

CAR and DRIVER ROAD TEST

CHEVROLET CORVETTE 427

You voted it the Best All-Around Car of 1967, and we think you just might have something there.



The Corvette has come a long way since it was introduced in 1953. In the beginning, the Corvette was a cute little two-seater. It sure enough looked like a sports car, but underneath the radical fiberglass bodywork was a puny 235 cu. in., 150-horsepower "Blue Flame" six and a two-speed Powerglide transmission. Everybody laughed. Even Thunderbird owners knew they had something closer to a sports car.

Slowly, the Corvette got better. In 1955 came a V-8 and a 3-speed, close-ratio, all-synchro gearbox. The following year, Dr. Dick Thompson

astounded the purists when his Corvette led the production car race at Torrey Pines—fending off the undefeated Mercedes-Benz 300SLs and Jaguar XK-140MCs until the 'Vette's brakes faded him back to a second-place finish.

The Corvette was rolling in high gear by 1957, with the fuel-injected 283 V-8, a 4-speed gearbox and heavy-duty brakes. Winning production car races was easy, and Chevy unveiled a real, live sports/racing car at Sebring, the Corvette SS. The AMA anti-racing ban removed GM from racing shortly thereafter, and the pace of develop-

ment slowed again, with the only memorable milepost being the 327 cu. in. V-8 in 1961.

Nineteen sixty-three was a banner year for Corvette. A whole new car, the Sting Ray, debuted—the first all-new Corvette in a decade. It shared with the rear-engined Corvair the distinction of being the only American car with four-wheel independent suspension, and it was well and truly a sports car. The emergence of the Sting Ray was underlined by the appearance of the Grand Sport, chronicled in our April issue, during GM's brief return to racing in 1963.

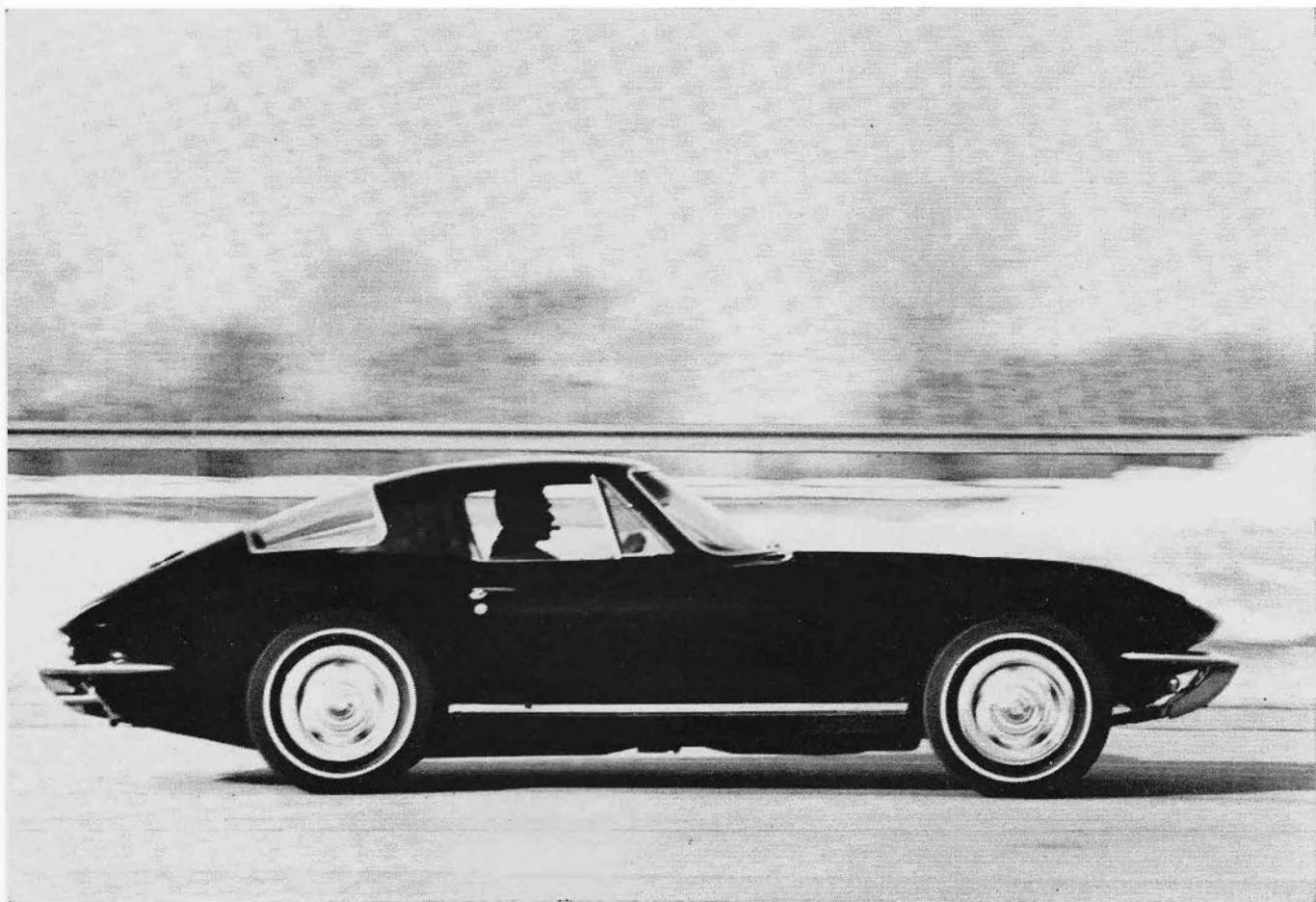
The Sting Ray is the most sophisticated car made in America, and among the best-engineered sports cars made anywhere in the world.

Nobody was laughing anymore. The Corvette was accepted by purist and hot rodder alike. The automotive magazines claimed they could boost circulation by 30,000 (about the number of Corvettes sold each year) merely by putting a Sting Ray on the cover. Even Ford was irked enough to back Carroll Shelby's Cobra in a last-ditch effort to wrest the world's attention away from the Corvette. The Corvette had arrived and everybody in the blue-eyed world knew it.

Many experimental features are first tried out on the low-volume Corvette, then applied to the regular passenger cars, like aluminum transmission cases and bell housings, 4-speed transmissions, rayon brake lines, and link-type independent rear suspension. Standard engines are modified for use in the Corvette, and the modifications often turn up later in regular production Chevies.

Nothing of earth-shattering importance has happened to the Sting Ray in the past four years. Four-wheel disc brakes—an American first—and the 396 cu. in. "porcupine" head engine appeared in 1965, followed by the 427 cu. in. V-8 in 1966. A year ago, it looked as if the Mako Shark show car might prefigure the '67 Corvette, and there were dark rumors about a Chaparral-like rear-engined Corvette, but nothing materialized. Zora Arkus-Duntov, the man most responsible for the Corvette's success (nominally, he is head of the Corvette's engine and chassis group), and his cadre of engineers have concentrated on detail refinements, to the obvious satisfaction of not only the nearly 100,000 Corvette owners, but also to a sampling of *Car and Driver's* nearly 400,000 readers, who voted it the Best All-Around Car of 1967—over very stiff competition.

It was the results of our Readers' Choice poll that suggested to us that it was high time we tested another Corvette, but which one? There are two basic body types (the coupe and the convertible hardtop); two basic engines (the 327 and the 427); three basic transmissions (the 2-speed Powerglide and 3- and 4-speed manuals); and a staggering variety of options that can turn the Corvette into anything from a luxury two-seater to an all-out racer—and everything in between. We last tested a Corvette in our October '65 issue; a very strong 427, all *sturm und drang*. Our own personal preference was the 327 cu. in., 350-hp hydraulic lifter engine (C/D, January '65) because it is lighter, better balanced, and more responsive than the 427. It's also a lot more practical for everyday street driving. But when we contacted Duntov, he talked us into



With the aluminum cylinder heads, the 427 engine weighs only 40 lbs. more than the cast iron 327. And the "three by two" carburetion is as smooth as fuel injection.

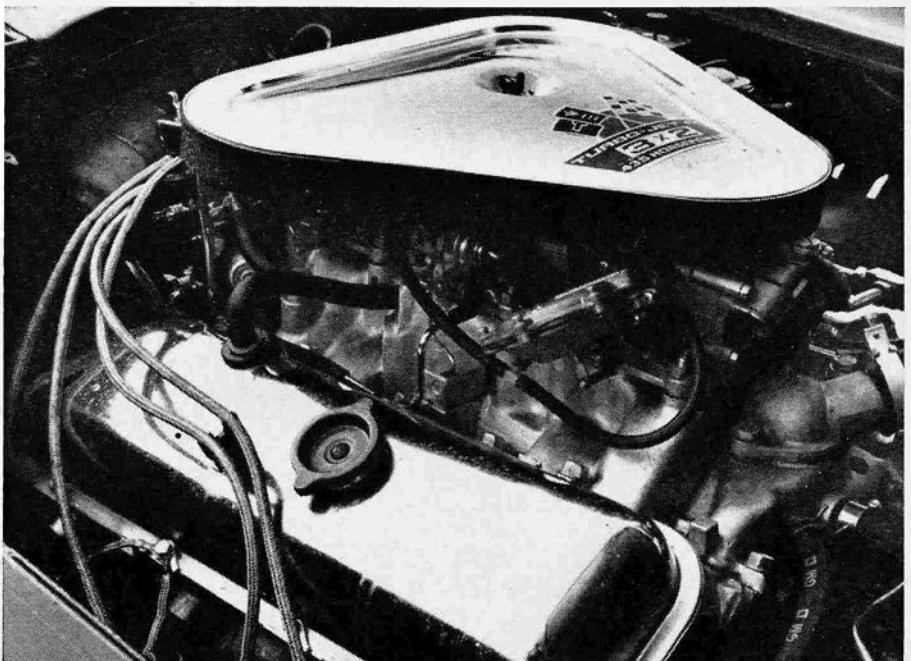
testing a new version of the 427, with a 3 x 2-barrel carburetion set-up and aluminum heads.

This engine, Duntov claimed, is only 40 lbs. heavier than the cast iron 327—and it is weight that is removed from the front end. The cylinder heads alone save 75 lbs. Sure enough, this 427 Corvette weighs 43 lbs. less than the last 327 we tested, and it's distributed 46/54% to the 327's 47/53.

The heart of the new carburetion system is a unique air-operated system of controlling the throttle plates of the end carbs; only the center carb is mechanically connected to the accelerator pedal. An all-mechanical linkage bogs down if the throttle is punched at low speeds. Other manufacturers have tried manifold vacuum to control the secondary carburetors, but it has never been as successfully worked out as on this car. The new system operates the secondaries from the venturi vacuum in the primary carb. It results in an astoundingly tractable engine and uncannily smooth engine response. With a venturi area about the size of a barn door, it's possible to drive off in high gear with very little slipping of the clutch or feathering of the throttle. As soon as it's rolling, say at 500 rpm, you can push the throttle to the floor and the car just picks up with a turbine-like swelling surge of power that never misses a beat all the way up to its top speed of over 140 mph. And you get the same response—instantly—in any gear any time you open the tap. The only drawback of the system is when you back off from full throttle at engine speeds over 5500 rpm (1000 rpm under the redline). The secondaries don't close immediately—it takes about 2/10ths of a second—because the air linkage isn't as fast or as positive as mechanical operation. On the whole, the Corvette's three deuces are as smooth and responsive as fuel injection.

This engine is regular production option, coded L89 (so you know what to ask for), but it isn't quite the end of the line. There is an even more powerful, Instant Im-

*(Text continued on page 124;
Specifications overleaf)*



CHEVROLET CORVETTE 427

Manufacturer: Chevrolet Motor Division
General Motors Corporation
Detroit, Mich.

Number of dealers in U.S.: 6600

Vehicle type: Front-engine, rear-wheel-drive, 2-passenger sports/GT car, all-steel ladder frame with fiberglass reinforced plastic body

Price as tested: \$5900.15

(Manufacturer's suggested retail price, plus options listed below, Federal excise tax, dealer preparation and delivery charges; does not include state and local taxes, license or freight charges)

Options on test car: High-performance 427 cu. in. engine with 3 x 2-bbl. carburetion (\$437.10), aluminum cylinder heads (\$368.65), tinted glass (\$15.80), electric windows (\$57.95), limited-slip differential (\$42.15), shoulder harnesses (\$26.35), power brakes (\$42.15), transistor ignition (\$73.75), four-speed manual transmission (\$184.35), power steering (\$94.80), AM/FM radio (\$172.75), 7.75-15 red stripe tires (\$31.35)

ENGINE

Type: Water-cooled V-8, cast iron block, aluminum cylinder heads, 5 main bearings
Bore x stroke... 4.25 x 3.76 in, 108 x 95.5 mm
Displacement... 427 cu in, 6994 cc
Compression ratio... 11.0 to one
Carburetion... 3 x 2-bbl. Holley
Valve gear... Pushrod-operated overhead valves, mechanical lifters

Power (SAE)... 435 bhp @ 5800 rpm
Torque (SAE)... 460 lbs/ft @ 4000 rpm
Specific power output... 1.02 bhp/cu in, 62.2 bhp/liter

Max. recommended engine speed... 6500 rpm

DRIVE TRAIN

Transmission... 4-speed manual, all-synchro
Clutch diameter... 11.0 in
Final drive ratio... 3.55 to one

Gear Ratio Mph/1000 rpm Max. test speed
I 2.20 9.9 64 mph (6500 rpm)
II 1.64 13.3 86 mph (6500 rpm)
III 1.27 17.2 112 mph (6500 rpm)
IV 1.00 21.8 142 mph (6500 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase... 98.0 in
Track... F: 57.6 in, R: 58.3 in
Length... 175.1 in
Width... 69.6 in
Height... 49.6 in
Ground clearance... 5.0 in
Curb weight... 3137 lbs
Test weight... 3563 lbs
Weight distribution, F/R... 46/54%
Lbs/bhp (test weight)... 8.2
Battery capacity... 12 volts, 61 amp/hr
Alternator capacity... 288 watts
Fuel capacity... 20.0 gal
Oil capacity... 6.0 qts
Water capacity... 23.0 qts

SUSPENSION

F: Ind., unequal-length wishbones, coil springs, 0.875-in anti-sway bar
R: Ind., drive shafts acting as upper links, lower lateral links, single trailing arms, transverse leaf spring

STEERING

Type... Recirculating ball
Turns lock-to-lock... 3.0
Turning circle... 40 ft

BRAKES

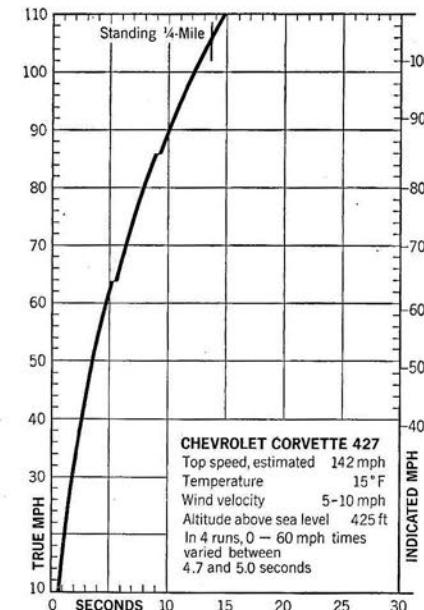
F: 11.75 x 1.25-in Delco-Moraine vented discs
R: 11.75 x 1.25-in Delco-Moraine vented discs with integral drum parking brake
Swept area... 461.2 sq in

WHEELS AND TIRES

Wheel size and type... 6.0JK x 15-in, stamped steel, 5-bolt
Tire make, size and type... Firestone 7.75-15 Speedway 500, two-ply nylon tubeless
Test inflation pressures... F: 24 psi, R: 24 psi
Tire load rating... 1270 lbs per tire @ 24 psi

PERFORMANCE

Zero to	Seconds
30 mph	2.0
40 mph	2.6
50 mph	3.5
60 mph	4.7
70 mph	6.4
80 mph	8.0
90 mph	10.1
100 mph	12.3
Standing 1/4-mile	13.6 sec @ 105 mph
80-0 mph	257 ft (.83 G)
Fuel mileage	9-13 mpg on premium fuel
Cruising range	180-260 mi



CHECK LIST

ENGINE

Starting... Very Good
Response... Excellent
Vibration... Excellent
Noise... Good

DRIVE TRAIN

Shift linkage... Excellent
Synchro action... Excellent
Clutch smoothness... Excellent
Drive train noise... Good

STEERING

Effort... Very Good
Response... Very Good
Road Feel... Good
Kickback... Very Good

SUSPENSION

Ride Comfort... Very Good
Roll resistance... Good
Pitch control... Good
Harshness control... Good

HANDLING

Directional control... Very Good
Predictability... Very Good
Evasive maneuverability... Very Good
Resistance to sidewinds... Very Good

BRAKES

Pedal pressure... Excellent
Response... Excellent
Fade resistance... Excellent
Directional stability... Excellent

CONTROLS

Wheel position... Fair
Pedal position... Good
Gearshift position... Good
Relationship... Good
Small controls... Good

INTERIOR

Ease of entry/exit... Good
Noise level (cruising)... Good
Front seating comfort... Good
Front leg room... Fair
Front head room... Good
Front hip/shoulder room... Good
Rear seating comfort... —
Rear leg room... —
Rear head room... —
Rear hip/shoulder room... —
Instrument comprehensiveness... Excellent
Instrument legibility... Excellent

VISION

Forward... Good
Front quarter... Good
Side... Good
Rear quarter... Fair
Rear... Fair

WEATHER PROTECTION

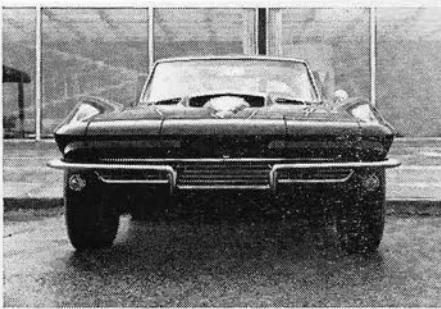
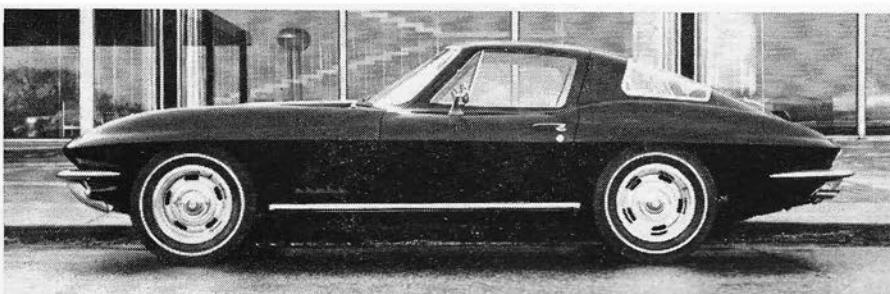
Heater/defroster... Excellent
Ventilation... Good
Weather sealing... Very Good

CONSTRUCTION QUALITY

Fiberglass... Very Good
Paint... Very Good
Chrome... Very Good
Upholstery... Good
Padding... Very Good
Hardware... Good

GENERAL

Headlight illumination... Very Good
Parking and signal lights... Good
Wiper effectiveness... Very Good
Service accessibility... Very Good
Trunk space... Poor
Interior storage space... Fair
Bumper protection... Good



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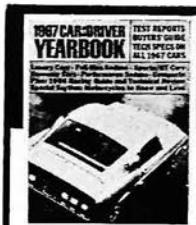
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CHEVROLET CORVETTE 427

(continued from page 55)

mortality engine, coded L88, for megalomaniacs only. The L88 also has the aluminum heads (which feature larger exhaust valves—1.84 inches vs. the standard 1.72), but with a toilet-sized single four-barrel sitting atop a hogged-out manifold. All the 427s have a suggestive hood bulge, but the L88 alone has an air intake at the rear of the hood which ducts cold air directly on the carb. The air cleaner is attached to the hood itself, and mates with the carb base via a big, spongy O-ring when the hood is closed. The L88 is all set up as if for racing—with blueprint tolerances and all the right parts—to save competitors the time and expense of tearing down a standard 427 and rebuilding it with balanced racing pistons, etc. The L88 is rated at 435 hp, like the L89, but we were almost afraid to try it. Just listening to it idle, we knew it must have over 500 real horsepower, and besides, it was Friday the 13th. Back to the safe and sane L89.

Although the Sting Ray is substantial, it doesn't feel as heavy as a 427-engined anything should. The steering is heavy to the touch, without much feel, and reasonably quick. There is enough power to break adhesion and steer with the throttle near the limit of adhesion at any speed below 100 mph, so it didn't feel nose-heavy. In fact, it felt quite neutral at, say, 65 mph, with just a little more power cranked on than necessary to hold a given radius. Among the changes for '67 was the addition of 1/2-inch wider wheel rims (now 6.0 inches) and wide, low-profile tires. Any car handles only as well as its tires will allow, and the Sting Ray's Akron Fats are well mated with the all-independent suspension.

The Corvette's handling is not quite matched by its ride. A Ferrari 330/GTC is harsher, but what the driver feels tells him something about the relationship between the tires and the road. The Sting Ray rides softly and vaguely—you're never sure what the car is trying to tell you. Only the Mercedes-Benz models, and to a lesser extent, the Rover 2000, the Porsche 911 and the BMW TI, have managed to combine a soft ride with a suspension system that talks to you.

The Sting Ray's four-wheel disc brakes are in a class of their own among American cars, and up to the highest standards set abroad. We have just about exhausted our cherished supply of superlatives for these brakes, so suffice it to say

that they're the best, and if the Nader-Haddon axis wanted to accomplish something really useful, they should pressure Detroit into putting Sting Ray brakes on every car it builds.

Nearly all the changes for '67 are functional. The louvers behind the front wheels, for instance, really do exhaust hot engine compartment air. The optional bolt-on aluminum wheels now save weight; in the past, they had a knock-off system which made them heavier than the stock steel wheels. The pull-up handbrake between the seats is easier to get at than the old umbrella handle under the dash, but it isn't very impressive in operation. Normally, an emergency brake operates the same linings as those operated by the brake pedal, but because the Corvette's emergency brake is entirely separate (two 6.5 x 1.25-inch drums within the rear discs), the linings never get burnished—a point for owners to watch. The way to run them in is to slowly, *carefully*, pull up the handbrake—while the car is moving—every once in a while.

We have only two complaints to register about the Sting Ray. The late Ken Miles, in testing an early model Corvette, theorized "the bigger a car is outside, the smaller it is inside." This is still true; the Corvette is very large for a two-seater sports car, without a commensurate amount of room inside. We can understand why. The bucket seats aren't perfect; they lack lateral support because delicate young things have to swing their legs around to one side to get in and out. The seats are too close to the floor to gain headroom and keep a stylishly low roofline. The 427 engine does take up a lot of room that might otherwise be left in the footwells, despite the fact that the engine is offset to the right to give the driver a bit more space. The tightness around the hips, elbows and shoulders is caused by the width of the transmission tunnel. A rear-engined (or mid-engined) design would eliminate all these objections, and if Chevrolet ever builds one, it will be to improve creature comfort and decrease overall size, not to make the car handle better. But after the Corvair lawsuits, we don't think GM will ever go this route.

As it sits, the Sting Ray is the most sophisticated passenger car made in America—in terms of engine, drive train, suspension and brakes—and among the best engineered sports cars made anywhere. If that isn't good enough to make it the Best All-Around Car of 1967, we'd like to know what is. **C/D**



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