

Thomas Spencer checks his car's power system.

—Photos by Chris Stewart

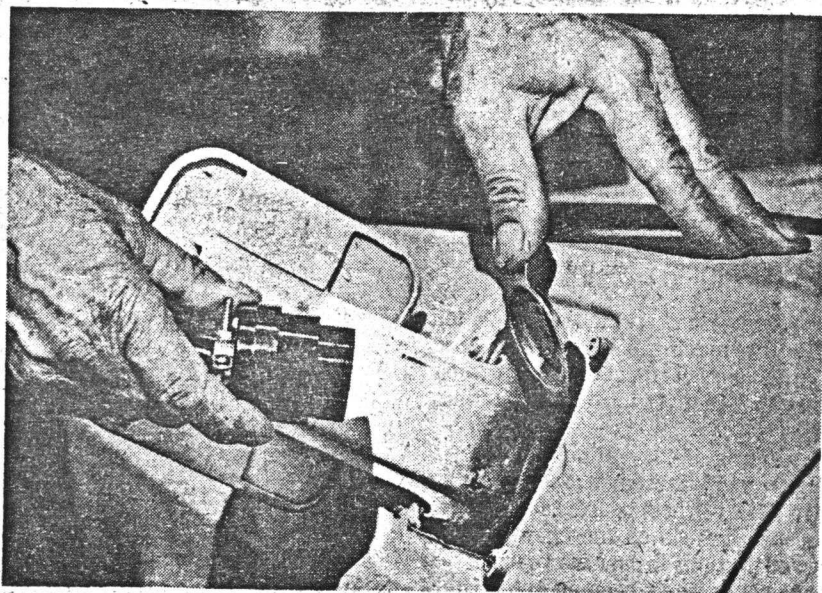
He had some time, so he built an electric car

By BILL AKERS

A big part of the American dream has always been to own a flashy family-sized car. In recent times, however, the dream is to own a car — of any size — that gets umpteen miles to the gallon of high-priced gasoline. And a car that doesn't use gasoline at all — that's the stuff real dreams are made of.

Rio del Mar resident Joseph Spencer has such a car, and it's no dream. Flip open the little door on the left front fender of his 1965 Corvair and you'll see a big electrical plug where the gas cap once was. When Spencer wants to "fill 'er up," he doesn't have to make a trip to the gas station. He just plugs the car into the wall socket of his garage and lets it sit overnight. Then he's ready for another day's driving.

Spencer's car is unique for reasons other than the fact that it's electric. Starting with the Corvair body he bought for \$125 from Cluster's auto wrecking yard in Watsonville ("I didn't need the engine or the transmission"), Spencer put the rest of the car together himself, using spare parts and junk he picked up at flea markets and garage sales. He has quite a bit of time invested in the auto — a little over a year — but not much money. He reckons he's put about \$2,000 into the car, money he made from the metal sculptures he sells at art shows. He's going to put on another show in the near future to raise more money for some refinements he's worked out. (Spencer designed and built the "Bird in Flight" metal sculpture that sits in the little park at Clubhouse and Rio del Mar Drives as a memorial to the late community leader Tom Whaley.)



Instead of gas, he puts in a plug.

Spencer's motive for building the car is also unique. He wasn't driven to it out of panic over the gas shortage, nor a desire to solve the energy problem. Nor was he spurred by dreams of manufacturing it and becoming a millionaire. Spencer says he built it because the big car manufacturers say an economical electric car can't be built.

"If I can build one using a bunch of junk, what do you suppose the engineers could do with unlimited money?" the doughty 68-year-old retiree says. "There's no excuse," he says, for a practical electrical car not having been put on the market before this. The technology is there, and he set out to prove it by making his own car out of cast off parts.

He knew he could do it. "Hell. If a person works for 50 years and doesn't learn something, he's in bad

shape." Spencer retired eight years ago after having worked for Westinghouse Electric for 42 years as a mechanic and supervisor. He's not an electrical engineer, but it seems that 42 years of experience just about adds up to that.

To build such a car, he says, a person has to have "a hell of a lot of money or a lot of time. I've got a lot of time."

The project had its origin in a visit he made to his son's place of business in San Francisco, where they make electric fork lifts. Spencer says he saw some "junk" on the floor of his son's office — a couple of old motors and other items taken out of a fork lift that were going to be thrown out. Spencer brought the items home with him and went to work on his project in his garage.

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"All this talk about 'it can't be done' — I just wanted to see for myself." It was a slow process, he says. "I'd work a bit then think in between jobs, read books, talk to people . . ." and scrounge for parts. The only outside work he had done was to have two small shafts machined. "It would cost a fortune if you had all the work done outside."

The car is essentially completed. In the rear engine compartment are six big batteries — the kind used in golf carts, — a charger for the batteries, a separate 12 volt battery for the lights and turn signals and its charger, and a big glass fronted box containing an intricate maze of electrical equipment which he calls the control system. Using a design based on those used in fork lifts, he built the control system entirely out of salvaged parts. It allows the power from the batteries (there are six more batteries in the front trunk compartment of the car) to go to the motor in "pulses" for the most efficient operation. A major portion of the cost was the \$800 he spent on batteries and the charger.

Sitting beside the control system is a smaller box — the accelerator — a simple device containing a potentiometer, a couple of micro-switches and a mechanism that's connected to the foot pedal in the driver's compartment.

Mounted underneath, in front of the rear wheels, are two electric motors attached to the rear axle by a chain drive system. Spencer said he went the chain drive route because it's so simple. He's already figured out a way to change the gear ratio just by changing sprockets.

You could never tell you're driving anything but a conventional car just by looking at the dashboard. It's the same as before, except for a little toggle switch that's been added. To drive it, you just put the selector in "drive" or "reverse" (the car originally had an automatic transmission), turn on the switch, step on the foot pedal and you're off.

To be sure, the performance statistics show the car will never win an Indianapolis 500 race. It can reach a speed of 30 miles an hour. "It really gets going on the level," Spencer says, "but the hills are what bug me."

Presently, it has a range of about 40 miles, but Spencer knows what to do to increase that to 60 or more miles and the speed to 45 to 50 miles an hour. A couple of more art shows and he'll have the money to make the changes.

When he pulls up to a stop sign, the car goes dead silent as it sits there, but in motion, there's a high-pitched whine from the motor ("they'll each pull about 1,200 amps at 36 volts — about 60 horsepower . . ."), and the chain drive makes quite a racket, but he feels he can work that problem out, too.

Spencer says he and his wife, who have lived in Rio del Mar for about 16 years, use the car "to fuss around in . . . go to the store, down to the village, drive around the neighborhood."

The car, he says, "is for my own personal amusement, for my own fun. I don't want to get involved in manufacturing it. I don't want to market the thing." He doesn't even want to help someone else build one like it.

He's proved the car can be built with junk and spare parts, and now he just wants to "fuss around in it."

On the road, it looks just like any other car.

