



*Dream car prototypes  
have always heralded  
Corvette development,  
so . . .  
take a close look at*

# THE SHARK

*A design experiment by  
William L. Mitchell,  
General Motors Vice President  
in Charge of Styling*

TEXT BY STEVE SMITH

**A**LMOST EXACTLY A decade ago, in mid-1952, Chief Engineer Ed Cole and Chassis Engineer Maurice Olley of Chevrolet's Motor Division were shown a plaster model of a proposed car by GM Vice President of Styling Harley Earl. Earl's orders were: Design, test and build a chassis for it in just seven months, in time for public showing at the GM Motorama in January, 1953. The "dream" car was intended to test public reaction to an American-built sports car.

Earl's specifications represented his theory for the market then being exploited by Jaguar, MG and other European manufacturers. The sports car was to have a 102-in. wheel-

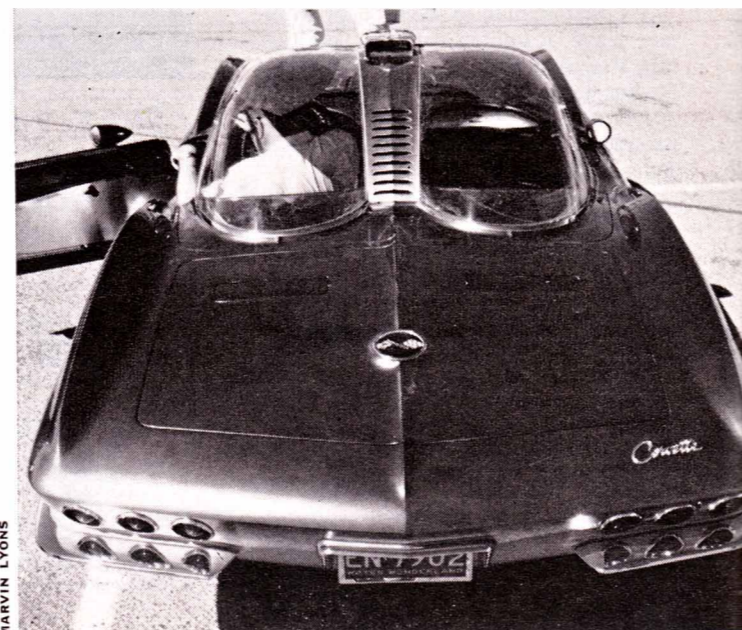
base and be based on basic production-line components. The result, which met the deadline and was created by Earl, Cole and Olley, was the Corvette.

The public's reaction to the styling was no less than sensational. The fiberglass body radiated honesty, save in the area of the taillight housings, which were styled to give a "jet pod" effect. Devoid of frills, the body had an absolute minimum of overhang, practically no chrome, recessed headlights (behind wire-mesh grilles) and license plate and a sharply raked, wrap-around, dog-legged windshield. There was no sculpturing and the whole shape, though broad and stubby,

had a very smoothly rounded and streamlined appearance. Power came from an ordinary 235-cu. in. in-line 6-cyl. engine, modified to the extent of flattening the valve cover and installing a special cam and carburetion setup. It delivered 150 bhp through a beefed-up automatic transmission.

Vastly encouraged by the car's initial reception, the Corvette was rushed into production in the fall of '53. By the end of the year 315 had been made, largely by hand, at the Flint, Mich., plant. Larger production—some 10-12,000 per year—was envisaged, so the assembly point was transferred to enlarged facilities at St. Louis, Mo., but three factors pre-

DECELERATION SIGNALS pop up through flaps in rear deck cover.



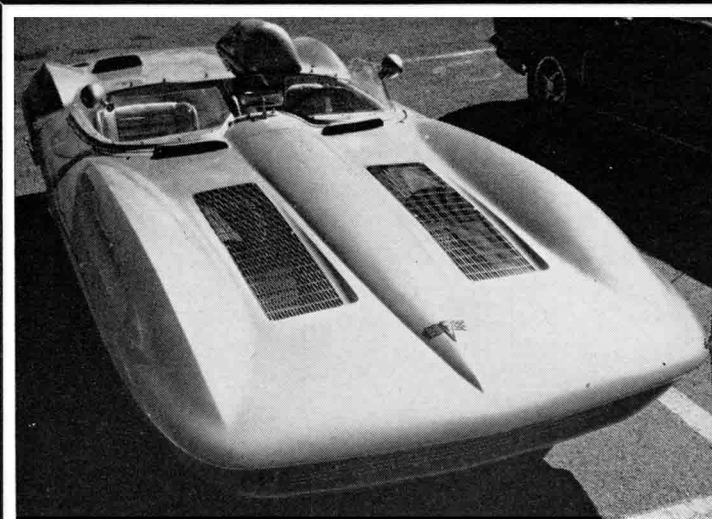
SUPERCHARGER VENTS inspired long spear in hood.



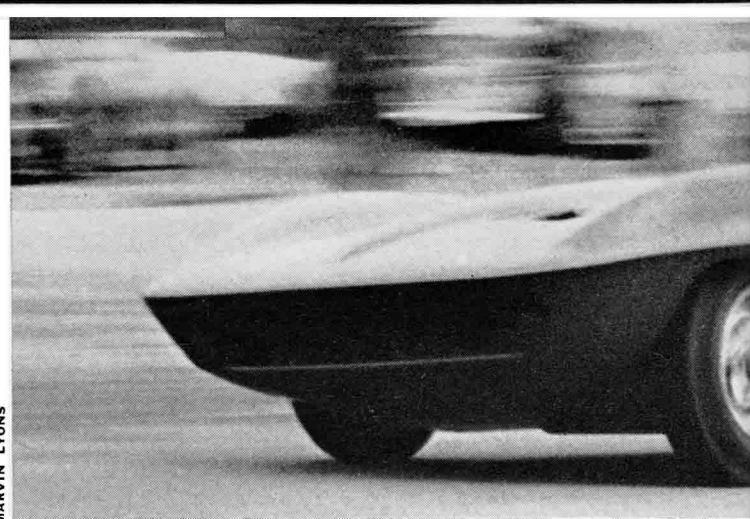
SHARK has been shod with both wire and magnesium wheels.



MARVIN LYONS



**The Sting Ray** Competition-proved on nation's road racing courses, the Sting Ray was one "dream" car that went as well as it looked.



MARVIN LYONS



WARREN BALLARD

# THE SHARK

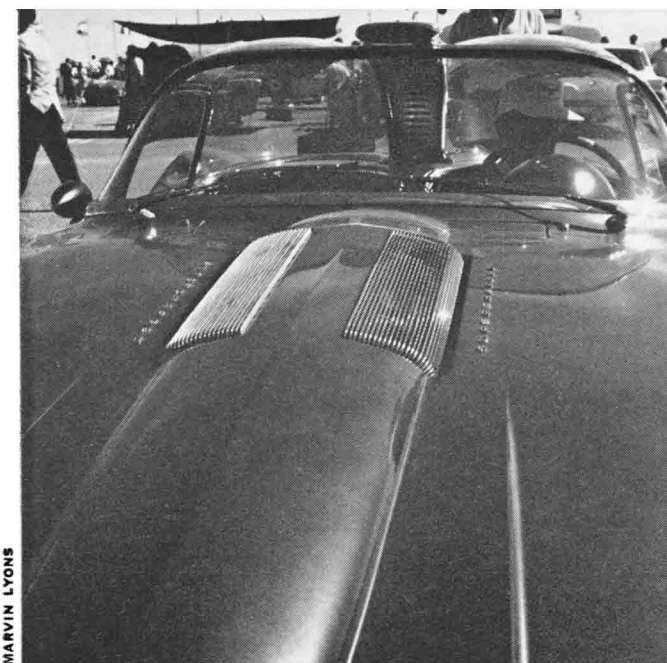
vented Corvette from quickly meeting that sales goal.

One—After some hesitation it was decided to continue using fiberglass—the first time an auto body had been mass-produced in this material. But the public exhibited some trepidation and preferred to believe that steel was safer and more durable than fiberglass. An additional drawback was that only one color, white, was offered.

Two—Died-in-the-tweed-cap sports car buffs refused to recognize the existence of anything so "unsporting" as a 2-seater with automatic transmission. Their scoffing and denigration hurt the Corvette's already anemic image.

Three—Ford chose that moment to spring its Thunderbird, a far more handsome car—in a sporty and classical sort of way—and its body was made from good old trustworthy steel. Besides, it had a big, throaty V-8 engine.

SCOOP atop bubble vents Shark's interior.



MARVIN LYONS

Thus, by 1956 Corvette sales had barely reached 3000 per year while the Bird that had stolen its thunder was outselling it 5-to-1. Ford was positive that a 6-year run would suffice to saturate the 2-seater market and had a 4-seater Thunderbird ready to replace it. But the Corvette continued to plug away, increasing sales by a thousand or two every year.

Realizing that the Corvette wasn't competing successfully with the Thunderbird as a "personal" car, Cole—having taken over as Chevy's headman—decided to give the Corvette an image people wouldn't soon forget. If the Corvette was a sports car, then, by thunder, it was going to do everything the thoroughbred European sports cars were doing and, if possible, do it better.

The 6-cyl. engine and automatic transmission were replaced by a 195-bhp V-8 of 265 cu. in. and a close-ratio 3-speed stick shift, with the automatic retained as an option. For the boulevardier, wind-up windows superseded the plug-in variety. Now, it was thought, the Corvette was ready for road racing.

The first appearance of the Corvette on the starting grid was met with hoots of derision. When the starting smoke dissipated, so did the cat-calls, for there were the Corvettes leading the race. Racing conditions soon pointed out an urgent need for better brakes, suspension and steering, a 4-speed gearbox and more power. All these were duly made factory options in 1957, including the fuel-injected 283-cu. in. V-8, the first American production engine to deliver one bhp for every cu. in. of displacement.

Meanwhile, work was started on four experimental cars to replace or augment the Corvette, should the racing program fail to stimulate sales. The first of these was the Biscayne, a fast and powerful counterpunch to Ford's 4-seat Thunderbird. When Corvette sales picked up, the Biscayne idea was dropped, though one of its styling gimmicks, the sculptured indentation running aft from the front wheel housing, was grafted onto the 1956 Corvette.

The three other experiments were all modifications of the Corvette body. The original Corvair was a Corvette with a fast-back coupe body tapering back to a narrow cave for the license plate. The Nomad was a blending of a 6-passenger, long-chassis Corvette and a Gran Turismo station wagon. The fourth design was the only one to see the light of the assembly line: the removable hardtop.

The racing program, under direction of Zora Arkus-Duntov, was going so well that Chevrolet was not content to race merely against the other production cars; the factory wanted to compete against the hottest modified sports/racing cars for the World's Championship. Duntov and his engineers embarked upon a crash program that whipped up the SS (for

Super Sport) Corvette in less than 6 months. This is remarkable when it is considered that the engine was the only stock part in the car. The "chassis" was of the space-frame type with a 10-in. shorter-than-stock wheelbase; rear suspension by the positive de Dion system; bigger, better brakes and many of the car's parts were magnesium, including the body. The total weight was well under 2000 lb.

The SS showed fantastic accelerating, handling and braking ability and could have been developed into a mighty weapon had not the Automobile Manufacturers Association

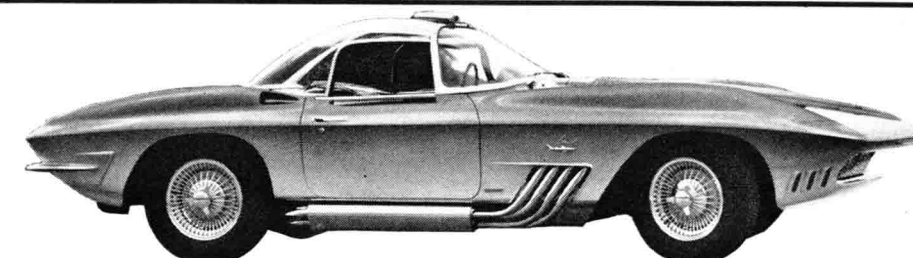
## Details of the XP-755 CORVETTE SHARK

**EXTERIOR STYLING**—Basic lines are modeled after those of the Sting Ray; main elements are a high, pronounced peak line encircling the body above the wheel openings, flat, diving upper body surfaces and sharply peaked blisters above wheels and engine. Hood length is emphasized, with 81.3 in. vs. normal Corvette's 64.6 in. Resultant front overhang: 44.2 in.

Paint scheme follows natural coloring of a real shark; iridescent blue on upper surface blending into white sides and underbody.

Sections of the fine, horizontal grille rotate electrically when lights are switched on, bringing headlights into position. "Gills" between grille and each front wheelhouse contain directional signals and sideward-beamed "cornering" lights à la '62 Cadillac.

Longitudinal vents parallel the hood blister; other vents, in each front fender, expose chromed exhaust pipes which lead to exposed mufflers in chromed coves in each rocker panel. The four pipes from each bank of the engine blend into two just in front of each muffler, each of which has two outlets just ahead of the rear wheels.



The twin-bubble top is the same design developed for the earlier XP-700 Corvette and has a raised housing at its forward edge containing a prism-type rear-view periscope. The plastic roof interior surface has been treated with vaporized aluminum to deflect sunlight. A series of horizontal louvers at the rear provide an outlet for ventilating air.

Door handles are an experimental flush type—opening handles flip out when an integral button is pressed. The simulated rear fender scoop on the left side opens to reveal the gasoline filler.

Pop-up safety lights in the rear deck, normally flush with the lid, warn following drivers when the Shark decelerates suddenly. The actual lights are recessed into the deck and swing-up mirrors deflect the beams rearward. The lights also operate individually as turn signals.

**INTERIOR**—Low-mounted, deep-vented bucket seats; wood steering wheel and rally-calibrated chronometer.

**CHASSIS**—Basically a production 1961 Corvette, except for relocation of rear-most cross-member to allow the Shark's upswept tail.

Power steering is used, in conjunction

banished factory racing teams after the SS ran its first and last race at Sebring, Fla., in 1957.

Only five SS models had been planned and only two completed, the race car and a practice car; neither were for sale to the public. But William L. Mitchell, GM's new styling chief, persuaded the management to sell him one. Mitchell believed in the basic race-worthiness of the design and campaigned it as an individual, to avoid conflict with the AMA. Renamed the Sting Ray, the car first appeared under Mitchell's aegis in 1959 and caused a sensation . . . not because the SS had risen again, but because the body Mitchell had designed to replace the original was a real attention-getting creation.

The bright red fiberglass shape was ultra-futuristic, angular and sharklike, with a sharply sculptured peak around the belt line. This crease was so pointed that it made the body look two-toned by throwing the lower half into shadow. Mitchell eventually retired the car from the racing circuits, but not before it had had its effect, as we shall see.

Meanwhile, the production Corvettes were restyled for '59 to give a lower, more penetrating nose and a wider, more Continental look; a modification was made to the "Biscayne" side sculpturing, and quad headlights and phony brake scoops were added. Since that time the trim has been shuffled around from year to year—touches added one year might be removed or "customized" the next—mainly to give year-to-year distinction within any given styling configuration.

The only detail of the SS's short, almost bulbous, styling to appear on a production car was the 2-in. high concave strip running across the rear of the 1960 Chevy passenger car models.

Chevrolet did adopt the Sting Ray's rear section for the '61 and '62 Corvettes and there is every indication that the

with the faster optional steering ratio.

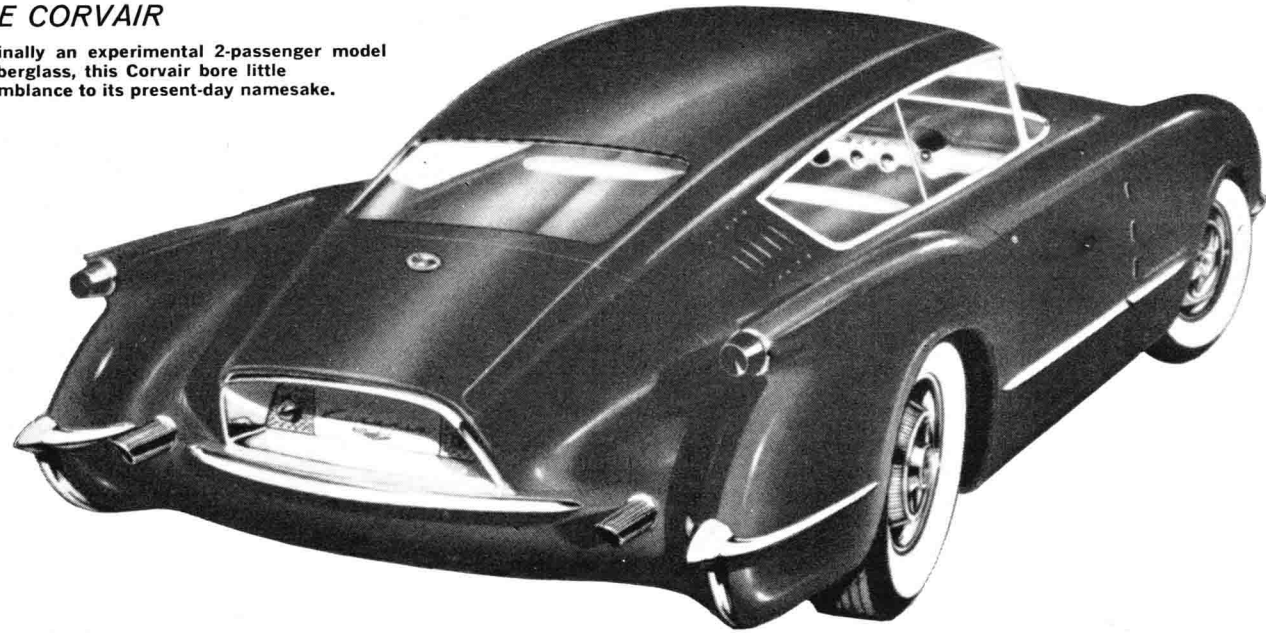
Both wire and cast magnesium wheels have been fitted (see photos).

**POWER TRAIN**—A GM 4-53 Roots-type supercharger (built by the Detroit Diesel Division) has been specially modified for use with the 327-cu. in. engine. A sandwich-like, low-profile intake manifold keeps over-all height within normal confines; the lower half of the manifold is a 2-in. aluminum plate in which induction passages have been routed to a depth of 1.5 in. while the upper half is a 0.75-in. plate carrying supercharger, water outlet casting and backfire-blowoff valve (a prototype manifold was constructed in plexiglas to check porting and flow paths). Three 0.375-in. vee belts, tensioned by an idler pulley, drive the supercharger from a new front extension shaft. Drive ratio is 1.458:1, which results in a boost of 8 psi.

Four side-draft carburetors feed into an arched plenum chamber atop the supercharger. One carburetor is fitted with a special high-pressure accelerator pump that injects gasoline directly into the intake manifold below the supercharger to provide fast, backfire-free response to throttle opening.

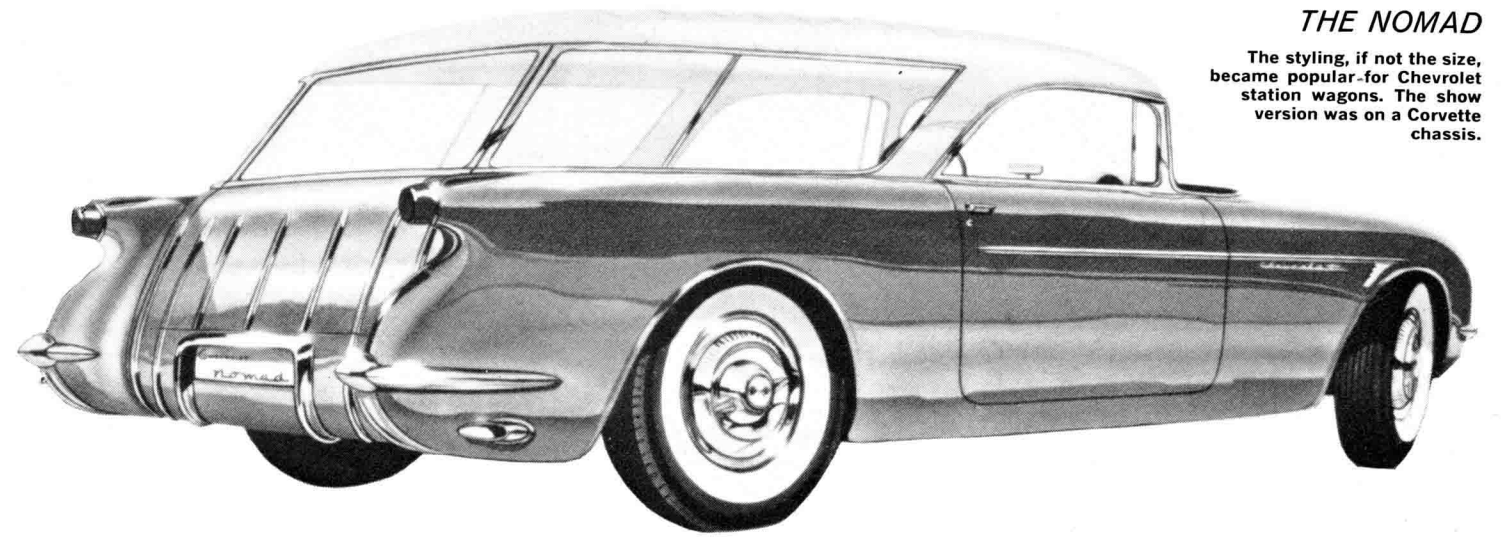
### THE CORVAIR

Originally an experimental 2-passenger model in fiberglass, this Corvaire bore little resemblance to its present-day namesake.



### THE NOMAD

The styling, if not the size, became popular for Chevrolet station wagons. The show version was on a Corvette chassis.



**BISCAYNE** A later variation on the Corvette theme, for the 4-passenger market. The scooped-out side appeared on subsequent Corvettes.



# THE SHARK

Sting Ray's front end will grace the prow of the '63 Corvettes.

The Sting Ray has already sired a show car, GM's Shark, perhaps the precursor of next year's Corvette. While both the SS and the Sting Ray designs were strictly for racing, the Shark emulates the latter's design modified for use on the stock, longer wheelbase chassis.

Features common to the Sting Ray and the Shark which may appear next year in production are a flat, diving hood

that comes to a peaked brow a foot farther beyond the front wheels than the current Corvette body and a pair of creased blisters forming the fenders atop the front wheel wells. The high belt line which ends at the rear wheel openings of this year's Corvette probably will be carried all the way around the body. This spatulate effect, rather like the bill of a baseball cap, will overhang the wide, almost-hidden grille. The Sting Ray and the Shark have one headlight in each corner of the grilles, but it is likely that the '63 Corvette will stick to quad lights.

One thing, if nothing else, may be said of Mitchell's Sting Ray and Shark designs: They are unique, copy no trend and are exceedingly handsome and graceful in the bargain. If followed through on the '63 Corvette, they will make it truly a car apart. ■

### THE CORVETTE SS

Chevrolet built a few modified Corvettes (below) but only two of the planned five Corvette SS chassis (center) were completed. One, the "Mule," had makeshift bodywork and was used for practice at Sebring. It eventually ended up as the Sting Ray. The other (right), with a magnesium body, took part in the race.

