



CHEVELLE SS 396

The best-selling Supercar isn't the quickest. But it looks tough. And it's kind to women and children.

SEE THAT BRUISER over there, the one with the bulging shoulders, broken nose and HARD LUCK tattooed on his knuckles? He's a devoted family man, brings home puppies he finds abandoned in the road and has a glass jaw. But he looks so mean, when he talks, people listen.

As the politician-peddlers say, it isn't what you are, it's what projects.

The Chevelle SuperSport 396 projects. While Ford rules NASCAR and Plymouth concentrates on the drags, the Chevelle moves out of showrooms everywhere.

It always has, and it will in 1970. Chevelles have new outer body panels, only mildly changed from last year, and the SS396 has become almost a separate model. Distinct grille, stripes and bulging hood. While its rivals have trick heads, triple carbs or just huge engines, SuperSport greets the new model year with the good ol' 396. (The 454 will be along later, in one

of Chevrolet's confusing marketing tangles, but we'll hear about that in a while.)

The SS396 is a complete bill of fare. Chevrolet invented the cafeteria system, where the customer meandered down the line, picking an engine, a suspension option, brakes, trim, tires, etc. But it confuses the salesmen, or the computer or something, and the factory is edging away: Order the dinner and you get the salad and the vegetables whether you want them or not.

But eat, eat! It's all good. With the SS396 comes what used to be the F-41 suspension; stiffer springs, firmer shocks and a rear anti-roll bar. And power-assisted front disc brakes, 7-in. wheels, and F70 belted-bias tires. Transmissions are either the wide or close-ratio four-speed manual or Turbo Hydra-Matic.

The test car had some other good stuff. Variable-ratio power steering,

and the cold-air scoop, both in the enthusiast vein, and an AM/FM radio because we like music.

Listed on the test car's sticker as an option was the fume control for the gas tank and carburetor. For 1970, California requires that fuel evaporation be controlled. Basically, it's done with one-way air valves and a canister of charcoal, where the fumes are stored until the engine inhales them. Worthwhile if it helps the smog problem, but next year, everybody pays the \$37.

The cold-air scoop looks like the ones on last year's Corvettes and Camaros, but it's not. The emissions controls tightened, remember. When an engine is working, as in full-powered acceleration, it's cleaner than at idle, cruise or deceleration. So Chevrolet heats the air most of the time. The cold air only comes in when the accelerator is floored. The trap door is held shut by engine vacuum. When it

drops, the door opens. It probably adds some power, and kids love it. (The Chevrolet people think the Plymouth equivalent, controlled from the dashboard, is too childish for words.)

There's the bulging shoulder and tattoos. The glass jaw is that the SS396 doesn't go very fast. Falls out of the Supercar class, in fact. It's picked up some weight, like it's a 3900-lb. Intermediate, but the SS396 never has been quick in street trim. We tested one in 1968, with performance gearing, four-speed and the 375-bhp version of the 396, and it barely made it into the class. We expressed disappointment then, and sales went up, so we have no qualms about expressing disappointment now.

The 396 is a good engine. The 350-bhp version isn't highly tuned, and it's smooth and all that. Compared to the average car, the test SuperSport is fast, indeed. But it won't keep up with the competition, and the ads say the competition has a hard time keeping up with the SuperSport.

Something of this problem showed up with the transmission. The ideal is stealthy creeps from one gear to the next under light throttle, and instant jolts under power. The test car bumped in town, leading one passenger to remark that it was no better than his Mercedes-Benz. (No comment. We pick on Mercedes-Benz enough as it is.) On the track, it took its own sweet time. Chevrolet pro-

grams its transmissions to its engines. Behind the mild 350-cid V-8, the Turbo Hydra-Matics are smooth. Behind the L-88, they slam from gear to gear in sporting fashion. Possibly the transmission behind the SS396 isn't convinced it's supposed to be part of a Supercar.

One change this year, also part of the emissions laws, is a lock-out for the distributor's vacuum advance. It only advances in high gear. If we hadn't read the book, we'd never have known.

Where's the 454? It's out there somewhere, as we've been told by people who learned from Chevy's sales brochures that the engine will be offered later in the year. There was such a car on display at the magazine showings, but between that and our new-car issue, Chevrolet asked us to suppress any mention. You promise to keep the host's secrets or you don't get in the gate, so we kept quiet. So Chevrolet put the secret into the sales pamphlets. Last year the LT-1, this year the LS-5? (That's the option number, in case the salesmen has lost his files.)

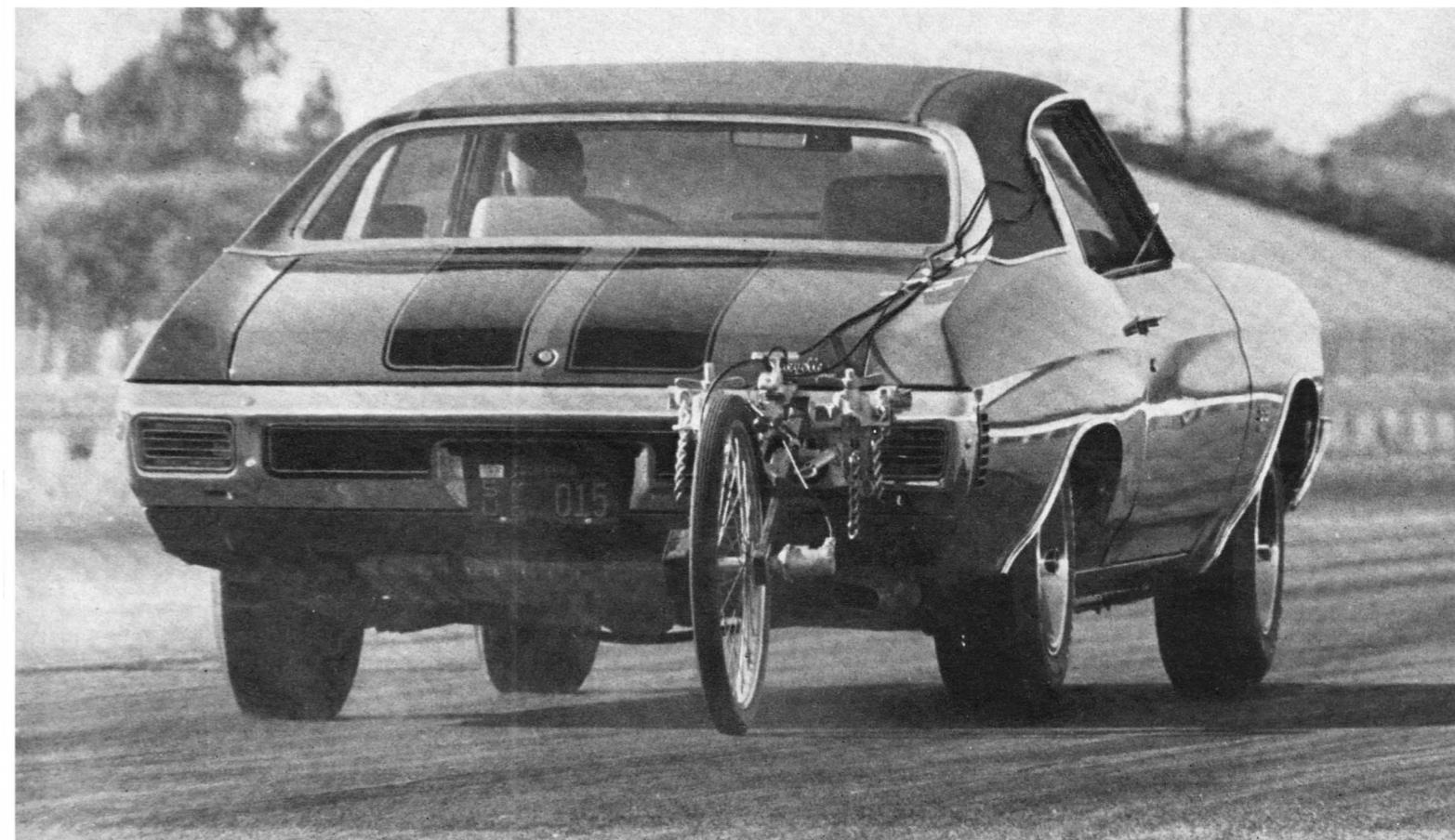
The handling has the aspect of falling into a time warp. Here you come, into the corner at speed. Crank the wheel, and the front end goes straight, carried away by the weight in front. Just like a 1964 Chevelle. Once enough positive lock is dialed in, the weight of the car transfers to the outside, at both ends. Then the rear bar goes to work. It stiffens the car's roll

resistance, and puts more weight on the outside rear, in turn putting the rear into a greater slip angle. Clear? The rear tires are now slipping as much as the front tires, so the car is cornering in a neutral attitude. This is not the way toward quick lap times. The car can be fooled, by entering the turn too fast, and pitching the car into oversteer with wheel and brake. But when the driver wants some understeer so he can apply power, it's all been used up.

Nor is the F-41 as good on the Chevelle as it was on the Chevrolet Caprice. That was a larger, heavier car, with better balance, so it had less initial understeer to overcome. But it's worth having. In town, where the switch from straight to corner isn't so abrupt, there is no feeling of plow. And the ride was comfortable, which wasn't the case with the last SS396, where the handling package was limited to stiffer springs. A limited-slip differential would have been nice, too, for applying power coming out of turns. When you load the outside wheel, you unload the inside wheel, and it spins.

The brakes passed the test before they took it. As you might guess, the brakes were used on the handling circuit. All they got by way of rest was the speedometer calibrations, then they went through the usual sequence of one hard stop from 80, then six $\frac{1}{2}$ -G stops, then another full-power stop, measuring distance. The first time, the

PHOTOS BY DARRYL NORENBERG





UNDERSTEER predominates, even with rear anti-roll bar that comes with the engine.

SS 396

continued

car stopped in 259 feet, which is about 50 better than average. And the eighth stop was in half the distance we've seen in some other cars recently.

The dashboard is the only place Chevrolet hasn't concentrated on image. The standard SS396 doesn't have any gauges except fuel. Makes sense, in that the engine sounds wound up when it is, and warning lights are more apt to be noticed. It's just something we were surprised to see. More to the point, Chevrolet has been using people again when designing the con-

trols. There are makers who don't. Living, breathing people are subjective, and all they can say is, it doesn't feel right, or I can't reach it. And no two people say the same thing. The designers solve this by making dummies in the size and shape of the average person. Then they build the controls to suit that median non-person. Being a dummy, it can't say that the headlight switch is out of reach, or that human ankles don't bend in that dimension. Chevrolet engineers put enough people through the designing process that everything was in the right place.

One tester did wish that the people involved hadn't been quite so taken with lay-down racing seats. Too much backrest rake, he said. The other

testers like plenty of rake.

There was a control problem, created by something odd in the mechanisms supposed to satisfy the anti-theft requirements written into the safety laws. The car had the locking steering column, the buzzer to tell you the key's in the lock, and the requirement that the transmission be in park before key will come out. To be sure the steering doesn't lock while the car is in motion, there are various fail-safes and overrides built in. And one was too cautious. The engine wouldn't shut off with the transmission in park. Turn the key, and nothing happened. That is a helpless feeling, friends, sitting there wondering if theft is being prevented by making it impossible for the owner to leave his car. In desperation, we discovered that you could turn off the engine with the transmission in anything but park. Then the column would lock, and the key would come out. This and other infuriating devices had better be saving countless youths from lives of crime.

Adults can ride in the rear seat, as they should be able to in a car of this size. With the handling package, brakes, etc., the SS396 makes a fine family car. As long as nobody asks it to step outside, the tattoos will mean more than the glass jaw. ■

1970 CHEVELLE SS396

CHEVROLET



DIMENSIONS

Wheelbase in.....	112
Track, f/r, in.....	59/59
Overall length, in.....	197.2
width.....	76
height.....	52.8
Front seat hip room, in.....	2 x 24
shoulder room.....	58.3
head room.....	37.7
pedal-seatback, max.....	43
Rear seat hip room, in.....	57
shoulder room.....	57
leg room.....	32.6
head room.....	36.4
Door opening width, in.....	42
Trunk liftover height, in.....	29

PRICES

List, FOB factory.....	\$2709
Equipped as tested.....	\$4926
Options included: SS396 option, \$445; (includes: L34 350-bhp engine, F41 handling pkg., special wheels & tires, special trim); ZL2 hood, \$147; power disc brakes; Turbo Hydra-Matic 400, \$282; AM/FM; A/C; power steering power windows.	
No. of passengers.....	5
Luggage space, cu. ft.....	n.a.
Fuel tank, gal.....	20
Crankcase, qt.....	5
Transmission/dif. pt.....	8/3.5
Radiator coolant, qt.....	19

CAPACITIES

CHASSIS/SUSPENSION

Frame type: Perimeter.	
Front suspension type: Independent by s.l.a., coil springs, antiroll bar, antiroll bar dia., in.....	1.2
Rear suspension type: Live axle, coil springs, control arms, antiroll bar.	
Steering system: Integral power assisted recirculating ball	
overall ratio.....	18.6-12.4:1
turns, lock to lock.....	4.0
turning circle, ft. curb-curb.....	n.a.
Curb weight, lb.....	3990
Test weight.....	4310
Distribution (driver), % f/r.....	58/42

BRAKES

Type: Power assisted disc/drum.	
Front rotor, dia. x width, in.....	11 x 1
Rear drum, dia. x width.....	9.5 x 2.25
total swept area, sq. in.....	332.4

WHEELS/TIRES

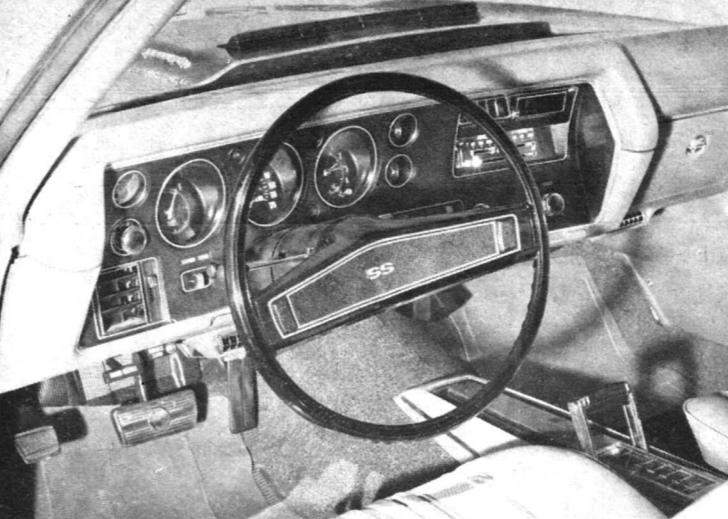
Wheel rim size.....	14 x 7 JK
bolt no./circle dia. in.....	5/4.75
Tires: Firestone belted/bias wide oval.....	
size.....	F70-14

ENGINE

Type, no. of cyl.....	V-8
Bore x stroke, in.....	4.126 x 3.76
Displacement, cu. in.....	402
Compression ratio.....	10.25:1
Fuel required.....	premium
Rated bhp @ rpm.....	350 @ 5200
equivalent mph.....	115
Rated torque @ rpm.....	415 @ 3400
equivalent mph.....	75
Carburetion: Rochester 1x4.	
throttle dia., pri./sec.....	1.38/2.25
Valve train: Overhead rocker arms, pushrods and hydraulic lifters.	
cam timing	
deg. int./exh.....	28-78/75-31
duration, int./exh.....	286/286
Exhaust system: Dual with resonators.	
pipe dia., exh./tail.....	2.5/2.0

DRIVE TRAIN

Transmission type: 3-speed automatic	
Turbo Hydra-Matic 400.	
Gear ratio 3rd (1:00:1) overall.....	3.31:1
2nd (1:48:1).....	4.90:1
1st (2:48:1).....	8.21:1
1st x t. c. stall (2:10:1).....	17.24:1
axle ratio.....	3.31:1



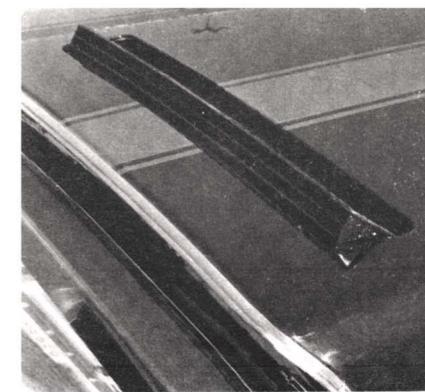
PEOPLE designed this instrument panel, and everything has been put in the right place. Good for Chevrolet.



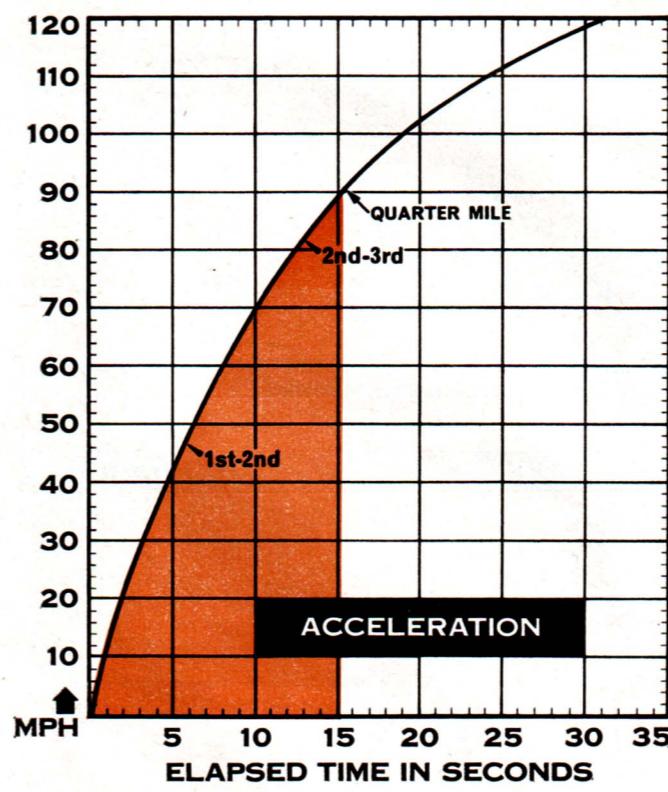
BULKY 396 engine is a tight fit. Soft rubber lip atop air cleaner seals against the cold-air trap door in hood.



COLD AIR is controlled by engine vacuum. Cruising, near right, closes the door. Floor the pedal, far right, and the spring-load door pops open.



CAR LIFE ROAD TEST



CALCULATED DATA

lb./bhp (test weight).....	12.3
Cu. ft./ton mile.....	1436
Mph/1000 rpm (high gear).....	22.2
Engine revs/mile (60 mph).....	2700
Piston travel, ft./mile.....	1692
CAR LIFE wear index.....	45.7

PERFORMANCE

Top speed (5600), mph.....	124
Test shift points (rpm) @ mph.....	82
2nd to 3rd (5500).....	1436
1st to 2nd (5200).....	2700

ACCELERATION

0-30 mph, sec.....	3.3
0-40 mph.....	4.8
0-50 mph.....	6.3
0-60 mph.....	8.1
0-70 mph.....	10.3
0-80 mph.....	12.8
0-90 mph.....	15.9
0-100 mph.....	20.2
Standing 1/4-mile, sec.....	15.5
speed at end, mph.....	90.42
Passing, 30-70 mph, sec.....	7.0

MAINTENANCE

Engine oil, miles/days.....	6000/240
oil filter, miles/days.....	12,000/480
Chassis lubrication, miles.....	6000/240
Antismog servicing, type/miles.....	check/12,000
Air cleaner, miles.....	24,000
Spark plugs: ACR 44T, gap (in.).....	0.033-0.038
Basic timing, deg./rpm.....	TDC
max. cent. adv., deg./rpm.....	21° @ 2000
max. vac. adv., deg./in. Hg.....	15° @ 15.5
Ignition point gap, in. (0.019)	
cam dwell angle, deg. (28-30)	
arm tension, oz. (28-32)	
Tappet clearance, in. (0.019)	
Fuel pressure at idle, psi.....	7
Radiator cap relief press., psi.....	15

Normal cond., mpg.....	13.6
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