

Sometimes, when you probe too deeply into his Corvettes, Zora Arkus-Duntov goes opaque. It happens when you question an engineering change that perhaps required a measure of political finesse—and compromise—with the cost accountants. Or when you encounter some detail that he feels strongly about but is afraid the majority will misunderstand. Then Duntov pulls down the shade and becomes inscrutable.

"Zora, the rear window on the 1973 Coupe no longer is removable. Are the customers going to like that?" A thin, elusive smile. A slight shrug. "We know what is best for them." He says it lightly, as if it were a joke. It is not. He has reasons. Decisions on the Corvette are not made capriciously and he wouldn't want anybody to think they were. "At 140 mph, with the roof panels off and the side windows up, the air in the cockpit is still. The wind goes right over the top. Remove the rear window and you get a buffeting backdraft." So the rear window doesn't come out anymore. Some of the customers—those who would never bother to try it both ways—may be disappointed. That doesn't worry Duntov. He knows precisely what is good for them.

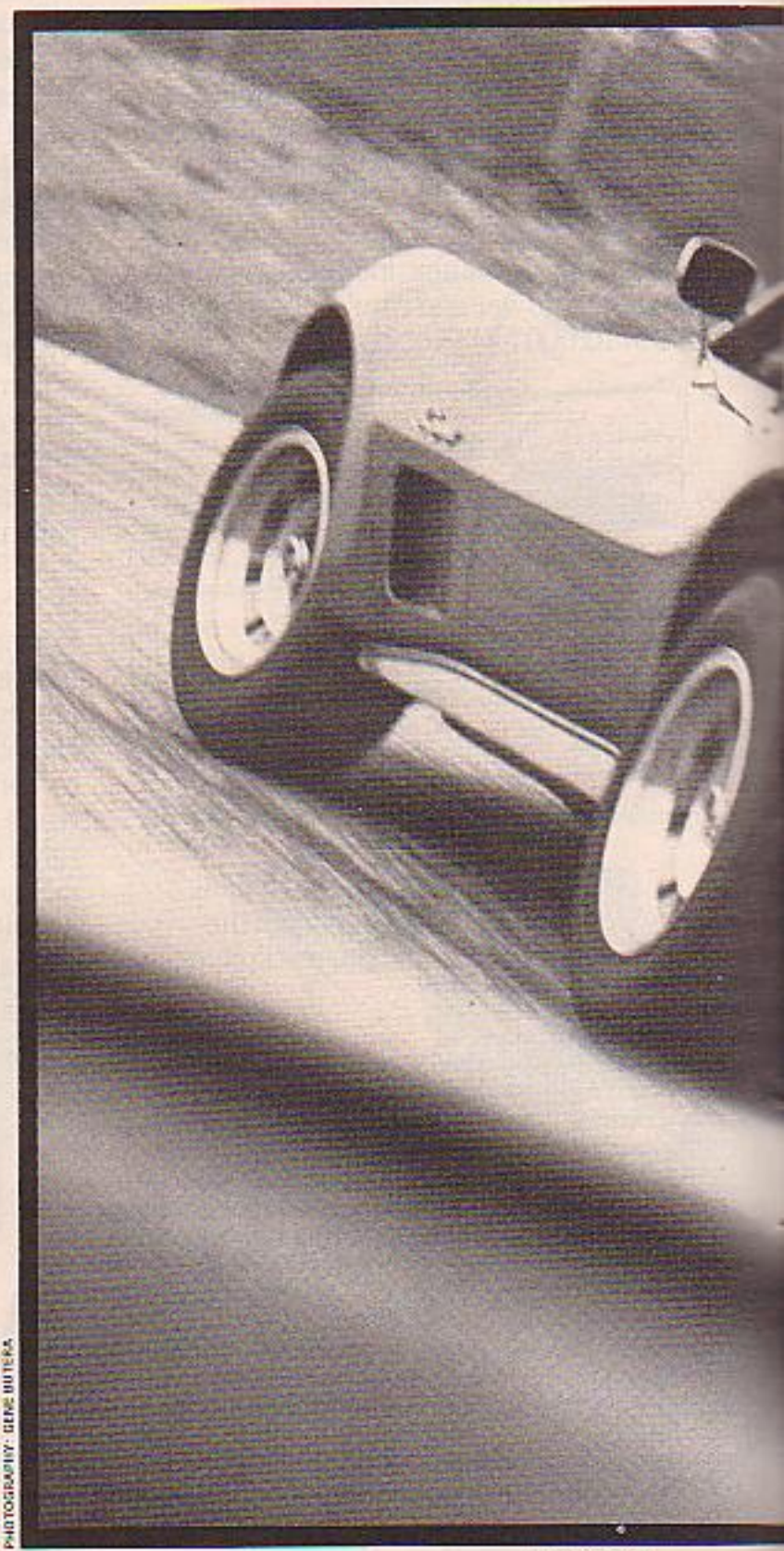
Which is the way it has been almost from the first. With the 1973 model the Corvette enters its third decade of production and now, as in the beginning in 1953, it is America's only sports car. Considering his present stature, it is surprising to find that Duntov was not a part of the original Corvette project. However, he was soon drawn into it and he is certainly the architect of its performance image that began to emerge with the 1956 models. Since then his influence has grown to the point where he is known worldwide as the Father of the

“
Zora Arkus-Duntov reckons
the new Corvette to be the best
ever, and after exhaustive testing
of four different models,
we're inclined to agree
”

Corvette, a position all the more remarkable in Detroit, the land of the committee car. So it follows, then, that if you are to understand the Corvette you must not only drive it with an open mind but also hear of it from Duntov.

It was about mid-summer, just when Detroit's new models were being shown to the press, that he called *C/D's* New York office. There was enthusiasm in his voice. He wanted us to know about his new Corvette. No, it wasn't to be the mid-engine car that was widely rumored for 1973 introduction, the Corvette Duntov has been measuring in his mind for at least 10 years. The bumper and safety laws have delayed that model. Instead, Duntov's new car would look much like last year's . . . but it would be improved. It would be quieter, much quieter, and would meet the bumper laws with only a small increase in weight. Nor would performance suffer to any great degree—to offset the power losses caused by tightened emission control requirements a cold air hood would be standard. Handling in normal traffic situations would be better too because of new radial ply tires and light-alloy wheels. Duntov was pleased. He reckoned that the new Corvette was the best ever and if we wanted to test one, or several, he would help in any way we asked.

1973 CORVETTE



PHOTOGRAPHY: GENE BUTERA

COMPARISON TEST



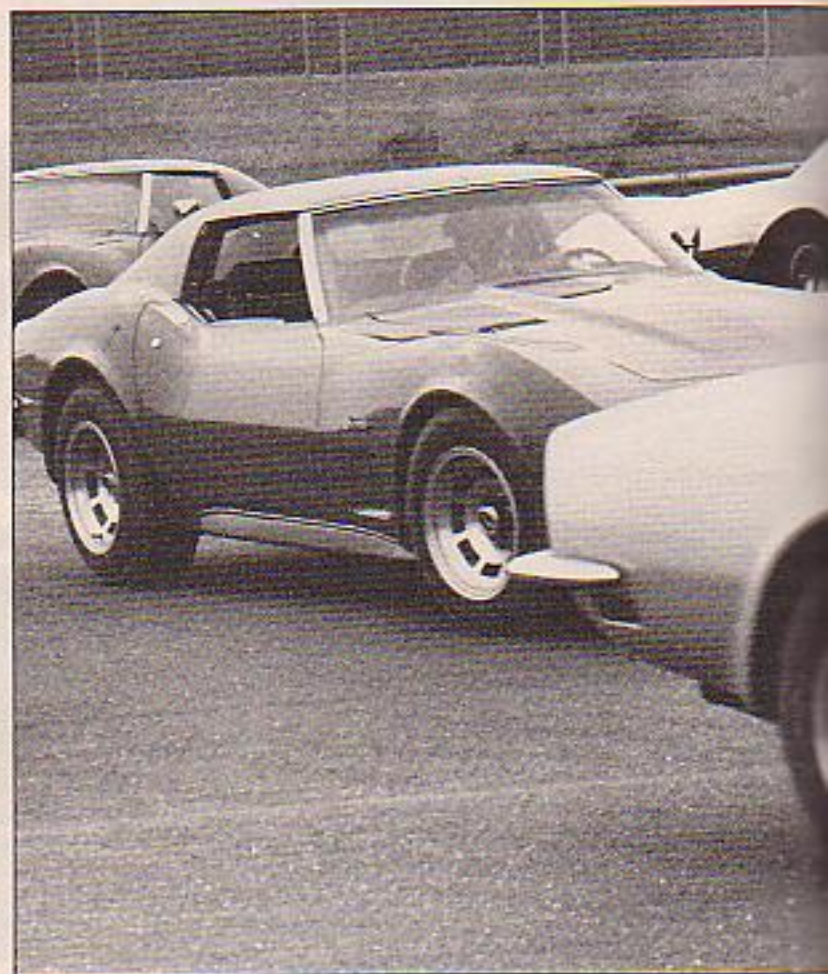
That was the beginning. In September, even before the new models were introduced to the public, a van containing four new Corvettes arrived at *C/D*'s Long Island proving grounds, New York National Speedway. Along with them was Duntov. And even as the Corvettes were backing down the unloading ramp he began to point out differences between old models and the new. He started with the nose that can now live through a 5 mph punch into a barrier. The part you see is all body color, a flexible overlayer of molded urethane. Invisible behind the skin, doing much the same job as a stay hidden within a shirt collar, is a steel bumper bar attached to the frame by two ductile steel draw bolts. Collision energy is absorbed by the permanent deformation of the bar and by the extrusion of the two bolts through dies. The urethane, on the other hand, pops back out to its original shape. But the system is designed so that a 5 mph collision completely uses up the bumper bar and the two bolts. They then have to be replaced if you are to have protection for the next impact. Although it is obscure, this requirement is founded in logic. The system could have been self-restoring but such an arrangement is heavier . . . much heavier. Moreover, if that additional weight had been hung out well forward of the front wheels it would certainly have compromised handling. Which Duntov considers too great a price. We agree. So his new Corvette has a bumper that sticks out three inches farther than the old one, and it admittedly adds a certain amount of weight, but it doesn't ruin the car. And now the Corvette can live through a common parking lot tap on the nose without tearing up \$500 worth of fiberglass. Considering the circumstances—Washington on one side and customers who expect uncompromised performance on the other—Duntov and his engineers had very little choice.

Knowing that they were being asked to add weight to the Corvette in an area that most customers don't really care about has also made the engineers weight conscious throughout the car. Meaningless pounds have been exchanged for ones that do some good. The old die-cast aluminum flap at the base of the windshield which served to hide the windshield wipers is gone now along with its vacuum actuating mechanism. Who needed it? GM Futurama styling at its worst. You can sense, when you talk to him, that Duntov may have liked the hidden wiper system from an aerodynamic point of view, but there was one problem he couldn't ignore. If you ever need the wipers in a hurry, say just after meeting a truck on a curving wet road, you would have to wait a second or so for the flap to move out of the way so the wipers could go to work. And there could be circumstances where that second would be too long. Consequently, all of that machinery is pared off now, along with about 10 pounds.

There is another 35 pounds to be saved—compared to the standard equipment steel wheels with hub caps and trim rings—if you go for the optional cast aluminum wheels. The new Corvette wheels are eight inches wide, as are the steel ones they replace, but the weight reduction, particularly when it is all unsprung, gives this option a functional importance rather than just flashy styling. The wheels are not made by Chevrolet but rather by American Racing Equipment in California, the company famous for the original "American Mags." The Corvette wheels, however, will not have the corrosion problems of real magnesium wheels because aluminum is all but indifferent to road salts. Duntov, based on his experience with optional aluminum wheels on 1983 and 1984 Corvettes, is confident of that.

Still the fact remains that even with the weight savings present in the new windshield wiper arrangement and the

light-alloy wheels and other subtleties such as the Coupe's fixed rear window, the 1973 Corvette is roughly 100 pounds heavier than last year's model. Apart from the addition of guard beams in the doors, and of course the bumper, most of that is extra sound deadener. An asphalt-based insulation is now sprayed on to the floor and most other interior panel surfaces. There is a blanket under the hood where none existed before and a more effective one up under the dash. All of this plus a new system of rubber body mounts (past models used solid mounts) completely transforms the Corvette's personality. It now has the smoothness and silence expected—but frequently not present—in a Grand Touring car. The creaking long associated with the Corvette's fiberglass body is much more subdued now and great strides have been made in interior sound level. For the noisiest combination, the high-performance small block engine with a manual transmis-



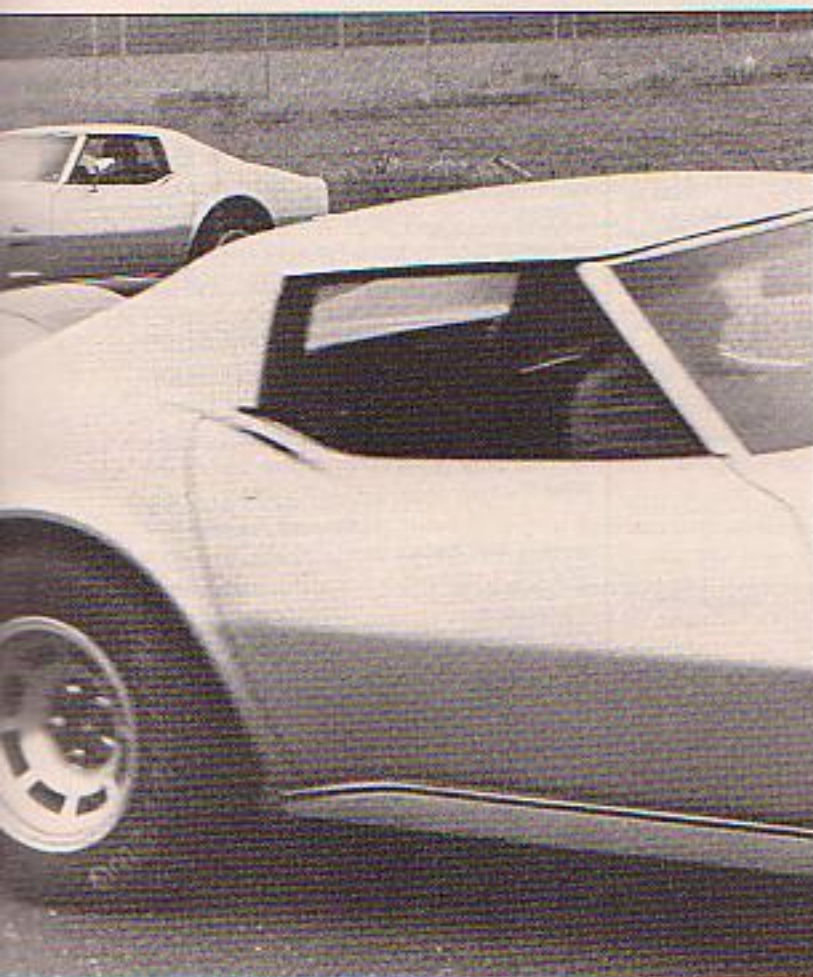
sion, the sound has been cut from 81 dBA last year to 79 dBA now at a constant 70 mph. And the quietest set-up, the 454 automatic, is down to 77 dBA.

There is, however, one mode of operation in which the new Corvette is distinctly louder than many of its predecessors. That is full-throttle acceleration. The reason is the standard-equipment ducted hood. When the driver floors the accelerator, a solenoid opens a valve in the hood scoop at the base of the windshield to let cool outside air in . . . and induction noise out. Because of the Corvette's small underhood area—which tends to increase temperatures—the need for such a cold air bath has long been present. In fact, a few years ago a ducted hood was a standard part of the ultra high performance L-88 package—but that was never considered streetable. Now, with underhood temperatures rising with every increasing stage of emission control and with engine power



dropping off in like increments, cold air to the carburetor is one of the most effective methods of salvaging lost power. And the new hood is highly effective. Duntov reports that compared to a non-ducted hood, it cuts 0-60 mph times by a full second in the standard engine Corvette.

Even so, Corvettes in general end up slower than last year. It seems inevitable. With the cars being heavier and the engines roughly the same—the 454 gained five horsepower (270 last year to 275 now) and the optional high-performance 350 lost 10 (down to 245)—you could hardly expect anything else. The low-compression, hydraulic-lifter 454 is still the hot set-up. Whether you choose a 4-speed transmission or an automatic, the quarter-mile times come out to about 14.7 seconds at 97 mph in either case. And because it is considerably easier to feed the power to the ground through the automatic, that combination is more consistently fast.



But the most significant indication of the transformation that has taken place in the Corvette is not simply that it is slower than last year but rather, that a mechanical-lifter engine is no longer on the option list. At first it seems unthinkable. High winding engines and valve train clatter have been Corvette trademarks since 1956. To the enthusiast, it was those solid lifters that separated the Corvette engines from their weaker passenger car siblings. And now, with the passing of the LT1, it is reasonable to say that The Corvette Engine no longer exists. In its place is the L82, a low-compression descendant of the high-performance hydraulic-lifter 350 that was quietly discontinued at the end of the 1970 model year. And when you remember that low emissions and a polite demeanor are more in demand now than ever, you have to admit that the L82 fits right in. It marches with determination right up to its 5500 rpm redline, yet it idles smoothly enough so that air

L82 4-speed

Price as tested: \$7127.50

Options on test car: Base Corvette Coupe, \$5561.50; L82 engine, \$299.00; air conditioning, \$452.00; heavy duty battery, \$15.00; power steering, \$113.00; power brakes, \$46.00; power windows, \$33.00; custom seat belts, \$41.00; map lamp, \$5.00; AM/FM Stereo radio, \$276.00; tilt-telescopic steering wheel, \$82.00; custom interior trim, \$154.00; cast aluminum wheels, NA.

ENGINE

Bore x stroke	4.00 x 3.38 in., 101.5 x 88.4mm
Displacement	350 cu in., 7430cc
Compression ratio	9.0 to one
Carburetion	1 x 4-bbl Rochester Quadrajet
Power (SAE net)	250 bhp @ 5200 rpm
Torque (SAE net)	285 lbs-ft @ 1400 rpm
Max recommended engine speed	5500 rpm

DRIVE TRAIN

Transmission	4-speed, all-synchro		
Final drive ratio	3.70 to one		
Gear	Ratio	Mph/1000 rpm	Max. test speed
I	2.20	9.7	53 mph (5500 rpm)
II	1.64	13.0	71 mph (5500 rpm)
III	1.27	16.8	92 mph (5500 rpm)
IV	1.00	21.4	117 mph (5500 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase	98.0 in
Track, F/R	58.7/59.5 in
Length	184.7 in
Width	69.0 in
Height	47.7 in
Curb weight	3540 lbs
Weight distribution, F/R	51.1/48.9%
Fuel capacity	17.5 gal
Oil capacity	5.0 qts
Water capacity	17.0 qts

SUSPENSION
 F: Ind., unequal length control arms, coil springs, anti-sway bar
 R: Ind., trailing arm, transverse strut, fixed-length half-shaft, transverse leaf spring

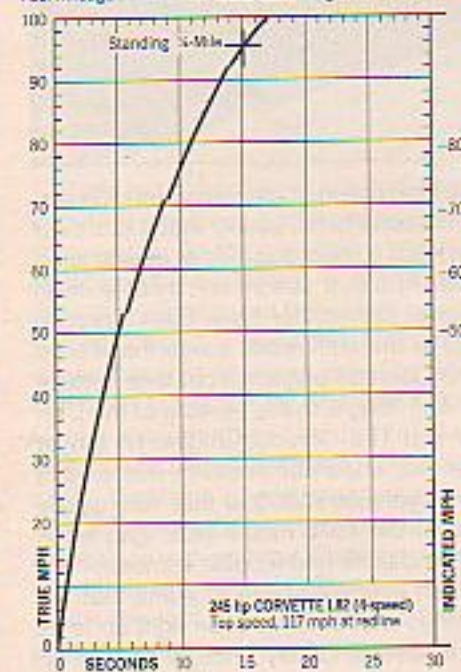
STEERING
 Type: Recirculating ball, linkage booster
 Turns lock-to-lock: 3.4

BRAKES
 F: 11.8-in vented disc, power assist
 R: 11.8-in vented disc, power assist

WHEELS AND TIRES
 Wheel size: 8.0 x 15-in
 Tire make and size: Firestone GR70-15

PERFORMANCE

Zero to	Seconds
40 mph	3.5
60 mph	6.7
80 mph	10.8
100 mph	17.1
Standing 1/4-mile	15.1 sec @ 95.4 mph
Top speed (at redline)	117 mph
70-0 mph	209 ft (0.78 G)
Fuel mileage	10.0-13.0 mpg on 91-octane fuel



LS4 4-speed

Price as tested: \$6523.50

Options on test car: Base Corvette coupe, \$5561.50; LS4 engine, \$250.00; performance side rails, \$12.00; power steering, \$113.00; white letter tires, \$45.00; AM/FM radio, \$173.00; 207 offroad package, \$369.00; cast aluminum wheels, NA.

ENGINE

Bore x stroke	4.25 x 4.00 in., 108.0 x 101.5mm
Displacement	454 cu in., 7430cc
Compression ratio	8.25 to one
Carburetion	1x4-bbl Rochester Quadrajet
Power (SAE net)	275 bhp @ 4400 rpm
Torque (SAE net)	395 lbs-ft @ 2800 rpm
Max recommended engine speed	5500 rpm

DRIVE TRAIN

Transmission	4-speed, all-synchro		
Final drive ratio	3.55 to one		
Gear	Ratio	Mph/1000 rpm	Max. test speed
I	2.20	10.1	55 mph (5500 rpm)
II	1.64	13.6	75 mph (5500 rpm)
III	1.27	17.5	95 mph (5500 rpm)
IV	1.00	22.3	111 mph (5500 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase	98.0 in
Track, F/R	58.7/59.5 in
Length	184.7 in
Width	69.0 in
Height	47.7 in
Curb weight	3585 lbs
Weight distribution, F/R	52.3/47.7%
Fuel capacity	17.5 gal
Oil capacity	6.0 qts
Water capacity	25.0 qts

SUSPENSION
 F: Ind., unequal length control arms, coil springs, anti-sway bar
 R: Ind., trailing arm, transverse strut, fixed-length half shaft, transverse leaf spring, anti-sway bar

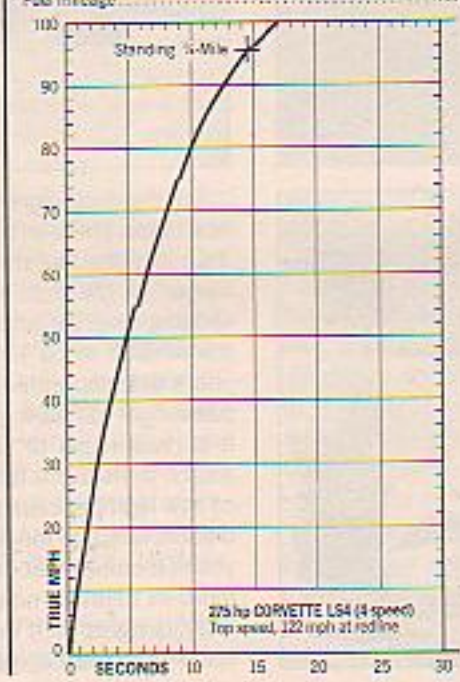
STEERING
 Type: Recirculating ball, linkage booster
 Turns lock-to-lock: 3.4

BRAKES
 F: 11.8-in vented disc, power assist
 R: 11.8-in vented disc, power assist

WHEELS AND TIRES
 Wheel size: 8.0 x 15-in
 Tire make and size: Firestone GR70-15

PERFORMANCE

Zero to	Seconds
40 mph	3.5
60 mph	6.4
80 mph	10.0
100 mph	17.0
Standing 1/4-mile	14.6 sec @ 95.7 mph
Top speed (at redline)	122 mph
70-0 mph	N.A.
Fuel mileage	N.A.



LS4 automatic

Price as tested: \$7097.50

Options on test car: Base Corvette coupe, \$5561.50; LS4 engine, \$250.00; Turbohydramatic transmission, \$97.00; power steering, \$113.00; power brakes, \$46.00; AM/FM radio, \$173.00; air conditioning, \$452.00; power windows, \$33.00; custom interior trim, \$154.00; Tilt-Telescopic steering wheel, \$82.00; rear window defroster, \$41.00; white letter tires, \$45.00; cast aluminum wheels, NA.

ENGINE

Bore x stroke	4.25 x 4.00 in., 108.0 x 101.5mm
Displacement	454 cu in., 7430cc
Compression ratio	8.25 to one
Carburetion	1x4-bbl Rochester Quadrajet
Power (SAE net)	275 bhp @ 4400 rpm
Torque (SAE net)	395 lbs-ft @ 2800 rpm
Max recommended engine speed	5500 rpm

DRIVE TRAIN

Transmission	3-speed, automatic		
Max. torque converter	2.10 to one		
Final drive ratio	3.08 to one		
Gear	Ratio	Mph/1000 rpm	Max. test speed
I	2.48	10.4	57 mph (5500 rpm)
II	1.48	17.4	96 mph (5500 rpm)
III	1.00	25.7	110 mph (4200 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase	98.0 in
Track, F/R	58.7/59.5 in
Length	184.7 in
Width	69.0 in
Height	47.7 in
Curb weight	3742 lbs
Weight distribution, F/R	52.8/47.2%
Fuel capacity	17.5 gal
Oil capacity	6.0 qts
Water capacity	25.0 qts

SUSPENSION
 F: Ind., unequal length control arms, coil springs, anti-sway bar
 R: Ind., trailing arm, transverse strut, fixed-length half shaft, transverse leaf spring, anti-sway bar

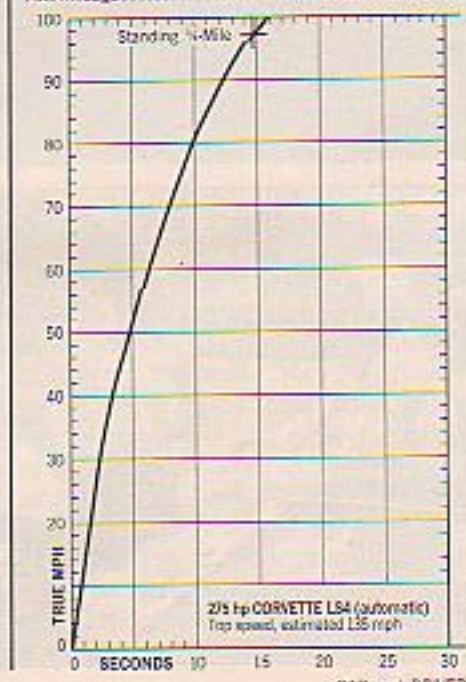
STEERING
 Type: Recirculating ball, linkage booster
 Turns lock-to-lock: 3.4

BRAKES
 F: 11.8-in vented disc, power assist
 R: 11.8-in vented disc, power assist

WHEELS AND TIRES
 Wheel size: 8.0 x 15-in
 Tire make and size: Firestone GR70-15
 Tire load rating: 1620 lbs per tire @ 32 psi

PERFORMANCE

Zero to	Seconds
40 mph	3.5
60 mph	6.4
80 mph	10.0
100 mph	16.0
Standing 1/4-mile	14.7 sec @ 97.2 mph
Top speed (estimated)	135 mph
70-0 mph	195 ft (0.85 G)
Fuel mileage	N.A.



Now you can order a Vette with the heavy duty suspension that used to be just for racers



• The one thing Duntov never wanted any of his customers to have—any that weren't actually going racing, that is—was the heavy duty suspension option (code F41). Because he knew what it did. In addition to sharpening the handling beyond what almost anyone could imagine for a street car it also solidified the ride to the point where it would shake your ears off. Which would be okay if that is what the customer wants . . . but most of them don't. In fact, the real problem is that most Corvette customers don't know what they want . . . aside from "a Vette." And what makes it even worse, there are too many people with \$10,000 to spend for a car who will go down the option list and check off every item, just to get a Corvette with "everything." To protect them from themselves, Duntov fixed up the option sheet so that nobody could buy the heavy duty suspension unless he ordered the Special Purpose (which is to say racing) car. Needless to say, not very many people bought the heavy duty suspension.

But the 1973 Corvette, it turns out, is a whole lot happier with stiff suspension than any past model. The standard radial ply tires ride better and the new rubber body mounts

kill a good bit of the noise associated with road shock. So Duntov has relented. You can now order the heavy duty suspension and heavy duty brakes together in a single package (code Z07, \$369) provided you also demonstrate your sincerity by opting for one of the two high-performance engines and back up your choice with a close-ratio 4-speed transmission. But if you can't pass up the air conditioning, forget the suspension. You're not considered to be one of the worthies.

Two of the cars in this test had the heavy-duty suspension along with standard shock absorbers, a combination we think is tolerable for enthusiastic street drivers. The stiff springs limit suspension deflections and speed up the ride frequencies—the difference between the standard Corvette and the heavy duty option is very noticeable in this regard—but even so, an F41-equipped Corvette is no more extreme than, say, a Maserati Bora.

But the handling is truly exceptional. Transient response is very quick with somewhat less understeer than the standard set-up. It feels like a racing car; that is, if you drive at racing speeds. In normal street driving the only difference you are likely to feel is the ride.

Included in the F41 suspension are different front and rear springs and a stiffer front anti-sway bar, plus the high control shocks. The springs are much stiffer; ride rates go up by 70% in front and 55% in back. In addition, roll rate is increased about 82% in back but only 41% in front. That is the part that reduces understeer.

An excellent companion to the F41 suspension, if you are serious about high speed capability, is the heavy duty brake option which includes a vacuum power booster, stiffer calipers and more secure pad retention in front and linings with greater fade resistance all around. On the street you won't notice the difference—the heavy duty brakes won't stop any shorter—but at the track they will stop more often. Which is why Duntov put them on the option list in the first place.

conditioning can be offered as an option. It produces nearly the same power output as the LT1 it replaces and does so with considerably less mechanical noise. Clearly, it is an engineering success but, at least from the traditionalist's point of view, something of an artistic failure. Yet, when it comes to making a choice, the L82 is the engine we prefer. Duntov and the other Corvette engineers gravitate toward the big blocks because they like the torque. And granted, the 454s will squirt through traffic with just a feather touch on the gas pedal. But, to us at least, the small block engine contributes to a fine sense of balance in the Corvette that is rare in any GT car, so rare that it would be a shame to exchange it for a few lb.-ft. of torque. Steering effort is less with the 350, even with power steering; the engine sound is louder but it also seems more eager and the higher speed of the torque peak provides incentive to use some revs and engage in spirited driving. Invitations like that should not be turned down.

The Corvette's specialty is clearly stated on its invitation, too. It's a powerful car but definitely not a drag racer. The long first gear of its close-ratio transmission makes starting from rest a very demanding job. Instead, the car feels as if it were

developed on a road course. No other production sports car is so smooth and manageable at its limits and none will cover for the driver's mistakes as quickly and easily as will the Corvette. It understeers but only a little considering the power it has on tap. And the on-and-off-power and the straight-to-curve transitions are gradual and smooth. Consequently, it is a very quick car over the road, faster than any other at the same price. It's comfortable. Everybody fits into the cockpit except for the very tall. The controls are a pleasure to use. But more than anything else, the Corvette's composure in high-speed touring situations must be credited to the steel-belt radial tires which are now standard equipment. They ride better and don't nibble and dart over road irregularities as did last year's bias-belted tires. Altogether, they must be acknowledged an unalloyed improvement.

Which is the way it is with the latest Corvette. Because it looks pretty much the same on the surface as it did six model years ago, there is a tendency to think the same car exists beneath. It doesn't. Zora Arkus-Duntov has been concentrating on the details. And when he says he knows what is best for the customers, believe him.