

# E stands for everything

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It may be easiest to grasp the Volvo Drive-E concept by revisiting Mazda and its set of interrelated performance and efficiency technologies falling collectively under the SKYACTIV name. When we first caught wind of that, we had expected a powerful and fuel-economical new engine group, like Ford's EcoBoost or GM's EcoTec. Rather, Mazda had invented a complete suite of technologies for those goals—not just engines, but transmissions, lightweight construction materials and techniques, new control electronics, the works.

Volvo Drive-E is similarly comprehensive. The "E" may stand for efficiency, environment, energy ... and down the road surely for electric. That last one is a specific item they purposefully skirt, even when they themselves practically say so. For now, "E" may stand for a little of everything.

**CONTEXT** for the Volvo Drive-E program is brought into focus by the company's announcement of an \$11 billion investment under their newest owners, Geely of China. Compare and contrast this with the roughly \$1.5 billion Geely spent to acquire Volvo in 2010—they are committed. The money is being spent in traditional Volvo style, too, in Sweden—on research and development, and on new manufacturing techniques and

facilities. What intellectual property and/or hardware migrates to China remains to be seen.

The programs are gaining traction, and we dashed up to Las Vegas to sample the first fruits of what the company is calling "the largest refresh in Volvo history"—new engines, as well as the reintroduction of a V60 sport wagon, to beef up the core "60" lineup, which also includes the mildly-bad-boy S60 sedan and super-niche-filling XC60 crossover.

Apples and oranges abound as this lineup gets underway. There are front-wheel- and all-wheel-drive models, performance-leaning R-Design models, and two new Drive-E engines—a T5 and a T6—plus one XC60 model has yet a different engine carried over. There will be S60 and V60 Polestar models, down the road.

With a few morning hours to drive one vehicle and a few afternoon hours for another, we opted for the new V60 wagon with a T5 Drive-E engine and the S60 sedan with T6 Drive-E. Both were front-wheel-drive, the only option for a Drive-E model at this time.

The sporty new models have three-spoke paddle shift and sport seats with comfort features. The V60 wagon has a three-piece rear seat, for flexible space configurations, and the sporty parent can specify integrated child seats. With the

same smooth body flow of the S60 to the A-pillar, then a high rising beltline and gracefully sloping roofline, the V60 is almost coupelike in appearance—and very much so in road manner.

Our routes headed way out of Las Vegas, into the southern Nevada mountains and desert, with a major run through Valley of Fire State Park—where no photos are allowed and speed limits are very strict, but providing a great test circuit of curves, hills, heat and altitude, all within one narrow ribbon of smooth asphalt.

**SOME** fuss among other members of the media was about the continued use of the T5 and T6 names, when they no longer necessarily refer to the 5- and 6-cylinder engines they once did. We take this with a grain of salt. There is a lot of engine downsizing going on right now—with compact and lightweight internal combustion powerplants outpowering their larger predecessors, while achieving fuel economy that rivals or even exceeds hybrids. The Germans have done this, too—AMG and BMW have cases of familiar, "larger" alphanumeric on new, smaller-engine models. To us, it adds one more trivia question for the cognoscenti, and is of no significance to the rest.

As Derek Crabb, Volvo's VP of powertrain engineering, told us, "power is not about size, but

rather the amount of air forced through the engine. If the engine is smaller, it can be more powerful *and* more efficient."

Volvo figures their T5-T6 nomenclature, carried over from prior years, will be "seamless for the customer to understand." It boils down to a T6 lineup in the 250 to 300 horsepower range, and a T5 lineup in the 200 to 250 horsepower range. Our test V60 T5 Drive-E wagon rated 240 hp and 280 lb-ft of torque (and 37 MPG highway), while our S60 T6 Drive-E sedan specs out at 302 hp and 295 lb-ft of torque.

The new engines are some 50 kg (110 lb) lighter, yet more powerful and delivering higher fuel mileage. Part of the magic is in the combination (in the T6) of a supercharger—for immediate boost from start—and turbocharger—which kicks in once underway, for high-efficiency boost. Volvo says this delivers a naturally-aspirated (equivalent) experience, with no turbo lag.

Expect even smaller engines in the relatively near future, and—especially considering these leave room for add-ons within the same space—expect electrification to be a big part of Volvo's future (one place the "E" in "Drive-E" will really kick in). Not only is there room for an electric motor in the engine compartment, but there is already dedicated battery space built into the floorpans. A likely future model will be a plug-in hybrid with higher fuel efficiency than even today's potent four-cylinders, while matching the power of a current V8. As they told us in Las Vegas, their "highest performance vehicles will be (their) most environmentally friendly."

**WE** focused on our rural driving. City miles were short, and stretches of interstate were sparse. This gave us less need to try some of the expanded tech features in this Volvo lineup, but they include pedestrian and cyclist detection systems with full autobrake (including a warning before this is fully applied); cross-traffic alert; lane warning technology (on the V60 and S60); park assist pilot (same two); and more.

It has been fully five years since we met "the car that stops itself"—the first Volvo XC60 with autobraking city safety system—so, as you might expect, these are well implemented.

Drive modes include Drive, Sport and Eco (cutting out engine braking above 40 mph), with a start/stop feature that is bypassed in Sport, active at 0 mph in Drive and active in Eco at 4 mph in the T5 or 0 mph in the T6.

**AS** different as the three are, you will find considerable commonality, and deciding among them is relatively easy, in the big picture. If you need a little more ground clearance, the XC60 is your first stop. If you don't need that, but do like wagon utility, the V60 is next on the list. The default configuration would be the S60 sedan. Pricing is all relatively close (see captions), while drivetrains will force your most specific choices. If you desire a very particular combination of Drive-E engine and, for example, all-wheel drive, or perhaps want the Polestar performance package, you will have to wait, but not for very long. (For a plug-in electric wagon, your wait will be longer.) The majority of shoppers will find something on the current list. ■



2015 Volvo S60 sedan	MPG (c/h/cmb)
S60 T5 Drive-E FWD	\$33,300 .....25/37/29
S60 T5 AWD	\$34,800 .....20/29/23
• S60 T6 Drive-E FWD	\$38,150 .....24/35/28
S60 T6 R-Design AWD	\$42,700 .....19/28/22
• <i>sample we drove</i>	

2015 Volvo V60 wagon	MPG (c/h/cmb)
• V60 T5 Drive-E FWD	\$35,300 .....25/37/29
V60 T5 AWD	\$36,800 .....20/29/23
V60 T6 R-Design AWD	\$44,300 .....19/28/22
• <i>sample we drove</i>	

2015 Volvo XC60 crossover	MPG (c/h/cmb)
XC60 T5 Drive-E FWD	\$35,750 .....24/31/27
XC60 3.2 AWD	\$37,250 .....18/25/20
XC60 T6 Drive-E FWD	\$40,050 .....22/30/25
XC60 T6 AWD	\$41,550 .....17/24/20
XC60 T6 R-Design AWD	\$45,800 .....17/24/20

