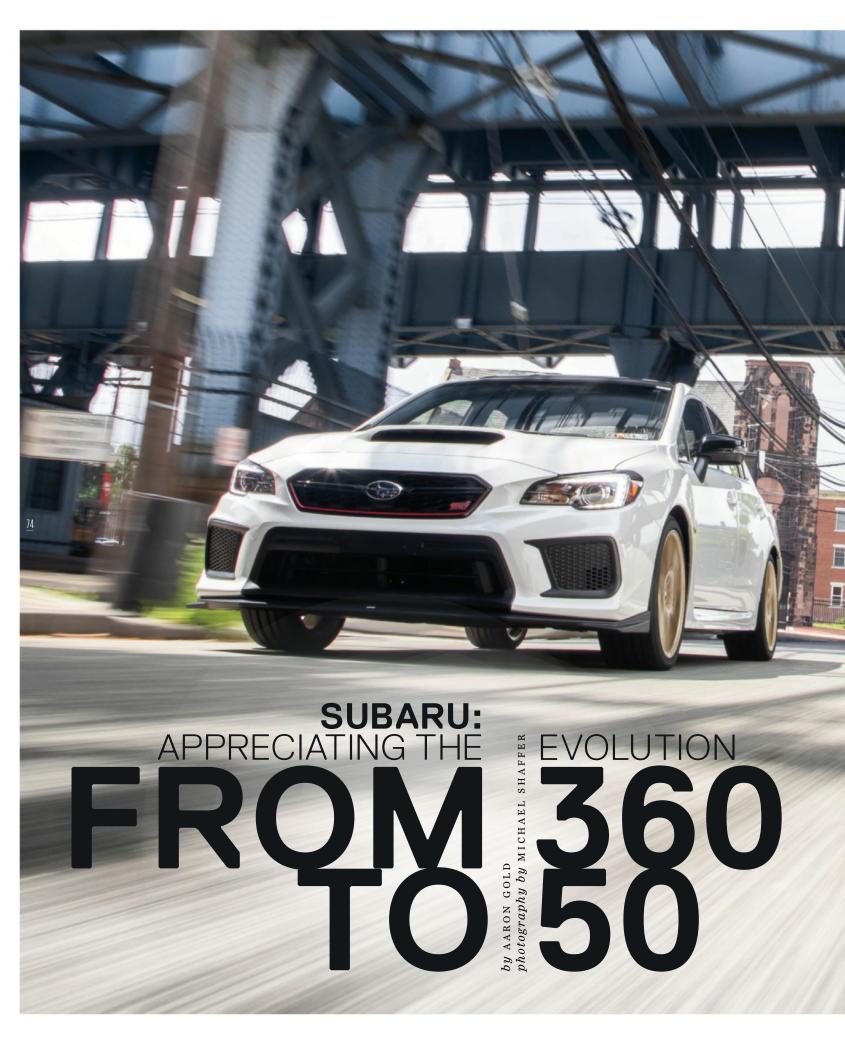


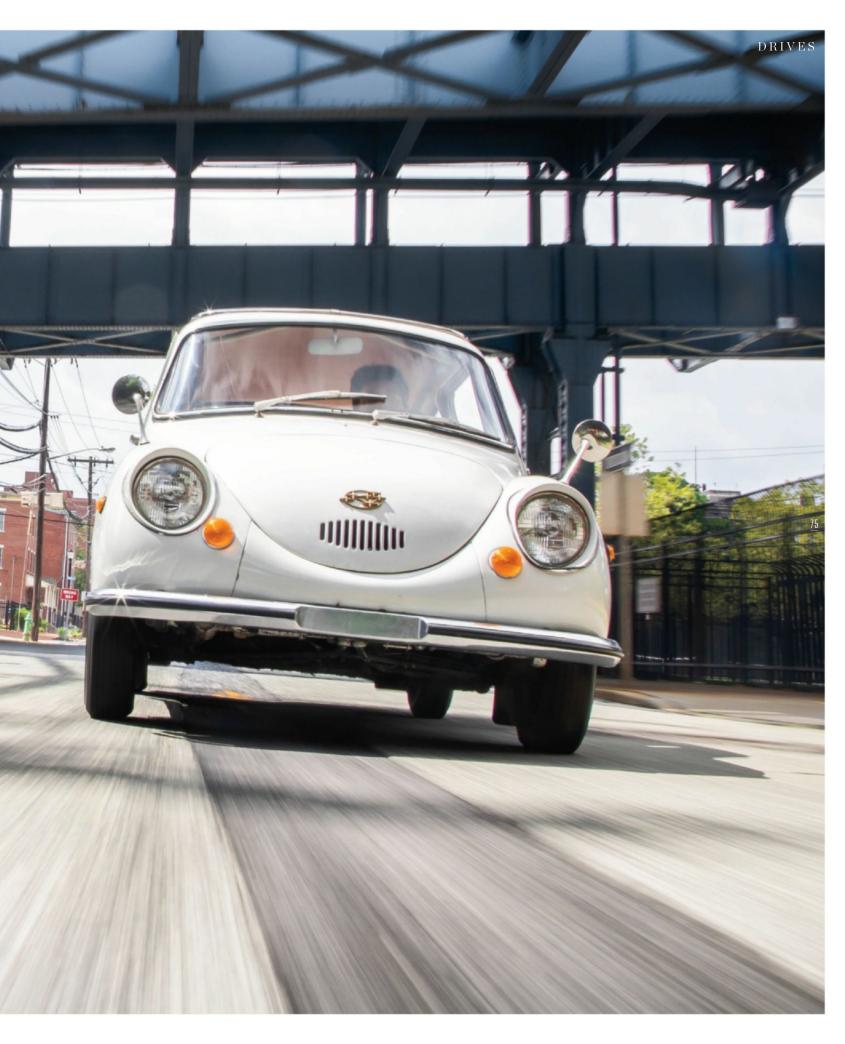
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CHERRY AILL. NEW JERSEY -

THE TASK IN question is a relatively simple one, mastered by millions the world over: Press lightly on the accelerator, ease off the clutch pedal, then feed in more throttle as the clutch bites. Left foot up, right foot down, away you go. It takes some practice to master, but in the grand scheme of things, driving a stick shift is easy.

Except nothing is easy in a 1968 Subaru 360.

We've come to the hamlet of Cherry Hill, near the site of Subaru's soon-to-be-former U.S. headquarters, to drive the car that 50 years ago launched Subaru's history in America. To wrap our heads around how the manufacturer went from the 360—the very first vehicle Subaru imported to the States and a car too anemic to be called feeble—to world-class performance cars like the limited-run WRX STI Type RA.

The last time I piloted a Type RA was on a charity road rally called Drive Toward a Cure, where I kept reasonable pace with a racing-trained driver in a Porsche 911 GT3. In the 360, you'd be lucky to keep pace with a fully loaded cement truck. This is no exaggeration; with the 360 cranked as fast as it seemed capable of going, not one but two cement trucks blew right past it.









The 360's cabin is what marketers might call "intimate." It's hard to believe an exhaust pipe so tiny can produce such copious amounts of oil smoke.

Driving the 360, you find it extraordinarily difficult to believe Subaru lasted 50 minutes in this country, let alone 50 years. The 360 is impossibly tinny and impossibly tiny. It stands chest-high to people of even slightly below average height. Compared to a Smart Fortwo, the 360 measures just short of a foot longer, is more than a foot narrower, and at 960 pounds is less than half the weight. The unassisted steering is one-finger-light, even when the car stands still. Opening the rear-hinged suicide doors reveals nothing but the thin sheetmetal of the floor and roof. As far as crash protection goes, you might be safer driving a car made of bubble wrap.

Power—a word used strictly as a nod to convention because it really doesn't apply to the 360—comes from a rear-mounted 359cc (22-cubic-inch) two-cylinder engine. This three-quarter-pint pollution pump idles with the tattered buzz of a poorly tuned chainsaw and farts out an impossibly large blue haze through an exhaust pipe the diameter of a penny. Output is a paltry 25 horsepower and 25 lb-ft of torque, not even enough to drive the supercharger on a Dodge Challenger Hellcat. A four-speed manual sends power to the rear wheels, though it seems impossible to begin to fathom the circumstances under which a 360 might obtain a speed high enough to use fourth gear—perhaps if it was dropped out of a plane.

You'd expect a car with such a meager engine to be slow. The 360 redefines the word. An old Fiat 500 with 2 less





horsepower than the Subaru feels like a Corvette Z06 in comparison. The reason: The 360's microscopic engine is a two-stroke, which means it has no low-end torque whatsoever. To get moving you have to rev the engine like you hate it and slip the clutch without smoking the clutch. Get it right, and the car leaps ahead to what feels like light speed, though it's actually an indicated 10 mph. Get it wrong, and the engine bogs down, picking up speed so languidly that elderly folks with walkers shake their fists and tell you to get the hell out of their way.

Once underway, your solitary goal is to avoid the same fate in second gear. The Fiat 500 (and the 360's eventual successor, the Subaru FF-1) had marks on the speedometer indicating maximum in-gear speeds, but the 360 offers its hapless driver no such assistance. Try holding first to 15 mph before shifting to second, and you find yourself trapped well under the torque curve and getting short-shift-shamed by the little Subaru. Next, try holding first to 20 mph. This requires winding the engine up to what

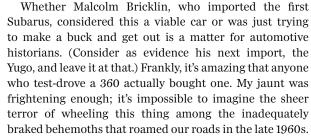


sounds like about 47,000 rpm, but it yields much better results; the car was almost able to keep up with the transit bus in the next lane. Logic would dictate second gear is good for at least 40 mph, but I wanted no part of pushing this delicate car that hard.

Originally introduced in 1958, the 360 was the first mass-produced *keijidosha*, or kei car, a class of Japanese vehicles that qualified for cheaper taxes and insurance provided they met certain size and displacement limits. In Japan, where the speed limit was 25 mph in town and 37 mph on back roads, a 360cc engine was just about adequate. But for suburban New Jersey in 1968—or in this case, 2018—not so much.

Mindful of the car's fragility, I shifted into third at 35 mph, 15 short of the posted limit. The 360 made it clear this was as fast as it intended to go. I figured I'd found a nice if slightly terrifying middle ground between not killing the car and not killing myself. That was when the cement trucks went flying past.

Aside from the sluglike acceleration, driving the 360 turned out to be less dreadful than I was led to expect. The ride is soft and surprisingly comfortable, not unlike the Detroit land yachts of the era. Its light steering is reasonably direct, which is helpful as you must swerve a constant slalom around potholes. Even the smallest of them pose a credible threat to the 360's dinner-plate-sized wheels and tires. Aside from cramped footwells, an insane amount of engine noise, and the constant threat of death from other traffic, the micro Subaru is not entirely unpleasant. Petrifying, but not entirely unpleasant.



Had the 360 been the company's only import, we're pretty sure Subaru wouldn't be here today. While *Consumer Reports* was busy trashing the 360, calling it "unacceptably hazardous," Bricklin's partner, Harvey Lamm, eyeballed Subaru's new front-wheel-drive FF-1 as a good choice for Americans living in the Rust Belt. When that bet paid off, he imported the four-wheel-drive Leone wagon, known here as the DL and GL. Subaru's legend was born. The DL/GL begat the Legacy, which begat the Outback, which begat the Forester, which in turn positioned Subaru to take advantage of the nation's present crossover craze. And when Subaru started competing in the FIA World Rally Championship, the company realized all-wheel drive could do more than get you out of snow. The WRX came to this country in 2002, and Subaru hasn't been the same in America since.

Put another way: Jeff Walters, Subaru of America's vice president of sales and owner of the 360 in our photos, found this particular car languishing in the corner of a Chicago dealership with 19,000 original miles on the clock. When I first saw it, I marveled that a car so old could have so few miles. After driving it, I'm amazed it has so many.





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1969 FF-1



→ SUBARU'S FIRST "REAL" car introduced the boxer engine and front-wheel drive. Quirky and innovative, it demonstrated Subaru wasn't afraid to forge its own path.

The FF-1, which came to the States in 1969 just after the 360, was the first Subaru to use a version of the horizontally opposed boxer engine the marque became known for. But it was home to other nifty quirks, including inboard front brakes and a dual-radiator cooling system that eliminated the need for a fan.

Although the sheetmetal looks paper-thin, the FF-1 feels far more substantial than the 360, and with 62 hp from its 1.1-liter engine, it's slow but not suicidally so. It's also noisy (apparently Subaru had not yet discovered sound insulation) with a flat-four soundtrack any Volkswagen Beetle driver would find familiar. An ingenious centerpivot rack-and-pinion steering system mimics the 360's feather-light feel. Primitive relative to today's offerings,

the FF-1 compared well with contemporary imports such as the Volkswagen Beetle, Fiat 128, and Datsun 510. Subaru sold just 325 the first year, but sales increased steadily, with 40,000 FF-1s finding homes over its five-year run. The FF-1 laid the groundwork for the 1973 GL/DL, which would adopt allwheel drive in 1975 and set the pattern for Subaru's future.

The 1975 DL/ GL wagon (above) was the first Subaru to offer fourwheel drive, presaging the crossover craze that would hit the United States some 30 vears later. Although the horsepower numbers sound modest, older WRXs are still a kick to drive. This is a 2008 model, the second iteration to appear in the United States.

Impreza WRX

THE OUTBACK AND Forester put Subaru on the map for a new breed of buyers, but the WRX brought the brand to the attention of serious drivers.

The WRX was born of Subaru's participation in the FIA World Rally Championship. Introduced in Japan and Europe in 1998 and brought to the U.S. for the 2002 model year, its combination of 227 turbocharged horsepower and all-wheel drive made it a novelty, and the sub-\$25,000 base price made it the best performance



bargain on the market. After *Automobile*'s yearlong Four Seasons test of a WRX wagon, we chastised Subaru for not bringing it to the States sooner. "What on earth were they thinking," we wrote, "to deny enthusiasts one of the performance-car icons of the end of the 20th century?"

Today, when buyers can choose from several humdrum family haulers that offer 250-hp turbo engines and all-wheel drive, the WRX's specs seem unimpressive—yet the original is still a thrill to drive. Turbo

lag, now regarded as a negative, adds a level of drama and anticipation, and the obtrusive gear whine evokes a racing machine tuned more for speed than refinement. Push the WRX into a corner, and it goes; push harder, and it goes faster, egging its driver on. Granted, a modern Honda Accord 2.0T is nearly as quick to 60 mph—but a decade and a half on, the original WRX still makes you grin like an idiot. AM

80





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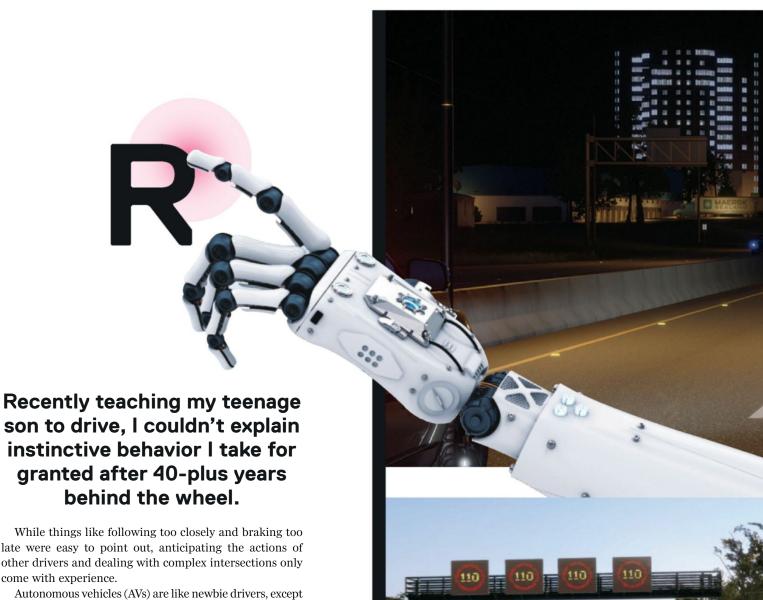




Autonomous Assistance







While things like following too closely and braking too late were easy to point out, anticipating the actions of other drivers and dealing with complex intersections only come with experience.

Autonomous vehicles (AVs) are like newbie drivers, except with better-developed brains and billions of dollars in tech to help shorten the learning curve. But even with all their sensors and software, AVs still have flaws to overcome before they drive with complete confidence and competence.

In the race to get robocars on the road, several underthe-radar tech trends are coalescing to help make true AVs a reality-and maybe make my son's generation one of the last to learn to drive itself.

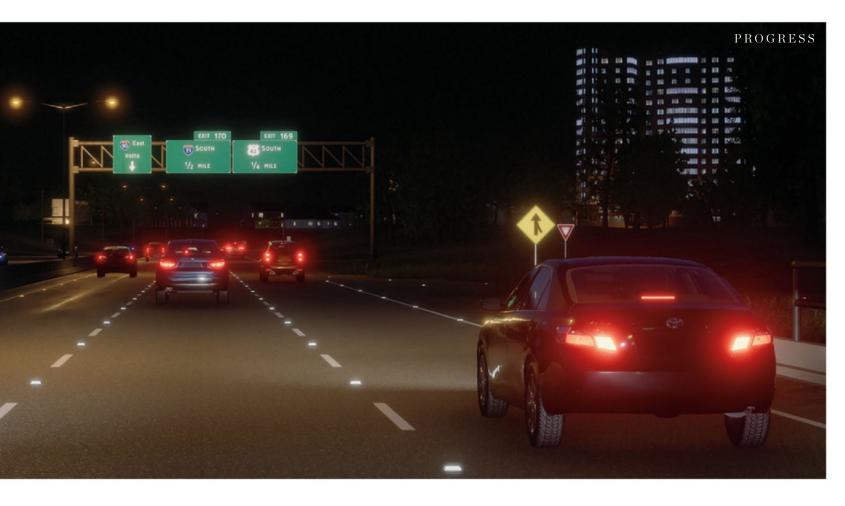
Teaching AVs the Rules of the Road

My new driver had to study the Oregon Driver Manual to learn the difference between, say, a stop and yield sign. AVs similarly learn the rules of the road, but through artificial intelligence (AI). Another requirement for my son is to log 50 hours with an adult in the car. AVs also acquire real-world experience by putting in hours on the road, but only in certain locations and conditions because of legal restrictions and weather.

AVs learn to interpret signs and other roadway info via a type of AI known as machine learning, which requires driving a route and humans verifying the data. Trafficdata company Inrix has a way for AVs to more quickly learn the rules even in places they've never driven. Inrix's AV Road Rules platform lets cities digitize their traffic infrastructure and rules. This not only creates a shortcut for AVs to memorize traffic rules but also allows them to operate from accurate data.

"For 100 years, signs and lane markings have been the language of communicating traffic rules to drivers, and it's worked pretty well," says Avery Ash, head of autonomous mobility for Inrix. "But we've all been in situations where the signage is confusing or obscured or lane striping has been worn off, but we figure it out."

Although machine learning can help AVs figure out such situations, Ash adds that "it's a tedious, lengthy, and expensive process, and the results are not accurate enough

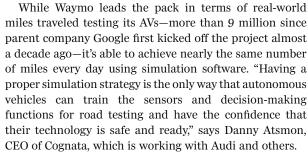


for the sort of safety-critical operation required by AVs. AV Road Rules is an additional data layer that complements machine learning and HD maps."

Once AVs know the rules, they need to apply them on roads. But just as I don't have 50 extra hours to spend driving with my son, AV operators have limited time and resources when logging miles.

A 2016 RAND study estimated that AVs "would have to be driven hundreds of millions of miles and sometimes hundreds of billions of miles to demonstrate their safety in terms of fatalities and injuries." But developers have found ways to speed up the process through simulation software, and most are using simulation to accelerate AV deployment.

Software such as Nvidia's Drive Constellation (above) creates a virtual world to put AV systems through their paces; Audi employs a simulation platform from Cognata (left and below).



Simulation also allows AV developers to test for "edge cases" such as pedestrians and cyclists suddenly crossing in front of the car or when the sun shines directly into an AV's front-facing camera at sunset, temporarily blinding it.

"With simulation, we're able to recreate blinding sun 24 hours a day," says Danny Shapiro, senior director of automotive for chipmaker Nvidia. "And we can do it on every road and combine that with a rainstorm or any kind of weather. We can also simulate a car running a red light and evaluate if the AV is taking the correct action and detecting everything it should."



Even with all their computing power and AI, situations remain that require AVs to call on human drivers for help. That's why most AVs testing on public roads need a human behind the wheel to take over when a self-driving computer gets confused or can't continue for some reason, such as when a road is closed or there's a temporary construction zone.



"Think of teleoperation as an air traffic controller for autonomous vehicles," says Jada Smith, VP of advanced engineering at Aptiv (formerly Delphi), which runs a robotaxi program in Las Vegas in partnership with Lyft. But unlike air traffic control, AV teleoperators will be able to not only monitor but also operate self-driving cars when an autonomous vehicle encounters a situation it doesn't know how to handle.

But as AVs shed components such as steering wheels and pedals and humans

Most major AV players are either preparing for teleoperation of robo-taxis or testing it already. GM's stable of Chevy Bolts being retrofitted by its Cruise Automation subsidiary to operate without a steering wheel or pedals have an "expert mode," which relies on teleoperator assistance. Toyota has a patent for "remote operation of autonomous vehicle in unexpected environment," while self-driving startup Zoox has one for a "teleoperation system and method for trajectory modification of autonomous vehicles."

NASA remotely controlled a series of Martian rovers in the late 1990s and early 2000s. That's why Nissan, meanwhile, has recruited former NASA scientists to apply a version of the space agency's teleoperations expertise to the automaker's autonomous vehicles and is testing remote control of a fleet of self-driving Leaf EVs at NASA's Ames campus in Silicon Valley.



In the first demonstration of the technology on public roads (and on Earth), at the Consumer Electronics Show last January, Phantom Auto had a human operator 500 miles away in California control a car driving on the Las Vegas Strip. "AV technology may be about 97 percent of the way there, but that last 3 percent may take decades to solve," says Elliot Katz, co-founder and chief strategy officer for Phantom Auto. "Teleoperation ... serves as an essential technological bridge which enables AVs to be safely deployed now."





Watch Me Now

Along with remote monitoring of self-driving cars, human drivers will also increasingly be under scrutiny, especially in the interim between SAE Levels 3 and 4 of autonomy when humans will need to be ready to take control at a moment's notice. Although cameras are already used in some cars to monitor drivers, such as with Cadillac Super Cruise, a new generation of cameras will move beyond simply detecting whether the driver's head is turned away from the road to include facial recognition and even be able to read emotions of passengers in fully autonomous cars.



Subaru introduced a feature on its all-new Forester, called DriverFocus, that uses facial recognition software to look for signs of driver distraction and fatigue. Part of the Subaru EyeSight suite of driver assists, DriverFocus can detect when someone is dozing off or looking away from the road for too long, and it will automatically stop the vehicle.

Teleoperation by companies such as Phantom Auto (above and left) allows a human to remotely drive a vehicle in situations when the onboard tech needs help, such as a temporary road closure.





Cameras from companies such as Affectiva (above) and eyeSight (below) detect the emotional state of passengers based on facial expressions.

Another company, eyeSight (no relation to the Subaru option), has a camera that not only detects distraction and drowsiness but also includes what the company calls "contextual control" based on the direction of a driver's gaze to highlight content in cockpit displays. A creepier profiling feature allows it to detect the age and gender of the driver and use the info for "connected car analytics."

Renovo Auto is focused on creating a universal operating system for AVs called aWare. It incorporates sensor and software technologies and involves using cameras inside and outside a vehicle to capture emotions of passengers as well as pedestrians.

"During development, you need to monitor drivers to make sure they are engaged," Renovo CEO Chris Heiser says. "And later you'll need to interact with the passengers to help build trust and provide them all the services that a human driver does today."

To provide this interaction, Renovo is working with AI startups Affectiva and Speak With Me to integrate their technology that analyzes the facial expressions and voices of passengers into the company's fleet of AV test vehicles.

Now, if it could only make my teenage son more responsive and personal when I'm in the car with him for those 50 hours. AM

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Automobile



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magellangps.com

Advent PSB111/PSB111D Parking Assist System \$39-\$99

Do you find parallel parking a challenge? (Don't answer: We could tell from all the dings on your car.) With this sensor system, even your grandma could park an F-350 in a spot marked "compact" without using the Braille method. Four sensors feed intel to a dash-mounted LCD that shows proximity to objects and provides audible warnings. You can now rest easy knowing you'ill never start a domino effect at a biker bar. adventproducts.com



FOBO Tire Pressure Monitoring System

\$149

If you're anal about your car's tire pressure and also constantly check your phone, the FOBO tire pressure monitoring system (\$149) may be for you. Its sensors screw onto a tire's existing valve stem and can be secured with anti-theft nuts. Once in place, the Bluetooth-enabled sensors allow you to check your tire pressure via an in-car display or remotely (and even receive alerts) from a smartphone app.

Jacob.





Handpresso Auto In-Car Coffeemaker

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Feeling drowsy on your commute and dread the long line at the drive-through? Let the Handpresso Auto in-car coffeemaker be your onboard barista. It plugs into your vehicle's 12-volt outlet to make about 2 ounces of fresh, hot espresso in about 2.5 minutes. It uses Easy Serving Espresso pods (about \$3 each), or you can grind your own beans to fill Handpresso's Domepods (\$42 for set of three). It isn't cheap, but neither is a Starbucks habit.







ION Cassette Adapter Bluetooth

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Pioneer NEX Smart-Home Head Unit From \$700

Ever wonder if you left your garage door open? With Pioneer's NEX series head units, you can find out—and even close it remotely. The AVIC-W8400NEX (\$1,200) and AVH-W4400NEX (\$700) let you control home accessories with Google Assistant via Android Auto and Apple HomeKit using Apple CarPlay. pioneerelectronics.com

HUM By Verizon

\$70

There's no shortage of aftermarket OBD2 devices, but HUM from Verizon stands out for its comprehensive features and ranges in price from free (for just the smartphone app) to about \$70 plus a \$15/month subscription. HUM+ delivers automatic collision notification, vehicle diagnostics, and maintenance reminders, and it provides a safety score and speed and boundary alerts to keep tabs on teen drivers.

hum.com









Waylens Secure360 Wi-Fi Automotive Security Camera \$300

If you can't keep an eye on your car 24/7, the Waylens Secure360 automotive security camera can for about \$300. It serves as a dashcam while driving and stands sentry when parked. Its 360-degree lens captures everything around your ride when triggered by motionand impact-detection sensors, and video is automatically recorded on a microSD card. waylens.com

Hudly Aftermarket HUD From \$59

You don't have to buy a new car to get a head-up display (HUD). The Hudly aftermarket HUD sits on top of the dash and projects content from a connected smartphone, such as navigation directions, and works with third-party apps to monitor everything from fuel economy to performance parameters such as speed and rpm. gethudly.com

iOttie Wireless Charging Smartphone Mount \$54,95

If you have your phone floating around in the car and connected to a USB port to charge, the Easy One Touch Wireless Fast Charging Air Vent Mount keeps it from becoming a missile in an accident and also wirelessly charges any Qi-enabled device. iOttie also makes windshield and CD-slot mounting versions. iottie.com





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SUPERSTAR CAR All eyes (and cell phone cameras) were glued to the front of the room as this 1962 Ferrari 250 GTO became the most expensive car to ever sell at auction.

RORY JURNECKA

1962-1964 **FERRARI 250 GTO**



BY NOW YOU have probably heard the news: A 1962 Ferrari 250 GTO sold at RM Sotheby's Monterey auction in August for \$48,405,000-a world-record price for a car sold at any auction. Why would anyone spend the better part of \$50 million on a car? The short answer is because they can. The long answer is more complicated.

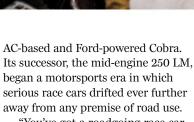
The End of an Era

If you read Automobile, you are likely at least aware of the rarefied air the 250 GTO inhales through its six downdraft Weber carburetors. Across the last decade, the car, with its distinguished aluminum bodywork and a 3.0-liter Colombo V-12 engine, has continued to establish itself as perhaps the premier collectible postwar classic car. Ferrari built just 33 Series I 250 GTOs with the original and more traditional early bodywork, in addition to three more Series II cars with revised sheetmetal for total production of just 36 cars.

The 250 GTO's legacy is the stuff of legend. Essentially the last of the true dual-purpose road racers, able to compete on a track and drive home afterward, the 250 GTO (250cc of displacement per cylinder, and Gran Turismo Omologato designating its competition-homologated status) was the ultimate evolution of Ferrari's front-engine 250 GT series. These 250 GT cars were sold in both road and race spec, but their basic engines and chassis were very similar, and the series really put Ferrari on the map as a credible production carmaker. Today Ferrari as a marque is often said to be the most recognized worldwide.

But make no mistake, the 250 GTO, in contrast to the brand's 250 GT/L or Lusso road car, was made for a single purpose: to contest and win the 1962 FIA GT 3.0-liter international racing class. Which it accomplished. And then it did so again in 1963, besting competition from Jaguar's new E-type Lightweight and Shelby's





"You've got a roadgoing race car that won many of the big events in Europe and the United States in its day, and it was a romantic time in racing—we loved all the drivers," says Wayne Carini, owner of classic car dealership F40 Motorsports and host of Motor Trend Network's "Chasing Classic Cars." "Until recently, not many GTOs have been sold at auction; they've all been traded very privately."

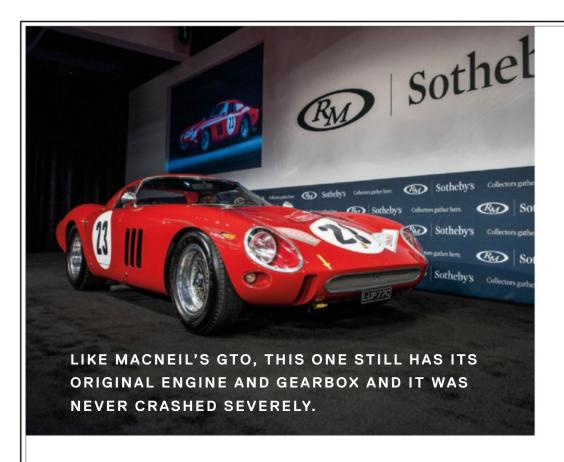
Southern California-based classic Ferrari specialist and broker Michael Sheehan adds, "The most prestigious [collector car] club is, of course, the GTO club, which buys access to rub shoulders with Lawrence Stroll, the McCaw brothers, Rob Walton, Nick Mason, Anthony Bamford, Charles Nearburg, Chip Connor, and the [rest] of the international super-rich who











style but still the same thing: a GTO," Carini says. "That prompted this owner [businessman and vintage racer Gregory Whitten] to come forward because of the price of the previous sale, and he thought, 'Well, maybe it's time to sell mine while the market's hot.' The gentleman certainly didn't need the money, but it was a decision based on many things. He was at a point in his life when he thought he wasn't using it properly and it was time to cash his chips in."

And yes, we can verify MacNeil's GTO wears WeatherTech floormats.

A New Auction Record

Our subject car, chassis No. 3413 GT, was originally a Series I car, built in 1962, then rebodied in 1964 with the more streamlined but less iconic Series II panels. Like MacNeil's GTO, this one still has its original engine and gearbox, and it was never crashed severely. With

have their [GTO] owners' meetings and literally jet from very private collection to very private collection to show whose is indeed bigger."

A Recent High-Water Mark

One of those private sales occurred several months ago when a 1963 Ferrari 250 GTO, chassis No. 4153 GT, entered the collection of American David MacNeil, founder of WeatherTech, a large automotive floormats business whose advertisements you'll find in this very magazine. The sale price was widely reported as being upward of \$70 million, a new world-record sales price for any automobile in any venue. As GTOs go, many experts deemed No. 4153 GT as one of the finest. It is believed to retain its original Series I bodywork and its original engine, rarities for cars that have raced extensively. Its history includes an overall win at the prestigious 1964 Tour de France road race and fourth overall at the 1963 24 Hours of Le Mans. Its sale price was instrumental in our subject car arriving at RM Sotheby's Monterey auction.

"The GTO that sold for more than \$70 million was a different body







its Series I bodywork, it was driven at the 1962 Targa Florio by Phil Hill, just after he became the first American Formula 1 World Champion in 1961 at the wheel of a Ferrari. It then changed hands and went on to win its class at the 1963 Targa Florio, and, with new bodywork, it did the same in '64.

RM Sotheby's estimated No. 3413 GT would sell for between \$45 million and \$50 million when it crossed the block in August; bidding opened at \$35 million. Over the course of about 10 minutes, a handful of bidders, mainly on the phone, calmly raised the price by increments of \$1 million, then \$250,000, until the car was resolutely announced sold at \$48,405,000 including RM Sotheby's commission. The bid soundly beat the previous auction record of \$38,115,000, also set by a 250 GTO, chassis No. 3851 GT at Bonhams' Quail Lodge sale in 2014.

So did MacNeil overpay for his \$70 million GTO?

"I think MacNeil's car was probably one of the best ones," Carini says, "and the difference between a good car and a superb car, as we're seeing, is about \$25 million.

"[This latest] car had been rebodied in the day: I really like the body, but a lot of guys have a vision of what a GTO should look like, and this wasn't that vision," Carini continues. "This is sort of a cross between a [mid-engine 250] LM and a front-engine Ferrari. I think that held it back slightly in value."

IGHT

KNOWN 250 GTO SALES SINCE 2010

2010:

4675 GT, \$17 MILLION Private sale, reported price

4675 GT, \$25 MILLION Private sale, reported price

2012:

3505 GT. \$35 MILLION Private sale, reported price

5095 GT, \$52 MILLION Private sale, reported world record

2014:

3851 GT. \$38.1 MILLION Bonhams auction, world auction record

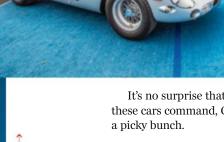
2017:

3387 GT, \$56 MILLION Private sale, reported world record

2018:

4153 GT, \$70+ MILLION Private sale, reported world record

3413 GT, \$48.4 MILLION RM Sotheby's auction, world auction record



WeatherTech founder David MacNeil paid more than \$70 million for this 250 GTO (top) with its most desirable Series 1 bodywork. Our subject car (below) was given new Series 2 sheetmetal in 1964.

It's no surprise that at the values these cars command, GTO buyers are

And the Crystal Ball Savs ...

GOODING & COMPANY

Is a \$100 million 250 GTO in the near future? The odds are favorable.

"I certainly see them becoming the first \$100 million car," Carini says. "I remember when one sold [long ago] for \$2.5 million, and that was like, 'Oh my god, that's crazy!' And then \$10 million, and it was, 'Oh my god, these can never go any further!' So we just keep going. There are a lot of wealthy people in the world, people who have been very successful, and they like to reward themselves with something nobody else can have. And with 36 GTOs having been made, your chances to buy one are slim."

Sheehan's take is similarly bullish: "At the peak of the price-point pyramid, the rich just keep getting richer and so the minuscule market for the best-of-the-best eight-figure trophy car remains strong."

The rich do indeed get richer, and so do their buying habits. Last year, a painting of Jesus holding a crystal orb, dubbed "Salvator Mundi" and believed to be painted by Leonardo da Vinci around 1505, brought in \$450 million at a Christie's auction in Manhattan. On such a scale, a 250 GTO that can be experienced through driving and racing versus being hung on a wall can seem to be a good value. AM







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to talk about VW's future in the

United States.

Is VW's mission to create a selfdriving car network?

HW: Volkswagen is strongly investing into this. Software and autonomous driving is absolutely a strong focus of our future product development. This is not a North American issue. It's a global issue, and because we have huge scales globally, we have the opportunity to be fast on this.

But it's a different business landscape than the traditional automotive industry ...

HW: We also have to realistically see that other software companies coming from another side of the business are challenging the traditional car industry. But on the other hand, they also don't have the competencies we have. So it's basically a race. The race is on. Who is faster to acquire the competencies, so to speak, of the other side? But we definitely see a strong trend within Volkswagen for additional investments into software.

American carmakers have lost confidence in sedans. VW just introduced a new Jetta, and the Arteon is coming. What does VW see that Detroit doesn't?

HW: As a niche player, these strong sedan segments are still within the top four, top five segments in the industry. We want to deliver strong and competitive and exciting sedans. This German-engineered sedan technology is, I believe, very exciting for many American customers as well, even though the segment is under pressure, no question. But I iust recalled the number of Jettas we sell; there is even more than we do with the SUVs. So there is no reason for us to leave that segment.

What's the long view of sedans?

HW: We definitely are also going to invest into sedans in the future. And if you look a little bit further ahead on electric mobility, the split between SUVs and sedans in full electric cars, I believe, will be a little bit different to what you see right now, simply because the sedans have such a higher advantage on range. That's my prediction, that we are going to see a different split between sedans and SUVs on the electric side in the future.

The political situation in the U.S. is dicey. What steps is VW taking to prepare for problematic policies?

HW: That's why we have [our] Chattanooga [factory] here in the U.S., of course with also smart supply of parts from outside the U.S., also from Mexico. The complexity of this supply chain being the nature of our

industry, not only for Volkswagen, we hope there is the understanding that we need free and open and fair trade. It's the best basis for everybody. There is no winner in a regulation environment; there will be no winner. We hope this position will be shared by the political bodies involved.

Just to be clear, though: VW and others opened U.S. plants long before today's climate.

HW: We decided [to manufacture in] Chattanooga more than 10 years ago, so more than two-and-a-half administrations [ago]. We cannot make these kinds of multibilliondollar investments on governmental administration cycles. This is, by the way, the same around the globe for everybody. A balanced supply and factory base is the right answer, and that's exactly what we had to weigh.

Where does a VW pickup, like the Tanoak concept, stand?

HW: Doing it right in a very patriotic segment is something you really have to carefully do. Right now we are proposing this Tanoak on a unibody platform, which is not typical for that segment. The B pickup segment in America and the C pickup segment is nearly all body-on-frame because of the high instance of commercial use. If you build it on unibody, then you have a great advantage for the driving dynamics; it's basically the same story as what happened 15, 20 years ago with the SUVs, which also were bodyon-frame back then. If you look at the market now, the rest is history.

When might we see such a production vehicle?

HW: The question is, does this copypaste [approach] also work on the pickup side? This is something we need to study more carefully, so the advantages, again, yeah, better driving dynamics, but also having something differentiating it from the high volume of concepts you see in the market now. We are not through with that study, and there are other strategic and architectural opportunities we are looking into in order to get it feasible.

What is the future of R Performance?

HW: The Golf R, or the R family, is for us a symbol of sportiness, of real dynamic driving, and this fun-to-drive [trait] always has been an important factor for our brand. We are going to continue to deliver on that promise. Going into the electric I.D. family, [R Performance] fits very well into that story. The fun of electric acceleration is phenomenal. This brand needs a lot of driving fun and also a lot of excitement, and R will be in the future.



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