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SPECIAL INDY SECTION

General Motors Introduces 26
EXPERIMENTAL
"MINI CARS"



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GM Shows Off 26 Experimental Vehicles In 'Progress Of Power'

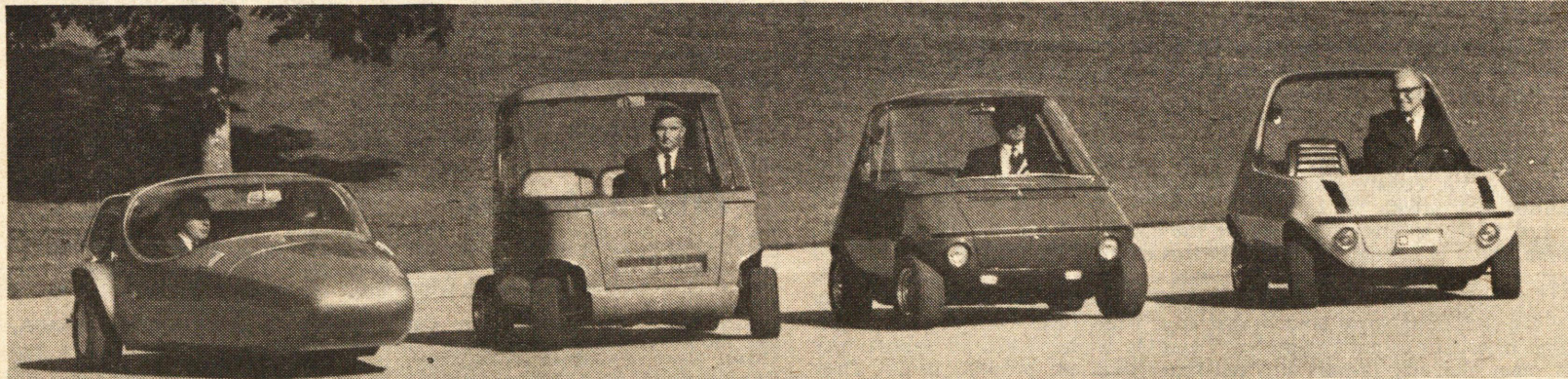
By Bob Irvin
Detroit Editor

DETROIT, May 7 — General Motors today displayed 26 experimental vehicles, including two steam-powered automobiles and a family of commuter cars designed to run on electric and hybrid power systems.

GM also said it has conducted studies on an atomic-powered car but has dismissed the idea as impractical.

It was all part of a "Progress of Power" show held at the GM technical center in Warren. The purpose of the program was to show GM's work on other power plants—those which discharge fewer pollutants than present car engines.

Among the vehicles was a 1969 Pontiac Grand Prix with a steam engine under the hood. Known as the GM SE101, it is called the world's first steam car with



Lined up at the GM Technical Center are the three 512 vehicles and the 511 car developed by the General Motors engineering staff. They are, from left, the 511 commuter, a three-wheeled gasoline-powered car driven by Edward A. Rishavy and accompanied by James J. Gumbleton; the 512 hybrid gasoline-electric, driven by Daniel L. Frank; the 512 electric driven by Stanley L. Genslak; and the 512 gasoline vehicle driven by Albert G. Lucas.

complete power accessories, including air conditioning.

Another steamer was a modified 1969 Chevelle called the GM SE124. It has a steam engine built

by Besler Developments, Inc. of Oakland, Calif. The GM Research Laboratories built the engine for the SE101.

GM also exhibited three special vehicles designed for operation on a road system of their own. These vehicles—called the 512 series—have basically the same two-passenger body size and shape.

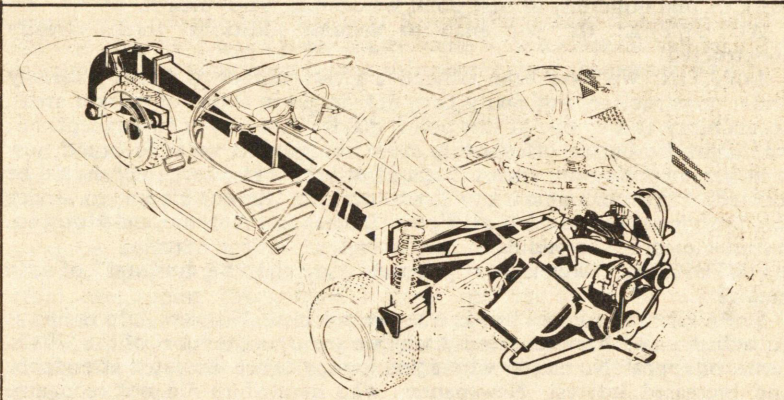
One is gasoline powered, another is electric, and the third is a hybrid gasoline-electric car. The cars vary in length from 66 to 86 inches. By contrast, the familiar Volkswagen sedan is 158 inches and the new Ford Maverick 179 inches long.

The three little GM cars, each with a top speed of 40mph, could be used as urban shopping vehicles.

GM also demonstrated an experimental three-wheel commuter vehicle called the 511. It is also a two-seater like the 512 series but is powered by a rear-mounted four-cylinder engine. Top speed is 80mph and therefore is suitable for freeway use.

The final special urban vehicle GM displayed is called the XP883. This model was shown without a powerplant. The power train, now in mock-up, will be a gasoline-electric hybrid.

The car has two conventional



Cutaway drawing shows internal structure of GM engineering staff's 511 commuter vehicle. GM claims it has exceptional stability, fuel economy, and maneuverability.



This is a mockup of GM Styling's experimental special purpose commuter car, XP883, as shown May 7 at the GM Progress of Power presentation at the GM Technical Center in Warren, Mich. Designed to carry two adults in front and two children facing the rear, the vehicle can utilize gasoline, electric, or hybrid gasoline-electric power systems.

front seats for adults and two rear-facing seats for children.

Other special vehicles in the show included a giant military truck with electric motors on each wheel, a GMC Truck & Coach Division turbine bus, and a golf cart powered by a zinc-air battery.

GM cars were used to display six experimental systems for controlling pollution from conventional gasoline engines. The unusual equipment included platinum coated parts in the exhaust system.

The show also included two automobiles powered by Stirling heat engines. One is the Stir-Lec II, a second-generation hybrid car which uses a DC electric-drive system. The Stir-Lec I, the world's first hybrid car, used a more expensive and complicated AC drive system.

The other Stirling engine car on display for the first time is called the Calvair. The heat energy for this engine is supplied by a tank of heated ceramic pellets.

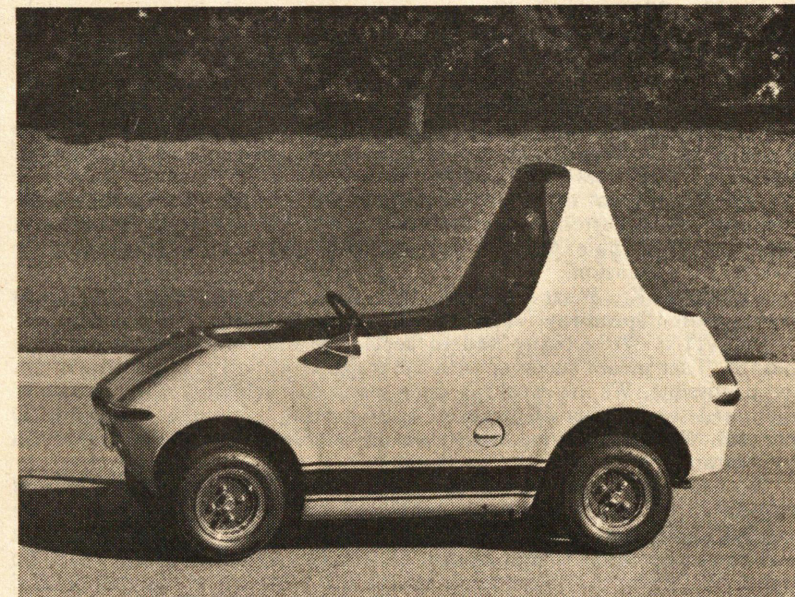
GM said it has also conducted studies on nuclear reactors and the use of radio isotopes for automotive power.

However, GM said the radio isotopes which could meet power density requirements would still be impractical because "the cost of the heat source for a single vehicle could range from \$100,000 to \$2.7 million. And even with the most available of the radio isotopes there would still only be enough by 1980 to build 500 vehicles a year, GM said.

GM also decided nuclear reactors were not feasible for powering motor vehicles. The company said the system for a car "would weigh about 20,000 pounds and would include a minimum of three feet of concrete shielding on all sides of the fissionable material."

GM President Edward N. Cole traced the history of automotive power, noting that at the turn of the century gasoline-powered cars were a poor third in popularity behind the steam and electrics. But he said through research and development, the internal combustion engine was proven to be the best automotive powerplant.

"The only valid reason for the support of electric and steam powerplants today is their promise of relatively low levels of pollutants," he said.



The 512 gasoline vehicle, developed by GM's engineering staff, is powered by a 19.6cid, two-cylinder, 12hp engine with an 11 to 1 compression ratio. Top speed is 45mph and the car will accelerate from 0 to 30mph in 18 seconds. With a four-gallon tank, its range is approximately 280 miles. The car features an automatic transmission operating on the variable ratio V-belt principle with a centrifugal clutch, the first use of this system on an American vehicle.

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