ARIZONA DRIVER

THE ENTHUSIAST'S GUIDE TO LIFE BEHIND THE WHEEL

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ALTERNATIVE POWERTRAINS GO MAINSTREAM

NEW CARS:
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2017
Chevrolet
Bolt EV

VEHICLES • EQUIPMENT • TECHNOLOGY • PEOPLE • EVENTS • DESTINATIONS • ATTRACTIONS

EVERYDAY EV
can easily go all week

by Joe Sage

Racing great Tom Sneva of Paradise Valley—the first to clock an official lap at Indianapolis over 200 mph, in 1977, and winner of the Indy 500 in 1983—says when he built the 500 Club golf course in the North Valley in 1989, he knew what he would need: the world's fastest golf cart. So he installed a Yamaha 750, nitrous, 6-point harness and a roll cage. "You need a parachute in back to slow it down," he says.

Back in college, we had a friend with a weekend job at a big urban parking garage, which had a golf cart that sat untended on weekends, which we would get our hands on and drive like wild men up and down the curlycue ramps and across the straightaways while nobody was around. It didn't have the horsepower of Sneva's 750, but step on the pedal, and man would it go! Let off the pedal, and you'd have complete control in the turns.

Now imagine the same thing, but instead of Sneva's 55 horsepower, you have 200 hp and 266 lb-ft of torque. And instead of a parking garage, you have the hills and curves west of Silicon Valley. This is how we fell in love with the new Chevrolet Bolt EV's one-pedal mode. Your foot controls the pedal, the pedal controls the motor, the motor grabs the drivetrain and won't let go. This works through an innovative approach to regenerative braking (with the car in "Low" or via on-demand paddles). It works when you apply the pedal, and it works when you let off, thus enabling you to nail those hills and curves with just your hands on the well-connected steering wheel, and, well, just one pedal. It even brings you to a complete stop in most conditions. One pedal.

Chevrolet Bolt EV has a neat trick with a big kick. You'll come for the 238-mile range. You'll stay (and come back again and again) for the potent one-pedal mode.

The car responds exactly and immediately to your wishes. Ease off the pedal a bit on approach and apply it eagerly through the apex. This car made us want to take it straight to the track—to a challenging road course like Road America in Wisconsin or Pacific Raceways in Washington—as much as any supercar we've driven.

But that's just a specialty mode. In other modes, the Chevy Bolt EV operates just like any other car—at least any small car with 266 lb-ft of torque on tap along its full power spectrum. As with any fully electric vehicle, the connection between brain, foot and "go" is immediate and exhilarating. Bolt EV runs from zero to 60 mph in under seven seconds, matching top-dollar German sports sedans of 10 or 15 years ago.

Like most electric vehicles, Bolt EV uses one smooth, quiet high-capacity electric motor, but with an offset gear and shaft configuration for efficiency and performance. What's different is Chevrolet's first Electronic Precision Shift, a finely tuned system that delivers exactly what your drive mode settings and your foot demand, while also providing more interior space.

Flash back in time, not far at all. The pitch for an electric vehicle (EV) was that its 30-to-50-or-so-mile range was all you'd need for the typical drive to work each day, all the moreso if you could plug in at work, too. Really good EVs delivered in the 80s. Not bad, and on a practical level not that hard to get used to. We went from flip phones that lasted for weeks, to smartphones that need constant replenishment, and the tradeoff is deemed worthwhile. On the other hand, if we had a smartphone that lasted all week, it would reign supreme.

This is where Bolt EV really shines, exceeding even the engineers' original challenging goals. Bear in mind Chevrolet introduced the term "range anxiety" to the lexicon to contrast the Chevy Volt (an "extended-range" electric with an onboard gasoline-powered engine that does not drive the car but rather recharges the battery) with full battery dependency. The full-electric Bolt EV was going to have to erase that comparison. Their goal: a 200-mile range on one charge. Their result: 238 miles.

This is not only enough to get through the typical five-day workweek, but it also erases the question of what you would do on any single workday if you suddenly were called upon to dash to the far side of the Valley for a meeting. Or asked to pick up the kid or the laundry on the way home. The Chevy Bolt EV has plenty of headroom.

When you do recharge, DC Fast Charging adds 90 miles of range in just 30 minutes. A full charge on 240 volts household current takes nine hours.

The Bolt EV battery benefits from the Chevy Volt, which gave engineers at GM and strategic partner LG of Korea over 1.3 billion miles of EV experience to draw from in developing an all-new 60 kWh lithium-ion battery pack comprising a new configuration of 288 all-new cells (five sections, 10 module, 96 cell groups, three cells per group). "You usually have a battery cell that delivers either the desired levels of energy or power, but not traditionally both," says Gregory Smith, Bolt EV battery pack engineering group manager. "With this cell design and chemistry we were able to deliver a battery system with 160 kilowatts of

KEEP RIGHT >>

GMK (General Motors Korea) design director Sangyeon Cho explains the design and engineering process for the new Chevrolet Bolt EV from sketch to execution, including the compact and potent new battery pack that provides power and range, both, all within a spacious, attractive and very-fun-to-drive package.

SPECIFICATIONS

EPA CLASS / SEATING .....small wagon / five
MOTOR / DRIVE.....single permanent magnetic drive motor and gearset / FWD
POWER.....200 hp / 150 kW
TORQUE.....266 lb-ft / 360 Nm
FINAL DRIVE RATIO 7.05:1
ZERO-TO-60 MPH .....under 6.5 sec
BATTERY.....rechargeable energy storage system of multiple linked modules
CHARGE TIMES.....120v cordset available; 240v full charge: 9 hours; SAE combo DC fast chg 90 miles: 30 min
SUSPENSION.....F: indep MacPherson strut-type w/ direct-acting solid stabilizer bar; R: compound crank torsion beam w/coils
STEERING.....column-mounted elec power
WHEELS.....17" aluminum
TIRES.Michelin Energy Saver 215/50R17 A/S
BRAKES.....F: 11" vented / R: 10" solid; electro-hydraulic partially regenerative; ABS; dynamic rear brake proportioning
LENGTH / WHEELBASE .....164 in / 102.4 in
CARGO VOLUME.....16.9 cu.ft
WEIGHT.....3580 lb
DRIVING RANGE.....EPA-est 238 miles

BASE PRICE.....**LT: $37,495**
(approx $30,000 w/ full federal tax credit)
.....**PREMIER (2LZ): $41,780**
PREMIUM COLORS: red, blue, orange 395
COMFORT/CONVENIENCE PKG: heated seats, 3-spoke heated leather wheel, etc.....555
DRIVER CONFIDENCE PKG: side blind zone, lane change and rear cross-traffic alerts, rear parking assist.....495
DC FAST CHARGING CAPABILITY.....750

WARRANTY .....**8 years / 100,000 miles**

peak power and 60 kilowatt-hours of energy."

Nickel-rich lithium-ion cell chemistry gives top performance in a wide range of climates and driver demands. It also allows a distributed cooling system that enables the pack to be spread out. The full pack weighs 960 pounds and sits low and flat under the full length of the floor, contributing to the 3580-pound car's solid road-hugging handling.

Product planners also wanted to deliver this EV for under thirty grand. Base price is $37,495, but the government still incentivizes by some $7500, bringing the price indeed just under $30,000. You get filtered automatic climate, MyLink 10.2-inch touchscreen, six-speaker audio, Bluetooth, Android/Apple, voice activation, keyless entry and start, backup camera, three months of OnStar, a 120-volt portable charge cord and more. Apparently recognizing the thrilling performance possible in this advanced electric, Bolt EV also has a configurable Teen Driver Mode.

A Premium model (LZ2) stickers at $41,780 (or $34,280 after incentives) and adds heated rear seats, rear center armrest, rear camera within the rearview mirror plus Surround Vision, turn signal indicators in side mirrors, roof rack side rails, body-color door handles, upgraded wheels (still efficient 17-inchers) and a few other details,

Published specifications note that neither an engine nor fuel are included.

We drove the Bolt EV west from Silicon Valley on redwood-lined mountain two-lanes at speed, then up the coast to the Golden Gate Bridge, about 70 miles. Another 25 miles or so brought us back to the airport.

On previous EV drives, we've done constant calculations to gauge our progress, performance and life expectancy. In the Bolt EV, we drove as enthusiasts and enjoyed the drive, without a thought to our e-survival. Heck, we only used about a third of its juice. Range anxiety was never in play.

Chevrolet Bolt EV turns the page on electric vehicles, with a spacious four-door that has a week's range for typical town duty, plus enticing performance and range for weekends. Not only is this breakthrough EV much more than a short-errand-mobile, it's so much fun to drive, you will invent more errands just to get your foot back on the pedal and your hands on the wheel.

Chevrolet Bolt EV hit California and Oregon (notably green, alternative states) in late 2016. Over the winter, the rollout continues in such states as Maryland, Massachusetts, New Jersey and New York (notably rail commuter states, or what Chevy calls "mindset states"). As dealers receive sales and service training and special tools coast to coast, the Bolt EV should be available nationwide by midyear. Or dealerships in California are almost within our one-charge driving range right now. ■

Chevrolet Bolt EV major awards

The new Chevrolet Bolt EV has won the coveted 2017 North American Car of the Year Award, announced during the North American International Auto Show in Detroit in January, praised for its game-changing long range, as well as for being not just a great electric vehicle but also for making EVs more than just a niche solution.

Founded in 1994, NACTOY (North American Car and Truck of the Year) jurors comprise 60 professional magazine, TV, radio, newspaper and online automotive journalists from the US and Canada, who evaluate dozens of new vehicles in the process.

The Bolt EV's win marks the fourth time in four years that Chevrolet has received a NACTOY award, joining Corvette Stingray and Silverado wins in 2014 and the Chevy Colorado in 2015. Bolt EV adds the title to a growing list of high-profile recognition. *Motor Trend* named Bolt EV the 2017 Car of the Year. It earned a place on the 2017 *Car and Driver* 10Best Cars list. *Green Car Journal* heralded Bolt EV as the Green Car of the Year. And *Green Car Reports* named it the Best New Car to Buy. ■