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MAGAZINE

Aston Martin DB11

the latest in an illustrious bloodline



Porsche Macan S

A hot-rod compact crossover

Lexus IS350 F SPORT

Good-looking cruiser

Maserati Levante

Italian luxury goes off-roading





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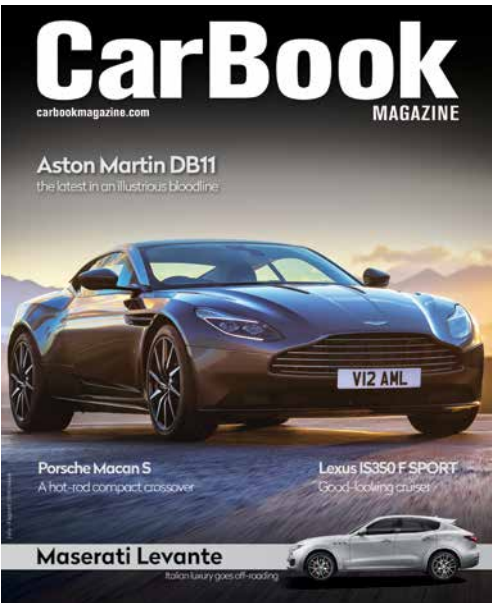
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Aston Martin unveils the DB11

the latest in an illustrious bloodline



A new chapter in Aston Martin's history began at the 86th International Geneva Motor Show with the unveiling of the DB11. The first product launched under the company's 'Second Century' plan, DB11 is the bold new figurehead of the illustrious 'DB' bloodline and an authentic, dynamic sporting GT in the finest Aston Martin tradition. The DB11 showcases a fresh and distinctive design language, pioneering aerodynamics and is powered by a potent new in-house designed 5.2-litre twin-turbocharged V12 engine. Built upon a new lighter, stronger, and more space efficient bonded aluminium structure, DB11 is the most powerful, most efficient and most dynamically gifted DB model in Aston Martin's history. As such, it is the most significant new

Aston Martin since the introduction of the DB9 in 2003. Aston Martin Chief Executive Officer, Dr Andy Palmer said: "We aspire to make the most beautiful cars in the world. DB11 is the absolute embodiment of what an Aston Martin should be and we have worked tirelessly to ensure that DB11 combines both exceptional design with the latest technology throughout. A brand new bonded aluminium platform, clever aerodynamics, a new characterful twin-turbo V12 and class-leading infotainment systems are just a few aspects which make this the sports car that will proudly spearhead Aston Martin's second century plan." Heralding a new design era for Aston Martin, DB11 is

the latest landmark in a remarkable aesthetic journey; one that gave us icons such as the DB2/4, DB5 and, most recently, the DB10 developed specifically for James Bond. DB11 re-imagines the relationship between form and function with a series of fresh design signatures. Foremost amongst these are the front-hinging clamshell bonnet, distinctive LED headlights and accentuated lines of the iconic Aston Martin grille. The profile is equally dramatic, thanks to the roof strakes that flow uninterrupted from A-pillar to C-pillar. The clean lines continue at the rear, with a sloping decklid that smoothly blends into boldly sculpted tail-lights to create a new and unmistakable graphic. Innovative aerodynamics play their part in this





aesthetic revolution with clever management of airflow both over and through the bodywork aiding stability while preserving the DB11’s uncluttered surfaces. Front-end lift is reduced by the gill-like Curlicue which releases high-pressure air from inside the wheel arch via a concealed vent within the redesigned side-strake. Meanwhile, rear-end lift is reduced by the Aston Martin AeroBlade™; a virtual spoiler fed by discreet air intakes located at the base of each C-pillar. Air is ducted through the bodywork, before venting as a jet of air from the aperture in the rear decklid. Like every Aston Martin, the heart of the DB11 is found beneath the bonnet, though unlike any Aston Martin before it, the DB11’s heart is a 5.2-litre twin-turbocharged V12. Designed in-house this new engine develops 608PS1 (600BHP1) and 700Nm1 of torque, making DB11 the most powerful production DB model ever. Naturally, it’s the most dynamic and most accelerative too, with a top speed of 200mph1 and a 0-62mph time of just 3.9sec1. Thanks to intelligent bank activation and stop-start technology that potency is matched by greatly improved efficiency. To exploit the advantages of its new body structure and harness the immense performance of the new twin-turbo V12 engine, the DB11’s chassis, suspension, steering and electronics have been re-imagined and key new technologies embraced. Multiple driver-selectable dynamic modes - GT, Sport and Sport Plus - progressively intensify the response of the engine,



8-speed automatic ZF transmission together with the new electric power steering and Torque Vectoring by braking while increasing the firmness of the adaptive damping for a greater sense of agility. The result is a driving experience that combines exemplary ride comfort and true sports car agility, for an extraordinary breadth of dynamic capability. As a true 21st century Aston Martin the DB11 combines the very latest technology developed in

conjunction with technical partner, Daimler, with the finest quality and hand craftsmanship. Using a full-colour 12” TFT LCD display, the all-new instrument cluster presents primary vehicle information with absolute clarity, while a second, centrally-mounted 8” TFT screen is dedicated to infotainment. Controlled via an intuitive rotary control, with an optional touchpad offering character recognition, multi-touch and gesture support, the new satellite navigation and



audio system have never been more effective, sounded better or been easier to operate. A newly implemented auto-park assist feature and 360-degree birds-eye view camera helps provide safe maneuvering at slow speeds and is also operated via the car’s infotainment system. With wider door apertures, significantly increased occupant space - especially head and legroom in the rear - fully integrated rear ISOFIX mounting points for a pair of child seats plus a luggage compartment

large enough to accommodate two large holdalls plus carry-on baggage, the DB11 is a genuine Grand Tourer. Thanks to an inspiring palette of colours and a vast array of detailing options, its interior can be perfectly in-tune with your unique personal style. From calming, carefully co-ordinated tones to sharp contrasts in hue and texture, your choices are virtually limitless. Nexus quilting and Celestial perforation add layers of beautiful complexity and intrigue, while ornate

leatherwork, such as intricate brogue detailing, creates areas of visual and tactile delight. Dr Andy Palmer said: ““This is not only the most important car that Aston Martin has launched in recent history, but also in its 103-year existence. The DB11 rightfully places Aston Martin once again as a leading brand in the luxury automotive market”. First deliveries of the DB11 car are scheduled to begin during the fourth quarter of 2016.



Maserati Levante

Italian luxury goes off-roading



Did you know that the trident logo of the Maserati car company is based upon a Fountain of Neptune? This fountain can be found in a central square called Piazza Maggiore in Bologna, a region of Emilia-Romagna in Italy. In 1920, one of the Maserati brothers used this symbol in the company logo at the suggestion of a family friend. And how apropos too, as Neptune has symbolically stood for strength and vigour, and many of the

Maserati brothers were involved in building Grand Prix race cars since the beginning of the 20th century. As the firm grew, they continued their heritage of building winning race cars. However times they are a changing. For the first time in its hundred year history, Maserati has bowed to consumer demand and debuted the company's first ever SUV, called the Levante. Just in case you're wondering, the "Levante" is named after a wind in the

western Mediterranean. The introduction of the Levante marks a transformative moment in the history of Maserati. A moment that no doubt is hedging on the significantly increasing demand for premium SUVs and crossovers globally. Although buyers have shown no hesitation towards SUVs from traditional sporting or luxury automakers, the real trick for success is translating an exotic marque's core values into something that

will spend more time on the school run and at the shopping centre versus off the beaten path.

Late to the party but still widely anticipated

Maserati insists that they designed the Levante to be a true and pure Maserati, with design, exclusivity, and performance being key characteristics for describing the new crossover. As with any luxury SUV worth its salt these days, the Italians also insist that it has both "perfect on-road and off-road capabilities". You wouldn't be too far off the mark if you recall that these very same words being spoken by those at Porsche. And look where they are today, with record breaking sales figures year over year and both the Macan and Cayenne being their most popular models. To show the world how serious it was about the Levante, the Maserati also completely refurbished and modernized a dedicated area of the Mirafiori plant in Turin, Italy for its production. The stakes are pretty high as Maserati has been working on the vehicle for 13 years, since the original Maserati Kubang concept made its appearance back in 2003.

Since sister company Ferrari says that there's no way that it will commit to any truck that we know off, this is likely to be the closest thing to a Ferrari off-roader that we'll ever get, at least for a while.

But the design of the Levante features clear associations with the Maserati brand, and indeed, Italian styling. Design signatures such as the three iconic air vents on the front fenders, the trapezoidal C-pillar with the "Saetta" logo, and the large, frameless windows are unmistakably on brand.

What's under the hood?

Since Maserati is a performance brand, it seems only fitting that we start this review with what is under the bonnet. As the Levante is based on the Ghibli sedan, it seems only natural that the vehicle share the Ghibili's powertrains as well.

There are two engines to choose from, both based on the same twin-turbo 3.0-litre gasoline V6. First up is the 345 hp engine in the entry-level Levante. Upgrade to the S and you'll get a 424 hp version of the same engine, with the power gains courtesy of changes in the intake and exhaust as well as software tweaks. 0-100 km/hr sprints for the base and Levante S are 6.0 seconds and 4.8 seconds respectively. A third Levante variant, powered by a 3.0-litre 275 hp turbo diesel V6, is good for a 0-100 km/hr sprint in 6.9 seconds.

All models across the range include Maserati's





“Q4” intelligent all-wheel-drive system, a five level dynamically adjustable air suspension with electronically controlled dampening, and ZF’s excellent eight-speed automatic gearbox.

Performance and Handling

With the lowest centre of gravity in its class, a BMW-like 50-50 equal front/aft weight distribution, and high levels of dynamic torsional rigidity, you could be forgiven for thinking of the Levante as more of a tall Ghibli estate wagon than a crossover.

The sophisticated suspension design, double-wishbones up front and multi-link on the rear, paired with the four corner air springs, play an essential role in the vehicle’s handling. With a mechanical self-locking

rear differential as standard, when driven on-road, the Levante delivers all of the performance and emotion typical of an Italian vehicle.

The deep exhaust snarl is so tasteful, so distinctly Italian, and certainly one of the things that separates the Levante from its German luxury-crossover competitors. In a world gone electric, Maserati has also chosen to stick with hydraulic assisted power steering, giving the chunky three-spoke steering wheel a feel that is now largely lost, or at least imperfectly simulated. With such a direct connection in knowing what the front tires are up to, the Levante is easy to place precisely on ribbons of tarmac, despite weighing about 4,650 pounds. By the way, towing capacity is nearly

6,000 pounds as well, so the big Italian is no slouch if called upon to perform traditional SUV duties.

Fitted with the standard 19-inch or optional 20-inch wheels on the S, the Levante is a pretty tense vehicle, especially in Sport mode. There is some nervousness to the ride but the chassis and air springs suck up the typical bad pavement you can throw at it. Maserati says that the vehicle has been tuned to be more compliant than the Ghibli since the thinking is that SUV buyers want a bit more daily comfort. Still, you won’t mistake the Levante’s ride as that from a Lexus RX.

Creature comforts

French stitching and fine leather swaddle the Maserati’s interior. From the optional premium leather to

Ermenegildo Zegna silk made in Trivero by the Zegna wool mill with a patented process, the interior has been created with the finest materials. The optional Zegna Edition luxury package incorporates silk seat inserts and “silk jersey” on the doors and headliner from the famous Italian clothier.

A now ubiquitous panoramic roof enhances the spaciousness of the interior, but the coupé-sleek external lines do cut down on cargo carrying capacity. Due to the aggressively tapered back window and streamlined shape, both typical of a high-performance sports car, the Levante looks good but at a price. As expected by consumers these days, a wide range of sophisticated advanced driver assistance systems are available, including adaptive cruise control with automatic Start/Stop, forward collision warning, automatic brake assist, and lane departure warning. Further options include blindspot detection and a surround view camera.

The latest evolution of Maserati’s Touch Control system has also been completely updated to offer even more functionality and convenience via the 8.4” high-resolution capacitive touch screen. A centre control knob finally makes an appearance, as in other European vehicles. But it’s not as polished as BMW’s iDrive or Audi’s MMI since the system was initially designed to be touchscreen only. Nonetheless, it’s a step in the right direction and parent company FCA (Fiat Chrysler Automobiles) should be given full credit for implementing the change.

Final thoughts

FCA is taking a calculated risk with the Levante, giving it its own dedicated production facility and counting on it for 30,000 units per year. However, as shown by some of the more recent products, the company has greatly helped its cause by doing the product right. They just need to ensure that the software kinks are all worked out before releasing the final production models to the masses.

Despite having the Ghibli sedan’s guts, the Levante improves upon its base platform and offers character that is distinct from other offerings in this highly contested segment. From initial impressions, it should seem that Neptune’s trident has indeed been properly thrust into the crossover genre.



Mercedes-Benz GLC 300

Smooth, good-looking, rival to the BMW X3 and Audi Q5



Farewell, Mercedes-Benz GLK — there's a new kid on the block: the bigger, younger, lighter and better-looking GLC 300 4MATIC. This turbocharged crossover hits the ground running poised to compete with current heavy hitters in the segment that include the Audi Q5, BMW X3 and Lexus NX, Range Rover Evoque and Lincoln MKC, to name a few. Starting production in October of last year, the GLC has a ways to go before approaching the 600,000-plus units sold reached by the GLK during the last eight years. On appearances alone, however it should be a doable task given the vehicle's good looks blending the

go-anywhere ruggedness of the original GL, combined with wind-swept body panels and the signature sporty look of the German luxury manufacturer's current lineup. If you're curious about the name, it's part of the revised brand nomenclature where the first two letters denote the segment (GL for SUV, where G stands for Geländewagen or German for off-road vehicle) and the last identifies where the model sits in the lineup. For instance, the GLC is aligned with the C-Class sedan. All GLCs benefit from a large two-slatted grille housing a large three-point Mercedes-Benz emblem,

sitting above a silver colour off-road-inspired front skid plate garnish. The headlamps house halogen low/high beams with eyebrow-shaped LED daytime running lights that really stand out when you see them on the street, especially amongst the sea of generic looking DRLs. Up above, there are aluminum roof rails ready to take on additional cargo, and are complemented by matching aluminum running boards below the doors to ease entry and exit. Other standard exterior highlights include 19-inch multi-spoke wheels, low-slung roofline, tailgate spoiler, long wheelbase and dual tailpipes embedded in the





chrome rear bumper diffuser. For people willing to splurge, moving up to the Sport Package provides a whole slew of extras such as an AMG front bumper with more aggressive centre opening and brake cooling ducts, special lightweight AMG twin five-spoke wheels, four-piston big brake system and AMG rear lower bumper apron. Footprint-wise, the GLC slots in-between the company's GLA subcompact crossover and bigger brother GLE "Coupe," the mid-size replacement for the former M-Class. At 1,880 millimetres wide, 4,648 mm long and 1,638 mm high, the size is liveable and doesn't cause too much of a headache when parking, fitting quite well even in a cramped apartment underground parking space. Makes sense when you consider that the GLC is a approximately 152 mm shorter and lower and more than 25 mm narrower. As such, cargo area is nearly half that of the bigger SUV, 580 litres vs. 1000-plus litres. Like most Mercedes-Benz products, the interior is all class. A meaty three-spoke Nappa leather-covered

steering wheel awaits the driver, and infotainment is delivered via a seven-inch non-touchscreen controlled by a touchpad on the centre console. Subtle dark wood trim is brushed aluminum accents are strategically scattered throughout the interior. You may notice as you slide onto the seats that the experience is a little different than when sitting in a more expensive offering higher up in the M-B food chain. The official literature states the upholstery is finished with what they call Artico leather, which is in fact not made from cowhide and is pretty obvious to the eye. While this might be considered less luxurious, it is more environmentally friendly, a quality increasingly sought-after by modern-day customers. Under the hood lies a 2.0-litre turbocharged inline-four that generates 241 horsepower and 370 lb-ft of torque, mated to a 9G-Tronic nine-speed transmission. Considering it weighs 1,765 kilogram, the powertrain moves the crossover along sufficiently, although there is a hint of turbo lag when you step on the gas pedal. Still, getting from 0-100 km/h in less than eight

seconds is possible when you throw the Dynamic Select mode in Sport. What this does is tighten up the suspension, quicken the shifts and increase throttle response to prioritize performance. If saving fuel is the mission, Eco mode activates the engine start/stop function and turns on a new "sailing" feature that effectively lets the vehicle coast by disengaging the clutch whenever the gas pedal is released. By default, Comfort mode is on, optimizing the ride to feel smooth and easy, and is what a majority of drivers will likely find themselves using most of the time. In short, the GLC improves upon the outgoing GLK in almost every way — from its appealing brawny appearance to the manner it behaves on the road, whether you're out for a Sunday drive or a romp down an empty road. Currently built in Bremen, Germany, Mercedes announced late last year that they would be outsourcing additional production to Valmet Automotive based in Uusikaupunki in Finland beginning in 2017, to alleviate some pressure from the primary plant already running at full capacity.

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Rolls-Royce Wraith

The world's most sumptuous coupé from Goodwood



It's not often that a new Rolls-Royce comes along. In fact, there are currently only four vehicles in the company's current line-up. However, when the Rolls-Royce Wraith was first unveiled at the 2013 Geneva Motor Show, it was widely regarded as the most emotional Roller of modern times.

What's in a name?

The name Wraith derives from the old Scottish word referring to "a Ghost or Spirit". This is, of course, a name it shares with a 1938 model Rolls-Royce. The two-door Roller is effectively a Ghost coupé, although many of the components have been changed to allow for a more dynamic and a more involving driving experience. The folks at Goodwood, England, where Rolls-Royces are hand built, proudly proclaim that the Wraith is the most powerful and driver-centric

vehicle they've ever made. So let's see if it lives up to such tremendous billing! **Opulence draped in diamonds, doused by champagne and caviar** Rolls-Royce is a marque known for being exceptional. With the Wraith, there is no exception to being exceptional. Candael Panelling sweeps through the sumptuous, contemporary, and luxury yacht-like cabin. The design environment of the interior is said to echo the south of France cove where Sir Henry Royce would spend his winters. The British traditions remain, despite parent company BMW. There are reverse opening power closing coach doors, open pored wood, and of course the world's only crash tested umbrellas (fitted into the front

fenders of the Wraith). Extensive soundproofing means that it is as quiet and majestic as a cathedral when in the Wraith. Everything that you see, touch, smell is as opulent and as indulgent as you would expect from the brand. From the lambswool carpet that has a pile so luxuriously soft and deep that you could lose your butler in it, to the 1,300 point hand fitted star-light roof, everything screams luxury. Incidentally you can get the starry night in your favourite constellation too because why not? Anything that you heart may desire, Rolls-Royce can build bespoke for you. The CEO of Rolls-Royce has famously said that the only limit is your imagination (and your bank account presumably). There is nothing in the interior that hints at the fire





power under the bonnet, which makes it all the more delightful.

The Spirit of Ecstasy better hold on tight

Rolls-Royce has been owned by German automaker BMW since 1998. Although the Rolls-Royce brand has been in use since the turn of the last century, 1906 to be specific, the Rolls-Royce Motor Cars subsidiary of BMW AG has had no direct relationship to the vehicles produced prior to 2003. That was when the Phantom limousine was the first product offered for sale by the “new” Rolls-Royce Motor cars Limited as a BMW-controlled entity.

BMW’s expertise in building world-class powertrains has no doubt been put to good use as the Wraith’s chassis and engine have been borrowed from the Ghost sedan,

Under the bonnet is a 6.6-litre twin-turbocharged V12 engine with an impressive 624 hp and 590 lb-ft of torque (800 Nm). Maximum torque is generated at a low 1,500 rpms so the car feels monumentally quick off the line, in a jumbo jet taking off sort of fashion. 0-100 km/hr flashes by in just 4.6 seconds, astounding for a car that weights around 5,200 lbs.

Power comes on strong, but in a cossetting and smooth fashion that is unlike no other. Rolls-Royce officially calls it the “wafting” sensation. It feels more classy and proper than its much less expensive Bentley Continental competitor, and the Wraith is certainly much more of a long distance cruiser / GT car in this regard, aided by its well-tuned adaptive dampened air ride suspension system.

Like the Ghost, the Wraith also features Rolls-Royce’s GPS satellite-aided eight speed transmission, which uses GPS mapping data to ensure that the correct gear is always pre-selected for the road terrain ahead. I put the system to test on the twisty Sea-to-Sky Highway leading from Vancouver, BC, Canada, to Whistler, BC, the site of the 2010 Winter Olympics. Despite the elevation changes, the twist and turns, and the long stretches of highway, the Wraith’s transmission always found the right gear. When it came to passing slow moving trucks or campervans, a prod of the throttle pedal and the offending vehicle was but a dot in the rearview mirror. I only wish there were steering wheel pedals for an even more involving driving experience.

There’s no hiding that the Wraith is a big car. Look out

of the windshield and the only indication as to where the long hood ends is by looking at the tips of the wings of the Spirit of Ecstasy ornament. Fortunately when you’re parking it, the BMW-sourced high-quality surround view camera system shows you where the vehicle limits are.

Why choose a Rolls-Royce?

The very name “Rolls-Royce” has defined luxury. If you’re a wallflower, this may be not a car for you as it will draw glances wherever you go.

Many of the people that Rolls-Royce motorcars have moved from place to place over the century have changed the world. They’ve been successful members of society, royalty, or captains of industry who have walked to road that no one else dared tread, turning “what ifs” in to “what’s nexts”. These people have emerged into the light of a new day and have chosen Rolls-Royces as their rewards.

Although Rollers have traditionally always been cars that you would want to be seated in the back of versus behind the wheel, the Wraith is certainly the sportiest and most potent model in the company’s history, and one that is wonderfully rewarding to drive on a whole other level.



2017 Audi Q7

The luxury crossover receives a redesign



Nipped and tucked

Shortly after this issue hits newsstands, the second generation Audi Q7 should be finding its way into local dealerships. The luxury crossover receives a redesign for the first time since the vehicle's introduction in 2006, and it's a major overhaul. "What has changed about the Audi Q7? Absolutely everything," says Brad Beckett, general manager at OpenRoad Audi Vancouver where a launch event was held to give customers a sneak peak what's to come. "This is revolutionary change," says Beckett, adding that the manufacturer, through learning gained from the nine years of producing the previous model, has developed an SUV that is more than 320 kilograms lighter than before.

Major diet

The enormous weight savings is a big talking point of the new Q7 due to the fact that shedding mass increases performance on every level, lowers fuel consumption, and simply because accomplishing such a task is no easy feat — especially on a luxury vehicle chock full of creature comforts — given today's stringent safety regulations. So how did they do it? For starters, the underlying platform is no longer shared with the chunky Volkswagen Touareg and Porsche Cayenne, designed for off-roading rather than city commuting. Then, as Ford has heavily advertised on their revised F-150, gratuitous amounts of aluminum have been used to make up the fenders, doors hood, tailgate, suspension, and other areas. In

addition, Audi has utilized smarter and more efficient engineering processes in building the transmission and electronic systems. Aside from the weight loss, Beckett also talked about the Q7's "progressive design." With its exaggerated iconic Quattro-inspired wheel arch flares, the full-size CUV has a dominating physical presence and looks every bit as large as the outgoing vehicle, yet is actually shorter by 37 millimetres and 15 mm narrower. Rejigging the interior layout has allowed the retention of the same amount, if not slightly more, interior space. **New tech** Taking inspiration from the TT, arrow-shaped LED daytime running lights give the front end an instantly



recognizable signature look, and at the rear, trapezoidal tailpipes lend an air of sportiness. The Audi Virtual Cockpit is one of the most striking features inside the cabin, providing drivers access to an array of information. For those unfamiliar with this piece of technology, which debuted in the TT roadster,

it's a 12.3-inch TFT display installed right above the steering column. While other manufacturers offer fully digital instrument clusters, Audi's is arguably the best looking boasting 1,440 x 540 pixels of high definition resolution. Users can customize what's shown in a multitude of configurations, and the sight is truly

something to behold when Google Maps is loaded and overlaid overtop of the screen. Power is provided via two 3.0-litre six-cylinder engine choices: a 333-horsepower TFSI gasoline engine and a 272 hp diesel pumping out 601 Nm of torque, handled by an eight-speed automatic gearbox and Quattro all-wheel drive. Thanks to better aerodynamics and the lighter body, fuel economy has improved in the neighbourhood of 28 per cent and the TFSI-equipped Q7s are said to be able to dash from 0 to 100 km/h in less than six seconds. **Off-road ready** While the new Audi Q7 may no longer be a Porsche Cayenne in disguise, there is still available equipment that can give it some off-roading pretensions. An optional air suspension can lower the ride height up to 30 mm when cruising along the highway, or raise the height up to 60 mm when traversing large puddles or rock-covered surfaces. At press time, MSRP has not yet been announced. Check www.audi-dubai.com for more information.



2016 BMW X4

Another crossover joins the BMW family



The idiom “cover all the bases” essentially means to prepare for every possibility. It certainly seems that BMW has taken this to heart with X4 Sport Utility Coupé. And so from Munich comes another BMW model to join their crossover line-up.

It all began with the BMW X5 SAV (Sport Activity Vehicle) in 1999, when BMW first embarked down the Sport Utility Vehicle path. Back then, BMW purists, much like Porsche purists, cried bloody murder when their beloved sports car companies decided to create a 4x4. But by doing so though, both German companies proved that not only was there

appetite for more than one premium European SUV in the marketplace, but also that “SUV” and “sporty handling” did not have to be an oxymoron. Shortly after the initial X5 debut, a smaller X3 followed on, and then eventually the X6 and the X1.

When a coupé isn't a coupé

BMW's marketing department swears that the X4 (and the X6 for that matter) have “the sporting elegance of a classic coupé”. While I'm not that convinced that a true SUV can look much like a classic two door coupé, our definition of a coupé has changed over the years

when Mercedes-Benz first introduced their CLS four door coupé years ago, bringing the arched fastback roofline of a coupé to a four door. BMW, of course, now has both the attractive 4 Series Gran Coupé and the 6 Series Gran Coupé to compete in those segments as well.

While perhaps the X4 stands out for what it is not versus what it is, many will not deny the presence and visual dynamism afforded by the fastback design. Compared to the X3 SUV upon which it is based, the X4 is only 14mm longer but more importantly it sits 36mm lower. As a result, its occupants are positioned





20mm lower up front and 28mm lower in the back. The tapered styling does come with some compromises though, as there is less rear headroom than the X3.

The X4’s lower centre of gravity does translate to sportier handling than its SUV-counterpart, as one would equate with a traditional coupé versus a sedan/ wagon.

Under the hood

BMW’s traditional mechanical layout rings true here with a front-mounted, longitudinal engine and a gearbox sitting longitudinally behind it. Engine choices include a multitude of diesel engines starting with a 2.0-litre four cylinder turbodiesel with 190hp and 400 Nm of torque, to the top of the range 3.0-litre turbodiesel six cylinder engine with 313hp and 630Nm of torque. Gasoline powered engines start from a 2.0-litre 184 hp turbocharged four cylinder to the top of the range 3.0-litre turbocharged straight-six with 306 hp and 400 Nm of torque. Since this is a coupé, four door SUV form or not, let’s talk about acceleration. Fitted with BMW’s all-new and decidedly more refined 2.0-litre gasoline 4-cylinder engine, 0-100 km/hr comes up in 8.0 seconds.

Comparatively at the other end of the spectrum, the range topping xDrive35d turbodiesel six pot completes the same 0-100 km/hr run is just 5.2 seconds. Paired with the X4 is BMW’s excellent ZF eight-speed transmission. This gearbox is so good that you will seldom feel the need to reach for the steering wheel mounted flappy paddles. When in manual mode, shifts come smoothly and quickly, albeit not quite as quick as a true double-clutch automatic gearbox (but also without the subsequent cost). Unlike other manufacturers’ V6 engines, BMW’s in-line six, whether in turbodiesel or gasoline powered form, is never remotely coarse. When idling or when working hard, the engine sounds and pulls smoothly. All X4s are fitted with BMW’s xDrive permanent all-wheel-drive system. Power distribution is split 40 per cent up front and 60 per cent out back under normal conditions. In slippery conditions, the computer can shift up to 99 per cent of the power either way when slippage is detected. Since the X4 has no off-road aspirations at all, no low range ratio gearbox is offered.

Interior accommodations

Unlike the first generation BMW X6, the smaller X4’s novelty 2+2 configuration has not been revisited. Instead the X4 gets a conventional 40/20/40 split

folding rear bench that allows the vehicle to seat up to 5 people in total. The interior is still very much BMW X3, which means that while nice, it is getting a little bit dated. The interior is confidently premium but perhaps not particularly luxurious when compared to the X6. Nonetheless, BMW’s excellent iDrive infotainment system can be fitted, along with all of the requisite collision mitigation and passive safety systems. My favourite everyday “tool” would have to be BMW’s high quality surround view camera. With the bulky collision of the X4’s D-pillars and high shoulder lines, you’ll surely put that camera system to full use to keep the X4’s paint job fresh and damage free. Due to the svelte tapered styling, the X4’s luggage capacity has also been not insignificantly reduced when compared to the X3. The very large power tailgate opens to reveal a flat load floor, but one that holds approximately 50 litres less than that of an X3. However this will surely not bother those who choose form over function.

Ride and Handling

Compared to how Porsche tuned their Macan crossover, BMW had a decidedly more relaxed approached to tuning the X4’s character. It rides a lot



more comfortably (that is to say not as sporty) than the Macan, but because of this has also less of a point of difference from an equivalent X3. While the top trim X4s do include selective adaptive damping, there is less of a difference between Comfort mode and Sports mode than one might expect. In fact, the changes between those modes are a lot more evident when it comes to engine/transmission character versus ride dampening. Were an X4 buyer to come from an X3, he or she might wonder what was exactly given up for all of that loss of practicality. Still, as expected from a BMW, the X4 takes corners with aplomb, and will gently push into predictable understeer when approaching its limit. There’s no doubt that the X4 is a style-driven SUV. Familiarity with the body style now makes it easier for customers to buy into and live with.

Fitted with strong powertrain options, BMW’s high quality interior, the X4 is a different option for those who don’t need the full space requirements afforded by a traditional SUV shape, but still like the higher ride height and commanding view of an SUV.

Hyundai Ioniq

A new green car for the masses?



I'm sure you've heard of the old idiom, "You can't have your cake and eat it too". This phrase deliciously illustrates the concept of making trade-offs and realizing that you can't have something if you have another. Many cultures have adopted the spirit of this phrase to fit their own languages.

In Germany, the translated saying goes, "You can't dance at two weddings at the same time". In Russian, the same phrase translates as, "You can't sit on two chairs at the same time".

In case of Hyundai's new green vehicle, the 2017 Ioniq,

Korean company is trying to prove that you can indeed have your cake and eat it too.

Who will buy it?

Unlike the latest Toyota Prius with its distinctly unique and somewhat polarizing aerodynamic styling, the Ioniq could pass for an attractive but normal looking vehicle, albeit one with an impressively low coefficient of drag of only 0.24. For those who want a low or zero emissions vehicle without shouting it from the rooftops, this could be another solid choice.

Officially, Hyundai has stated that it feels that the

Ioniq will attract an entirely new group of eco- and efficiency-orientated buyers who need (or want) a highly efficient low-emissions vehicle without compromise to their daily lifestyles.

A world's first

First launched in Hyundai's home market of South Korea and then at the 2016 Geneva Motor Show, the Ioniq intends on covering all green car bases by being available in three powertrain configurations. Hybrid, plug-in hybrid, and battery-electric powertrains. This makes the Ioniq the world's first car to offer three



differently electrified versions based within a single body.

The Ioniq's body structure is based on the Elantra compact sedan, but the hatchback gets its own unique styling along with some changes depending on which powertrain is installed.

Along with claiming some firsts with the Ioniq, Hyundai is also staking claim to class-leading figures from everything from aerodynamic efficiency to the aforementioned range of power options.

As the company says, "As the world's first model to offer customers the choice of three powertrain option, the Ioniq combines class-leading fuel efficiency with a fun, responsive drive and attractive design – a unique mix not yet achieved by a hybrid vehicle".

Under the hood

The clear comparison one will gravitate to is that Hyundai is targeting the Prius (although the latter is not offered as battery electric only). Given that the





initial target of the Ioniq is only 77,000 units a year globally for the hybrid model, it would appear that the Korean carmaker understands the challenges ahead in taking on Toyota. In comparison, Toyota's 2016 target for the Prius stands at 300,000 to 350,000 units globally.

Hyundai will start with the hybrid, the model that they expect will be the most popular out of the three offerings. In this configuration, the company's Kappa 1.6-litre Atkinson-cycle four cylinder direct injection engine is supplemented by a lithium-ion battery and an electric motor.

The gasoline engine produces 104 hp and is mated to a six-speed dual-clutch transmission, another first for a hybrid vehicle. A supplementary 43 horsepower electric motor is hooked up to a 1.56-kWh lithium-ion polymer battery.

Opt for the plug-in hybrid Ioniq and you'll get the

same 1.6 litre 4 cylinder engine, but with a more powerful 60 horsepower electric motor and an uprated 8.9 kWh lithium-ion polymer battery. This allows the plug-in hybrid Ioniq run for approximately 40 km in all-electric only mode.

Finally, the Ioniq Electric ditches the hybrid gas/electric powertrain altogether for a 120 horsepower fully electric motor with a strong 215 lbs-ft of torque (291.5 Nm). A 28 kWh lithium-ion polymer battery gives it an estimated range of 177 kms.

In order to maintain reasonable cargo space, the hybrid and plug-in hybrid Ioniqs have battery packs located under the rear seats. The electric Ioniq's pack also extends between the rear wheels and under the load bay.

All three 2017 Hyundai Ioniq variants go on sale later this year.

mavi



2016 Mazda CX3

Good-Looking and Sweet-Driving



Size matters

Whether it's small pastries, small pets or small clothes, people like little, cute things. So it's no surprise that when the miniature or, officially, subcompact crossovers SUVs recently hit the scene, people went wild. One of the pioneers of this new segment is the Mazda CX-3. I was present when it was first revealed to the public at last year's Los Angeles International

Auto Show and admittedly became smitten with its attractive appearance, which is saying a lot considering I'm not usually one for sport utility vehicles of any size or shape. Even given its space-saving figure, you'd be hard pressed to guess the CX-3 is based off the tiny Mazda2 platform, granted the form factor does remind me more of a big hatchback than a shrunk SUV. There's still 452 litres of cargo space in the back with the rear

seats up, expanding to 1,528 with the seats down (GT models get a little less with 408/1,484, respectively). **KODO – Soul of Motion** Design language remains inspired by KODO, written all across the face with the stylized headlights and dominant grille. The blackened front lip, wheel arches, side sills and rear bumper garnish lend the vehicle some off-road street cred.



Split into GX, GS and grade-topping GT trims, I tested the mid-tier GS in a lovely gleaming Ceramic Metallic colour. The Luxury Package adds an instant upscale feel to the interior by providing black and red leatherette coverings on most of the otherwise plastic interior pieces. Controls and displays are consistent with other recent Mazda offerings such as the floating seven-inch infotainment screen above the dashboard, the Human-Machine Interface media wheel/controls on the centre console and the neat all-in-one instrument cluster that has an inner ring showing the rpms and an outer ring for speed. Every trim level comes with the Mazda Connect system that offers your run-of-the-mill in-car apps and an ability to receive text messages and emails.

SKYACTIV technology

Power comes by way of a 2.0-litre SKYACTIV-G engine pushing out 146 horsepower and 198 Nm of torque. To make driving a little more fun, there's a six-speed automatic transmission with a manual mode, and there's also a sport mode setting that changes the throttle response to add a little more torque into the mix when you step on the accelerator. Doing so does

give you a kick in the pants, but the motor sounds like it's working really hard to squeeze out every ounce of power from all four cylinders. There's an all-wheel drive option available, however my press vehicle was equipped with front-wheel drive. Besides being excellent at saving fuel — my consumption numbers were 8.4 L/100 km in mostly city driving for the week — it's about 64 kilograms lighter and 0.3 seconds quicker from 0-100 km/h, though I doubt many owners will be lining up to do

quarter-mile runs. The CX-3's small-car underpinnings and sub-1,300 pound weight do make it one of the more fun crossovers to drive, and it needs to be as this hot new crossover segment becomes more competitive by the minute with the likes of the Honda HR-V, Fiat 500x and Jeep Renegade. Just judging from the amounts of questions I was asked by curious members of the public who saw me driving around, I'd say Mazda is setting the bar pretty high with this one.



2016 Honda Civic Coupe

Clever, Efficient, and Capable



Concept reality

If you remember back to the 2015 New York Auto Show, Honda surprised guests with an unveiling of the 10th generation Honda Civic concept. The two-door was sprayed in a bright lime green, and many people didn't expect the finished product to closely resemble the teaser vehicle. As it turns out, it does. Honda debuted the official production coupe earlier this month in Vancouver, B.C. Canada looking mighty similar to the concept, and even offers "Energy Green"

as one of the colours. It represents phase two of a multi-prong rollout that started with the sedan last October, and will continue throughout the year to include a hatchback and more performance-oriented variants.

Creators

The Japanese automaker brought two people to the media launch to talk about the creation of the vehicle — lead exterior designer Guy Melville-Brown and engineer John Hwang.

Melville-Brown, who has previously worked with Fiat and Volkswagen, also had a hand in developing the sedan as well as the 2016 Pilot, Acura MDX and Acura Precision Concept. He started work on the coupe in November 2011 at Honda R&D Americas' Design Studio, and talked about the high expectations that customers - in particular, Millennials - have.

"Today, impeccable designs are the norm. The 10th-gen would have to be something special. An epic Civic," says Melville-Brown, who spoke about the



importance of differentiating the coupe from the sedan and giving it sportier attributes such as a lower stance and more aggressive cockpit.

Sitting is believing

An interesting factoid: the process actually starts from the hip point, or seating position. If it's too high, the driver can feel as though they're behind the wheel of a bus.

"We lowered the floor of the car and repositioned engine," he says, adding that both the overall ride height and rear overhang are closer to the ground by one inch and 5.5 inches, respectively. In addition, the wheels have been pulled out, A-pillar moved closer to the center resulting in a longer hood, and rear fenders stretched wider.

Like the sedan, the roof slopes steeply toward the rear end in a fastback fashion. In today's world, 17-inch wheels are no longer considered large, but they appear bigger than they are due to the two-door's ground-hugging stance, longer doors and smaller overall footprint. Still, pop the trunk and the luggage compartment can swallow up three full-size golf bags. A couple of big changes in the interior from the outgoing version include the use of higher-quality materials, and a traditional handbrake delete, replaced by an electronic unit to save space. This allows for the much larger storage console that can gobble up an

iPad, large drink containers, and even has a small tray for your key fob. All grades benefit from a brake hold button that when activated automatically applies your brake for you, even with the foot off the gas.

Trim choices

There are three trims available: LX, coming with a 2.0-litre, 158-horsepower four-cylinder i-VTEC engine and optional manual transmission; EX-T, packaged with a 1.5 L turbocharged four cylinder making 174 hp (Honda's first turbine-driven powerplant ever and the most powerful in a non-Si offering) and CVT transmission; and a grade-topping Touring f, that

bundles extras like LED headlights and turn signals, Honda Sensing safety tech suite, navigation, wireless cellphone charging and more on top of the EX-T's features.

Following the presentation, a driving partner and I took a Touring for a lengthy test run on both highway and twisty roads, and made a couple of noteworthy observations. Turbo lag is mostly imperceptible, and fuel economy is excellent, as you would expect of any Civic. In mixed driving conditions, we netted an average consumption of 7.5 L/100 km.

The 2016 Honda Civic Coupe is available now.



Navigation app - Waze

People-powered navigation aid



How annoying is it to hop in your car and drive to work, only to be stuck in traffic due to construction, an accident, or the countless occurrences that can take place on the street at any given moment? That's where Waze comes in, a real-time crowd-sourced navigation app for your smartphone unlike others available on the market.

"We're powered by the world's largest community of drivers," says communications manager Meghan Kelleher. "We have more than 50 million monthly active users across the globe and that's in more than 185 countries. We're also in more than 42 different languages."

Report what you see

The app constantly collects information as it's open and drivers are going about their business. It can determine a route is congested from a slowdown in vehicle speed, as well as through the reporting function initiated either by the driver via voice commands, or the passenger pressing a small orange button directly from the mobile device.

Kelleher was in town giving demonstrations, and says popular reports generated by "Wazers," the name affectionately given to users, include police, environmental hazards and miscellaneous traffic incidents. During a test drive, she reported roadwork

that we spotted while leaving the city core.

There are additional options to leave a comment and/or take a picture, all of which will instantly be seen by others online. Wazers can give a thumbs up to confirm the submission and thank the person responsible, or indicate that the incident is no longer there.

"It's basically our way of the community making sure that things are actually on the road," she says.

Background

Originating from Israel, Waze has offices around the world and was acquired by Google in 2013. Kelleher says they continue to operate mostly autonomously from the tech giant, and while Google uses a portion of

the company's data, sharing is not mutual as the whole point is to have the maps built from scratch by Wazers. In addition to reporting, another way real-time information is gathered is via the map editor program. Volunteers start off as junior editors, assigned to a certain area of town and their job is to make updates whenever a new building goes up, addresses change, etc. Editors who consistently demonstrate consistent, accurate work can get promoted with a larger territory.

"We have levels created so that if you were a new map editor, you couldn't just delete this bridge we're on right now. It would go through so many layers," says Kelleher.

In 2014, Waze launched the Connected Citizens Program, a two-way data exchange with city partners that provide advanced notice of events like road closures. Starting with 10 partners, the number has now grown to 55 and includes government agencies non-profit organizations and first responders.

Waze is free to download and is compatible with devices running iOS, Android and Windows Mobile. Visit waze.com for more information.



2017 Porsche Macan S

A hot-rod compact crossover from Stuttgart



In the “old” days, SUVs were designed to be utilitarian first, looks second. They were neither fast nor fuel-efficient, but their saving grace was the ability to go into the wilderness or to carry a sizable amount of cargo and passengers in situations where a car or wagon just wouldn’t do.

However those early days of the sport utility vehicle are now over. Manufacturers have been able to make them both more stylish, fuel efficient, and a heck of a lot faster. A well-spec’d SUV today can even offer

sports-car beating performance, such as the case with the Macan, Porsche’s compact performance crossover.

First, some background

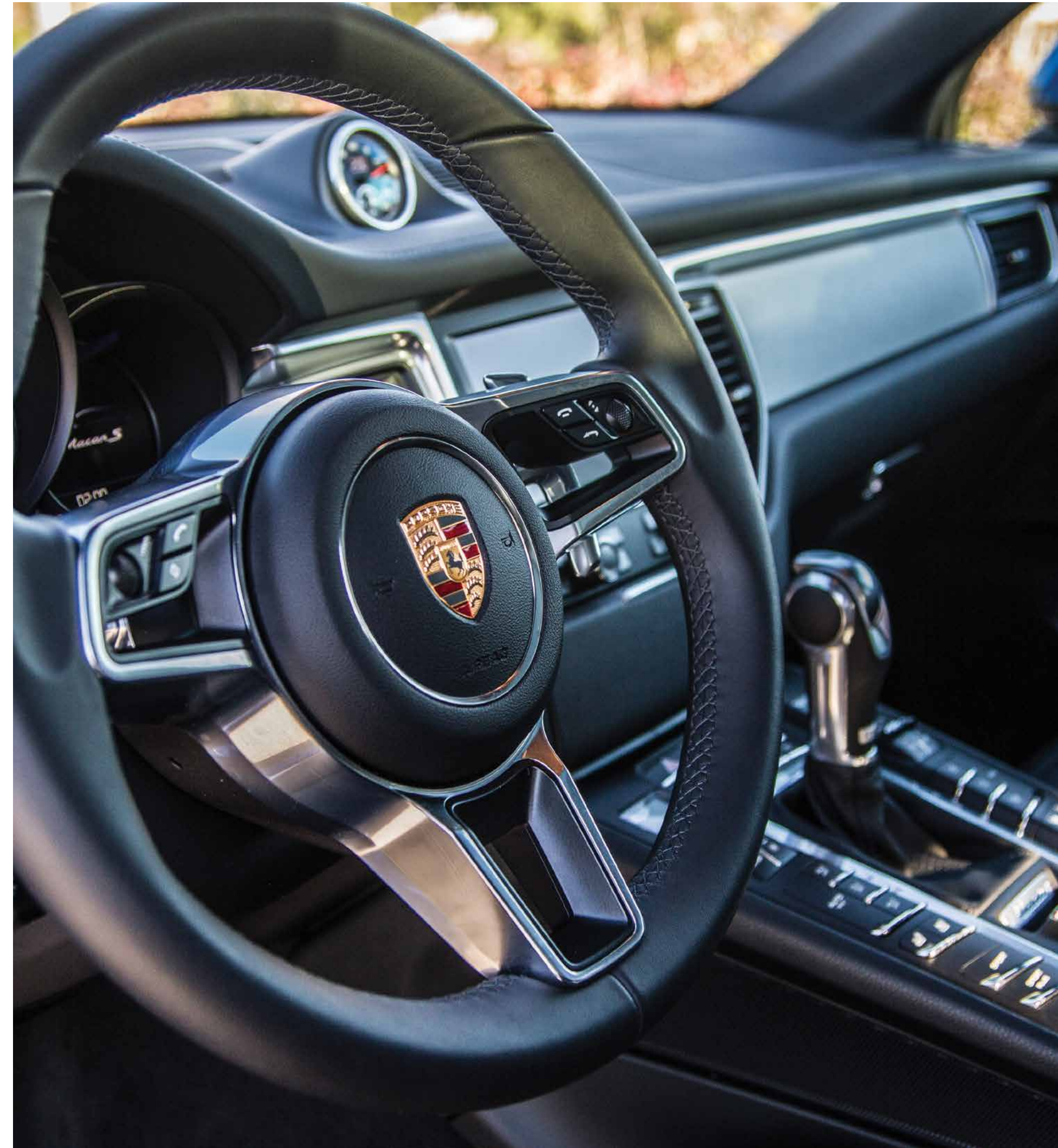
Porsche has been building the mid-sized Cayenne has been since 2004 and it has been a runaway success, responsible for about 80,000 sales a year.

Having proven that buyers had an appetite for performance SUVs, and indeed specifically a Porsche-branded SUV, Porsche began plans to build the Cayenne a smaller companion, even giving it

the internal development code name “Cajun” for “Cayenne Junior”. Incidentally, “Macan” means “tiger” in Malay, and “little boy” in Scottish Gaelic.

So essentially, shrink down the Porsche Cayenne SUV down a size and you get Porsche’s Macan crossover.

Little brother it may be, Porsche proclaims the Macan as the first compact SUV that is also a sports car. The design wraps Porsche 911-style cues into a four-door crossover body, making the Macan unmistakable for anything other than a Porsche.





Shared DNA

Like the Cayenne, the Macan shares some Volkswagen Auto Group DNA. In this case, roughly 30 per cent of the Macan's parts are shared with the Audi Q5. Although it may loosely share the same platform as the Audi, the Macan is quicker and more capable on-road and off. Porsche's engineers and designers went to work inside and out, making the vehicle distinctively Porsche. In fact, the Macan is even built alongside the Cayenne in Leipzig, Germany. Exterior-wise, the Macan has a much more pronounced shoulder line than the Audi Q5. The sharply raked tailgate window is designed to mimic the Porsche 911's sportscar lines more so than the Q5. The Macan's front is unmistakably Porsche with its frog-eyed headlamp. Overall, I find the front end treatment a bit more cohesive than the Cayenne's.

Creature Comforts

The Macan's cabin is very driver-centric with its rising centre console, and retains a lot of what makes a typical

premium-branded crossover an attractive ownership proposition. All-in-all, it's very plush, rich, luxurious, and the switchgear is nicely finished. This is an upmarket interior, make no mistake about it. Perhaps the only complaint to be found here is the button overload and switch overload. At least a dozen buttons flank either side of the gear shift lever in addition to more blank button spaces for optional equipment that my vehicle wasn't equipped with. It can be daunting to the uninitiated to figure out exactly what does what, and you do have to take your eyes off the road to find what you want. Space in the rear seats is no more generous than a typical compact family sedan, so those looking for more rear or cargo room may want to upgrade to the mid-sized Cayenne.

Powertrain options

There are two engines available for 2016. Despite its nomenclature, every Macan is turbocharged, even the S and GTS models. New for 2017 is a base model powered by a 2.0-litre turbocharged four-cylinder

engine producing 252 hp and 273 lb-ft of torque (370 Nm). My test car, the Macan S, was equipped with a twin-turbocharged 3.0 litre V6 producing 340 hp and 339 ft-lbs of torque (460 Nm). Spring for the GTS, and you'll get a slightly uprated 360 hp version of the 3.0 litre V6. Finally, the range-topping Macan Turbo sports a larger 3.6 litre twin turbocharged 400 hp 3.6 litre V6. All engines are connected to Porsche's lightning fast PDK dual clutch seven-speed gearbox. **Driving Experience** As with any Porsche, the more you spend, the more effortless grip and scalding acceleration you have by control of your right foot. The impressive amount of torque generated by the Macan S' powertrain is generated down low in the rev range, making the vehicle feel spritely despite its 4,100+ pound curb eight. Porsche's dual-clutch PDK transmission couldn't be more in tune with the engine, executing upshifts or downshifts practically instantly with the pull of a steering wheel paddle. Leave it in

fully automatic mode and the PDK gearbox is still there to swap in the optimal ratio with near telepathic acuity. My vehicle was also equipped with the optional Sport Chrono package for even swifter transmission shifts and throttle tip-in. My only complaint was the occasional clutch slip vibration when at low speeds, light throttle, and at full steering lock. Activate launch control and even the Macan S will bolt to from 0-100 km/hr in 5.4 seconds, the GTS in 5.6 seconds, and the Turbo in a significantly quicker 4.8 seconds. Even the base four-cylinder Macan is no slouch. Porsche officially states that it will pull a 0-100 km/hr time of 6.1 seconds.

The sophisticated electronically controlled all-wheel-drive system is rear-biased for more of a traditional Porsche rear-wheel-drive feeling. However, the system can send as much as 100 per cent of the power to the front wheels if the computer deems it necessary. Despite not having the optional air suspension and PASM (electronically adjusted dampers), my Macan S still acquitted itself well on tight hairpins turns. It's surprisingly neutral, no doubt aided by the rearward bias of torque distribution within the Macan's active all-wheel-drive system. **Final thoughts** It's hard to believe that it has been over ten years already since the reality of a Porsche SUV. Judging

by the way that the public has taken to the Porsche Cayenne midsized offering, the SUV is here to stay in Porsche line-up. And of course now there's a second one, and many say that it's one of the best crossover SUVs out there. It wouldn't be an exaggeration to say that the Cayenne's popularity (and subsequent profit) has funded further Porsche sports car development, and arguably even saved the company. If you're looking for a sports car but want a crossover vehicle that better suits your lifestyle without compromising too much on the driving experience, the Macan is truly a proper Porsche that should be considered!



2016 Lexus GS F

The newest member of the Lexus “F” performance series



Lexus has always been known luxurious, comfortable, reliable, but not necessarily the sportiest vehicles. For the 2016 model year though, playing off the success of its RC F coupe and IS F sedan, the Lexus GS mid-sized sedan also receives the “F” treatment. Lexus promises that this transforms their sedan into one that still offers the opulence and refinement that their customers expect from a Lexus four door luxury sedan, while adding on world-class, track-proven speed and agility

Japanese origami bold looks

The GS F wears Lexus’ muscular corporate face with its unique L-finesse design philosophy. It’s certainly aggressive and even more bold with the GS F’s frontal treatment showcasing the brand’s trademark spindle

grille and three-lamp LED headlight cluster.

The unique three-lamp LED clusters, containing both high and low beams, have simultaneously illuminating elements and cleverly incorporate Lexus-hallmark L-shaped low beam lamps. Arrowhead motif LED Daytime Running Lights also give the GS its own aggressive, visually unique signature, unique fro, the RC coupe.

The spindle grille has also been designed to incorporate brake cooling air ducts while emphasising the GS’ broad stance. Air outlets in the front fenders, first applied in the IS F and then the RC F, have also been adopted in the GS F because of their aerodynamic efficiency.

As if my test car’s Japanese looks were not enough,

Lexus also decided to offer it in a colour, called Molten Pearl, the antithesis of subtle. Think of it as the original McLaren supercar orange with a scream of pumpkin and a liberal dash of metallic flecks.

With its less shapely sedan body compared to the RC F, the GS F looks better proportioned in my eyes. The RC F’s aggressive rear quarters can cause its 19” rear wheels to look a little small from some angles. The GS F, on the other hand, suffers from no such afflictions.

Hopefully not the last of the normally aspirated engines

With ever tightening emissions regulations and stringent fuel economy standards, it seems more and more likely that the days of the large displacement, normally aspirated, engines are numbered. There are





a few manufacturers, mainly performance European ones, who are holding down the fort for us enthusiasts, but even Porsche has gone to down the forced induction (turbocharged) route. Under the GS F’s hood is a responsive, naturally aspirated 5.0-litre V8 that produces 467 hp at 7,100 rpms and 389 lb-ft of torque at 4,800-5,600 rpms. Paired to the engine is Lexus’ eight-speed automatic gearbox with paddle shifters for manual-shifting capabilities. Clear of household neighbourhoods, it was terrifyingly amusing to let what looks to be one of the last normally aspirated big block performance sedans on the market run close to its indicated redline. The sounds it makes above the 3,000 rpm mark is what one could call more than “spirited”. The guttural roar from the engine, simulated or not, is absolutely intoxicating. Paired with the Molten Pearl paint job, every school kid in town will want you to slow down to take photos of the car!

If there is one criticism of the GS F’s engine (and the RC F’s for that matter), it is that the 389 lbs-ft of torque is generated high up in the rev range. Compared with the forced induction mills that can be had from its German competitors, the GS F doesn’t feel as quick off the line as the Europeans as it doesn’t quite push you back in your seat with equal ferocity. Adding to the mechanical noises is Lexus’ Active Sound Control system, which augments the engine sounds through the available 17 speaker Mark Levinson sound system. The sounds from the outside of the car are already quite brilliant, so the Lexus sounds engineers already had a great template to start off from. The Active Control System in the GS F is similar to the one found in the RC F but better because it also utilizes the speakers at the rear seats. The vehicle’s robust exhaust note is also enhanced for all the GS F’s occupants to enjoy, perfectly complementing the sporty driving experience.

Trick Torque Vectoring Rear Differential

One of the tricks that Lexus has employed to aid the GS F around corners is its new Torque Vectoring Differential (TVD). This innovative system, also found in the RC F, has been proven to improve objective performance by holding understeer at bay while at the limit, while also easing the car’s attitude consistently while cornering. On the track, TVD minimizes the effort required to hold the line. But of course, the strongest selling point for this system is how the driver feels behind the wheel. Without question, with this optional system fitted to the GS F, the car feels livelier and more controllable. In practice, even in real world situations, TVD feels like a subtle hand guiding from behind. Turn the wheel and the GS F dives in eagerly. Unlike brake-based cornering enhancement systems, the torque-vectoring differential is pro-active versus reactive.

Out of the three modes, Standard (default; providing a balance of agility and firmness), Track (enhanced stability during high-speed track driving), and Slalom, I found the latter to be the most fun to drive as it emphasised nimble steering response while improving agility. The easy explanation is that if you were auto crossing the GS F, the car would pivot the easiest around the cones. However as exiting the “gates” sideways isn’t the quickest way through a course, track mode would dial in more stability at high speeds around the same course.

Beauty is more than skin deep

Despite all the sporty touches, the GS F retains a luxurious feel, thanks partly to the high-grade Alcantara on the door trims, center console and above the instrument panel. An analog clock adds a touch of class to the already elegant dashboard that features a very large central video monitor controlled by a Remote control on the center console. I found this system much more pleasant to use with its ability to split content (e.g. Navigation and climate control displays simultaneously) compared to the smallish display in the Lexus NX SUV. Much more bolstered front and rear sport seats have been implemented to provide the vehicle’s occupants with more lateral support while not sacrificing comfort. Residing behind the exclusive “F” sport steering wheel, is a new electronic instrument cluster that can be configured between four different displays, depending on your preferred driving style: Normal, Eco, Sport S and Sport S+.

The GS F’s unibody also features structural reinforcements and a suspension designed to cope with the performance sedan’s improved handling prowess. Although Lexus did not fit the car with an active air suspension system, the Lexus’ stability and smoothness on the open highway is commendable. But yet the car is dampened well enough to take on challenging twisty roads. Is it as well-tuned as something from Germany? I’d give it a 9/10. “Fun to drive” is what Yoshiharu Nakajima, the Project Chief Designer of the Lexus Design Division said must characterize all cars wearing the F badge. The styling direction of the GS F is one that is supposed to promote Lexus’ commitment to “progressive luxury”. After being at the wheel of the GS F for a week, I can honestly say that most of the GS F’s buyers will find it a very balanced sedan with a genuine dual personality. Both of which they can fall in love with.



2016 Nissan X-Trail

More sophisticated. Less rugged, but more family-friendly



Consumers still can't seem to get enough of compact crossovers, and Nissan's X-Trail is positioned nicely as one of the veterans of the segment having been around for nearly a decade now. Undergoing a complete redesign two years ago, the 2016 version remains mostly unchanged save for the addition of a special edition trim. Having been showered with numerous accolades by critics, it's easy to see the X-Trail's appeal: it's just the right size to be practical without feeling as though

you're driving a giant truck; Nissan's new design language looks sporty and performance-oriented; and the reasonable pricing structure appeals to a variety of shoppers. Similar to a sports car, the X-Trail features a long wheelbase and short front and rear overhangs, available fender-filling 18-inch wheels, and slippery side mirrors and A-pillars that yield a low 0.33 coefficient of drag and reduce wind noise at speed. On the opposite side of the car, there's a roof spoiler and bumper diffuser,

both of which cut down on turbulence and aid in aerodynamics. Distinctive LED daytime running lights are standard and can be matched with full LED headlights and foglights. Other optional exterior add-ons include tinted windows, power liftgate and panoramic moonroof. Being a crossover, the interior is where the vehicle really shines. Rare for this class, buyers can opt for a third row of seating bringing the total occupant capacity to

seven. Ever seat, except the driver's, folds down making carrying cargo an easy task. Up front, the "zero-gravity" buckets — the same ones found in other Nissan model such as the Altima and Murano — are specially sculpted. Engineers have added extra support to critical areas to help fight fatigue during long stretches on the road. The driver's seat is six-way adjustable and the passenger's four-way. One of the biggest annoyances when you get into a car is the lack of storage for putting things like keys, phones, wallets and all the miscellaneous things most people carry around nowadays. Luckily, that's not a problem in this compact SUV because there are six front storage areas as well as two front cupholders and two bottle holders. For infotainment purposes, the four-speaker stereo system has an auxiliary jack, a USB port and Bluetooth integration to connect a smartphone or MP3 player.

New for this year is Siri Eyes Free so Apple users can pair their device and access voice-controlled commands to perform tasks from checking a calendar entry to sending a text, all at the touch of a steering wheel button. The X-Trail is available in either front or all-wheel drive, and both are powered by a fuel-efficient 2.5-litre four-cylinder engine producing 170 horsepower and 237 Nm of torque. Channelling the power is Nissan's proprietary Xtronic CVT technology with a sport Mode switch, which when activated primes the transmission to delivery quicker acceleration. Also included in the CVT's bag of tricks is Active Engine Braking, where the transmission assists in slowing the vehicle down making the driver's job easier, and Active Ride Control that automatically modulates the brakes and engine torque after the vehicle hits a bump to keep the ride as smooth as possible.

The 2016 Nissan X-trail is available in the following grades: S, SV, SL Premium, and a new SV Special Edition offering customers additional upgrades — heated seats, intelligent key and push button start, automatic headlights, extra speakers, tonneau cover and more — without having to move up to the highest tier.

Specifications (as tested):
Type: four-door, five-passenger crossover SUV
Layout: front engine, all-wheel drive
Engine: 2.5-litre four cylinder
Transmission: Xtronic CVT
Power: 170 hp @ 6,000 rpm
Torque: 237 Nm @ 4,400 rpm
Curb weight: 1,618 kg
Brakes: front/rear disc with ABS
Fuel Consumption (L/100km, city/hwy): 9.5/7.4



2016 Toyota Prius

An all-new game changer from the land of the rising sun



The Prius is arguably now Toyota's most famous car. When it first came out in 1997, hybrids seemed like a novel concept. However, the Prius introduced a large number of people to electric hybrid technology in a mainstream car and over 3.5 million Priuses have been sold since the vehicle's launch.

While most car manufacturers now offer hybrids, the Prius is unique in the marketplace as being a standalone hybrid product.

Mirai-esque Japanese looks

The all-new fourth generation car's new looks may be polarising to some with its boomerang-shaped LED

headlamps, sliver-like grilles, and LED taillamps/tailfins. Toyota says that the styling is not only functional aerodynamics-wise, but also meant to be distinctive (versus boring) and futuristic.

It seems that the Japanese auto manufacturer is set on a shared family image for its more prominent green vehicles as the hydrogen-electric Toyota Mirai also shares many similar styling cues. Love it or hate it, both vehicles are important for the future of mobility.

New Platform from the ground up

The latest Prius sits on a brand new modular platform that is safer, more fun to drive whilst yet being more

eco friendly than ever before. Dubbed Toyota's TNGA (Toyota New Global Architecture) platform, one can expect to see it being used in other models as well. Toyota already uses other modular platforms, but with TNGA, the automaker aims to reduce the call on its resources by 20 per cent or more by strategically sharing parts and powertrain elements.

It goes beyond just cost savings alone though. Toyota's engineers repositioned and lowered the centre of gravity of the powertrain components while also focusing on reducing the weight of the size of certain components. This means both performance and





efficiency gains, in addition to handling improvements for any car that uses the platform. Body rigidity is up by as much as 30 to 65 per cent thanks to higher strength materials and new laser welding techniques. This new TNGA chassis gives the new Prius improved agility on the road that previous models could only dreamed about. It is also backed with improved steering that gives noticeably more feedback and accuracy than before. There is stronger self-centering and more pronounced force build-up, although there

is still a bit of a dead zone on-centre. Coupled with less bodyroll and better braking baked into the 2016 model, the Prius is significantly more pleasant to drive, even to the non-sporting driver. Granted, the Prius still doesn't have the same sporting aspirations as a BMW plug-in hybrid for example. Toyota says that its Prius customers like the vehicle tuned that way.

Under the Hood

Power comes from a revised 1.8-litre four-cylinder

engine that has been re-engineered to deliver significantly better fuel economy. This new model employs an upgraded version of the outgoing car's Atkinson-cycle engine and achieves a diesel-like peak thermal efficiency of 40 per cent. In other words, you can expect around 10 per cent more fuel efficiency over the outgoing model's already excellent stats. Total system output is rated at 121 horsepower, but that's using a new method of measurement that is not consistent with the previous Prius' rating of 134 hp. Toyota's engineers swear that performance will remain the same due to improved low-end torque. Refinement was high on Toyota's engineers priority list and the new Prius doesn't disappoint. This is largely thanks to increased sound insulation, a hybrid system that can spend more time running on silent battery power, and a new Continuously Variable Transmission gearbox that doesn't ask the engine to rev as often as before. I definitely noticed that this fourth generation Prius was able to stay in electric mode far more frequently than its predecessor, even at highway speeds. Impressive!

The transition between electric and gasoline power is almost silent, with the main noise intrusion into the cabin being from the low rolling resistance tires.

A more conventional interior

On the inside, you get a sense that you are not in a driver's car so much as a spaceship. It remains a serene

place to spend hours behind the wheel, especially when the vehicle is running in almost silent electric mode. There are some clever new efficiency touches too, such as a passenger air vent that only blows air when it senses a passenger sitting there, so as to conserve battery power. The blue air vent surrounds are a nice touch.

Centre-mounted gauges now get a significant upgrade to full-colour graphics and there is all sorts of info about the hybrid system seemingly floating in mid air. There is even a full-colour heads-up-display optionally available for the driver. This is a first for a Toyota vehicle as only Lexus vehicles were previously available with this feature.

Toyota has also fitted its much improved infotainment system to the cabin with its large high-resolution screen, logically laid out menus, and intuitive drag and flick control. It's one of the simplest and fastest to use in the industry, although the tough-sensitive buttons around the screen sometimes need a firm prod to work. On the active safety front, higher trim Priuses are also



available with lane-departure alert and adaptive cruise control that can now bring the car to a complete stop in traffic. The package also includes automatic collision mitigation braking with pedestrian detection. The system will bring the car to a complete halt if it sees an obstruction or a pedestrian at speeds below 29 km/hr. Above these speeds, the system will reduce the speed of impact by reducing the car's closing speed.

Final Thoughts

With the full redesign, the fourth generation Prius retains its position as the most fuel-efficient car that doesn't use a plug, and by a considerable margin too.

Toyota has already announced that a plug-in version of the Prius, called the Prius Prime, will be available in the near future.

With a more comfortable ride, improved handling, and even better fuel economy, we can expect the Prius to become more popular than ever. I would hesitate to call it fun to drive, but regardless, Toyota is now marketing the car as a competent offering that consumers should consider, even if they're not specifically shopping for a hybrid vehicle.

If you can get past its Japanese-futuristic origami looks, I couldn't agree more.



2016 Lexus IS350 F SPORT

Good-looking cruiser



The Lexus IS 350 has been around for longer than a decade, but I think of it as being reborn when it experienced a grille-to-taillights, as the company puts it, redesign for the 2014. The luxury sport sedan now looks better than it ever has before, even if it's still biased towards spirited cruising on highways and byways rather than time attacks at the local track. The vehicle's makeover in 2013 gave the IS a much more aggressive version of the gaping Lexus Spindle Grille, new signature "checkmark" LED daytime running lights built right into the front bumper cover,

and sportier body flourishes. Most notable, though, was the introduction of 10 different F SPORT packages adding aesthetic, safety and mild performance enhancements inspired by the LFA supercar and F lineup of high-output models.

New trim

By comparison, 2016 sees few changes save for the debut of an entry-level rear-wheel drive 200t grade, powered by the same 2.0-litre turbocharged four-cylinder found in the NX subcompact crossover. My tester was the quicker and grippier 3.5 L six-

cylinder all-wheel drive IS 350, painted in a stunning Ultrasonic Blue Mica 2.0 paint colour.

Right off the bat, I'm going to say the car is absolutely gorgeous — particularly ours wearing the F SPORT Series 2 option providing 18-inch alloy wheels, full body aero, a menacing black mesh grille and LED headlights with adaptive high beams. The upgrades spill into the cabin in the form of a meaty three-spoke leather steering wheel, sport seats, sill plates, slick LFA-style motorized instrument cluster and more.

The one gray spot in the interior is the Lexus Remote

Touch interface, which the manufacturer seems reluctant to abandon. Users manipulate a joystick or mouse-like device on the centre console to execute various infotainment commands, but the problem lies in its oversensitivity. Whenever you move past a clickable function, the mouse emits a vibration, often lagging behind what you're really trying to do.

Smooth sailing

Underneath the hood lies a smooth V6 producing 306 horsepower and 376 Nm of torque, mated to a six-speed automatic transmission. Tipping the scales at 1,695 kilograms, the 350 is no lightweight, and that shows through the lacklustre acceleration when you mash the gas pedal. Compared to the BMW 3 Series I drove the week prior, the excitement factor just didn't measure up.

The news is better in the handling department. F SPORT 2 includes Lexus' Adaptive Variable Suspension that measures road conditions, driver inputs and vehicle speed, adjusting the damping force accordingly. For instance, if you're flying over smooth terrain, the shock absorbers automatically firm up providing better response.



Verdict

In the end, the 2016 Lexus IS 350 can certainly walk the walk with its sleek appearance and racy interior, but does it talk the talk? If you want a sexy, capable street

cruiser with the security of AWD, this may serve you well (enthusiasts, also check out the 200t available in RWD and with an eight-speed auto gearbox). People interested in something a little more spirited, however, should keep their options open.

That being said, consumers with this car on their shopping list might want to wait until next year. At the Beijing Auto Show in the spring, Lexus unveiled a cosmetic refresh of the sedan to closer align the exterior to the current form of the mid-size GS and athletic RC coupe. The modifications include an evolved spindle grille, bigger sculpted side air intakes and a reshaped hood, amongst others.

Specifications (as tested):

- Type: four-door, five-passenger sedan
- Layout: front engine, all-wheel drive
- Engine: 3.5-litre V6
- Transmission: six-speed automatic
- Power: 306 hp @ 6,400 rpm
- Torque: 376 Nm @ 4,800 rpm
- Curb weight: 1,695 kg
- Brakes: front/rear disc with ABS
- Fuel Consumption (L/100km, city/hwy combined): 15.7 (observed)



2016 Volvo S60 Drive-E

Small engine, large performance



It’s understandable if you think the “E” in Volvo’s fuel-efficient Drive-E models stands for electric... well, it doesn’t. Unfortunately, there’s no official word on what it actually means, but let’s go with economy. Because that’s the underlying feature of the four-cylinder powertrains designed to reduce pain at the pump while still providing output levels normally associated with a bigger engine.

Drive-E is available in one form or another across the entire MY16 line-up — I evaluated the S60 with the T5 motor. When you look at the exterior of the car, you’d be hard-pressed to point out any differences over the conventional version of the sedan.

Changes

A carry-over year, it possesses the same upgrades from the “largest single refresh in Volvo’s history” taking place two years ago, such as the wolf-inspired front headlamps, wider grille and signature daytime running lights. A couple of other changes for 2016 are the addition of an extended-wheelbase offering and the removal of the flat-folding front passenger seat functionality.

The interior received some minor improvements as well including a revised headliner, polished metal accents and, for 2015, a neat piano black automatic gearshift knob that is backlit. My press car came in

the Platinum trim level so it came with lots of extras like paddle shifters attached to a thick, grippy steering wheel, plush leather sport seats, backup camera, and a great sounding premium sound system.

The \$1,350 Climate Package was also included adding the heated treatment to the steering wheel, windshield washer nozzles and rear seats. The front windshield is electrically heated too, great for combatting foggy windows but the tiny defroster wires might drive you crazy as soon as you realize they’re there.

Engine choices

Let’s talk a bit about the vehicle’s heart that beats beneath the hood. Canadians get a choice of two

Drive-E variants: my S60 T5 had the 2.0-litre, direct-injection turbocharged four-cylinder. The more powerful T6 has a mill utilizing both a turbo and a supercharger at the same time.

The design philosophy behind Drive-E isn’t solely focused on the number of cylinders. Approximately 100 pounds has been shaved off the engine itself, heating and cooling have been optimized and internal friction throughout the engine has been reduced. A new quick-shifting eight-speed automatic transmission replaces the six-speed, and works with the ECO+ functionality activated via a button in the centre console panel.

With ECO+ on, at speeds over 65 km/h and the accelerator released, the transmission automatically disengages and engine speed drops to idle allowing “ECO-coast” to use forward momentum to keep the car moving.

At the same time, and auto start/stop system comes to



Specifications (as tested):
Type: four-door, five-passenger sedan
Layout: front engine, front-wheel drive
Engine: 2.0-litre turbocharged four cylinder
Transmission: eight-speed Geartronic automatic
Power: 240 hp @ 5,600 rpm
Torque: 350 Nm @ 1,500 rpm
Curb weight: 1,557 kg
Brakes: front/rear disc with ABS
Fuel Consumption (L/100km, city/hwy combined): 10.1 (observed)

life that switches off the engine momentarily at speeds under 6 km/h when the driver’s foot is on the brake. An auxiliary battery helps decrease the load on the primary battery during the repeated start-up cycles.

Even with all this fuel-saving technology, at the end of the day the S60 can still be considered a driver’s car — in fact, the Chinese-owned, Swedish-run manufacturer even brands the product as a sports sedan right on the website. There’s 240 horsepower on tap, stiff, capable suspension and optional 19-inch “BOR” alloy wheels wrapped in 235/40/R19 tires. Weight is kept to a respectable 1,557 kilograms. It is 2016, after all — who’s to say you can’t have efficiency and fun at the same time?



BMW's New Gesture Control

A new era of driving comfort and convenience



In a recent study by ResearchAndMarkets, car buyers ranked comfort and convenience features as highly as they did safety and fuel reliability when shopping for new vehicles.

It is no surprise then that all automakers, especially those completing in the luxury market, are spending billions of dollars in research to satisfy these wants and needs.

When BMW introduced their all-new 2016 7 Series flagship sedan, they also introduced a whole host of ground-breaking comfort and convenience features.

While the car's extensive use of carbon fibre reinforced plastic, called Carbon Core, was a world first for a mass-produced sedan, this innovation was mostly sight unseen.

When it comes to bragging rights as befits a flagship luxury sedan, to many customers, saving lives and being eco-friendly may not be as sexy as the latest infotainment system. When it comes to drawing Oohs and Aahhs from your friends, BMW's new gesture recognition feature will probably be what takes the cake.

When a touchscreen isn't enough

While it may initially seem to be a technological gimmick or a case of one-upsmanship with Audi and Mercedes-Benz, the reason for BMW Gesture Control comes largely down to user interface innovation.

With BMW's Gesture Control, selected functions can be operated by means of defined hand movements. The company's user interface experts appear to have realized that there is no one best solution for controlling the increasing complexity of infotainment systems. Looking back to the first iDrive system

back in 2001, the BMW boffins were trying to reduce the number of physical buttons on the dash. Although the eight-way iDrive controller function was monumentally complicated at the time, over the years BMW has re-engineered iDrive with significantly less complexity.

How does it work?

BMW gesture control employs a 3D camera placed in the headliner that recognizes five specific hand gestures. The iDrive system works in conjunction with standard Gesture Control by recognizing pre-selected hand movements in the vicinity of the center console.

The iDrive operating system, now in its fifth iteration since 2001, is also available with touch screen technology offered in conjunction with the standard Navigation system. Operating the iDrive has become easier via the touch screen technology, although voice command and actual button selection is also available. Active available gestures are displayed on the Control Display, to help the driver or passenger use them.

Gestures to adjust the audio volume control, accept or reject incoming phone calls can be easily executed by the twirl of a finger, or a swipe of the hand. There is also a configurable gesture whose associated function can be customized from a selection of possible



functions, such as navigation to the home address or deactivation of the screen.

Gesture Control can be used as an alternative to conventional means of operation without the need for separate activation. The availability of this control

method is indicated in applicable situations by a corresponding icon in the Control Display.

Why only five gestures?

Buttons and knobs on the dashboard have already lost ground to the world of touch screens and voice controls.

Gesture controls, popularized by gadgets such as Microsoft Corp's Kinect camera for the Xbox video game console have been around for years. However, having learnt a lesson or two from the problems that plagued early voice recognition systems, the design of BMW's trailblazing system shows that automakers are still moving forward with caution. That's why the system is currently limited to just a few easily understood hand gestures.

Future systems, which BMW has already previewed at the 2016 International Consumer Electronics Show in Las Vegas, will be better able to constantly monitor people inside their cars and anticipate their needs.

For example, there may be a day sometime soon where a system could keep track of the your head position to automatically adjust the mirrors to cover all blindspots. No doubt, other automakers will be judging the reception of BMW's system and using that as a big factor in how quickly gesture controls will become commonplace in your next vehicle.



Disc vs. drum brakes

What they are, how they work



For many casual drivers, their idea of a vehicle’s brakes is simply the pedal left of the throttle, and the expensive item that shows up on their service bill every few years. Never mind trying to ask whether they can discern between disc and drum setups. Fortunately, we “brake” down the differences of the two systems for you below.

Drum brakes

This type of braking mechanism is called a “drum,” because that is precisely what it looks like. Still found on some vehicles being released in the market today - think entry-level cars like the Toyota Yaris or Honda Fit - it is the gray-coloured cylinder located underneath each of the rear wheels on newer vehicles. The outer casing of drum brakes is made from either

cast iron or, to a lesser extent, aluminium. Inside the drum is a set of “shoes,” which are crescent-shaped metal pieces that have a high friction material affixed onto the outer edges. When a driver steps on the brakes, a specialized fluid transfers the movement from the pedal to the shoes that then press up against the drum to slow the wheel, and the car, down.

Disc brakes

People nowadays are most likely familiar with the disc brake system that has become increasingly ubiquitous over the last couple of decades. Rather than featuring a drum, disc brakes utilize a round rotor also made from cast iron, or in high-performance applications composites including carbon and ceramic. A “caliper” sits above and straddles both sides of the

rotor, a part that contains a series of hydraulic pistons and a high friction brake pad on either side. Activating the brakes causes the pistons to clamp down and make contact with the rotor, slowing down the vehicle. This is similar to what happens when braking on a bicycle. Each time this process takes place, both the brake pad and the rotor wear away due to abrasive friction. Generally, the pads will be depleted sooner than the rotors and require more frequent replacement.

Other differences

Because of its enclosed design, drum brakes are prone to excessive heat build-up under high-stress situations, which can cause “fade,” meaning the brakes start to lose their effectiveness. The rotors used in disc brakes on the other hand are exposed to ambient air resulting



in constant cooling.

Cost of manufacturing is one of the reasons some automakers continue to offer partial drum brake setups. That said, the front brakes do the majority of the work since weight is shifted forward each time you brake, so only having discs in the front is more than adequate for most motorists.

Replacement

The life of brake components varies greatly depending on models, personal driving habits and driving conditions - the best thing to do is take your vehicle in for regularly servicing to ensure everything is working properly. If you hear or feel anything out of the ordinary like squealing or shuddering when the brakes are applied, make sure you consult a professional immediately.



Engine overheat

What to do when your engine overheats



It's already July, and the weather is getting hot, hot, hot. The high temps are great for throwing that convertible top down, but can be taxing on your vehicle — fluids deplete quicker, and some components, like the radiator, work harder. On older cars in particular, this can lead to engine overheating, although newer models aren't immune either if there are any issues with the cooling system.

In the instrument cluster, there is either a physical or digital gauge marked with a small thermometer or Celsius symbol that measures the coolant temperature of the engine. The needle usually sits near the middle when everything is working as it should, but if you

notice it creeping towards the hot side, that means there's a problem. In such a situation, follow the steps below:

If you're still in traffic

- 1) The engine powers the air conditioner, so if your car is equipped with one, turn it off to reduce strain on the motor and roll down your windows instead.
- 2) Turn on the blower and set the climate control to hot, to draw heat away from the engine and out through the air vents instead. Make sure all the windows are down when you do this.
- 3) Stuck in gridlock? Put the car into neutral or park and tap the gas pedal slightly for a few seconds. The

increase in rpms will get the fan and water pump working, which circulates air and liquid through the radiator.

Pull over when safe to do so

- 3) If possible, find a safe place to pull over and turn off the ignition immediately, as continued operation can damage the engine.
- 4) Open the hood to cool things down, being mindful you might be greeted with a face full of steam. It's a good idea to wait a few minutes. If you see thick smoke or any other evidence that there might be a fire happening in the engine bay, walk away and call emergency services.

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5) Do a quick check for the problem. Locate your coolant tank somewhere near your radiator that is supposed to be full of colourful coolant. If it's empty, it may just need a fill or there could be a leak somewhere in the system. Check the ground underneath for any puddles.

Option: if you must keep driving a little further

6) Once things are no longer boiling hot, you can add a little water or coolant directly to the radiator to get you a few more kilometres. Wait for at least 20 minutes to let the motor cool down first before attempting to remove the radiator cap, which by then should be cool to the touch. Place something like a cloth overtop to protect your hand.

7) Turn the car back on and constantly monitor the temperature gauge. Maintain a large gap between you

and the car in front to avoid constantly jabbing the brakes and accelerator. Be gentle on the throttle and try to avoid getting the rpms too high. When the gauge needle starts to climb again, pull over and wait until for 10-20 minutes before trying again.

Get help

8) If you'd rather leave it to the pros, call a tow truck right away and have your service department diagnose the problem, or at least back to your garage where you can perform a thorough inspection. Possible issues include worn belts/hoses, broken water pump, bad electric fan motor or malfunctioning radiator switch that is supposed to tell the fan to activate.

Top tip: keep bottles of water and coolant in trunk or cargo area of your vehicle just in case the above happens, especially in the summer (plus having some clean drinking water is a great way to ensure the driver

and passengers don't overheat on a scorching day).

A flashlight, small toolkit, reflective vest and non-perishable food are also good items to keep around at all times.



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