

To build or to buy: Electric vehicle fans can convert gas-guzzlers or head to the sales lot

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Watch out Chevy Volt. A new ride nicknamed Sparks gets a charge out of cruising up and down Route 17 in Yorktown, Va., without ever stopping at a gas pump.

Sparks was first manufactured as a 1988 Ford Bronco II, purchased new by Tom Tragle's father, who died six months later.

For the next 20 years, the Bronco was transportation for a family that lived near the Tragles and their home in the county.

"After 175,000 miles, Sparks was pretty much at the end of his road and I offered to buy Sparks back for a few dollars, and fix it up to keep the car in my family," says Tragle.

"Shortly after this my wife and I went to Key West, where we rented an electric vehicle for the day and rode around the entire island. It was great fun, and since gas was selling for \$4 per gallon at that time, the idea of an electric vehicle began to form."

Getting the gas-powered gusto out of the Bronco and the super electric efficiency into Sparks was a two-year experiment with a major learning curve, according to Tragle, who is a State Farm agent with no previous experience rehabbing cars. It was also a way to honor and remember his father.

After researching [electric cars](#), Tragle choose EV of America in New

Hampshire to supply components needed for the conversion.

"That's when I had my first of thousands of conversations with Bob, the owner," Tragle says. "About 10 minutes into our first conversation I told Bob that I had no idea what he was talking about, that I would do some studying and call him back in a couple of months."

Two months later, a wiser Tragle stripped the Bronco and took the vehicle on its last ride as a gas engine to Dana's Automotive in Yorktown, where [internal combustion engine](#) parts were removed and necessities like new brakes and bearings were installed. Next, the Bronco went to Don Williams at Williams' Performance Automotive where welding and fabrication made room for the big battery boxes that hold 18 eight-volt Interstate batteries weighing 1,250 pounds. This process turned Sparks into a two-seater because battery boxes take up the rest of the interior; a fresh-air system ensures they create no harmful fumes inside the vehicle.

"My good friend and helper, Charlie Park, and I began fabricating the cables to hook up all the batteries together in a series," says Tragle.

"In the meantime, Don was doing some body work and making sure the 12-volt system hooked into Sparks' new electrical system. The work wasn't easy, and there were a lot of 'mulligans and do-overs,' mostly because it was a design-as-you-build situation and my business degree from Old Dominion had inadequately prepared me for this electrical endeavor."

A manual from EV of America kept Tragle focused and on track -- and sometimes too involved to think about anything else.

"He read that manual for two years, so much the pages are worn," says his wife, Liz.

"We'd go on vacation and he would sit on the beach reading it."

Since Tragle put Sparks on the road a couple of months ago, newer all-electric vehicles have been showing up in the sales lot at Auto Haus automotive, also in Yorktown.

Manufactured by Tomberlin, the E-Merge, priced around \$8,800, can be legally driven on roads where the posted speed limit is 35 miles per hour. The vehicle, complete with a VIN, or vehicle identification number, and license plates, comes with regulation headlights, windshield wipers and safety-glass windshield. To recharge the vehicle, you plug it into a household outlet.

"I always wondered why people in Dandy enjoyed their golf carts so much and now I know since I got my E-Merge," says Brian Burroughs, who lives in the Yorktown waterfront neighborhood of about 250 homes. He bought a black E-Merge for \$9,000 in mid-July, adding two back-facing seats so the vehicle carries four passengers. He and wife Joann go out for evening rides almost every day.

"After I got the cart and rode around a little, I understand it -- this is fun."

Tomberlin's next model, called the Vanish for about \$14,000, is more rugged -- an all-terrain meant for hunting.

"I've been reading about these people for a long time and wanted something like this for hunting," says Bob Dively of Williamsburg, Va. Dively and his son-in-law were there to test drive the Vanish before theirs arrived. Dively owns a 300-acre recreational farm in nearby Surry County where he and family hunt turkey and deer, using all-terrain vehicles to get them around the property.

"This will be super quiet. The other vehicles we run are noisy."

Made in Augusta, Ga., by Mike Tomberlin, the first low-speed vehicles will soon be joined by a larger model, called the Anvil, which can travel on streets with 45 mph postings. Its cost will be around \$16,000.

"These vehicles fit a certain niche," says Ken Hesse, corporate sales manager at Auto Haus.

"I live four miles from Route 17 and could easily take a Tomberlin to Washington Square Shopping Center."

If you think electric vehicles are a modern-day machine, enthusiasts will tell you differently. The first EV, as they are nicknamed, was built in 1834 by Thomas Davenport, according to George Berbari of Virginia Electric Vehicles in rural Waverly, Va. He's been converting gas vehicles into electric versions since 1979, charging \$15,000 to \$17,000 per project. The vehicles get about 40 miles per charge.

"With conversions, weight is the problem," he says. "Weight affects the range of the vehicle."

About two years ago, Berbari partnered with EV of America to build [electric vehicles](#) from scratch, fashioning lightweight frames covered by thin-material skins. He uses AGM, or absorption glass mat, sealed battery technology first developed in 1985 for military aircraft uses.

His vehicles today run about 80 miles per charge. He has orders for 20 now, selling them for \$19,000 to \$20,000, mostly to people in Texas, New Jersey and Pennsylvania.

"The biggest enemy of the electric car is the weight of the battery," he says. "We need lighter, cheaper batteries and electric vehicle sales will

fly."

In Yorktown, Tragle concurs the heavy batteries are the challenge for an electric vehicle's cost efficiency and range. When the batteries need replacing in four to five years, he hopes cheaper, better versions are available. He also plans to take the car, which cost \$14,000 to convert and gets 40 miles per charge, to some community events for educational purposes.

"I could have probably done the work for about \$10,000 but I was willing to spend a little more since it was dad's car and will remain in the family for a long time," he says.

"Dad, who was model builder for the Smithsonian, would love Sparks."

More information:

EV of America: www.evamerica.com

Virginia Electric Vehicles at www.virginiaev.com

Tomberlin: tomberlin.net

Auto Haus: www.autohausva.com

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