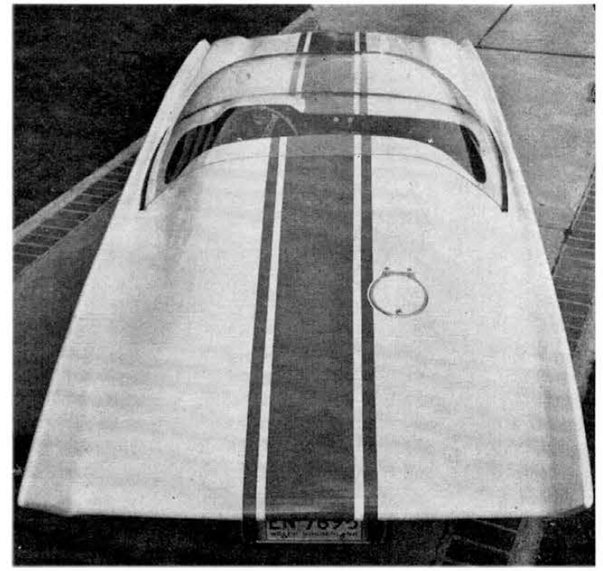
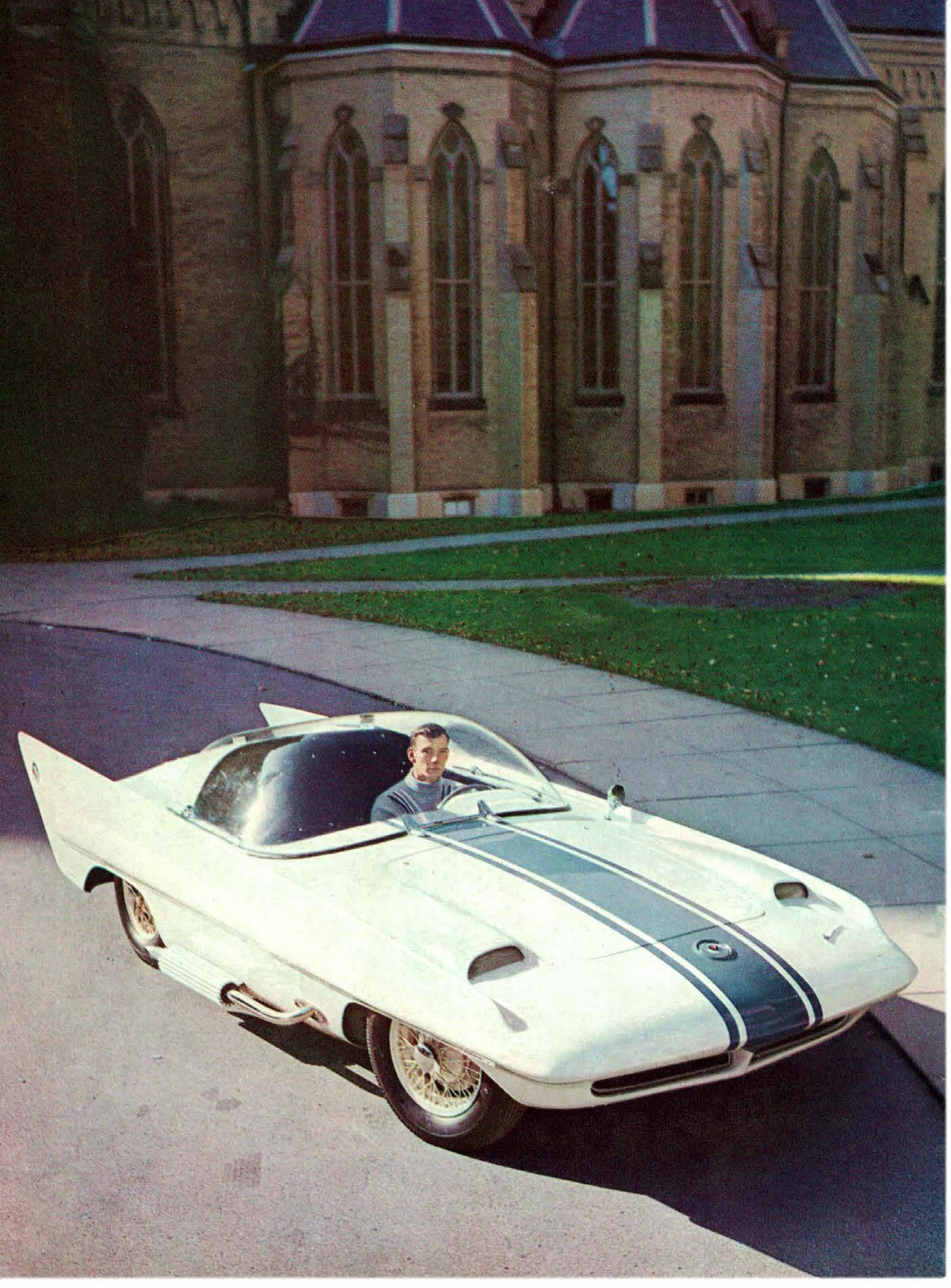
A SOUND APPROACH, A STRONG SOLUTION



STORY AND ANSCOCHROME BY DEL COATES

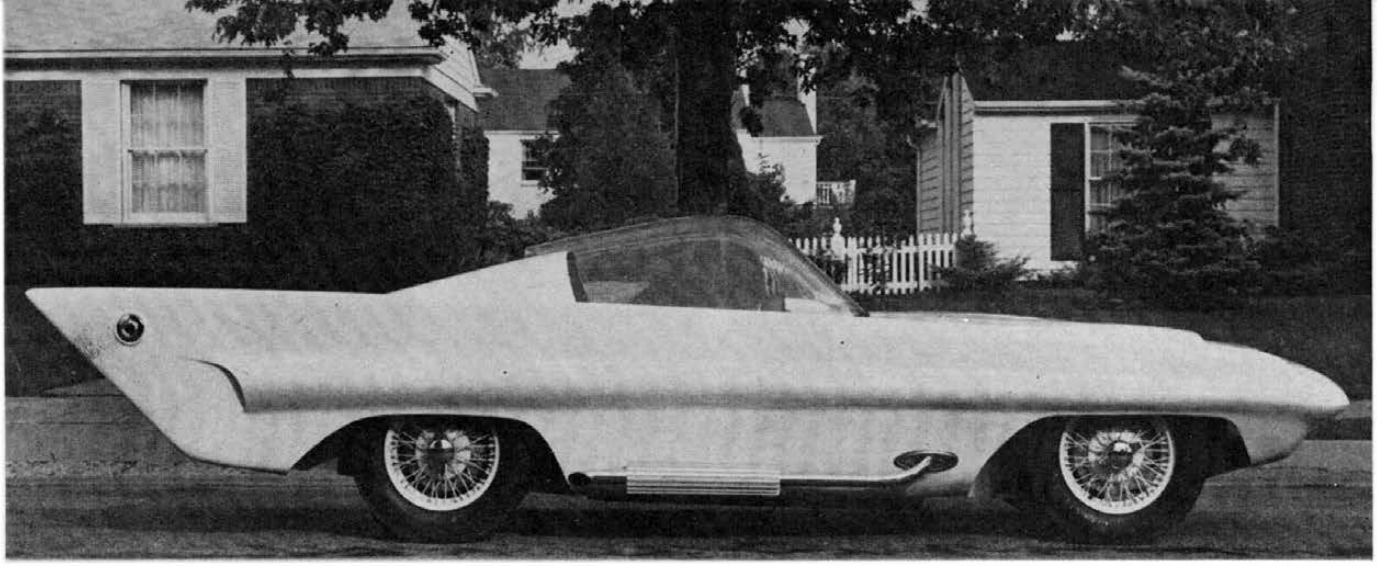
Virgil Exner, Jr., has an understandable interest in automotive styling. But the fins-with-a-purpose that dominate his car could be misinterpreted as slavish duplication of those on his father's '57 Chryslers. This they are not. Instead, they make the younger designer's car look light, fast and compact. Ribs, formed along the sides by the junction of the fins and the ovoid body form, help to break up what would otherwise be a huge flat area. The ribs also provide a sort of visual backbone or platform that orients all the car's elements and gives tautness to the form. Small wheel openings help reduce drag around the wheels and give a pleasing proportion of height to width.



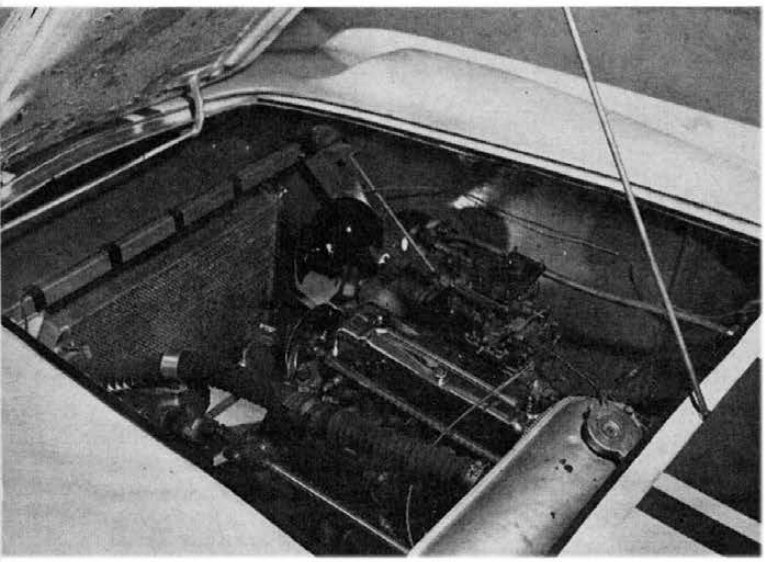
PROBLEM: to design a 1200–cubic centimeter competition sports car, with emphasis on making a dual-purpose machine embodying ease of maintenance with minimum road equipment.

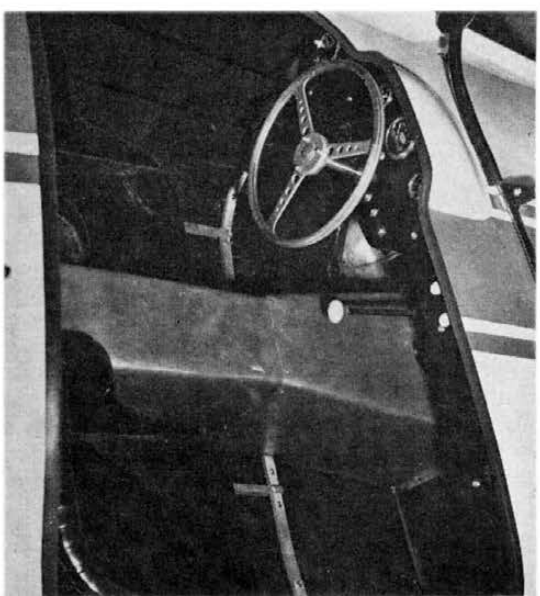
Virgil Exner, Jr., Fine Arts student at the University of Notre Dame, chose this problem as the project for his master's thesis, and the resulting car represents, among some of today's mass-effort attempts, a more creative way to design an automobile.

The body of Exner's special, made of fiberglass, is mounted on a chassis built up from two Simca "8" four-door sedans, circa 1948, with a 1221-cc engine. The side frame rails were split and spread out in the mid-section so that the interior components could be placed between them, resulting in a lower center of gravity. This places the floor pan at the lowest point of the car, where it becomes a belly pan shrouding the drive line components from the air stream. Supplementary structure of 1- and 1.5-inch steel tubing was added to the basic frame members, including very substantial roll bars behind the seats and over the cowl. The engine has been lowered 3 in. and moved back 4.5 in. The fuel system begins with a 10.5-gallon Volkswagen tank, and a Bendix electric fuel pump feeds the dual-throat Weber carburetor. The ignition system has been modified by the addition of a Mallory coil, a 1955 Chevrolet generator, and a Bowers aircraft battery chosen for its compact size and light weight. The



Above: the long, graceful hood and exposed exhaust pipe (a Harley Buco muffler, covered with a section of stock aluminum extrusion) are intended to express the power of the low-placed Simca "8" engine. The instrument board, simply covered with black leather, has essential gauges and no added decorative devices. Electrical switches are all toggles. The seats are low-backed buckets, covered with pleated leather over firm padding. Canopy hinges at the front.





wheelbase is 95.5 in. and the tread, front and rear, 49 in. The brake and wheel assembly is made up of 10-inch Al-Fins with steel liners and 15-inch Dayton knock-off wire wheels.

With the body, the car is 187.5 in. long, 72 in. wide, and a scant 45 in. to the top of the canopy. Ground clearance is 4.5 in. at the lowest point. It weighs 1650 pounds; weight distribution is 51.2% on the front and 48.8% on the rear with Exner at the wheel and with half a tank of gas.

The extremely low hood line was made possible by ingeniously placing the front-wheel air scoops directly over the wheels, providing adequate suspension jounce, and by using small, rectangular Ciebe driving lights for headlighting. Because they are outside the scoops, the fins are uninterrupted. This placement necessarily means additional overhang on the sides and increased frontal area; it is partly offset by permitting smaller wheel openings.

Exner elected the clear plastic canopy as the simplest solution for a closed competition car. It is hinged at the front and secured in the closed position by four rubber "latches" acquired from the back seat of a VW. This arrangement allows the canopy to swing completely clear of the cockpit area so that doors can be abolished. *Ed. Note: Present competition rules require doors.*

Ventilation is provided by an intake near the driver's left foot and an exhaust through a gap formed at the rear of the canopy as it rests about 2 in. above the body surface on two aluminum struts. Storage room is provided behind the seats and is enclosed from the passengers by a leather snap cover. Tubular members of the frame pass just to the outside of the seats and are upholstered, providing combination arm rests and grab bars. Large storage wells are formed just below these bars between the main frame rails and the body sides. The polished aluminum tunnel housing serves as an arm rest between the seats.

Vision is not exceptional to the right rear from the driver's seat, although it proves to be substantial after one becomes accustomed to rising and looking back through the canopy and ventilation slot. Not recommended for racing, this maneuver is easier than it sounds. The outside mirror otherwise provides a good view to the rear.

As closely as can be judged without a wind tunnel (that is, comparing high-speed runs with and without the body), the fins seem to be functioning. Directional stability is very good at high speeds, and the effects of passing vehicles or side winds are easily controlled.

The Exner car was a thoroughly planned project from the beginning. Objectives were chosen and solutions toward them selected according to definite criteria, in startling contrast to what often happens to production cars both here and abroad. The elder Exner's '57 and '58 designs—and, we trust, those for 1960—show how very rewarding it can be to leave a stylist alone.