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GMC Typhoon is a sport-utility hot rod — Test Drive, G-3

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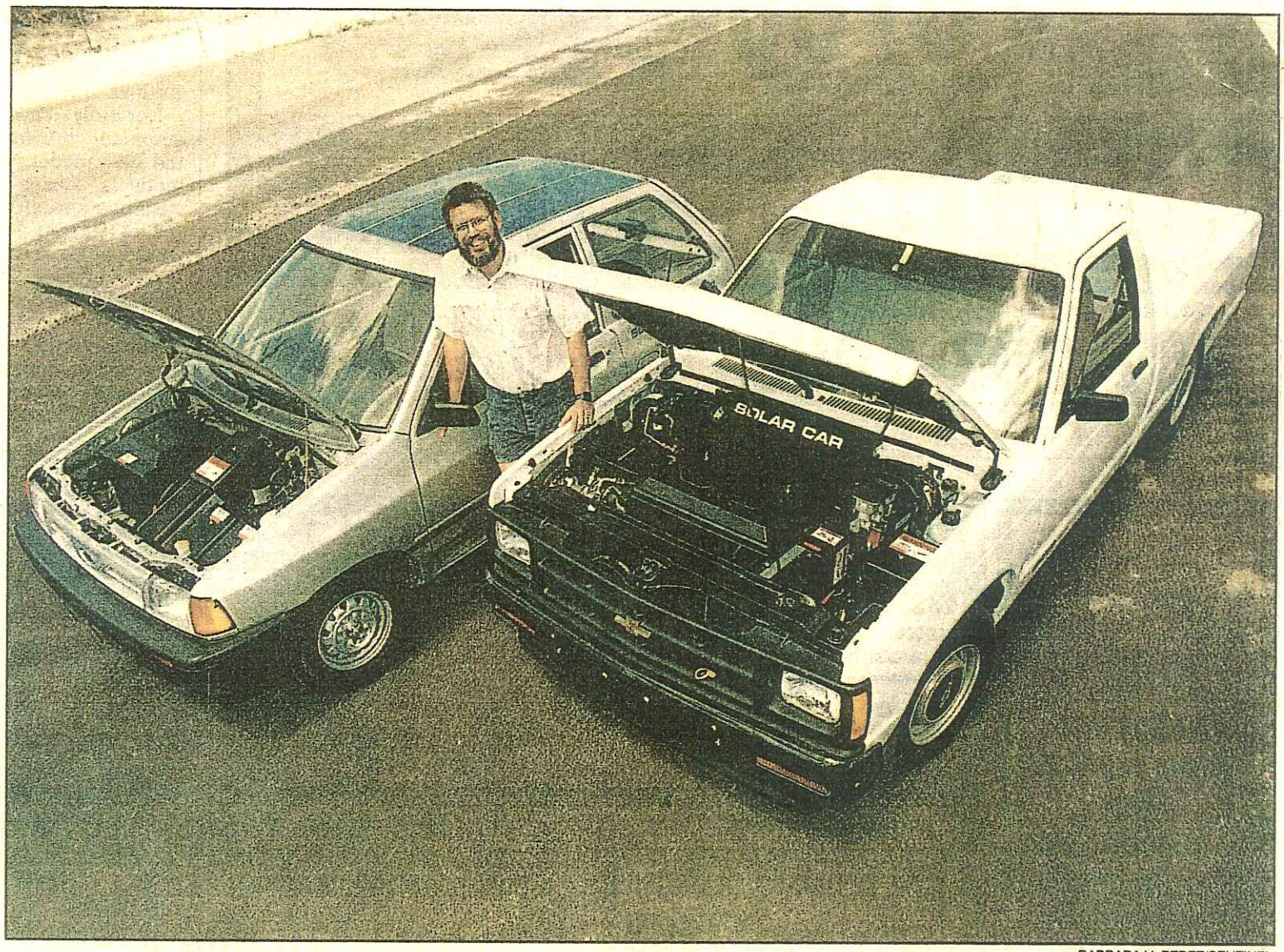
Transportation G

His cause: Saving energy

Brevard man is driving force for electric vehicles

By Richard Truett

OF THE SENTINEL STAFF



BARBARA V. PEREZ/SENTINEL

Cobb's electric Festiva has solar panels. S-10 pickup looks normal — until you look under the hood.

MELBOURNE — Sometimes you can see in a man's face a sort of pensive restlessness and hear in his voice a kind of somber inflection that conveys a total, passionate belief in what he is doing — a trait that signifies that man has found his mission in life.

That is the demeanor Doug Cobb takes on when you ask him about the electric vehicles he builds, the Earth's fragile environment and how he is trying to make the world a better place.

"Our future is at stake. It goes beyond corporations and money. You just can't put dollar bill signs on life. People are dying because of pollution," said the soft-spoken Cobb while breezing around the back streets of Melbourne in an air-conditioned electric pickup truck, a product of his company, Solar Car Corp.

Cobb seems at ease showing a visitor how well his electric truck works. But you would never know by looking at him that the last three years have been hell for him. He has spent hundreds of thousands of dollars building prototype electric vehicles and testing theories that have sometimes led straight to a dead-end.

"Thomas Edison went through 10,000 filaments until he found the one that worked. That's what inspires me," said Cobb.

Countless times Cobb, 42, has burned those filaments deep into the night and labored alone through weekends trying out new parts, changing this, adjusting that, tinkering here, fiddling there.

Cobb has traveled around the country to take part in electric vehicle races to gain exposure for his work and to test his vehicles under tough conditions.

"Even in this world of giant corporations, I believe one man can still make a difference. Every week something happens that says, 'Yes, we are on the right track.' "

Right now, it's a track that isn't very crowded. General Motors won't have America's first mass-produced electric car on the market for at least another two — and possibly even three — years.

But Cobb believes the environment needs help now. He thinks reducing auto emissions is the first step to giving the environment a breather. Electric vehicles don't pollute, and they don't use natural resources, such as oil.

Leaning back in a chair and overlooking a desk cluttered with faxes, wiring diagrams and electrical parts, Cobb said:

Please see **ENERGY, G-8**

Buyers include actor, businessman

ENERGY from G-1

"I am not doing this purely out of the desire to make money. It's the need of humanity that gets me going, for my children and their children. One way or another the gasoline-powered vehicles have got to go."

Cobb and a business partner, Robert Adams, founded the company in June 1989. Though some improvements are planned, the development work is complete.

The finished products — possibly among the best-engineered electric vehicles you can buy in the United States in 1992 — are ready to roll.

Now Cobb is faced with the monumental task of attracting customers.

While he has demonstrated that his vehicles are roadworthy, there are some things out of his control, things that are just going to take time: Today there's no infrastructure designed for electric vehicles. That is, there is no place where a driver could pull over and recharge an electric vehicle. Imagine having a car in a place where there are no gas stations.

Cost is another consideration. After Cobb converts a Chevrolet S-10 pickup truck and a Ford Festiva hatchback to electricity, they cost more than twice as much as new gas-powered models. Would you pay $21,000 for a small truck, or $20,000 for a subcompact electric car?

Cobb's company sells fully converted vehicles and conversion kits for buyers who have a good working knowledge of electricity and automobiles.

The S-10 conversion kit sells for $6,500; the Festiva kit costs $6,000. Cobb says about 30 vehicles with his parts, 25 trucks and five cars, are on the road.

County governments in Dade, Duval, Hillsborough, Orange, Pinellas and Volusia will test electric trucks for two years under a $250,000 grant from the Florida Energy Office.

Cobb also has found a few private buyers. Actor Ed Begley Jr., an outspoken environmentalist, bought an electric Festiva earlier this year.

Sid Sayetta, owner of West Lake Monogram in Speegleville, Texas, flew to Florida eight months ago to get a closer look at Cobb's conversion kit. Then he bought one for his company's delivery truck and installed it himself in two weekends.

Since then Sayetta has logged more than 7,000 miles.

"We've had no mechanical problems. We haven't done a thing to it except drive it and charge it," Sayetta said from his home.

"I generally drive between 40 and 60 miles a day. I charge that thing twice a day and leave it plugged in when I am not using it. As far as road speed, I have a top speed of 75 mph. Everyday, I haul up to 700 pounds," said Sayetta.

A rave review for the S-10

One of Cobb's trucks is being evaluated by the Electrical Engineering Department of the University of South Florida in Tampa.

School officials also plan to use the truck to test a solar-powered charging station, the nation's first. The 12-car facility has parking spaces with plug receptacles. The charging station, which was dedicated Monday, may help engineers develop an infrastructure for electric vehicles.

Dr. Lee Stefanakos, chairman of USF's Electrical Engineering Department, said a full-scale test of the S-10 is scheduled for later this summer, but he already has given it a cursory appraisal.

"The engineering is excellent — it speaks very well for Solar Car Corp. The modular type of assembly and the ease of installing replacement of parts, should that be necessary, is excellent. The air conditioning works very well.

"It handles well, and the overall performance is like a small stick shift car. We'd like to see an automatic transmission and a little more work in getting the appropriate range," said Stefanakos.

Range — how far a vehicle will go before refueling — is the bane of electric vehicles.

In fact, the short distances electric vehicles can go before needing a recharge may be the only thing keeping electric-powered vehicles from mass-acceptance.

Stefanakos said a practical range is between 60 and 70 miles. Most electric vehicles are limited to between 50 and 100 miles. According to the Federal Government's Department of Energy, the average American drives only about 24 miles a day to and from work.

Yet Cobb said his truck can be driven as far as 90 miles if the driver can cruise at a steady speed. In a recent race from Orlando to Cocoa Beach, Cobb drove the S-10 105 miles on a single charge. The Festiva has gone 95 miles on a single charge.

The Chevy truck has a 28-horsepower motor. The Festiva sports a 16-horsepower motor. In the S-10 and the Festiva the electric motors are connected to the vehicles' original five-speed manual transmissions, so driving them is not much different than driving the standard gasoline-powered versions — no different except for the fact that Cobb's vehicles emit no pollution and require far less maintenance. Each vehicle operates with 10 standard golf-cart batteries.

Once every two weeks water has to be added to the batteries. But on the truck that's no big deal because Cobb has devised an automatic battery watering system. The batteries are watered through a yellow receptacle in the grille.

Other than adding water, there is no engine maintenance — no tuneups, no radiators, no mufflers.

Not only that but if you park the Festiva in the sun, you might not ever have to plug it in to recharge the batteries. Solar panels on the roof and hood collect the sun's energy, turn it into electricity and then send it to recharge the batteries.

Vehicles plug into wall socket

Cobb says it costs less than a dollar to charge either vehicle after a 50-mile drive. Both plug into a standard wall socket.

Under the hood are the major components encased in large black plastic boxes. There are no wires hanging out, no exposed components. It's all very professional looking.

"Anyone can go out and build an electric vehicle, but we knew that unless we got it to mass-production standards, it wasn't going to go," said Cobb.

It takes a team of three employees three days to convert a gas-powered S-10 into an electric vehicle. The batteries are kept in a fiberglass box in the truck bed. Work on the Festiva takes longer because the car body has to be altered to make room for the battery pack, which fits neatly under the rear hatchback area.

Cobb, an electrician by trade, said he has been building electric vehicles for more than a decade.

Since starting the company, Cobb and his partner, Adams, have raised about $500,000 and have been awarded numerous state and federal grants.

Cobb believes that if the world's automakers poured the same amount of money into developing electric vehicles as they do gas vehicles, all technical problems holding back electric vehicles could be solved quickly.

Said Cobb: "The more serious Detroit gets, the more credibility it gives [the electric car] industry. The race is on."