

New Corolla in the works

According to our sources, the latest version of the world's most enduring automobile brand is now at the test "mule" stage and is slated to arrive for the 2019 model year. Word has it that Toyota's compact sedan will grow slightly in size and will get the same 144-horsepower 2.0-liter four-cylinder engine as the upcoming CH-R hatchback (the Corolla's current 1.8-liter four-cylinder makes 132 horses). The Corolla will also use the same all-new



2017 Toyota Corolla

and more rigid platform as the CH-R. Also rumored to be joining the sedan is a hatchback version — likely replacing the wagon-ish iM — that will allow the Corolla to more effectively compete with the Honda Civic, five-door Chevrolet Cruze Hatchback and others.

The fondly recalled **Mazda RX-7** (1992-2002) had a rotary engine positioned behind the front axle.



Mazda files rotary engine patent

Afficionados of Mazda's departed and beloved RX-7 sportster may find hope in the news that the Japanese maker has filed patents in the U.S. for a small rotary engine designed to act as a range-extender for a plug-in hybrid. Sure, a far cry from the RX-7's powerplant, based on a 2.6-liter Wankel rotary engine positioned behind the front axle. The RX-7 is particularly well remembered (the last of its three generations ran from 1992-2002) and was named Playboy's Car of the Year in 1993. The oddball engine was part of its appeal, being simpler than a piston configuration, more compact, and yielding high revolutions per minute and a higher power-to-weight ratio. Still, the fact that it consumed oil and offered mediocre fuel economy led Mazda to drop it. The RX-8, which also featured a rotary engine, ran from 2003-12. The closest Mazda's come since then was showing off the Wankel-powered RX-Vision concept at the 2015 Tokyo Motor Show. While Mazda hasn't even suggested production of a new rotary engine, let alone its use in a sports car, having it back in the rotary game is good enough for the hopeful.



The fuel cell Honda Clarity has plenty of power and style, and zero emissions. Honda will help early adopters of the technology with a \$15,000 fuel credit.

Honda's fuel-cell model will get two additional variants

Honda plans to follow its **2017 Clarity Fuel Cell** sedan with a plug-in hybrid and battery-electric variants that are expected to go on sale by the end of 2017 as 2018 models.

The plug-in version will have a range of 40 miles on batteries alone before the companion gasoline engine kicks in. The battery-electric model will reportedly have an 80-mile range, which would fall far short of the current crop of electrics such as the Chevrolet Bolt with its 238-mile range on a single battery charge.

Hydrogen fuel cell vehicles have zero emissions and, unlike electrics, offer longer ranges, with full refueling in as little as five minutes. For this version of the Clarity, Honda's engineers have redesigned the fuel cell stack to be small enough to fit under the hood in a space about the same size as its normal 3.5-liter V6 gas engine. Two tanks are now used to hold a total of 141 liters of pressurized hydrogen, for a total weight of 8.5 lbs.

The Clarity Fuel Cell that will soon be available to California residents on a three-year lease basis (including a \$15,000 fuel credit) can travel 366 miles between fill-ups. With only a few dozen hydrogen filling stations statewide, that model has understandably limited appeal. However, aside from the **Toyota Mirai** — which has only sold 2,840 units worldwide so far — the Clarity seems to be the best hope for fuel cell vehicles gaining more widespread traction in the market.



The dial shifter (like the one on this Chrysler 200S AWD) seems to make complete sense, but critics and the buying public have not responded particularly well to the idea.

A shifting dilemma

We've noticed that a growing number of models have abandoned the traditional automatic-transmission floor shifter for an **electronic rotary knob** or dash-mounted push buttons. Although the alternatives free up console space for more cup holders or larger storage space, *Consumer Reports* magazine claims that many buyers aren't crazy about these alternatives as there have been accidents and injuries, some serious.

As a result, editors of the influential publication will deduct points from their test scores for cars that come equipped with such shifting devices. Fiat Chrysler Automobiles is being investigated by the U.S. National Highway Traffic Safety Administration for its faulty shifters and the company is reportedly considering a return to the long-handle versions.

TEST DRIVE

2017 Volvo V90 Cross Country

Continued from page 1

deal with, and the engine isn't excessively loud when you dig your spurs in.

Fuel economy is mediocre, but it (and the 0-60 time) are nearly identical to its principal market competitor (the Audi A4 Allroad). I suspect that years of low and steady gas prices make it hard for consumers to get worked up over mpg's.

The V90's 2.0L employs Volvo's start/stop technology. On caffeinated days, I sometimes find this system to be a tick slow on the restarts, but it can be switched off via dashboard button. Adjustable drive mode settings include Comfort (the default setting), Eco, Dynamic and (on Cross Country only) Off-road (up to 25 mph). Switching between Comfort and Dynamic mode evokes noticeable changes in throttle response and shift points.

The new interior has a clean, refined look, befitting a luxury-leaning vehicle. To me, the cabin looks best in two tone versions (like tan and black), with a lighter wood or aluminum trim. The black walnut trim, coupled with an also-black cabin makes for a more sedate looking space, and

hides some of the detailing. Most system controls are channeled at least in part through the Sensus Connect touchscreen. The 9-inch display — which is vertically oriented and framed by HVAC vents — is engaged with the same moves that one uses with a tablet or smartphone. The Sensus infotainment system (which is compatible with Android Auto and Apple CarPlay) is fairly straight forward in its layout — a couple of taps/swipes will take you to most any control. But (like any touchscreen), it's arguably slower than conventional controls would be on a given task.

Options are here for the asking, whether individually or bundled. Highlights of the Convenience Package (\$1,950) include the highly useful, 360 degree, top down camera, as well as Park Assist Pilot. Headlining the Luxury Package (\$4,500) are Nappa venti-

lated leather upholstery, leather dash and door top panels, backrest massage in the front seats and heated back seats. Among the available individual extras: a head-up display (\$900, and not very legible), 20-inch alloys (\$800, looks cool, harder ride), Air Suspension (\$1,200, rear only, doesn't improve off-road clearance) and a Bower & Wilkins sound system. Though it carries a



The Volvo V90's new exterior has a clean, refined look, befitting a luxury-leaning vehicle, with most controls channeled at least in part through the Sensus Connect touchscreen.

premium price (\$3,200), the audio system delivers premium sound, with 1400 watts, a 12-channel amplifier, 19 speakers and three listening modes.

There's enough leg room for six-footers to fit in back with like size passengers up front. Cargo capacity ranges from 25.5-53.9 cubic feet. Lifter height in back is low, and the seatbacks fold to a flat load floor.

That which does not fit in back can find a home topside, on roof rail mounted racks. The only apparent shortcoming to the interior is a shortage of front cabin storage space. The center console is usually the main landing spot for pocket contents, and its largest opening is a covered bin at the driver's elbow. It will fit a couple of phones, but that's about it. The remaining receptacles are few in number and small in size.

Pilot Assist — a semi-autonomous combination of lane keeping and adaptive cruise control — is standard on S90. Certain elements of this technology make sense to me. For example, I like the idea of using lane keeping as a backup plan when you're at risk of drowsy driving, or cruise control when you've been driving forever, and want to find out if your right leg will still bend. But I find the systems too intrusive for full-time use, and I worry about

drivers using this as a potential excuse to pay less than full attention to their driving. So Volvo's semi-autonomous technology work fine for me — as an optional aid, with an on/off switch. Blind spot detection and cross traffic alert are standard issue on Cross Country, and invaluable tools for the driver.

Sophisticated, off-road capable wagons are a fine choice, for those who want superior, all surface roadability in something lower, sleeker and more car-like than an SUV or most crossovers.

The Cross Country's most direct competition in this space is the Audi A4 Allroad and the Mercedes-Benz E400 4Matic wagon. The Audi hold the price advantage and is the sportiest of the three. The E400 is the quickest, and the only one to have a (kid-size), third row seat. It's also the least inclined to venture off-road. The Volvo is the centrist of the group. More luxury leaning than the Audi, it's also better off road than the 'Benz, and the only model rated with a (modest) towing capacity.

A regular contributor to the Times Union for more than 25 years, Dan Lyons is the award-winning author of six books, and photographer of 180 calendars.

