

Racing Toward A Greener Car

By Paul A. Eisenstein

George Smith

Although best known as the "City of Angels," Los Angeles might better be described as the "City of Smog."

During the past 20 years, California regulators have tried to deal with the issue by enacting the world's toughest automotive emissions standards.

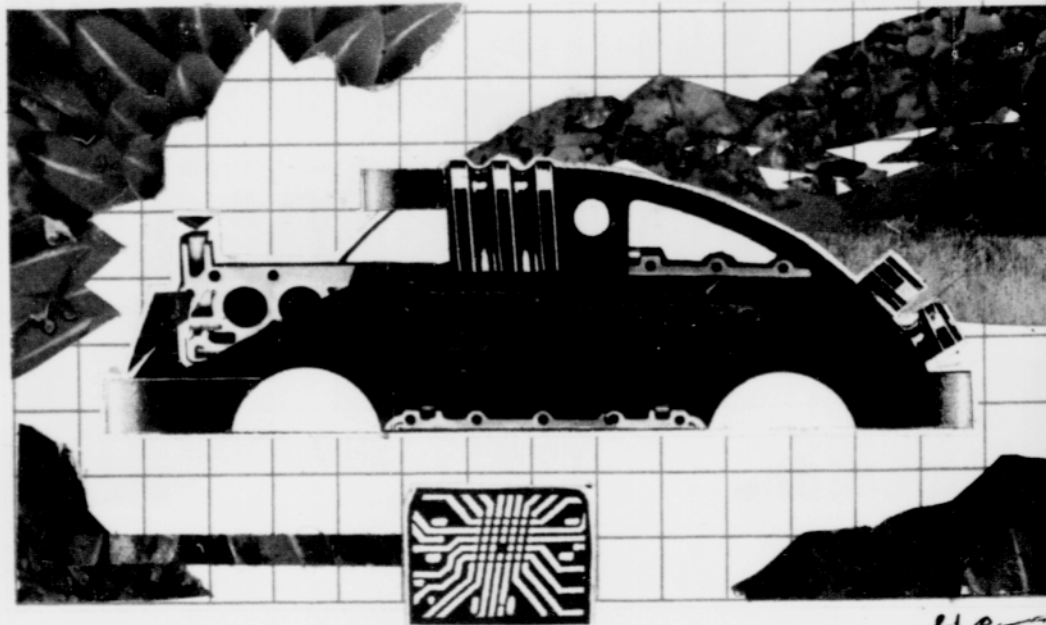
But that still may not be enough. There are simply too many cars on the road, and not just in L.A. Across the country, automobiles are blamed for serious environmental problems, especially in traffic-jammed central cities.

The first low emissions vehicles, battery-powered cars like General Motors' EV1, have failed to make a major dent in the automotive market. California consumers just weren't charged up by the overly expensive cars with limited driving range, typically less than 90 miles per charge.

Even so, it's pretty likely the automobile you buy early in the 21st Century will be a "green" car.

This represents a major turnaround for the auto industry. Only a few months ago, Ford Chairman Alex Trotman denounced reports of global warming as "pseudo-science." But now, says GM Chairman Jack Smith, "we've come to realize there is cause for concern." That change in attitude means a new generation of high-mileage, low-emissions vehicles could begin rolling off automotive assembly lines soon after the turn of the century. The newest generation of Ultra-Low Emissions Vehicles will eliminate nearly 98 percent of the smog-causing gases produced by the typical car of the mid-1970s.

The world's first "hybrid," the Toyota Prius, went on sale in Japan last December. It's equipped with both batteries and a conventional, 1.5-liter gasoline engine, linked through a sophisticated "power-split" transmission. On the highway,



power comes from the gas engine. But when the car is idling, the engine shuts off and the electric motor takes over. The gas engine returns the favor by automatically recharging the batteries when they run down. Once the car reaches eight miles per hour, the gasoline engine automatically restarts. When a fast take-off is needed, as when entering a freeway, both the gasoline engine and the electric motor run simultaneously.

Virtually every automaker is developing a hybrid, though the concept does have some disadvantages. With two power sources on a single platform, hybrids are complex and costly. Prius is priced about \$5,000 over a comparable, gasoline-powered vehicle, even with Toyota absorbing around \$10,000 of the cost. Price is expected to drop as Toyota produces more of these vehicles.

Still, the hybrid is likely to be a "temporary" fix, GM Chairman Smith cautions. Another proposed solution is that cars be powered by cleaner-burning fuels like natural gas. Also being considered is fuel cell power, the rocket science tech-

nology used to power manned space missions, since recent breakthroughs promise to bring this technology down to earth. In simple terms, fuel cells combine hydrogen and oxygen gases to produce water vapor and a jolt of current that can be used to run an electric motor.

In recent years, researchers have found ways to cut production costs, miniaturize components and boost the amount of power fuel cells can supply. But with all the money and effort being pumped into alternative solutions, don't rule the gasoline-powered internal combustion engine out entirely. Researchers are making amazing inroads with cleaner, more fuel-efficient diesels, too.

And don't pull the plug on the battery car. Later this year, GM will introduce a new nickel-metal hydride battery for the EV1 that will double its range. Even better batteries, such as lithium polymer, are under development.

The bottom line is that whichever technology wins this race, tomorrow's cars will be a lot greener than today's, and that's good news for the environment.

Cruise
with
the
best...

Wrangler

Jeep

Cherokee Classic

Jeep

Grand Cherokee 5.9 Limited

Jeep

THERE'S ONLY ONE.

For more information, please call 1-800-925-JEEP

Jeep® is a Registered Trademark of the Chrysler Corporation
Always use seat belts. Remember the back seat is
the safest place for your children.