CAR and DRIVER ROAD TEST

CORVETTE STING RAY 427

Next best thing to a psychiatrist—with electric windows, AM-FM, and about a jillion bhp

Son of a Gun—just what the Corvette needed, more power! Chevrolet has replaced last year's top-of-the-line 396-cu. in. engine with a 427. According to the factory, horsepower remains unchanged at 425, but torque has gone up from 415 lbs/ft. at 4000, to 465 at the same rpm. We asked one Chevrolet man why the increase in displacement and torque didn't have a parallel increase in horsepower. "This was done primarily to save weight," he said, with a twinkling eye; "you must remember that cast-iron is very heavy, and by removing thirty cubic inches of it, we have made a significant reduction in weight."

Last year's 396 "porcupine head" Corvette was cranking out quite a bit more than its advertised 425 bhp, and with 427 cu. in., the gap between advertised and actual becomes even broader. However, Chevrolet insists that there are only 425 horses in there, and we'll just have to take their word for it. Though we feel compelled to point out that these are 425 horses of a size and strength never before seen by man—horses as tall as houses, with hooves as big as bushel baskets. When you have *this* many of *those* horses exerting their full force against the small of your back, you are profoundly impressed, and you will most likely lose all interest in counting anyway.

Last month we said that the most dominant feature

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of any Ferrari was its engine. Well the same thing is true of this big 427 Sting Ray, except that we'd go one step farther and say that it's the *power*, more than the engine, that overwhelms every other sensation. There's power literally everywhere, great gobs of steam-locomotive, earth-moving torque. And because the Corvette is a relatively small object, and considerably lighter than the other American production cars that are fitted with such engines, there's a direct, one-to-one relationship between the amount of throttle opening and the physical and emotional sensations the driver feels.

Other Corvettes, either the current models with 327 cu. in. engines, or the older ones with the original 283, had a more "European feel." They were very powerful, but they had a zippy, high-winding, no-flywheel feel to them that's missing from the big 427. According to Zora Arkus-Duntov, Chevrolet's Corvette specialist from the very beginning, this difference in sensation is directly related to the comparative torque curves of the two engines. The hottest version of the 327, the 375-bhp fuel-injection engine, produced 350 lbs/ft of torque at 4600 rpm. The new 427 produces 465 lbs/ft at 4000 rpm. As you can see, the 327's *rate* of acceleration was still increasing after the 427's torque curve had dropped off. Thus, even though the 427 is delivering more torque and more acceleration, its earlier torque peak results in less *sensation* of acceleration in the higher rpm ranges.

Except for compensatory suspension changes and a few other twists and improvements, the 427 Sting Ray is basically identical to any other Sting Ray. But the big jump in power that came with the jump from 327 to 427 makes those detail changes critical.

Higher-rate front and rear springs are fitted, along with a ⅞-inch stabilizer bar at the front and a ¾-inch bar at the rear. The half-shafts and U-joints are shot-peened, and are constructed of stronger stuff than on the 327, and there's been in increase in both coolant and lubricant capacity. The 427 can only be ordered with the "Muncie" four-speed transmission and Chevrolet's "Positraction" limited-slip differential. All prudent precautions, which underline the massive thrust available from this new powerplant.

In addition to our 425-bhp test car, Chevrolet also offers a 390-bhp version of the 427-cu. in. engine. This engine has different heads with smaller intake ports, and a smaller-section intake manifold which is cast-iron, as opposed to aluminum on the 425. It also has hydraulic lifters instead of the mechanical lifters in the hotter engine. Both have single four-barrel Holley carburetors, and there's no difference in exterior appearance, save for various emblems and decals and things. The hydraulic-lifter engine develops 390 bhp at 5400 rpm, and 465 lbs/ft of torque at 3600. It's not what you'd call puny, by any stretch of the imagination. In fact, without a watch or a measured quarter-mile, the average driver would have a hard time telling the difference—except for a smoother idle and less mechanical noise.

The interior appearance has no significant changes either. It is still roomy, comfortable, and very well sealed against wind and weather. The seats have a broad range of adjustment, and though they're not the super-buckets of a Ferrari GTB, they are pleasant to sit in for long drives. The back rests still are not adjustable, and this is too bad, especially now that virtually every medium-to-high-priced sedan in the GM line-up offers that feature.

The driving controls and small switches are just fine. The steering wheel telescopes in and out, and this, combined with the seat adjustment, makes it possible to have a pretty decent driving position. Our test car had power brakes and power steering, and we were grateful for both. GM's Saginaw Steering Gear Division has worked hard to provide a normal American-style power steering gear that has some feel and accuracy, and they've done a good job. The Mercedes-Benz system was their performance-target and though the Corvette doesn't measure up quite to that standard (you're still turning a valve, instead of the wheels), it *is* superior to any other American car. The power brakes are even better. They're smooth, free from any grabbiness or directional instability, and they do get it stopped! Even bringing it down from speeds in the 130-140 bracket without any sweat.

Driving the car on an unrestricted proving ground road is a memorable experience. It accelerates from zero to 100 in less than eleven seconds—faster than a lot of very acceptable cars can get to sixty—and is so smooth and controllable in the three-figure speed ranges that it all becomes sort of unreal. In fact, in those circumstances it's pretty hard to tell anything about the car at all, except that it goes like bloody hell and stops and steers without scaring you.

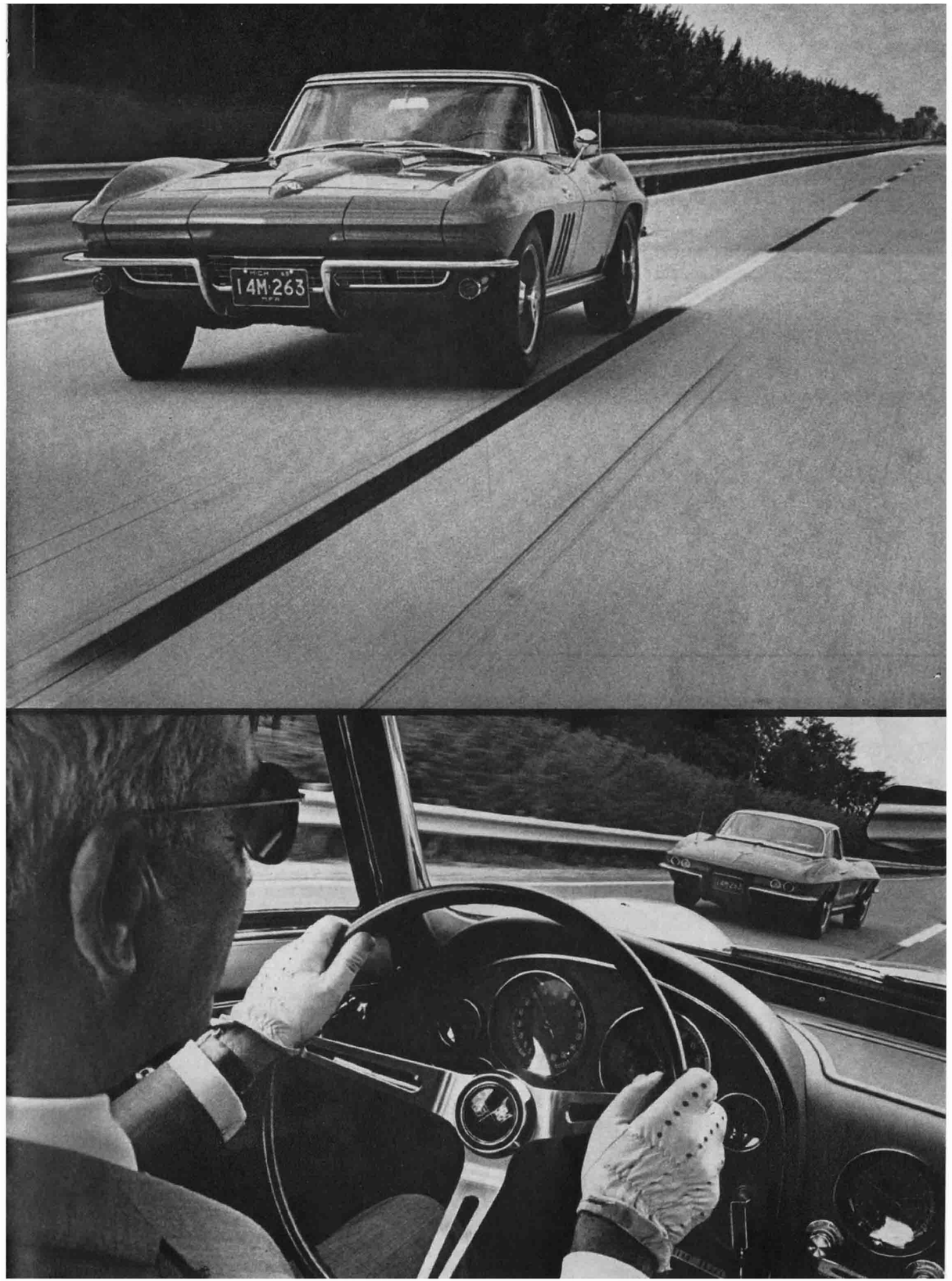
Everything comes into focus when you get it out on the public roads. Compared to anything you might come up against—unless you're unlucky enough to encounter a Cobra 427 (see page 37)—it's the wildest, hottest set-up going. With the normal 3.36 rear axle ratio it'll turn a quarter mile that'll give a GTO morning sickness, and *still* run a top speed of around 150 mph. The 327-engined version is still our favorite, but if you must go faster than anybody else, and you insist upon being comfortable, this is a pretty wild way to go.

The difference between this seven-liter street machine and all the big seven-liter super stocks is in size and proper suspension. All that murderous acceleration is balanced by excellent, almost-lightweight handling. It's stiff and stable and it gets the power on the road—when the wheels stop spinning. First gear is apt to be all wheelspin if you're not careful, and second is almost as bad. Even third can break the rear end loose, if you're down below the 4000-rpm torque-peak, and there's hardly a road in America where you won't be—since that's the equivalent of something in excess of 70 mph! Judicious applications of throttle will eliminate most of the spinning, but there just isn't any way to avoid it in first.

The extra weight of this big engine doesn't really seem to affect the car's handling at all. There's a general feeling of ponderousness that one associates with any of the bigger sports machines at low speeds, but when you're going fast it's quick and responsive. It *is* more difficult to accurately place it in a fast corner, but this is more due to its power steering than to its bulk.

There's no sense even trying to make MGB or Porsche comparisons with this Corvette, because . . . well, because it's so uniquely *American*. It weighs over 3300 pounds but it'll do 140 before most European sports machines are out of second. It does not mince tidily around corners, but it gets around corners faster than most of its peers. It's an *American* GT car, and it'll hold its own in any company at any price.

The most fascinating thing about the continuing success of the Corvette, and the powerful appeal of this new seven-liter contrivance, is its relationship to the widely-publicized GM ban on racing. Many people thought that the Corvette would wither and die when it was no longer the car to beat in the races. To the contrary, they're selling better than ever—and going better than ever as well. It's a shame really, if they keep building them this good and this fast, they may *never* have to go racing again. C/D



PHOTOGRAPHY: SUDNIK & OVERHARDT

SPECIFICATIONS OVERLEAF

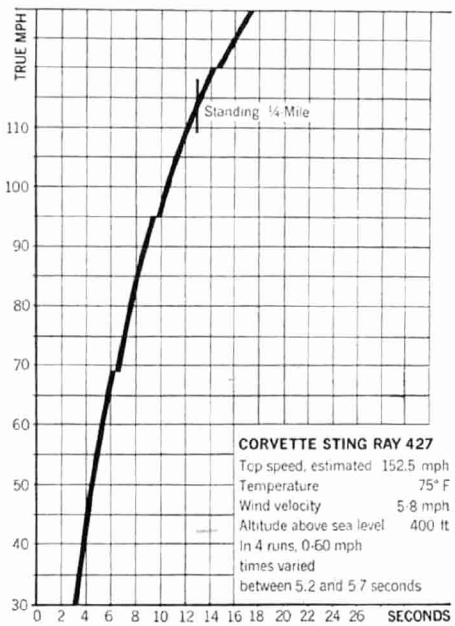
CORVETTE STING RAY 427

Manufacturer: Chevrolet Motor Division
General Motors Corporation
Detroit 2, Michigan

Price as tested: ca. $6000

ACCELERATION

Zero to	Seconds
30 mph	3.2
40 mph	3.8
50 mph	4.6
60 mph	5.4
70 mph	6.9
80 mph	7.8
90 mph	9.0
100 mph	10.6
Standing ¼-mile	112 mph in 12.8



ENGINE

Water-cooled V-8, cast iron block, 5 main bearings
Bore x stroke ..... 4.25 x 3.76 in, 106 x 94 mm
Displacement ..... 427 cu in, 7000 cc
Compression ratio ..... 11.0 to one
Carburetion ..... Single 4-bbl Holley
Valve gear ..... Pushrod-operated overhead valves, mechanical lifters
Power (SAE) ..... 425 bhp @ 5600 rpm
Torque ..... 460 lbs/ft @ 4000 rpm
Specific power output ..... 0.995 bhp per cu in, 60.7 bhp per liter
Usable range of engine speeds 500-6500 rpm
Electrical system ..... 12-volt, 61 amp-hr battery, 37A alternator
Fuel recommended ..... Premium
Mileage ..... 10-15 mpg
Range on 20-gallon tank ..... 200-300 miles

DRIVE TRAIN

Clutch ..... 10.5-inch single dry plate
Transmission ..... 4-speed, all synchro

Gear	Ratio	Overall	mph/1000 rpm	Max mph
Rev	2.26	7.59	−10.3	−66
1st	2.20	7.39	10.7	69
2nd	1.64	5.51	14.3	95
3rd	1.27	4.27	18.5	120
4th	1.00	3.36	23.5	152.5

Final drive ratio ..... 3.36 to one

CHASSIS

Wheelbase ..... 98 in
Track ..... F 56.8, R 57.6 in
Length ..... 175 in
Width ..... 69.6 in
Height ..... 49.8 in
Ground Clearance ..... 7.0 in
Dry weight ..... 3005 lbs
Curb weight ..... 3160 lbs
Test weight ..... 3380 lbs
Weight distribution front/rear 47/53%
Pounds per bhp (test weight) 7.9
Suspension F: Ind., unequal length wishbones, coil springs, anti-sway bar.
R: Ind., lower transverse link, half-shafts acting as upper locating members, trailing arms, transverse leaf spring.
Brakes ..... 11.75-in discs, front and rear, 461.2 sq in swept area
Steering ..... Recirculating ball
Turns, lock to lock 3
Turning circle ..... 36 ft
Tires ..... 7.75 x 15
Revs per mile 760

CHECK LIST

ENGINE

Starting	Good
Response	Good
Noise	Fair
Vibration	Fair

DRIVE TRAIN

Clutch action	Excellent
Transmission linkage	Excellent
Synchromesh action	Excellent
Power-to-ground transmission	Fair

BRAKES

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

STEERING

Response	Good
Accuracy	Fair
Feedback	Fair
Road feel	Good

SUSPENSION

Harshness control	Good
Roll stiffness	Good
Tracking	Good
Pitch control	Good
Shock damping	Good

CONTROLS

Location	Good
Relationship	Good
Small controls	Good

INTERIOR

Visibility	Gooo
Instrumentation	Excellent
Lighting	Good
Entry/exit	Fair
Front seating comfort	Good
Front seating room	Good
Rear seating comfort	—
Rear seating room	—
Storage space	Poor
Wind noise	Fair
Road noise	Fair

WEATHER PROTECTION

Heater	Excellent
Defroster	Excellent
Ventilation	Good
Weather sealing	Good
Windshield wiper action	Good

QUALITY CONTROL

Materials, exterior	Good
Materials, interior	Good
Exterior finish	Good
Interior finish	Good
Hardware and trim	Good

GENERAL

Service accessibility	Good
Luggage space	Poor
Bumper protection	Good
Exterior lighting	Good
Resistance to crosswinds	Good