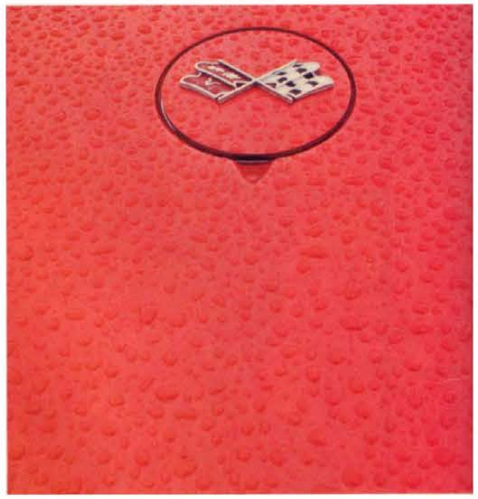


Wildest CORVETTE Test Yet

• Every Body Style • Every Engine • Every Transmission • Every Rear Ratio • Every Major Accessory

BY ALLAN GIRDLER, ASSOCIATE EDITOR

THE GREATEST-EVER Corvette test began with a staff argument, alarums and confusion over which Corvette we'd test this year. No matter which engine/transmission combination was proposed, scores of other combinations, just as interesting to CAR LIFE readers, would be left out. Last year, we compromised and tested two, a brisk tourer and a dragstrip special. Something of a cop-out, that was. We neglected all the Corvettes in between.

I have an idea, said a voice from the front of the room. We'll test *all* the Corvettes—every engine, every transmission, coupes and convertibles, options from air conditioning and genuine leather to thinly disguised racing cars with competition tires and huge, ferocious engines. Every final-drive ratio a CAR LIFE reader would be likely to choose for himself. Then we'll put them all through every pace that comes to mind.

But nobody's ever done it.

So we'll start something.

But multiplying all the engines by all the transmissions by all the gear ratios totals hundreds of Corvettes.

So we'll pick the best examples, with gearing appropriate for several uses.

But what will the factory say?

A PRIDE OF CORVETTES tours the track at Phoenix at the start of the wildest test. Guess which car is the lightweight, 500-bhp ZL-1.

COLOR PHOTOGRAPHY BY BILL MOTTA

The factory thought it was a fine idea. Why didn't we think of it before? Chevrolet built and shipped six Corvettes and offered to meet us halfway. We'd drive some of the cars to Phoenix, and Zora Arkus-Duntov, the brains and enthusiasm behind Corvette since Corvette began, would meet us there. He would bring his ZL-2, the aluminum-block 427 built to stomp Brand F in production sports car racing. We could ride in it, drive it, take a few times and maybe Duntov could be persuaded to teach us how to drive.

We did it all, and then some. The factory couldn't supply two of the cars we wanted, but we scouted around and found two enthusiastic owners of the models we had in mind. They let us drive their Corvettes.

The testing program took weeks, and covered thousands of miles. We drove Corvettes, lived in Corvettes. Through the mountains, across the prairies, to the streets of Southern California, white with foam (it was the worst rainy season in 30 years). We toured San Diego with a police escort (it wasn't what it sounds like—keep reading). Seven Corvettes got the full treatment at Orange County International Raceway. Two models, the basic model and Duntov's Delight, were only available for impressions, but we know what they'll do.

Then we called in more experts—Corvette owners. We asked them why they bought their cars, what they do with them, and what problems they have. Their comments are included in the tests that follow.

We like Corvettes. With apologies to America's other two-seater, Corvette is *the* sports car, the best-handling road car built in this country, and several other countries as well.

That brings up one very important point. The Corvette is a sports car. It is not a Chevrolet sedan with a zoomie body. Corvettes are put together by hand, and dealers who love and understand them are few and far between. Corvettes are likely to have more teething troubles than standard passenger cars do, and the Corvette owner is more likely to have trouble having things put right. We won't list the little things wrong with our test cars. They were minor annoyances, but not design flaws.

Compared with the average domestic sedan, a Corvette is lots of trouble. Compared with the average sports car, it isn't. Corvette owners know this. Would-be owners should keep it in mind. Buy the car from a dealer who likes Corvettes, or who will go the extra mile to make his customer happy. Preferably both.

Enough grim warnings. Here we are at Mel Larson's Sportsland, a dragstrip and road-racing course outside Phoenix. On a trailer parked near the timing stand is a white Corvette coupe. Standing near it is a wiry, silver-haired man with a hawk nose, a boyish grin and just a trace of a Teutonic accent. He opens the Corvette's door. . . . ▶

CORVETTE:

WHY IT IS THE WAY IT IS

. . . Because of Zora Arkus-Duntov, not only the builder, but No. 1 Corvette fan. He's quick to praise it, quick to fault it, and ready to improve it.

HIS LABORATORY looked like just another race-ready Corvette until Zora Arkus-Duntov wedged himself into the seat, buckled helmet and harness and started the engine. Some 500 horses thundered out the open exhaust pipes. When the needles moved off their pegs, Duntov nodded to his passenger: "We'll take it easy."

Then he rapped off a standing quarter-mile in 12.1 sec. and took a quick lap around the road course, cornering and braking at one G while the delighted passenger rocked back and forth in his harness like a tether ball on a short rope.

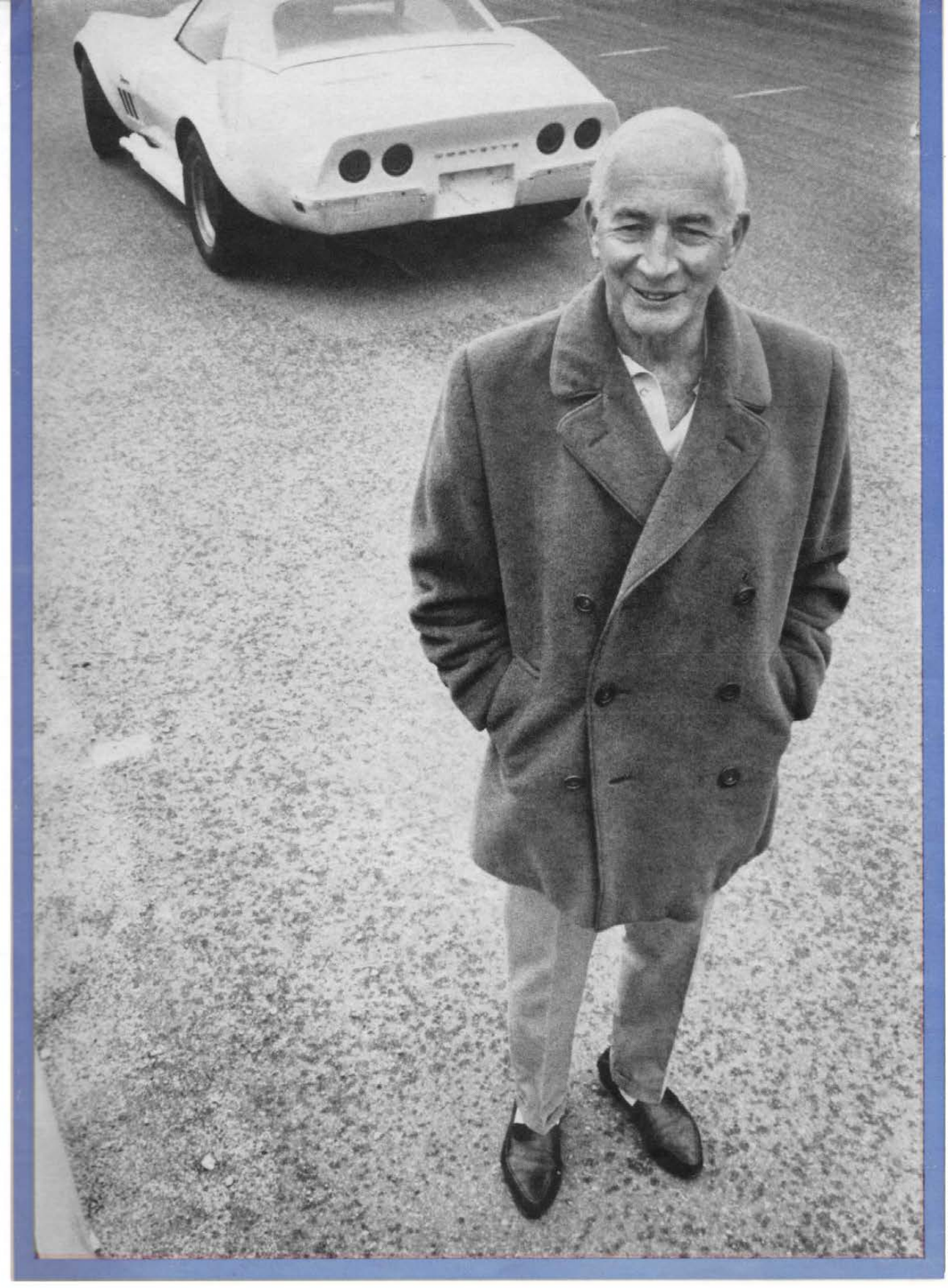
Duntov directs Chevrolet's high-performance vehicle program. His laboratory is the ZL-1, an aluminum-block version of the 427-cid racing V-8. Duntov came to the track to talk about the ZL-1 and to show that one lap is worth one thousand words. It was a convincing demonstration, but Duntov's words are worth more than ordinary words. He has the rare gift of understanding what others can't explain, and explaining it so anyone can understand.

Duntov discussed power-assisted steering for racing cars. Street Corvettes do have optional power steering, and Duntov approves. "It's not integral. We do have road feel. It has a built-in feedback, and you have resistance in proportion to tire adhesion."

The problem is tires. The current racing tire contact patch is wider than it is long. A street tire has a long, thin footprint. When the car pushes one direction and the pavement resists, the street tire is twisted. The twisting force is transmitted by the steering to the driver. The short, wide racing tire is pushed. It has less self-aligning torque. Road feel comes from self-aligning torque. Power steering, even on Corvettes, has less feel than manual steering. Racing tires don't transmit as much feel as street tires do. Result: "We couldn't get enough feedback. We've shelved that, temporarily."

Automatic transmissions for racing are also being investigated. Duntov said the controls are no problem. Chevrolet's transmission engineers could design a driver-controlled automatic as a routine chore. Efficiency is so good now, and power so available, that the racing car with automatic would be just as fast.

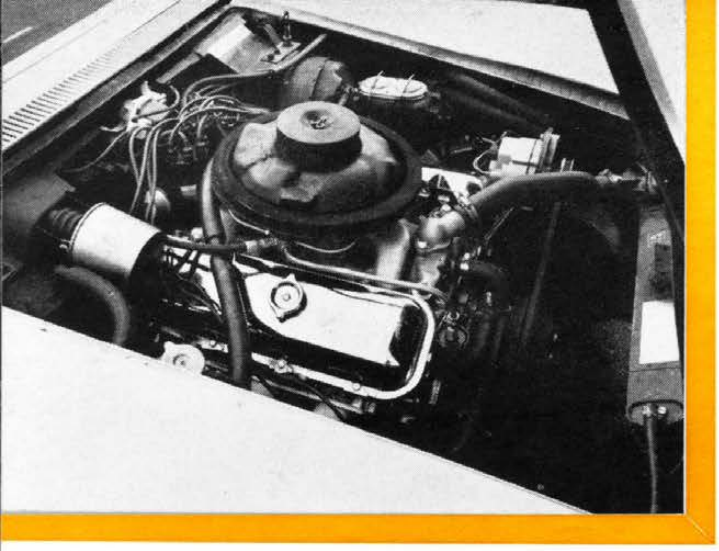
But there is a hang-up. Automatics now used in passenger cars, the basic designs Duntov and Chevrolet's high-



PHOTOS BY BILL MOTTA

performance engineers would have to use, have planetary gears. Because of the sizes of the parts, planetary gears are all wide ratio. The closest they can be is about 1.3:1. A racing engine develops power in a narrow band of rpm. It needs close-ratio gears. Racing transmissions have gear spreads of 1.2:1. Until there's a way to build close-ratio automatics, Duntov said, the manual transmission will be the best choice.

Duntov talked about his battles, won and lost, inside the company and out. Heard about the executive's wife, the one who burned her leg on the side-mount exhaust and caused the option to be dropped? Don't believe it. The current Corvette body has a Coke-bottle shape, with the lower part of the body sculptured between the front and rear wheel wells. It makes the stylists proud. Last year, they wanted to show it off, and they won:



THE ZL-1, aluminum block version of racing 427, develops 500 bhp, "eased through" 12.1 quarter-mile.

THE SURE, quick hands of Zora Arkus-Duntov, put ZL-1 to work on tight, flat Phoenix course, cornering and braking at 1 G.

DUNTOV

continued

No side exhausts. But Duntov has an unlikely ally. The sales department heard the voice of the customer, who wanted the side pipes and didn't care about the styling. The side mounts are back on the option list.

The LT-1, announced as the top small-block performance engine for 1969, then quietly dropped, was one of Duntov's losses. He believes in the small, wild engine, thinks that's what Corvette is all about. The LT-1 is a 350-cid Z/28. Same camshaft, same intake manifold and carburetor, but with more inches. It was to be the club racer's car, the scourge of the Sports Car Club of America's B-Production class, just as the L-88 is the car for the semi-pro competing in A-Production.

But Duntov and the LT-1 lost, to the customer and the production line. The customers keep surprising the factory by buying more and more Z/28s. The production men said they couldn't get enough parts for the LT-1 and that the logistics of delivering the parts to the Corvette assembly plant and keeping track of one more engine was more than they could bear. Next year, Duntov said, there will be an LT-1. (There is a way this year. Keep reading and you'll find out how one Corvette fan did it.)

On that subject, any chance of a Z/28 Corvette? No. The 302-cid V-8 is an "artificial" engine, built to put Camaro into the Trans-Am series. The 302- and 350-cid engines are built from the same block. They weigh the same. The larger the displacement, the higher the tolerance for wild camshaft timing. In equal stages of tune, the 350 will have more horsepower and more torque with less fuss and the same weight. It won't wind quite as high. Trading 90 ft./lb. of torque for a handful of revs strikes Duntov as a bad bargain, and there are no plans for a Z/28 Corvette.

Duntov hoped the SCCA would help the LT-1, but it didn't happen. The SCCA won't allow production cars to use parts that aren't sold by the factory on the car, so the LT-1 isn't listed as accepted for racing. If it had been, maybe Duntov would have better luck with the production men.

He concedes that point, and is still fighting for the L-88's fender flares. The rules say the tire must be under the fender. The wider the fender, the bigger the tire. On the assembly line, the Corvette body fits into a jig. There's no room for the flares, and Duntov can't justify changing the jigs "for a few hundred racing cars." A set of fender flares is in the trunk of every L-88 when it's delivered. The customer must deal with the technical inspectors as best he can.

In his role of proud parent, Duntov freely admits the Corvette has a few minor faults. What about the gyrations needed to load and unload the trunk? "It keeps your back muscles in shape, bending down like that."

Isn't the ride harsh at low speeds? Yes. The suspension is tuned for 80 to 120 mph. Change it and, "you'd penalize the man who's going to drive it fast."

Why not a four-place Corvette? He'd like to build one, so the Corvette owner won't have to sacrifice his family. "Corvette owners are the cream of the population. We want them to reproduce."

He tried. When the present Corvette was being designed, the engineers built a stretched version, with four seats. It "was neither fish nor fowl," and another project went on the shelf.

There won't be two Corvettes, sporting and luxury. When the Corvette and the Thunderbird began, both were boulevard sports cars. The Thunderbird grew into a luxury car, and the Corvette was refined into a raceable sports car. Duntov thinks Ford walked away from the best market, and he's not going to follow the example.

Asking about the next Corvette is the only way to lead Duntov into a vague answer. He knows what's coming, but he can't say.

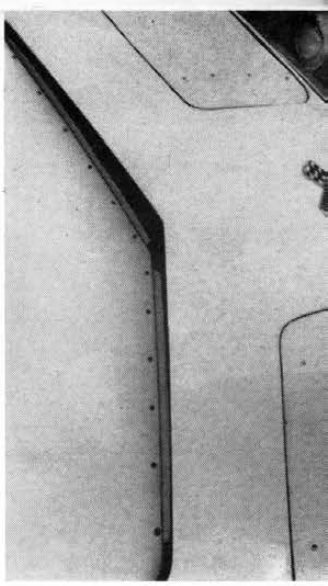
Still, there are some interesting inferences editors can draw. Can the Corvette be lowered? Not in its present form. The engine is only five inches from the ground. It can't be lowered without an expensive and complicated dry-sump oil system. The driver can't be lowered. He can barely see over the engine as it is. "To get it lower, you'll have to move the engine from where it is."

Aha, the rear-engine Corvette! (Rear engine is Duntov's term. He doesn't use "mid-engine." Says it's an evasion by advertising men who don't want to scare customers weaned on the notion that rear engines are dangerous.)

But that puts weight in the back, right? Yes, Duntov said, and that's where it belongs. With 40/60 weight distribution, the car is balanced under braking, a plus. It has more weight on the driving wheels when accelerating, another plus. Suspension can compensate for the heavy tail, just as it does for cars with heavy fronts. It's the way to go, Duntov said. He's just as willing to admit that he's felt this way for 10 years, but the factory hasn't yet agreed.

But most of the talking (and riding, driving and all-'round bench racing) involved the ZL-1. The car and its production status say just how serious Chevrolet is about building and selling racing cars.

There's a Duntov message here, too. The amateur racer does his best to build a replica of the factory cars. Duntov identifies with the amateur. His ZL-1 is a replica of the amateur



DUNTOV TO EDITORS and bystanders during rain break: **"We did what a man would do on his own" by removing everything from a Corvette that doesn't look like a racing car. (Lip on leading edge of hood is to hold hood on above 180 mph.)**

racer's car, sort of join-'em-so-they-can-beat-everybody-else.

The engine is an exception in that Duntov's arrived while the club racers were getting in line at the nearest Chevrolet agency. The ZL-1 block is, as mentioned, aluminum. The cylinder bores have cast iron sleeves. In dimension and shape, the ZL-1 is identical to the other 427s, right down to its four-bolt main bearing caps. But it is *100 lb. lighter* than last year's secret weapon, the L-88.

The two benefit each other. The alloy-block engine uses the aluminum cylinder heads and intake manifold developed for the L-88. Development work done for the L-88 shows up on both. The 1969 engines, in iron or aluminum, use stronger connecting rods with bigger bolts. Same for the pistons, which get heads reshaped for a different combustion chamber shape and stronger skirts. The cylinder heads are modified with larger, round exhaust ports and intake ports streamlined for improved flow. The components in Duntov's engine, and in all ZL-1 and L-88 engines, are balanced and inspected to a degree achieved on no assembly line. The engines are "surgically clean," Duntov said. Then he added that if he were buying one, he'd take it all apart, clean it, check it and put it back together himself. No criticism of the builders implied: Any serious racer or engine builder would do the same thing.

The engine is special, but the car looks like loving hands at home. It is. Duntov's test car started life as a stock L-88. He and his crew did "what a man would do on his own"—they removed everything that didn't look like a racing car. With steel headers replacing iron exhaust manifolds and mufflers, minus headlights, bumpers, upholstery, spare tire mount, heater, etc., the car sheds close to 400 lb. The aluminum components subtract another 175. Without driver or fuel, the car weighs 2908 lb. Body modifications were limited to the quasi-legal flares, rivets over the headlight doors and an aluminum lip along the front edge of the hood.

Another Duntov story there. He was conducting some high-speed tests, at 180 or so, when air trapped underneath the car escaped, taking the hood with it. It happened so fast Duntov never saw the hood sail over his head. The postmortem showed it pulled the hinges out, so the lip is there to prevent that from happening again.

There's a hood scoop option (code named ZL-2), the rear-intake cold air system that's also an option on Camaros, and an air cleaner/director Duntov calls the Tranquilizer. With the scoop open, the incoming air buffets around unless the cleaner is there to calm and point it. Once, in Duntov's absence, some non-believers decided they had a speed secret, so they took off the air cleaner, just like the good old days. The engine refused to run properly, and Duntov has had a soft spot for the Tranquilizer since.

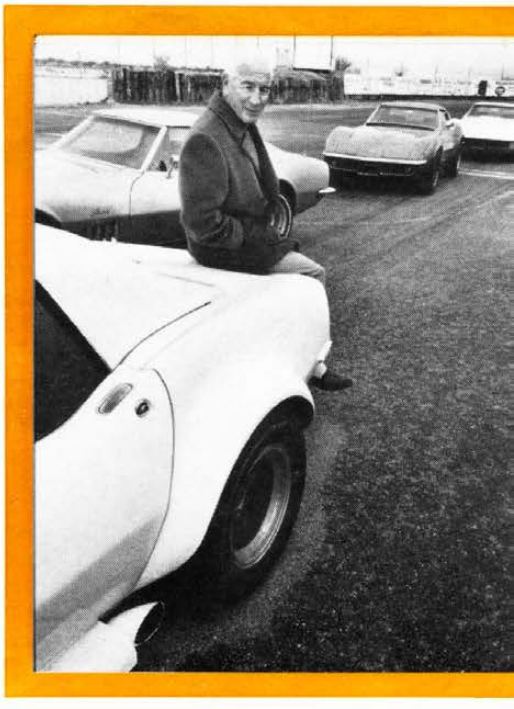
As it appeared in Phoenix, the ZL-1 was prepared for road racing, with 10-in. tires on 9.5-in. rims, a clutch that wouldn't tolerate being slipped, and 3.70:1 gears. Duntov drove the car for a timed quarter-mile carefully, more as a favor than for his own benefit. With an easy start and deliberate shifts, the standing quarter in 12.1 sec., at 116 mph is merely terrifying. A stout clutch, heavy hand and the right gears would put the car into the elevens.

The suspension is stock L-88: stiff. Suspension settings—one degree positive camber in front, one-half degree negative at the rear, 0.125-in. toe in at both ends, are chosen to produce slight understeer. "If you over-drive, you will let up instinctively," Duntov said. "That's enough to save the car. Just wait a moment and let the velocity dispel itself."

On the tight turns, the front plowed a bit, but Duntov's advice worked. Back off and the ZL-1 puts itself on the correct line. On the track's only really fast turn, a 100-mph lefthand sweeper, the car could be driven through in a balanced drift, controlled by flicks of the wheel and throttle.

This is not a road test. The tires on Duntov's ZL-1 have never touched public pavement. The production versions will meet all the standards, and will be sold with street equipment, but using the car as transportation would be wasteful.

And expensive. There is no low-price Corvette, either. The L-88 package is roughly $1000 more than the standard car, and the ZL-1 adds $3000 to that. What sort of man will buy it? Duntov smiled. "First, he'll have a lot of money." ■ ▶



HIGH REVS AND HANDLING WITH THE SMALL BLOCKS

WHAT FUN we will have, we thought when the wildest-ever Corvette test began, and we did. The Corvette test—thousands of miles with cars designed for enthusiasts and a test day with the man who makes it happen—has been the high point of our year.

Start at the beginning, we thought, with a standard Corvette. Use that to build a test story around the small-block engines and transmissions, then do another story about the big-engine Corvettes.

It wasn't that easy. We drew our first conclusion before we had any test cars: The standard Corvette in the factory brochures isn't the standard Corvette in real life. The basic car is a convertible with the 300-bhp/350-cid engine and a three-speed manual transmission. The factory couldn't locate one. The Southern California Corvette clubs didn't know of any. We'd never even seen one.

Nobody buys a sports car for basic transportation. Corvette buyers spend money because they want to. They order what they want, even if it costs more money. The automatic transmission appeals to buyers who don't like rowing through gears. The others are under the spell of the four-speed mystique, the unshakable belief that shifting gears is fun, and that shifting among four speeds is more fun than shifting among three. One sales manager told us that he won't order a three-speed stick, and tells his salesmen to disuade customers who try to get one.

"If they backed out, we'd be stuck with the car. . . . There's nothing wrong with it, you understand. It's just that it goes against the trend. Everybody wants the four-speed or the Turbo Hydro."

The factory is not above taking advantage of this by listing standard and selling options. Of the 30,000-odd Corvettes built this year, 300 will have the three-speed stick.

But we found one via Guaranty Chevrolet in San Diego. The manager there said the agency bought one for price advertising, so they could truthfully proclaim they had CORVETTES! PRICED FROM. . . . ! The day before we called, they sold it. Mike Cicchinelli, a patrolman with the San Diego Police Department walked in to talk Corvettes. He wanted the 350-bhp engine with four-speed. "They told me they had a car with three-speed, and right off I didn't want it. But I drove it and decided, heck, this car doesn't need a four-speed. Besides, I paid less than the sticker price. If I had ordered the car I had in mind, it would have cost me $1500 more."

The car was too new to be tested, but he was happy to let us drive it around San Diego for a few hours, and he even drove the chase car for pictures.

The standard Corvette engine isn't the standard Chevrolet engine. The new-last-year 350 is in the middle of the passenger-car range, but it's the smallest engine offered in Corvettes this year. There is no economy model Corvette, nor will there be an aluminum block 427-cid Nova. With all its models, the factory can draw some lines.

The next two cars in the small-block group represented our thinking in what is really a standard Corvette. Both were coupes and both were easy to get. One was equipped for touring with the 300-bhp engine, Turbo Hydra-Matic, power brakes and steering, air conditioning and a 3.08:1 gearset. The other is just as popular, with different people. It had the 350-bhp engine, close-ratio four-speed transmission, side-mount exhausts and 4.11:1 gears. Just what the acceleration fan has in mind.

Then there came the LT-1, but not officially. The factory listed the 370-bhp/350-cid engine early in the model year, found they couldn't get all the pieces without depriving the Z/28 market, and canceled. But before they did the factory shop manuals came out. All the engine specifications were listed. Some keen minds at Clippinger Chevrolet, Covina, Calif., took note. In came Jeff Butler, a slalom driver who had his heart set on an LT-1. Clippinger couldn't get one, so the keen minds ordered a 350/350, and the right parts like: Nr. 3849346, the street Z/28 camshaft; and Nr. 3917610, the high-rise aluminum manifold; and Nr. 3923289 an 800-cfm Holley carburetor. And they built an LT-1. In Clippinger's shop, so the warranty still applied. Jeff's car had 1600 miles on it. He brought his car to the test track, drove it for pictures and rode shotgun during the timed runs. He and Mike Cicchinelli each receive our sincere thanks.

There they were, what you can get in a small-block Corvette by really trying. Let's start testing. . .

Climb into a Corvette, lean back, and the lower half of the world disappears. The seats are steeply reclined and low. The instrument panel and window sills are high. Rear vision is restricted by the coupe's buttress top or the convertible's smallish window. But front vision isn't as bad as the first impression makes it seem. The restriction is in height: The average driver can see everything in front that's 30 ft. away and more than 2 ft. high. That includes other cars and pedestrians, so the only remaining hazard is curbs. Park carefully and it's fine.

Seats and driving position get top marks. Three testers in three Corvettes climbed out after the eight-hour run to Phoenix with no reports of cramp or fatigue. We asked a group of Corvette owners what they liked best about their cars. The seats were the first things they thought of. What they didn't like was the narrow foot well provided for driver and passenger. The seats move back far enough to accommodate the longest legs. With the optional steering column that adjusts for height and length, every tester could set the controls where he wanted them to be.

The safety harness is especially good. The shoulder strap has an inertia reel attached to the body well behind the seat. The strap threads through a bracket atop the seatback, but underneath the headrest. The reel exerts light pressure, just enough to let the wearer know it's there. A gentle pull loosens the strap, so the controls can be reached. A sharp tug, as in a sudden stop or crash, locks the reel solidly.

The controls are within reach and in logical places. Chevrolet lives up to its sports car claims by fitting a big tachometer and a console filled with gauges as standard equipment. The factory even matches the red lines on the tachometer to each engine. All the makers should—but Chevrolet does. A mild complaint about the windshield wipers, which live in a little closet beneath the windshield: Push the button and there is a short pause while the door opens and the wipers climb out. On a wet road, spray from oncoming traffic can cover the windshield in a flash, leaving the driver on instruments until the wipers report for duty.

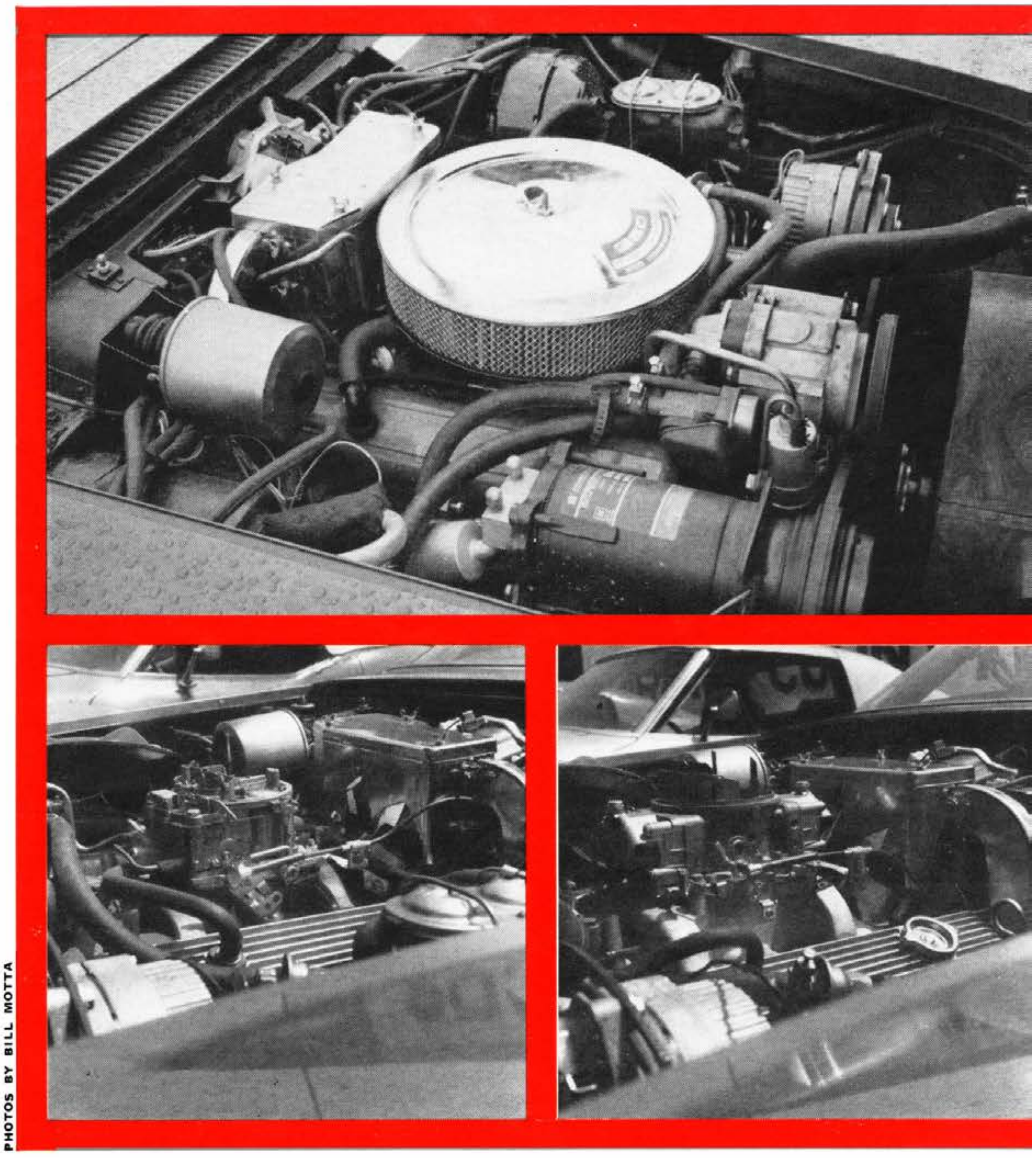
The ventilation system works beautifully. The trend is replacement of vent windows with in-cockpit ventilation systems. As a generalization, getting rid of the windows is easier than putting air intake and exhaust vents in the right places. The Corvette vents do their jobs.

One of the few major changes for the 1969 Corvettes was a reshaping of the doors to widen the cockpit by one inch at shoulder height. Duntov said it was expensive, but worth it. The staffer who was a press fit in last year's car said the one inch changed Corvette driving from work to relaxation.

There is room for gremlins, alas. There always is in sports cars. Most of the niggling flaws we found turned up in the cockpit. One car blew a fuse every time the turn signals were turned on. Another had an ammeter that didn't show as much charge as the battery was getting. Another had a fuel gauge permanently on empty. One test Corvette ate windshield wipers by slamming the door when the wiper arm wasn't quite across the threshold. One of the 427s showed its strength by tearing fan belts in half.

Welcome to the world of sports cars. ▶

SMALL-BLOCK Corvette engines vary only in degree. Directly below is the 300-bhp engine, the mildest in the Corvette line. At lower left is the 350-bhp, with hotter camshaft timing and higher compression. The dealer-built LT-1 at lower right has a bigger carb on a high-rise manifold.



PHOTOS BY BILL MOTTA

DIMENSIONS

Wheelbase, in.	98.0
Track, f/r, in.	58.7/59.4
Overall length, in.	182.1
width	69.0
height	48.0
Front seat hip room, in.	19.5 x 2
shoulder room	46.9
head room	37.1
pedal-seatback, max.	43.7
Door opening width, in.	33.5

CHASSIS/SUSPENSION

Frame type: Ladder.
Front suspension type: Independent by s.l.a., coil springs and telescopic shock absorbers.

ride rate at wheel, lb./in.	110
anti-roll bar dia., in.	0.75

Rear suspension type: Independent, lower control arms and fixed-length axle shafts, transverse multilead springs, two trailing arms (0.56 in. anti-roll bar on big-block only).

ride rate at wheel, lb./in.	123

Steering system: Recirculating ball gear, linkage power assist.

overall ratio, Power	17.6:1
Manual	20.2:1
Manual Fast	17.6:1
turning circle, ft. curb-curb	39.9

CAPACITIES

No. of passengers	2
Luggage space, cu. ft.	5 (Coupe); 7.8 (Convt.)
Fuel tank, gal.	20.0
Crankcase, qt.	5.0
Transmission/dif., pt.	3/3.7
Radiator coolant, qt.	22.0

BRAKES

Type: Ventilated discs, front and rear

Front rotor, dia. x width, in.	11.75 x 1.25
Rear rotor, dia. x width	11.75 x 1.25
total swept area, sq. in.	461.2

Power assists: Integral vacuum.

Line psi at 100 lb. pedal	576

WHEELS/TIRES

Wheel rim size	15 x 8JK
bolt no./circle dia. in.	5/4.75

Tires: Firestone, Goodyear or Uniroyal 70 aspect.

size	F70-15

PRICES

List, FOB factory, basic Corvette Coupe		$4781
Convertible		$4438
Option prices and numbers:		
350-bhp engine	L46	$131
370-bhp engine (dlr. inst.)	LT-1	$275
390-bhp engine	L36	$221
400-bhp engine	L68	$327
435-bhp, iron heads	L71	$437
435-bhp, alum. heads	L89/L71	$832
430-bhp engine	L88	$1032
Complete suspension, with L71, L89 or L88 only	F41	$37
Heavy-duty 4-sp., L88 only	M22	$290
Turbo Hydra-Matic	M40	$290
Close-ratio four-speed	M21	$184
Wide-ratio four-speed	M20	$184
Positraction rear axle	G81	$46
Power-assist brakes	J50	$42
Power-assist steering	N40	$105
Electric windows	A31	$63
Air conditioning	C60	$428
Side exhausts	N14	$147
AM/FM radio	U79	$105
Adjustable steering column	N37	$84

Price as tested:
Coupe w/ZQ3, $6146; Coupe w/L46, $5959; L36 Coupe, $6385; L68 Convertible, $5908; L71 Coupe, $6425; L89/L71 Coupe, $6673; L88 Convertible, $6436.

SMALL BLOCKS

continued

It's part of the fun or the price you pay. Letters from people wondering if they should buy a sports car are answered with a stock question: How are you at fixing things?

In the Old World, with its dedicated craftsmen, they must build these quirks into the cars. At the Corvette plant, they aren't intentional. Merely hard to avoid. There's a lot of hand labor in a Corvette, and human hands make mistakes. The plant is working at its full capacity and it still can't fill the orders, so some mistakes slip out the door. The dealers should catch them, but they don't always. The belt-breaker led us to an agency where they don't sell many Corvettes, so they don't stock Corvette parts. We would not buy a Corvette there. We wouldn't buy any car there.

Don't let this stop you from buying a Corvette. Consider it a sports car. The Corvette owners polled shopped for a dealer who understands Corvettes. The mechanically inclined trade tips and parts sources. They tell some stories that are funny when they happen to somebody else, like what it feels like to be a girl and try to persuade the service station attendents they can too change a tire on the Corvette if they'll only *try*, but we have it first hand: Corvettes respond to care and they're worth caring for.

The coupe's removable rear window and top panels may be more bother than they're worth. On the Phoenix trip, two staffers decided to enjoy the sunshine. Their car had two small suitcases and a camera bag in what is laughingly referred to as the trunk. Another staffer had a Corvette to himself so he drove from Needles, Calif., to Phoenix with the leftover panels from the other car in his passenger seat. Dare we suggest that a scratchproof material would make panel stowage more practical?

But the convertible top is a joy. Release one lever in back and three catches in front. Pull the back of the top forward, push the front back and lift the top well cover. The top disappears behind the seats, the cover clicks into place and it's done. We asked Mike Cicchinelli to lower the top for pictures and clocked him behind his back. Barely 30 seconds.

After we recorded the acceleration times of the three 350-engine cars tested, we realized the figures need explanation. None of the three was slow, but two were slower than we expected.

The 350 engine is a descendent of the 265-cid V-8 introduced in 1955. Chevrolet has kept it up to date with stronger components and more displacement. The 350 is light for its size and strong for its weight. The best qualities of the original engine—a willingness to rev freely and pull at low speed—are still there. In its three Corvette forms, the 350 varies only in degree. The 300-bhp has a four-barrel carburetor, 10.3:1 compression ratio, and a mid-range camshaft with hydraulic lifters. The 350-bhp engine has more compression—11:1—and hotter camshaft timing, but still uses hydraulic

lifters. The 300 and the 350-bhp engines use the same size carburetor. The LT-1, as mentioned, has a street/competition camshaft, mechanical lifters and a bigger carb. It and the 350 share cylinder heads and compression ratio.

The 300-bhp automatic was almost identical to the 300/327 tested last year. It was heavier, but had a numerically higher final drive, both due to air conditioning. The 1969 car was slower than the 1968. All eight cylinders were firing and the engine didn't surge or miss. The car just wasn't as fast. The borrowed convertible with the three-speed manual transmission was lighter and unburdened by power accessories. It felt stronger, by fractions.

The 350/350 did what it was supposed to do. Tires, gearing, transmission ratios, shift linkage, all complemented each other. The standard performance Corvette is 1.5 sec. quicker over the quarter than the standard touring Corvette. Quite a gain for 50 horsepower.

The LT-1 did not do its best. Its owner, Jeff Butler, believes in careful break-in. The 1600 easy miles were good for the car, but the spark plugs were coated, and the first timed runs glazed them over. The car should turn 6500 rpm, but it bucked and missed at anything over 6000. There goes the top end. Starts were no better. The car was geared for slaloms, where speed in first gear is more important than a blazing leap from the line. Butler had fitted 8.5-in. Appliance Plating wheels, and 5.50/9.75x15 Goodyear road racing tires. Great for traction, but the cammed engine doesn't have excess low-speed torque, and the sticky tires bogged the engine off the line. Even dropping the clutch at 3000 rpm only spun the tires for a few feet. With the engine off song the LT-1 could catch and pass the L46 before the finish line. With lower gears ▶

CALMEST CORVETTES were tried on the street and the test track. At left, Mike Cicchinelli, the owner of a rare three-speed stick transmission, explains his car to Allan Girdler, **CAR LIFE** associate editor (glasses). The three-speed stick is the standard Corvette, and it was the hardest to track down. Below, the 300-bhp/350-cid car with automatic transmission, one of the most popular models, drifts through a turn at Phoenix.

GOOD GUY of the test was Jeff Butler, smiling out of the dealer-built LT-1 he let us test.

ENGINES

	ZQ3	L46	LT-1
Displacement, cid	350	350	350
Type, no. of cylinders	V-8	V-8	V-8
Bore x stroke	4.00 x 3.48	4.00 x 3.48	4.00 x 3.48
Compression ratio	10.3:1	11:1	11:1
Fuel required	Premium	Premium	Premium
Rated bhp @ rpm	300 @ 4800	350 @ 5600	370 @ 5800
equivalent mph			
Rated torque @ rpm	380 @ 3200	380 @ 3800	370 @ 4000
equivalent mph			
Carburetion, type	Roch. 4-bbl.	Roch 4-bbl.	Holley 4-bbl.
throttle diameter	1.38/2.25	1.38/2.25	1.69/1.69
pri./sec.			
Camshaft timing			
lift, int./exh.	390/.410	.450/.460	.485/.485
deg., int./exh.	28-72/78-30	52-114/48-62	61-1-5/109-57
duration, int./exh.	280/288	346/340	346/346

DRIVE TRAIN

Transmission, type	3-sp. auto.	4-sp. manual	4-sp. manual
clutch dia.	N.A.	11 in.	11 in.
Gear ratios: 4th	N.A.	1.00:1	1.00:1
3rd	1.00:1	1.27:1	1.27:1
2nd	1.48:1	1.64:1	1.64:1
1st	2.48:1	2.20:1	2.20:1
1st x t.c. stall (2.1)	5.21:1	N.A.	N.A.
Differential type:	Hypoid, w/ limited slip	Hypoid, w/ limited slip	Hypoid, w/ limited slip
Axle ratios	3.08:1	4.11:1	3.70:1

WEIGHTS

Curb weight	3405	3295	3240
Test weight	3720	3610	3560
Distribution, % f/r w/driver	49/51	49.8/50.2	48.7/51.3

BRAKING

	ZQ3	L46	LT-1
Max. deceleration rate from 80 mph, ft./sec./sec.	26	26	35 (est)
Percent loss in deceleration rate after 8 stops from 80 mph	8	6	14
Control loss?	none	none	none
Overall brake performance	excellent	excellent	excellent

FUEL CONSUMPTION

Normal cond., mpg	15.5	14.1	12.8
Cruising range, miles	260-310	250-300	240-270

CALCULATED DATA

Lb./bhp (test weight)	12.4	10.3	9.6
Cu. ft./ton mile	133.0	183.0	163.8
Mph/1000 rpm (high gear)	24.6	18.4	20.8
Engine revs/mile (60 mph)	2430	3260	2880
Piston travel, ft./mile	1410	1890	1680
CAR LIFE wear index	34.3	61.6	48.4

SPEEDOMETER ERROR

Indicated	Actual	Actual	Actual
30 mph	30.3	27.8	29.6
40 mph	40.5	38.4	38.3
50 mph	51.0	48.3	47.6
60 mph	61.0	57.5	57.3
70 mph	70.8	67.5	67.2
80 mph	80.2	77.6	77.4
90 mph	90.0	88.4	87.8

PERFORMANCE

Top speed (mph @ rpm)	126 @ 5100	119 @ 6500	135 @ 6500 (est)
Test shift points,			
3rd to 4th	n.a.	90 @ 6200	100 @ 6000
2nd to 3rd	85 @ 5000	69 @ 6200	77 @ 6000
1st to 2nd	51 @ 5000	52 @ 6200	58 @ 6000

ACCELERATION

0-30 mph, sec.	3.4	2.6	3.0
0-40 mph	5.8	3.6	4.3
0-50 mph	7.4	5.0	5.6
0-60 mph	8.4	6.4	7.2
0-70 mph	11.0	8.1	8.6
0-80 mph	14.5	10.2	10.4
0-90 mph	18.8	12.8	12.5
0-100 mph	24.6	16.0	15.2
Standing ¼-mile, sec.	16.12	14.55	14.44
speed at end, mph	84.46	97.93	99.9

SMALL BLOCKS

continued

and the sort of banzai start we don't use in road tests (even when the owner isn't there), the LT-1 should run in the low 14s. It didn't. We wish there had been time to have the car tuned and timed again, but there wasn't.

So the timed figures aren't much. The engines are. Chevrolet has made choosing engines so tough you might as well flip a coin. The lowest rated engine revs like a racer, while the racing engine lugs the car uphill at idling speed. Duntov's belief that bigger engines tolerate wilder cams is valid. The Z/28 we tested last year couldn't rip the fuzz off a dandelion at low rpm. The LT-1 had a rumpety-rump idle, but that was the only sign of its racing tune.

The transmission choice is just as good. Mike Cicchinelli made the right decision: The 300-bhp Corvette doesn't need the four-speed transmission. All forward gears are synchronized. The linkage is quick and precise. The engine winds tight, in a hurry. First gear becomes a passing gear in town and second is good for 80 mph on the highway. The wide gear split between first and second drops rpm on upshifts, but the engine's flat torque curve makes up for it.

The 350-bhp engine and the close-ratio four-speed are just as good a combination. Torque peak comes at higher rpm. There's more power but it's concentrated. The four-speed lets the driver put the power to work by providing a gear for every occasion.

The automatic transmission has virtues of its own. In traffic, it's the best. It shifts quickly and smoothly, up or down. It's not quite as sporting, because the driver doesn't have as much control. He can't downshift to first unless the car has slowed to a pre-determined speed. Full power sometimes brought on a downshift when it wasn't expected, with more power than the driver wanted or needed. No problem. The performance fan won't order one and the cross-country Corvette driver will find that the advantages outweigh the shortcomings.

Corvette handling is stupendously good, like 12 on a 10-point scale. The independent rear suspension has been around long enough by now so that all it needs is a brief nod. There it is, and it works.

Duntov's constant-development program this year involved widening the car's track and changing the suspension geometry slightly, so the wheels remain upright for maximum grip when the car leans.

Corvette handling is, in one word, superior. Superior to any other production car made in this country. It's the best, in several directions at once. First, the Corvette has the most cornering power, with the highest limit of adhesion, so that maximum cornering speed in a Corvette is off the road into the bushes in other domestic cars. This is an advantage to any Corvette driver, even one who doesn't go as fast as the car will. At any speed, he has more reserve cornering power in hand so he's better equipped to survive the unexpected.

If the driver overestimates himself, the car will save the day. It's a very forgiving car in all its forms. As Duntov said, an instinctive lifting of the foot will allow the car to catch hold of the pavement again and return to the proper line. Under power total grip is so high that the car will sustain incredible slip angles without swapping ends.

There are variations with model. The LT-1 was the lighest and had the biggest tires, and it had the most grip. The L-88 wasn't far behind. Its added power made it the quickest around the two road racing courses we used.

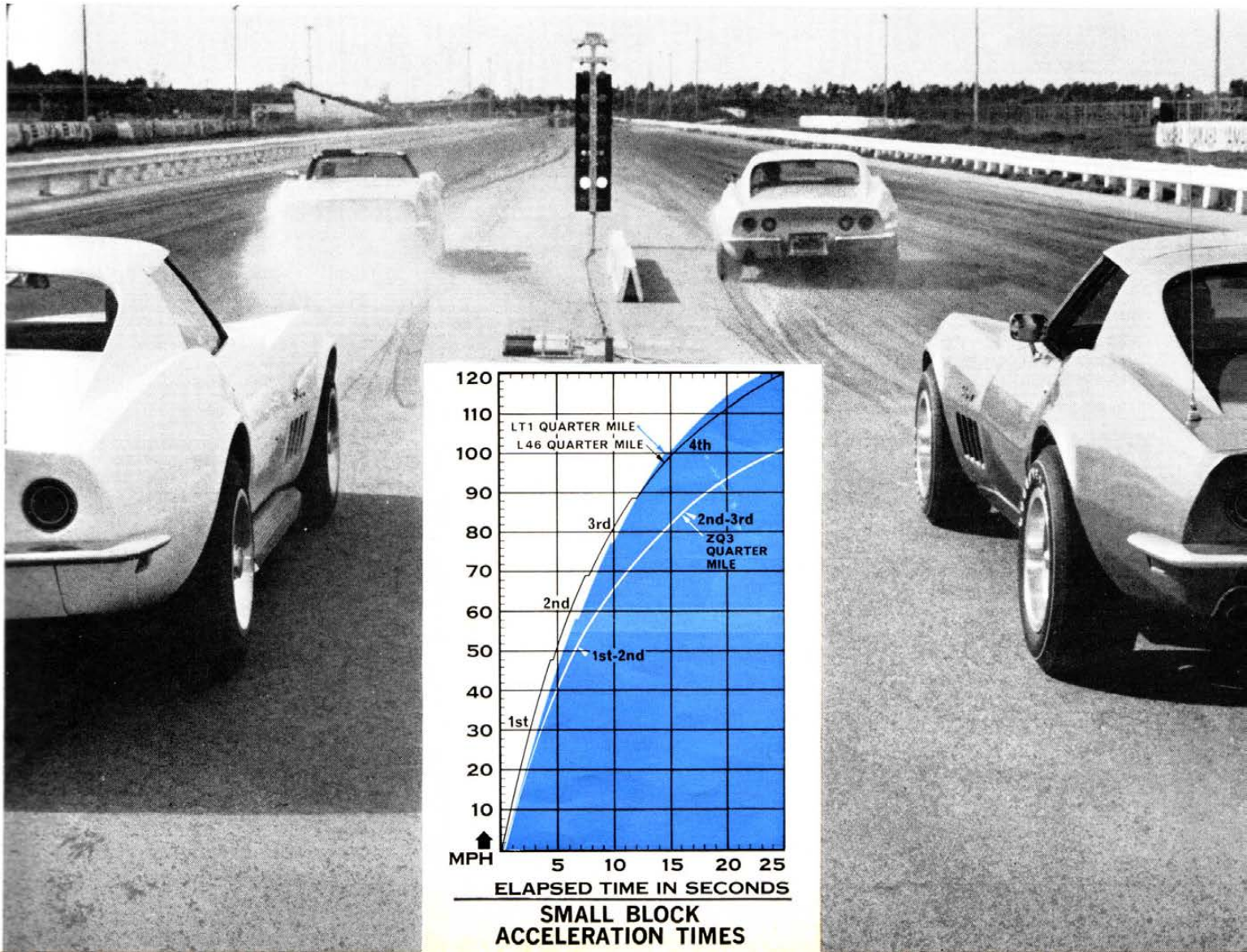
Both quasi-racers had manual steering for road feel and instant reaction. On the track, they were the best. For road use, we're not so sure. There is very little margin for error. The driver doesn't sit there and enjoy himself: he drives. The hair-trigger response can bring over-reaction with the car twitching back and forth. It won't go off-course, but the driver will feel foolish.

With power steering and standard tires, the Corvette is tamed to dry lightning. The steering isn't quite as precise. The feel remains, but it's dampened just enough to let the competent driver get the maximum from the car.

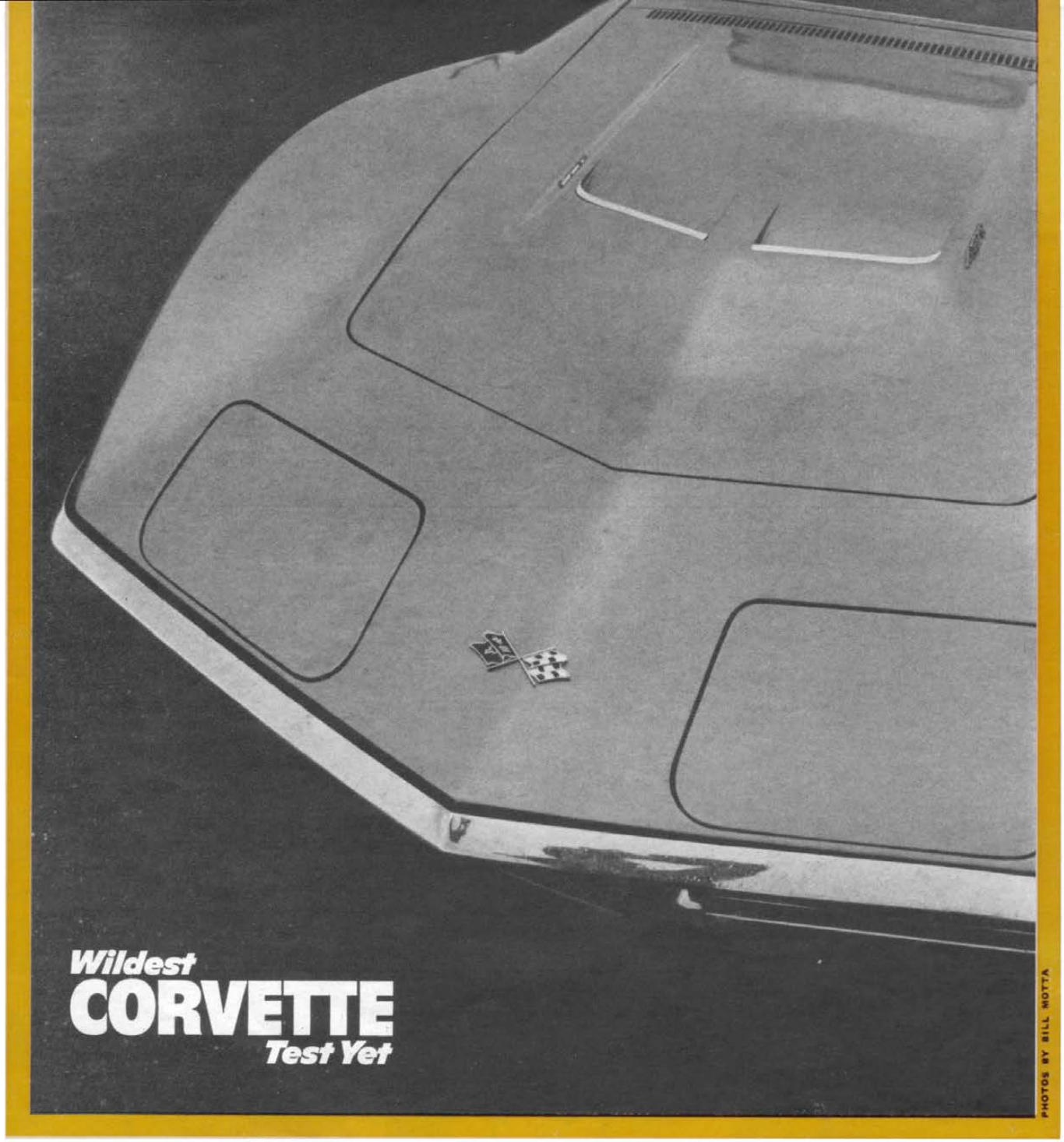
A standard suspension is firm. We have received complaints that our idea of firm is not unlike a coal cart. We repeat: Firm. Prospects should try the car first, but we doubt that the driver who objects to Corvette's ride would be happy in one. It wouldn't like him either.

The handling is the best of many good qualities. It's what sets Corvettes apart, even with the power, the song of the engine, the long-distance cockpit. Southern California was undergoing its annual unseasonable monsoon at the time of the Phoenix trip, and the convoy was detoured from the main highway over a bumpy secondary road through the mountains. Up, down, around, over buckled pavement, holes not quite filled in, camber changes, surfaces that changed from asphalt to concrete to chat in mid-curve. Didn't faze the Corvettes. Here's where the independent rear suspension pays off. Almost any suspension works on smooth pavement. The Corvette takes the rough and makes it smooth, in the sort of driving that reminds us just how good the Corvette suspension is. So it clunks every so often. As long as the Corvette handles like that we don't care if it whistles dirty songs.

We asked Duntov if he had considered a 2000-lb., 300-bhp Corvette. He has, and the closest he's been able to come is a 3500-lb., 435-bhp Corvette. We know what the car is like inside and underneath, what fun it is to drive. Let's round up the full assortment of big-engine cars and see what more horsepower will do. . . . ■ ▶



SMALL BLOCK ACCELERATION TIMES



FIVE WAYS TO GO WITH THE FABLED 427

CODE NAMES are the vital ingredient for any talk about the 427-cid Corvettes. The 427 comes in five forms. Unlike the 350 engines, which follow a normal pattern of high-performance equipment, the 427s bounce back and forth, juggling carburetors, camshafts and such as only Chevrolet engines can.

Working our way up the price structure . . .

- We begin with L36, with 10.25:1 compression ratio, hydraulic valve lifters, one four-barrel carburetor and a horsepower rating of 390. Pretty much of a passenger car engine. To suit it, the test L36 coupe had the wide-ratio four-speed transmission

(option M20) 3.08:1 final drive gears and air conditioning.

• L68 is virtually the same engine, except that three two-barrel carburetors make for better breathing at the top end. Rated power is 400, at the same 5400-rpm peak of the L36. The test L68 was a convertible, with side exhausts, 3.08 gearset and the M40 Turbo Hydra-Matic transmission.

• L71 keeps the triple carburetors, but gets mechanical lifters and hotter camshaft, an 11:1 compression ratio and 435 horsepower. This was the quickest car of the group, with 4.11 gearing and close-ratio, four-speed transmission. Our L71 also had side exhausts. And genuine leather upholstery. Not our idea. The factory man said he'd always wanted to order a Corvette with real cow leather and this seemed as good a chance as any.

• L89 is an abbreviation. The factory calls it L89/L71, their subtle way of saying it's the same engine as L71—cam, carbs, compression, everything—except that L89 has aluminum cylinder heads. Rated power is the same as L71—435. The weights are hard to compare, because L89 had the heavier Turbo Hydra-Matic. The engine evidently loses more therefore than the 35 lb. that showed on the test weights. Not quite as dedicated to the dragstrip, the test L89 had 3.70:1 gears.

• L88. Pause. The magic of the name and all that in-group stuff. The scornful tone is deliberate. Duntov asked that somebody try to get his message across: The L88 is being bought by people who don't know what it is and don't know or care to use it properly. They hear it's the hot thing to have, and that the factory doesn't put L88 on the order blank, so they order one. But we digress. The L88 engine goes back to the single four-barrel, although not the same one as on L36. The carb sits atop an aluminum manifold, attached to aluminum cylinder heads, with 12:1 compression ratio. Radical camshaft timing, special pistons, connecting rods, and it's all picked by hand. The L88 isn't a junior ZL-1. The additions and corrections done last year on the L88 and incorporated into the ZL-1 are fed back into this year's L88. In street-legal trim, the block material is the only difference. L88 horsepower rating is 430, five less than L89 or L71. The test L88 was a convertible with hardtop. You can order either folding top or hardtop for the price of the convertible. Both cost extra. The L88 was equipped as a point-to-point car, that is, for covering wide-open spaces at the highest possible average speed. It had the engine and the cold-air hood (option ZL-2) for power; the special suspension (option ▶

ENGINES

	L36	L68	L71	L89	L88
Displacement, cu. in.	427	427	427	427	427
Type, no. cyl.	V-8	V-8	V-8	V-8	V-8
Bore x stroke	4.25x3.76	4.25x3.76	4.25x3.76	4.25x3.76	4.25x3.76
Compression ratio	10.25:1	10.25:1	11:1	11:1	12:1
Fuel required	premium	premium	premium	premium	Super premium
Rated bhp @ rpm	390 @ 5400	400 @ 5400	435 @ 5800	435 @ 5800	430 @ 5200
equivalent mph	132	132	105	129	115
Rated torque @ rpm	460 @ 3600	460 @ 3600	460 @ 4000	460 @ 4000	450 @ 4400
equivalent mph	88	88	73	89	98
Carburetion, type	4-bbl. Roch.	3x2 Holley	3x2 Holley	3x2 Holley	4-bbl. Holley
throttle dia., pri./sec.	1.38/2.25	1.50/1.75	1.50/1.75	1.50/1.75	1.75/1.75
Camshaft timing					
lift, int./exh.	.461/.480	.461/.480	.520/.520	.520/.520	.539/.560
deg., int./exh.	56-114/62/118	56-114/62/118	44-92/86-36	44-92/86-36	62-115/110-74
duration, int./exh., deg.	350/350	350/350	316/302	316/302	364/357

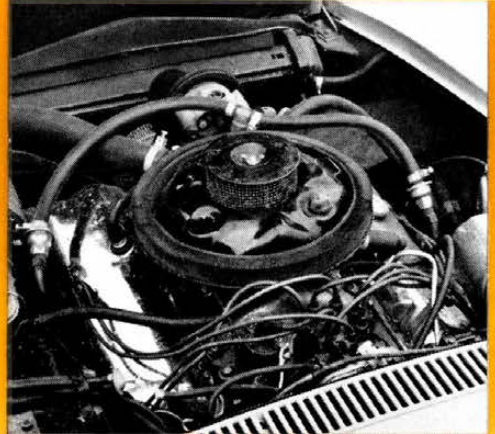
DRIVE TRAIN

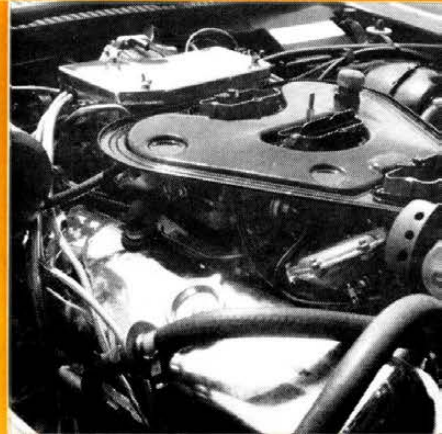
Transmission type	4-sp. manual	3-sp. auto. w/torque convt.	4-sp. manual	3-sp. auto. w/torque convt.	3-sp. auto. w/torque convt.
clutch dia.	11 in.	N.A.	11 in.	N.A.	N.A.
Gear ratios: 4th	1.00	N.A.	1.00:1	N.A.	N.A.
3rd	1.46:1	1.00:1	1.27:1	1.00:1	1.00:1
2nd	1.88:1	1.48:1	1.64:1	1.48:1	1.48:1
1st	2.52:1	2.48:1	2.20:1	2.48:1	2.48:1
1st x t.c. stall (2.1)	N.A.	5.21:1	N.A.	5.21:1	5.21:1
Differential type	Hypoid, w/limited-slip	Hypoid, w/limited-slip	Hypoid, w/limited-slip	Hypoid, w/limited-slip	Hypoid, w/limited-slip
Axle ratio	3.08:1	3.08:1	4.11:1	3.36:1	3.36:1

WEIGHTS

Curb weight, lb.	3570	3525	3560	3505	3410
Test weight, lb.	3890	3840	3880	3820	3710
Distribution, w/driver, % F/R	51.2/48.8	50.7/49.3	50/50	49.1/50.9	49/51

BIG CORVETTE engines come in a wide assortment. Directly below is the L36, the understressed base for the 427-cid range. At lower right is the L89, the hottest street Corvette. It looks like the L71, same engine with aluminum heads or the L68, same triple carburetors but the camshaft from the L36.
At bottom left is the L88, with cold-air air cleaner and a huge four-barrel carb.





427

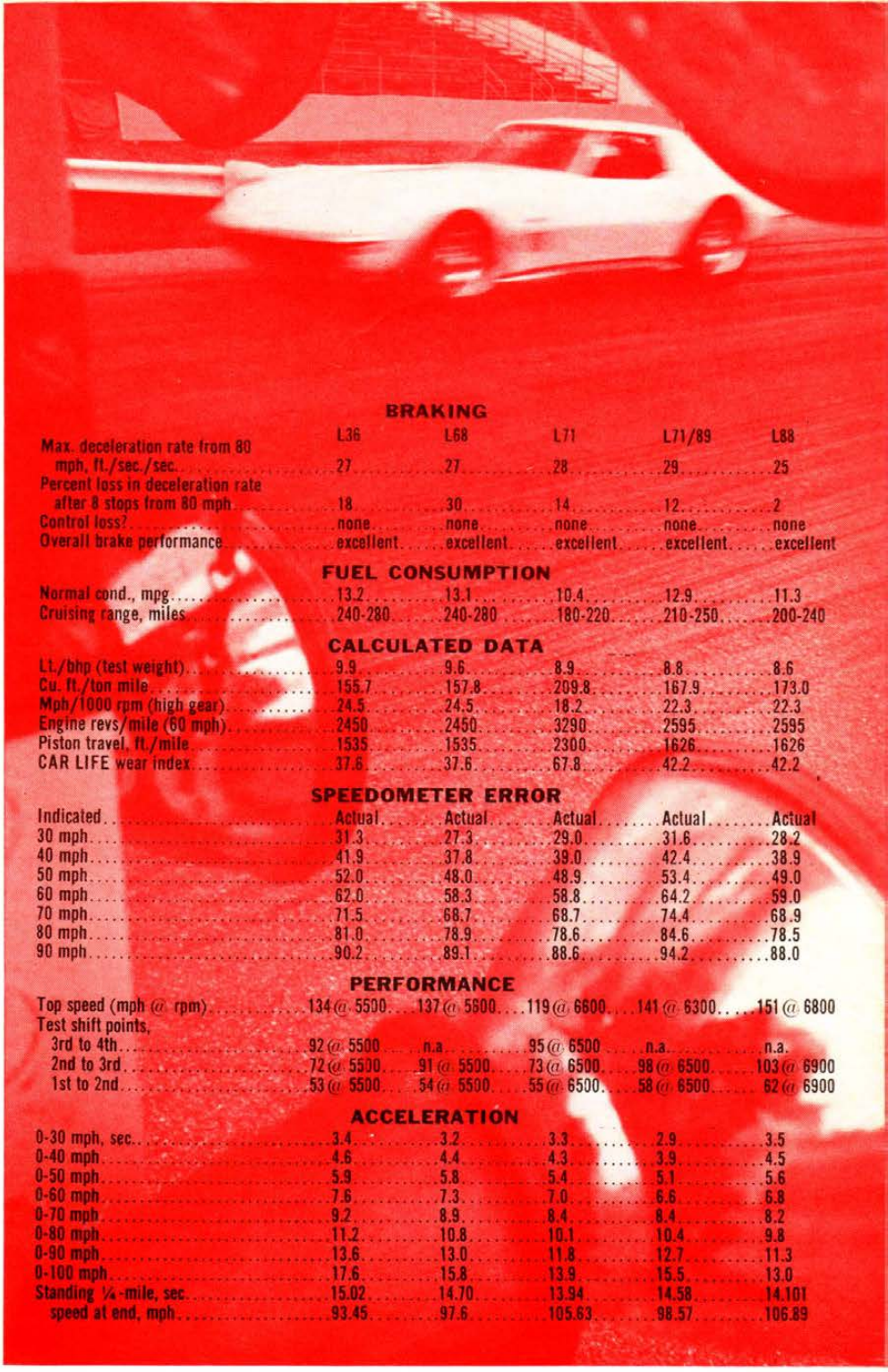
continued

F41) with stiffer springs, shock absorbers and front and rear anti-roll bars for high speed control at the expense of a jarring ride in town. The M40 automatic transmission made things a bit easier for the driver. The 3.36:1 final drive gears did the same for the engine by allowing a relaxed gait on the highway. They also provided an astonishing top speed.

L88 is not just an engine. It's a package, or more properly L88 is a combination of things that come on the car or can't be ordered with it. No air conditioning, or even a radio. The L88 is supposed to be a competition car. Racers remove everything they don't need. Duntov saves them as much trouble as he can by not putting on anything that competition or the government don't require. There's no radiator shroud, because it isn't needed at high speed. The owner of a rental fleet in St. Louis has a shopful of L88s, which overheat constantly in traffic: and he wishes Duntov would do something. Duntov wishes people wouldn't buy racing cars for use in cities.

We vote for Duntov. The manual steering was sharp and responsive at speed and mulish in town. The idle was set at 2000 rpm, so the engine would have enough torque to idle at all. The testers learned to be standing on the brake when the L88 was put in reverse. If the car wasn't snubbed, the L88 would light its tires backing out of parking places. At low speeds, the brakes keep the driver alert. The engine doesn't develop much vacuum, even idling at 2000 rpm. There isn't much boost available for the power assist, and the pedal touches bottom on a hard stop from 20 mph or less. It doesn't make for driver confidence until the driver finds out that when increased road speed makes more brakes necessary, increased engine speed and vacuum make better braking possible.

In exchange for these little shortcomings, the L88 driver gets nothing that he doesn't get with the L89, not even status. One of the factory's ways to discourage casual buying of L88s is not to supply a little badge on the fender for the unfortunate many to see and envy. The L88 is the only performance car on the American market we can think of without one.



BRAKING

	L36	L68	L71	L71/89	L88
Max. deceleration rate from 80 mph, ft./sec./sec.	27	27	28	29	25
Percent loss in deceleration rate after 8 stops from 80 mph	18	30	14	12	2
Control loss?	none	none	none	none	none
Overall brake performance	excellent	excellent	excellent	excellent	excellent

FUEL CONSUMPTION

Normal cond., mpg	13.2	13.1	10.4	12.9	11.3
Cruising range, miles	240-280	240-280	180-220	210-250	200-240

CALCULATED DATA

Lt./bhp (test weight)	9.9	9.6	8.9	8.8	8.6
Cu. ft./ton mile	155.7	157.8	209.8	167.9	173.0
Mph/1000 rpm (high gear)	24.5	24.5	18.2	22.3	22.3
Engine revs/mile (60 mph)	2450	2450	3290	2595	2595
Piston travel, ft./mile	1535	1535	2300	1626	1626
CAR LIFE wear index	37.6	37.6	67.8	42.2	42.2

SPEEDOMETER ERROR

Indicated	Actual	Actual	Actual	Actual	Actual
30 mph	31.3	27.3	29.0	31.6	28.2
40 mph	41.9	37.8	39.0	42.4	38.9
50 mph	52.0	48.0	48.9	53.4	49.0
60 mph	62.0	58.3	58.8	64.2	59.0
70 mph	71.5	68.7	68.7	74.4	68.9
80 mph	81.0	78.9	78.6	84.6	78.5
90 mph	90.2	89.1	88.6	94.2	88.0

PERFORMANCE

Top speed (mph @ rpm)	134 @ 5500	137 @ 5800	119 @ 6600	141 @ 6300	151 @ 6800
Test shift points,					
3rd to 4th	92 @ 5500	n.a.	95 @ 6500	n.a.	n.a.
2nd to 3rd	72 @ 5500	91 @ 5500	73 @ 6500	98 @ 6500	103 @ 6900
1st to 2nd	53 @ 5500	54 @ 5500	55 @ 6500	58 @ 6500	62 @ 6900

ACCELERATION

0-30 mph, sec.	3.4	3.2	3.3	2.9	3.5
0-40 mph	4.6	4.4	4.3	3.9	4.5
0-50 mph	5.9	5.8	5.4	5.1	5.6
0-60 mph	7.6	7.3	7.0	6.6	6.8
0-70 mph	9.2	8.9	8.4	8.4	8.2
0-80 mph	11.2	10.8	10.1	10.4	9.8
0-90 mph	13.6	13.0	11.8	12.7	11.3
0-100 mph	17.6	15.8	13.9	15.5	13.0
Standing ¼-mile, sec.	15.02	14.70	13.94	14.58	14.101
speed at end, mph	93.45	97.6	105.63	98.57	106.89

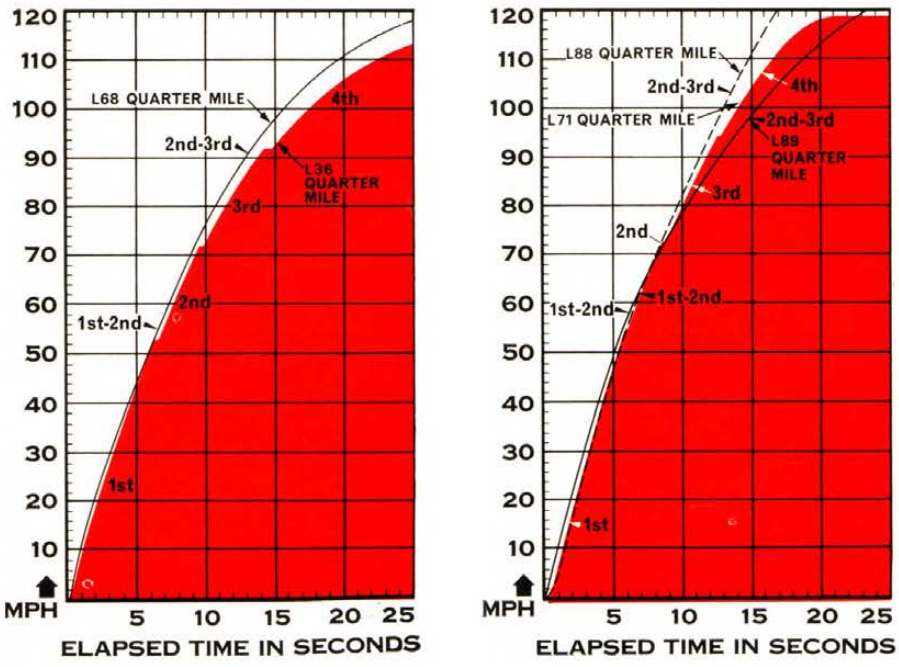
The horsepower ratings tell the rest of the story. Camshafts in the higher rated L71 and L89 are designed to give maximum power through the stock exhaust manifolds and mufflers. The L88 cam is designed to give maximum power, period. It won't give all it's got unless, and until, it has tuned exhaust headers blasting unmuffled into the air. The factory can't sell it like that. L88 has more potential, but the buyer must extract it for himself. The L89 was designed to be the hottest Corvette in street trim. The L88 is, in Duntov's words, for sport.

Wot'll they do? We dunno, honest. Every one of the eight Corvettes put through the full test procedure would reach redline in top gear. Routine for cars with acceleration gears. We spend entirely too much time explaining that Supercar X has the horsepower to go more than 110 mph, but that the gearing and our reluctance to exceed the manufacturer's limit meant that the car couldn't be driven faster.

The Corvettes were something else. The L88 had the highest top speed, with that 3.36:1 gearset. It would do 6800 rpm in high, 151 mph. There was power left at that speed, enough to

MATCH races, right, were won by the L71, above. The L71 had the 435-bhp engine, a four-speed, 4.11:1 gears. It was the only test Corvette to break 14 sec. Time was recorded for posterity.

BIG-BLOCK CORVETTE ACCELERATION TIMES



make one wonder just how fast the car will go with suitable gearing. The order blank shows a 2.73:1, and a salesman who specializes in Corvettes said a 2.54:1 can be specially ordered. Duntov's ZL-1 can come close to 200 mph. We didn't test final drive ratios lower than 3.08 or higher than 4.11, because they're too specialized to be of general interest. But we can't help thinking that an L89 with the lower gear would be a contender for the fastest production car in the world.

We would drive it. For most cars, the best that can be said is that the car is easily driven at highway speeds. Corvette handling is as good as the engine. The suspension smooths out and the car roars along. The driver is conscious of speed, but still secure in the knowledge that the car is doing what he and the designer meant it to do. What is initial understeer on a tight turn becomes a reluctance to depart from the chosen path in a high-speed bend or straight line.

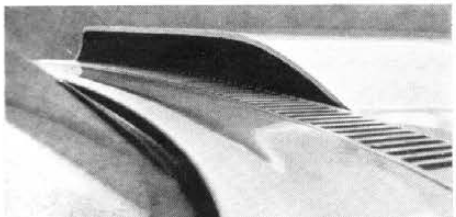
Acceleration runs provided support for the factory ratings and Duntov's statement that the L88 isn't the best street performer. Quarter-mile E.T. and trap speed moves almost in a straight line, down for the former and up for the latter, as horsepower goes up.

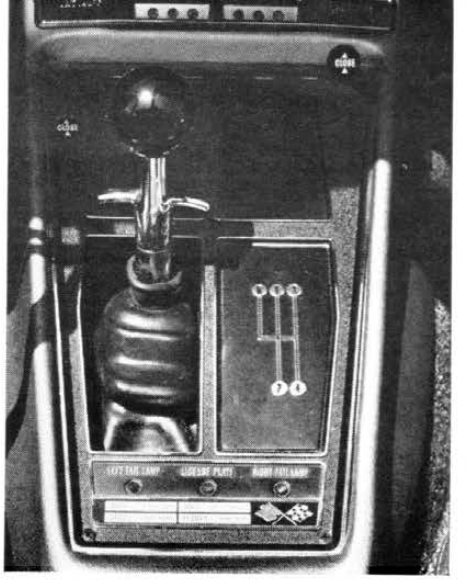
There's still material for bench racing. Before the test, we got a short course in Corvette ownership. The L89 arrived with a very sharp engine, except that it detonated fiercely under full power. It went to a shop, not the agency where it came from. They changed the spark advance and that threw the engine response out with the detonation. Back to the agency, where they compromised: No detonation, but it wasn't quite as sharp as it was at first. We picked up the L71 the same day. Don't worry, they said, this one is ready. It was to laugh. At light throttle, it played Student Demonstrator. A soft cry of non-violence, and it went limp. Put to the wood, it blew all the power out the carburetors, or shot ducks. Off to the repair shop, where they put things right.

They all felt fine, but the results weren't up to par. Last year's L89 was quicker and faster, running in the mid-13s at 109 mph. This year, the L71 was the only Corvette willing to break 14 sec. Best time was a 13.94, making the editor so happy after watching scores or runs in the 14s that he ordered a picture taken of the clocks. Only lack of authority kept him from donating a suitable plaque to mark the spot.

The E.T.s are debatable. The L88 had cold air and traction, while L71 had optimum gearing. They were ▶

ROAD CAR vs. racer, right, has the L36 leading the L88 through a tight turn. The L88 had more cornering power, but not enough to pass until the straights. ZL-2 hood, below, takes air from the high-pressure area at cowl.





COCKPIT DESIGN works with big, legible instruments, good seats and controls within reach. Four-speed gearshift, right, is one of the best factory-built shifters out.

427

continued

close to a dead heat. Trap speed is a better indication of horsepower. L88 and L71 are so close we'd conclude that the five horsepower difference in ratings is about right. The L89 was obviously down on power, compared to this year's L88 or L71 or last year's L89.

Engine choice is another coin-flipper. L36 is the most popular with buyers. For a 427, very calm, very quiet. L68 is just as strong in low- and mid-range driving, with 10 huge horses more if needed. The three goers were all lumpy in town. The torque peaks are moved 'way up and the power must be reached with the gearshift.

All three transmissions were as good. More important, they were beautifully matched to the engines. The wide-ratio four-speed gave L36 more than enough poke in first, passing speed in second and third and long legs on the open road. The close-ratio four-speed takes more attention, but the ratios have been chosen to keep the engine close to its power peak.

Those who can overcome the four-speed mystique are in for a surprise. The Turbo Hydra-Matic fitted to the high-performance 427s is magnificent. It slips from gear to gear in traffic without so much as a nudge. Power tightens the shifts into a series of iron hands, strong enough to light the tires at every change. There is no downshift time at all, none of the usual engine-reaction-becoming-gear-box-action-translated-into-acceleration. Shove hard and the engine is in the lower gear at full song before the pedal is all the way to the floor. In the mild engine, the M40 was set to shift up quickly. In the wild engines, the transmission stays in the lower gear until the driver lifts his foot, right up to redline.

Standard Corvette tires seemed below the standards for the rest of the car. Duntov is frank about it: Cost is an object. The F70 tire comes from several companies. It's special to Corvette, being chosen to match the suspension and wheel-well clearance. The ride is pleasant. Traction could be better. We don't know the answer. Radials have flexible side walls, and could collapse under the massive torque of the Corvette. Belted/bias? "We tried them," Duntov said. "You'll notice we're not using them."

Racing tires aren't the answer. The tires on the L88 were of a tread and compound intended for damp tracks. On pavement that was merely wet, they had some grip, probably as much as a conventional tire. On water, they aquaplaned. On the way to Phoenix, there was an inch or so of water running across the highway at the apex of a gentle uphill curve. Ever get out of shape going uphill? Oh, wow.

We coveted the F60 Goodyears on the Hurst/Oldsmobile tested on page 22. They'll go on the Corvette rims, and they look as if they'll fit under the fenders. We didn't actually try it. We understand persons found trespassing on Dr. Oldsmobile's property are liable to be experimented upon.

The tire problem reared its head highest during the brake tests. Corvette's four-wheel disc system is an excellent design, not put to full use. With standard tires, the Corvettes would stop repeatedly from 80 mph in the range of 28-29 ft./sec./sec. The brakes were ready to do more, but the drivers had to be careful not to do too much. With more pressure, the tires began skidding on the pavement. The wheels weren't locking. The cars didn't skid or swerve. The drivers just didn't have that secure nailed-to-the-pavement feeling so pleasant when the road ahead is filled with obstacles.

What the brakes could do showed up with the LT-1. The CAR LIFE decelerometer is a metal case with brackets and suction cups to hold the case to the windshield. Inside the case is a glass tube, filled with mercury and marked with graduations up to one "G," or 32.2 ft./sec./sec. One G is reckoned maximum, and the tube disappears inside the case at 33 ft./sec./sec.

Up to 80 in the LT-1, and hard on the brakes. The tube went white. The braking force was so strong all the mercury was drained off the scale. Exactly how good the brakes are with sticky tires we won't know until we have a decelerometer reading more than one G. That won't be for some time. We doubt we'll need it more than once a year.

The Corvette isn't a perfect car. Nobody, especially Duntov, ever claimed it was. The Corvette is one heck of a big car for two people and almost no luggage. The styling is flamboyant, as if it were designed to be photographed rather than merely seen. The mechanical details are overdone in some places, underdeveloped in others. Things fall off, or don't work, or rattle.

We don't care. The Corvettes we drove, and that's all the Corvettes the factory has plus one, varied so much in specification that it would be more accurate to draw conclusions on the basis of Corvettes, not Corvette. So we'll do it. Corvettes are for driving, by drivers. Winning races, going to the store or driving cross-country, the Corvette driver will be tired of smiling long before he's tired of the car. ■