GREEN MACHINE

BY ELIZABETH LARSON

Parked on the black showroom floor, its silver body shining in the sunlight filtering through the glass-brick windows, the Pontiac Fiero looks like just another sports car. Then I pop the hoods, front and back. Where the engine should be are hefty green batteries, and instead of empty trunk space, there are more batteries: 18 six-volt Trojan golf-cart batteries in all. Not much room for groceries. I ask if I can take one for a spin.

North Hollywood's Green Motor Works will convert your car to electricity for $15,000 or so, making it greener but less practical.

Richard Houser, sales manager for Green Motor Works, the country's first electric-car dealership, leads me outside to a white Ford Escort—a comfortable five-seater, he points out. "Put on your seatbelt," he jokes as we strap ourselves in. "We're going to Mach 1." I step on the clutch, shift into first, and with a gentle purr we're off, cruising the streets of North Hollywood.

There are no surprises and not much excitement either. Patrick Bedard put it well in a recent issue of *Car & Driver*: "Ever drive a golf cart? Well, imagine it with doors." I ask how much Green Motor Works would charge to convert my Honda Accord to electricity. About $15,000, I'm told. (Batteries included.) Even at such prices, Houser assures me, Green Motor Works has had plenty of customers since it opened on March 26, although he won't reveal how many conversions the company has sold.

The dealership hopes to get a jump on the electric-car market that the California Air Resources Board is trying to regulate into existence. California's clean-air program, which nine East Coast states, Texas, and Illinois may also adopt, sets annual quotas for the production of cars run on alternative fuels, beginning with the 1993 models. It divides "ultraclean" cars into four categories with progressively lower emission levels, determined by grams of pollution emitted per mile. "Zero-emission" (electric) vehicles must account for 2 percent of cars built by 1998 and 10 percent by 2003.

Smog-control officials and environmentalists argue that the California regulations, stricter than the 1990 Clean Air Act, are necessary to reduce urban smog and halt global warming. Instead of ushering in a new era of clean cars, however, California's plan for electric vehicles is likely to impose extra costs on consumers and automakers while doing little to protect the environment. The program provides no incentive for drivers to give up their conventional internal-combustion vehicles. Given the current state of battery technology, electric cars are much more expensive and far less practical than gasoline-powered cars—making them less than attractive to most car buyers.

Which brings us to the little flaw in the ARB's big plans: The quotas (a term board officials try to avoid) apply to the production rather than the sale of cars. How can regulators ensure that consumers cooperate with their program—that, say, 1 out of every 10 cars sold in California by 2003 is electric? Quite simply, they can't. So the onus for meeting the quotas falls on the automakers. In effect, the quotas are a tax on car production, and the car companies know it.

Although the ARB gives carmakers some leeway in meeting the production quotas for other car categories, the quotas for electric cars are mandatory. The automakers wanted it that way. "It equalizes all of the efforts within the industry, and it doesn't put one car manufacturer at a competitive advantage or disadvantage," says ARB spokesman Bill Sessa. "What the carmakers did not want was somebody building a certain number of electric cars and somebody else just kind of kicking back and not doing it at all." In other words, the car companies know a new tax when they see one. And if they can't sell all the electric cars they are required to build at prices high enough to cover their costs, they will take losses. These losses may show up in higher prices for other cars, lower wages for employees, smaller returns for shareholders, or less investment in product development.

Electric vehicles do have their strong points. They're quiet and, aside from watering and changing the batteries, they require little maintenance. But slow acceleration is a common complaint, and the batteries leave a lot to be desired. For example, G.M.'s Impact, scheduled for sale in the mid-'90s, runs on a pack of 32 10-volt lead-acid batteries that weighs 870 pounds and needs to be replaced every two or three years at a cost of $1,500 to $2,000.

The Impact's practical driving range is

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about 80 miles, and it takes two to three hours to recharge, says G.M. spokeswoman Lynn Pasquale, although "the best way to charge it is to plug it in at night and let it trickle charge over a long period of time, five or six or seven hours." The cars sold at Green Motor Works in North Hollywood are even less powerful: They have a driving range of 40 to 60 miles and take 8 to 10 hours to recharge. If you use your car just for short trips to work and around town, these limitations might not bother you. But if you commute a long distance, like to take road trips, or want to be prepared for unexpected travel, an electric car is probably not for you.

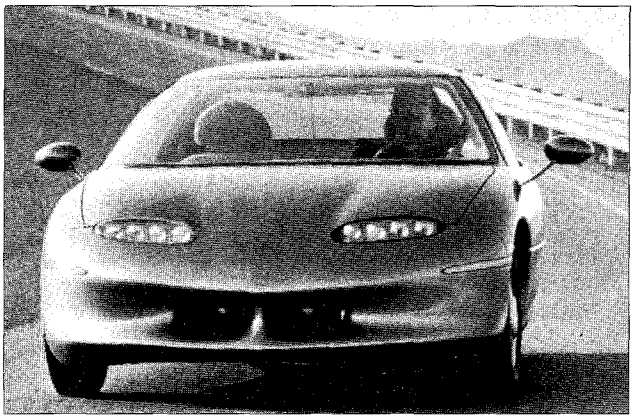
The need for better batteries is the main obstacle to a thriving electric-car market. Major automakers such as G.M. have been trying to overcome this obstacle for decades. Marcel Halberstadt, director of the environmental department at the Motor Vehicle Manufacturing Association, says development of batteries "has proceeded at a very slow pace not because the desire has not been there, but just because this is an extremely difficult technical problem."

Aside from their inconvenience, electric cars cost more to buy. The first electric car to roll off the mass-production line will probably be the LA301, from the small Swedish manufacturer Clean Air Transport, expected by 1993. At $25,000, the LA301 will cost about twice as much as a gasoline-powered car of the same size and class. Pasquale, the G.M. spokeswoman, says that the Impact will probably also be more expensive than a similar gasoline-powered vehicle, at least initially.

The MVMA's Halberstadt predicts that most automakers will sell electric cars below cost in the beginning just so they can put the machines within the price range of the average buyer. "It's only over a long time period that the manufacturers may recover their investments," he says.

Green Motor Works is not making a lot of money, Houser admits: "The profit margins aren't real high. There's a lot of problems starting up in this business right now in terms of actually getting these vehicles on the road at a price that the public will accept.... The cost of the components is high, and in order to keep the cars at a reasonable price we're not taking a lot of profit."

Despite the higher prices and other drawbacks of electric cars, public willingness to buy them once they are built "is not a concern at all," says the ARB's Sessa. He cites polls showing enthusiasm for electric cars.



G.M.'s Impact, America's first mass-produced electric car, will have a practical driving range of 80 miles.

But automakers don't share his optimism. A Nissan official says car manufacturers "have no idea" how they will get consumers to overlook the money question and cooperate with the vehicle quotas by giving up conventional cars. Another industry spokesman says the impact of the production quotas on the automobile industry is "too touchy" for him to comment on.

"It may be that the advocates are right, that there are enough just purely socially conscious people out there to buy these cars," says Ted Orme, director of public relations at the National Automobile Dealers Association. "But our experience—although it's limited with alternative-fuel vehicles—has been that buyers, when it's time to part with their hard-earned money, want a car that's as good as what they can get already."

Activists and regulators argue that the disadvantages of electric cars are outweighed by their environmental benefits. Even taking into account the pollution emitted by the power plants that generate the electricity they run on, electric cars are a lot cleaner than gasoline-powered cars. The problem is, unless they are motivated by environmental idealism, consumers have no reason to care. The ARB's quotas do not change this basic fact.

And because it's relying on legal mandates rather than consumer demand to drive the market for electric cars, the ARB has no way of knowing whether its solution is more cost-effective than other ways of reducing pollution. It's true enough that substituting electric cars for conventional cars would reduce air pollution. But regulators overlook the effects of the de facto tax the quotas impose on car companies, and they ignore the possibility of getting more pollution reduction for the same cost.

For example, research by University of Denver chemist Donald Stedman indicates that a small minority of poorly tuned cars are responsible for most automotive pollution. (See "Going Mobile," August/September 1990.) By identifying these "gross polluters," a mobile emissions testing system like the one developed by Stedman could clean the air much more efficiently than electric-car quotas would. Such an enforcement system would identify and penalize polluters (and, presumably, force them to clean up their emissions). It would give drivers an incentive to pollute less—and a reason to prefer cars with lower emissions. It would make environmental friendliness a selling point.

Then, motorists might find electric cars more appealing. But most consumers probably would still prefer to maintain a well-tuned conventional car. Until carmakers crack the battery problem, all the mandates that California's regulators can dream up will not make electric cars practical or cost-effective. Says Orme of the auto dealers group, "I haven't seen an alternative-fuel vehicle out there yet that beats the good old combustion gasoline engine."

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