

**MOTOR
TREND**

1977 Car of the Year Nominees

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MOTOR TREND

Special Reports

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CORVETTES

Special Section

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and more...**



THE
MID-ENGINE
AERO-VETTE



12

**Basic Tools:
What to buy. How to use them.**



by Bob Hall

Here's a bit of interesting trivia for you Corvette fans out there: During the 24 years of Corvette production, an average of one Corvette show or dream car has been shown publicly each year. This doesn't take into account an unknown number of experimental and styling prototypes which never see the world outside the four walls of the design center's viewing area.

The Aero-Vette shown here is the latest in that line of Corvette-based or inspired dream cars. Corvette fans will notice a marked similarity between the Aero-Vette and the earlier 4-Rotor Corvette, due in no small part to the fact that the two cars are one and the same. The major change to the car has been the removal of the 4-Rotor Wankel powerplant and installation of a small-block Chevy V-8.

Shortly after the 4-Rotor was publicly unveiled, GM placed its rotary engine program "on the back burner." This put GM in the uncomfortable position of building a new show car which extolled the virtues of a powerplant which was, for all intents and purposes, as dead

as Harold Stassen's latest presidential bid. The car was taken off the show circuit and used by GM's vice president of design, William L. Mitchell, as personal transport. During its tenure as Mitchell's set of "wheels," the 4-Rotor is *rumored* to have developed more than its share of mechanical problems. It doesn't make a great deal of sense to keep a powerful, expensive, temperamental engine with a potential parts availability problem as bleak as that of Borgward, when something as cheap and reliable as a Chevy small-block will fit in just fine. Well, almost just fine.

The engine selected was a 400cid V-8, basically similar to the one used in the Impala and Caprice until this year. Unlike the production 400, the Aero-Vette's engine seems to be devoid of much of the usual emission control apparatus. The resultant performance is, in a straight line, roughly the same as a 1970 LT-1 Corvette. When you put your foot down, the car reacts just like the old days.

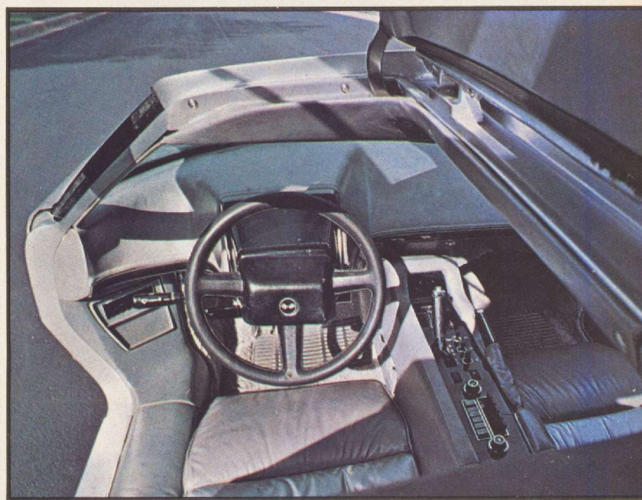
The handling characteristics are typical of mid-engined grand tourers. Even when pressed hard

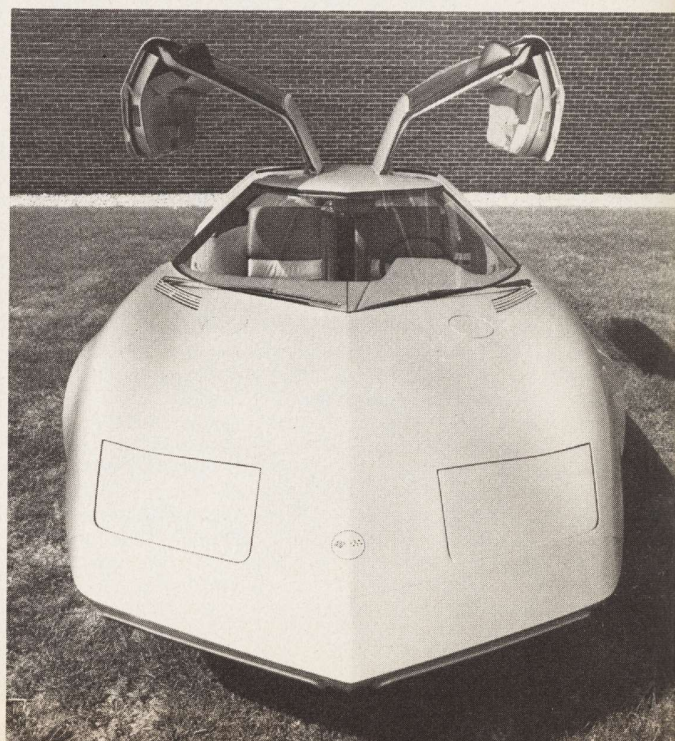
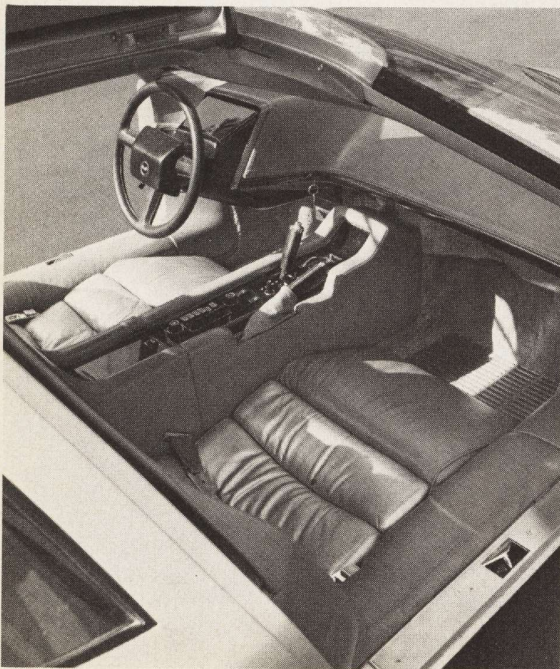
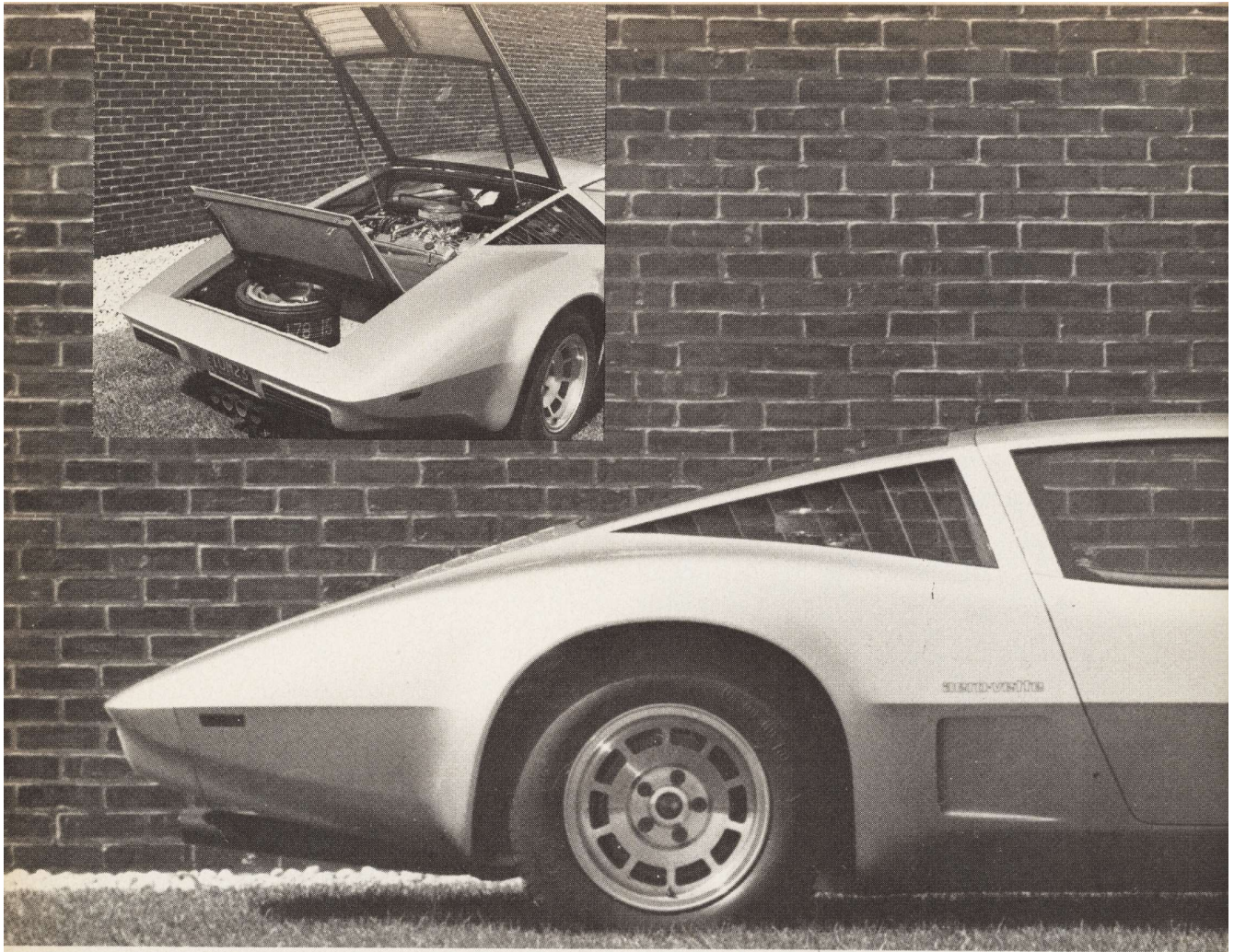
AERO-VETTE

Is this mid-engine tantalizer from Chevrolet Styling the coming Corvette?

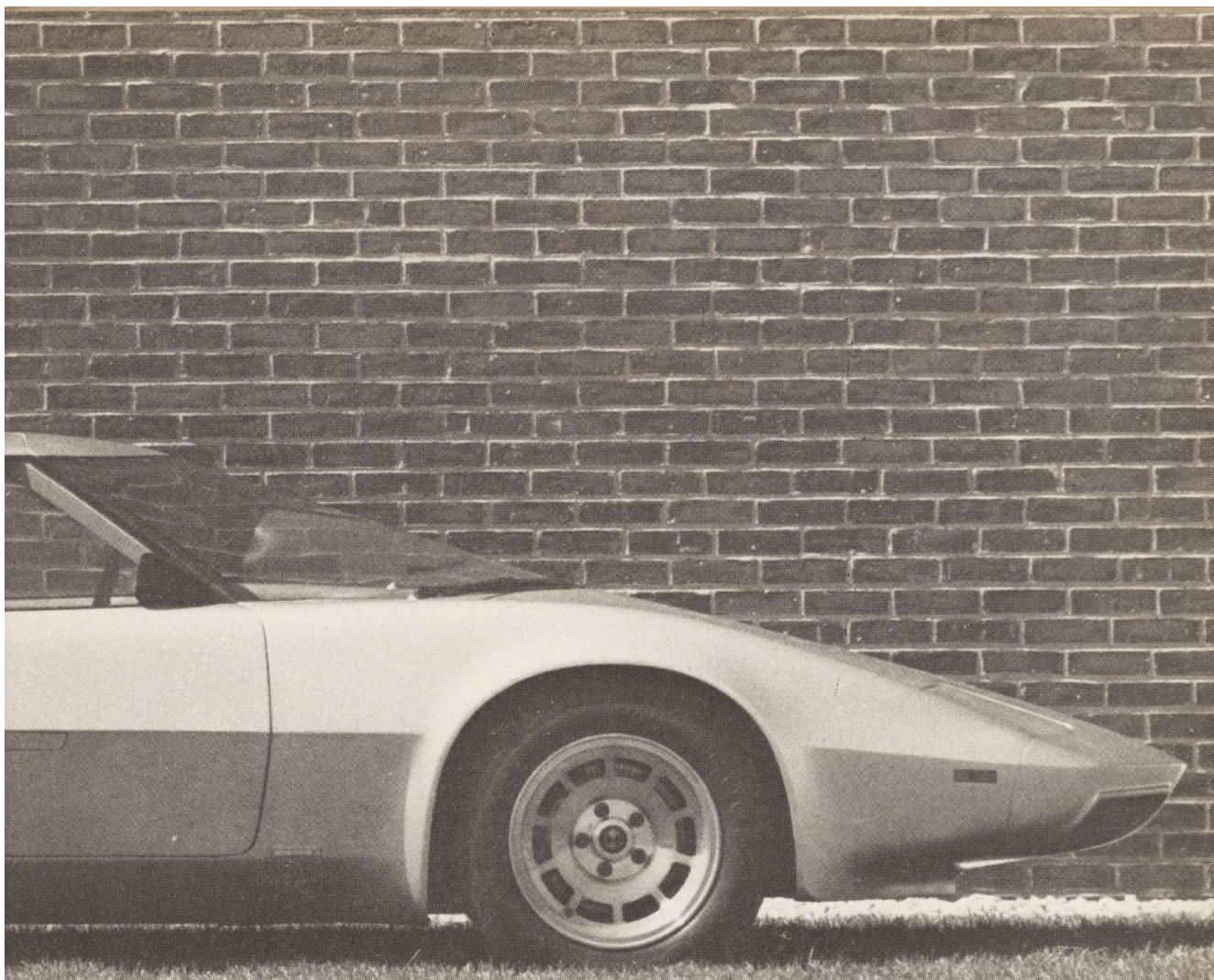
through a corner, the Aero-Vette remains neutral, although the tail can be brought out with a little throttle-induced oversteer. The 4-wheel-independent suspension system is responsible in part for this, with the specially designed Goodyear radial tires in line for some of the credit. Rack and pinion steering is used (without power assist), which transmits a fair amount of road shock back to the driver, but it is delightfully quick. The combination of fat tires and a numerically low steering gear ratio make parking the Aero-Vette a bit of a chore, although steering effort eases up considerably as the car gets rolling.

The interior of the car is just as spectacular as the exterior. With the ignition off, the only semblance of an instrument panel is a rectangular black plastic panel over the steering wheel. The "information unit" blinks into action as the ignition is switched on. The unit includes digital readouts for speed, fuel level, water temperature, oil pressure and battery condition, and a general "vehicle system" warning system which gives the driver an instant estimate and evaluation of safety





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and engine information. Before any of the "purists" out there bemoan the lack of a tachometer, be advised that the Aero-Vette does have a tach, albeit in a somewhat unusual form. The unit is a linear light-emitting diode system which uses colored LEDs to indicate engine rpm. The rev range up to the red zone is indicated by green LEDs, with the red zone logically enough displayed with red ones.

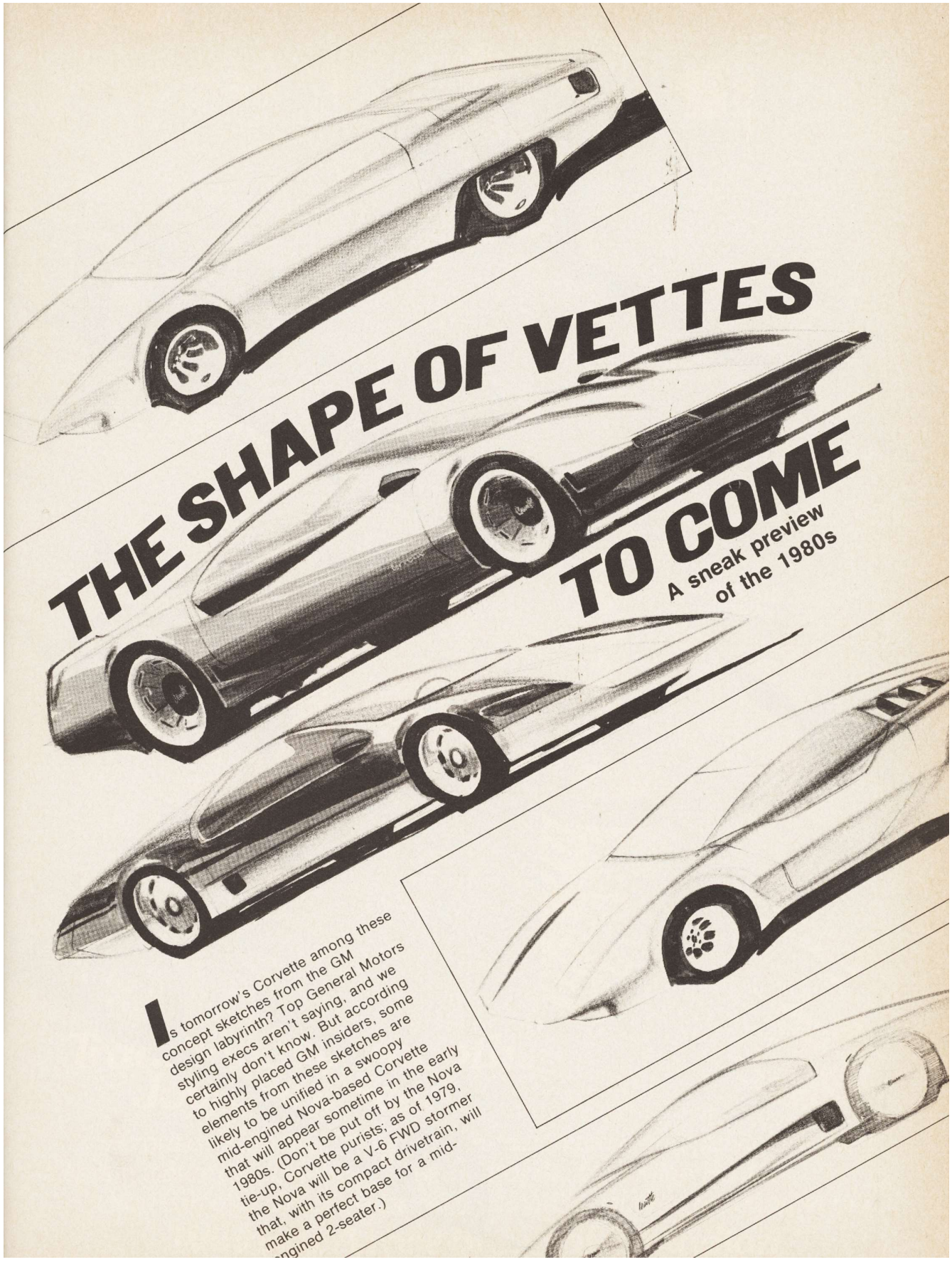
Since the comfortable silver leather bucket seats are fixed in position, the pedals and the steering column are independently adjustable. Mounted between the seats is the automatic transmission selector and the clock/radio combination unit. The latter is similar to the new digital clock/radio used in 1977 GM cars.

Entry and exit to the Aero-Vette is through "bi-fold gullwing doors" to use the official General Motors terminology. These modified gullwings are split just below the windowline to fold in half when opened. The advantages of this system are that the radius of the door opening is considerably smaller than with conventional gullwing doors. This allows the car to be parked in a tight spot without worry the Aero-Vette's door will slam into a wall or whatever. As gimmicky as the system may sound, it does work, and quite well at that. The edge of the lower door panel seems as though it would impede entry and exit, but in practice it doesn't. Fresh air fiends will be dismayed to learn that the bi-fold door system precludes the use of opening front windows.

It's indeed a good thing that air conditioning was designed into this car from the beginning.

The glass fiber body, essentially unchanged from the earlier 4-Rotor Corvette, is laid over a steel and aluminum frame. The structure allows for the use of impact-absorbing bumpers which provide protection for the vehicle in car-to-car impacts at speeds up to 10 mph. Even with a bumper system that is in accordance with existing federal standards, the Aero-Vette has a low drag coefficient of .325.

The real strength of the Aero-Vette is its shape. While some of the Italian designers are off in a dream world all their own, earthy, dollar-conscious General Motors shows that a beautiful car doesn't have to look like a doorstop. Since the Aero-Vette is just a dream car, the most often asked question of the decade might as well be asked again: What about a mid-engined Corvette for production? Since it is widely believed that the 1979 Nova will be a front-drive car with a transverse V-6 engine, the power unit of this new Chevy compact would fit handily into a smaller midship 2-seater. This would eliminate the need for a costly special transmission unit to be used only on the Corvette, reportedly the major stumbling block to mid-engine projects in the past. Maybe you can't own an Aero-Vette today, but in four years, Chevrolet may be offering something similar for less money than today's Stingray. Speed the day! ■

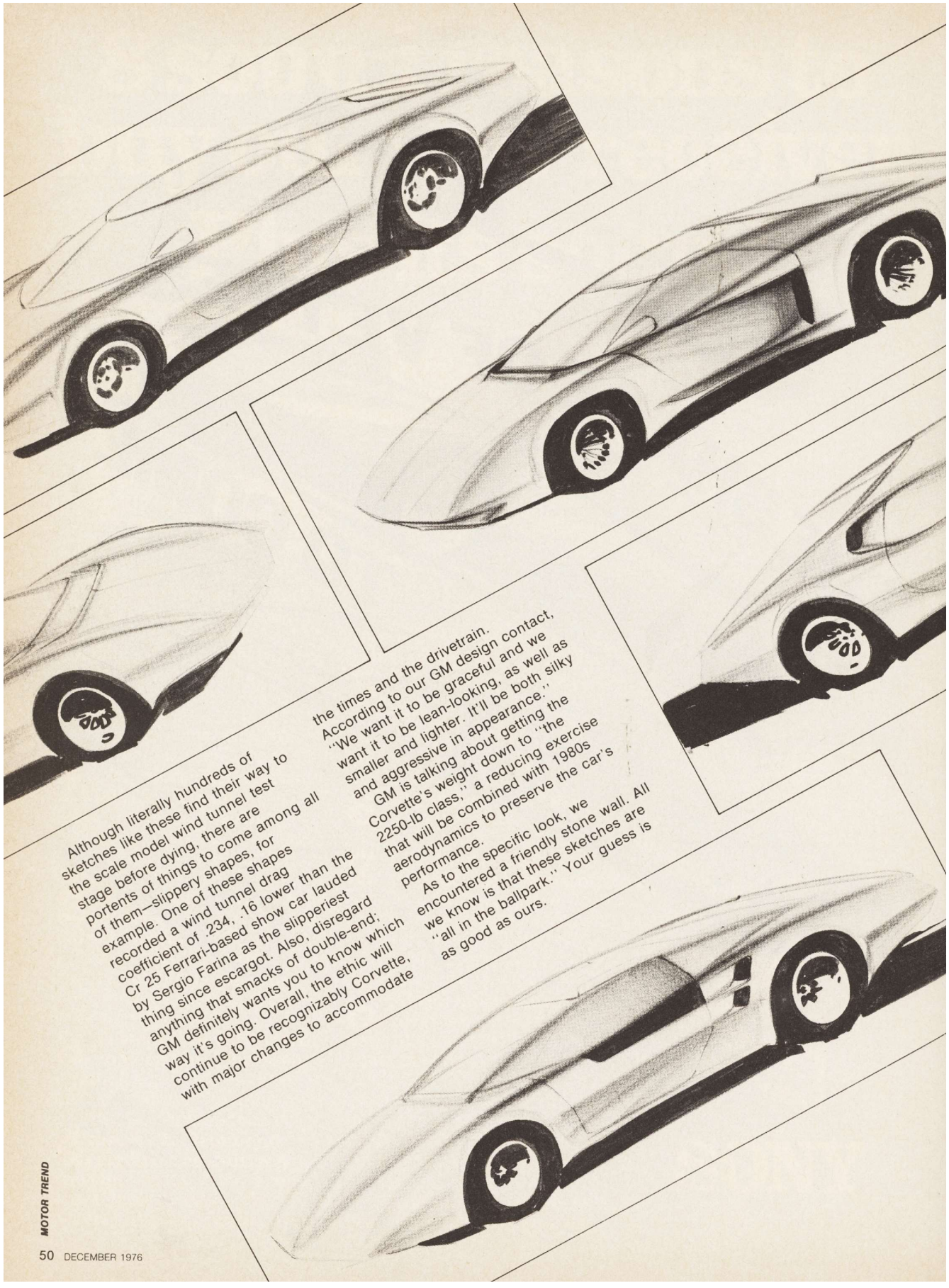


THE SHAPE OF VETTES

TO COME

A sneak preview
of the 1980s

Is tomorrow's Corvette among these concept sketches from the GM design labyrinth? Top General Motors styling execs aren't saying, and we certainly don't know. But according to highly placed GM insiders, some elements from these sketches are likely to be unified in a swoopy mid-engined Nova-based Corvette that will appear sometime in the early 1980s. (Don't be put off by the Nova tie-up. Corvette purists, as of 1979, the Nova will be a V-6 FWD stormer that, with its compact drivetrain, will make a perfect base for a mid-engined 2-seater.)



Although literally hundreds of sketches like these find their way to the scale model wind tunnel test stage before dying, there are portents of things to come among all of them—slippery shapes, for example. One of these shapes recorded a wind tunnel drag coefficient of .234, .16 lower than the Cr 25 Ferrari-based show car lauded by Sergio Farina as the slipperiest thing since escargot. Also, disregard anything that smacks of double-end; GM definitely wants you to know which way it's going. Overall, the ethic will continue to be recognizably Corvette, with major changes to accommodate

the times and the drivetrain. According to our GM design contact, "We want it to be graceful and we want it to be lean-looking, as well as smaller and lighter. It'll be both silky and aggressive in appearance." GM is talking about getting the Corvette's weight down to "the 2250-lb class," a reducing exercise that will be combined with 1980s aerodynamics to preserve the car's performance.

As to the specific look, we encountered a friendly stone wall. All we know is that these sketches are "all in the ballpark." Your guess is as good as ours.

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