

# CHEVROLET'S BIG THREE

## PERFORMANCE TEST

OKAY, SO CHEVY'S NOT IN RACING, BUT IT STILL PRODUCES SOME OF THE BEST HIGH-PERFORMANCE MACHINERY IN THE INDUSTRY. HERE'S A LOOK AT THREE OF ITS MOST EXCITING PRODUCTS.

In this issue POP ROD tests Chevy's "Big Three", the Z-28 Camaro, Nova Chevy II with the 350 hp, 396-inch engine and the L-78 Camaro SS package with the 375 hp, 396-inch powerplant. The complete line was impressive, especially considering the potential modifications that can be made on these performance engines.

### 375 HP CAMARO

Let's consider the L-78 Camaro SS first. It not only passes as a performance car but does well in overall looks, too. The white paint on our car was accented by a black vinyl roof, with black racing stripes from the front end to the mid-door section.

Under the hood rests a powerful

396-cubic-inch, 375 hp mill with chrome valve covers. Optional aluminum heads were included on our 375 engine and they're only one of the components that makes this machine the powerhouse it is. Our 375 Camaro also featured a special camshaft from the 427-inch 425-hp engine. Solid lifters are standard on this engine. On top of the aluminum intake manifold is a

R-4346-AAS Holley carburetor that flows 780 cfm. The compression is 11-to-1. Since Camaro has done away with the mufflers on the dual exhaust system, the noise is slightly on the loud side, but not so loud that a ticket from the local police is common. The sounds are dampened from a "chambered muffler" type exhaust pipe.

For the drive train the L-78 Camaro is equipped with a TurboHydramatic transmission with Chevy's high stall converter. The rear end gears were 3.73; however, 3.55, 3.31 and 4.10 ratios are also available to the Camaro buyer.

Just how well does this combination perform on the strip and on the road course? Let's see! The scene was set at the Orange County International Raceway, located between Los Angeles and San Diego. We loaded a set of slicks in the car which presented us with a problem, mainly because they wouldn't fit in the trunk and had to be placed in the cramped back seat.

To prepare the engine for our drag test, Bill Thomas Race Cars, Anaheim, Calif., completely tuned the powerplant. The first runs were with the car in street trim: street tires and air cleaner in place.

We staged the car carefully on the line and loaded the transmission to 1000 rpm. The tires went up in smoke as we accelerated through the gears. The time was a 14.60 ET at 98.90 mph. The next run we just idled off the line with better success. The time dropped to a 14.48 ET at 100.55 mph.

So it was back to the pit area and on with the Casler slicks on M/T rims. The air cleaner was also removed. This time we pulled to the line and loaded the trans to 2000 rpm. That was all the stall we could get. Off the line the tires broke loose about 10 feet and then the car bogged momentarily. We shifted at 6500 rpm into second and 6700 rpm into third. If we wanted to, we could go through the lights in second gear turning approximately 6900 rpm. The times varied very little between driving techniques. We did manage to pull times of 14.20 ET and 101.58 mph despite the big slicks. The car did not have headers; therefore all these times were with the stock exhaust system.

In the handling department, the SS Camaro excels. This model weighs 3460 lbs, with 1450 lbs. of the weight on the rear. Weight transfer is really good for dragging. On cornering the nose heavy characteristics are noticeable as the back end comes around easily.

As for brakes, our car was equipped with the disc units. We did notice, however, that they heated up after two or three consecutive blasts down the strip with the hard pressure utilized to slow the car.

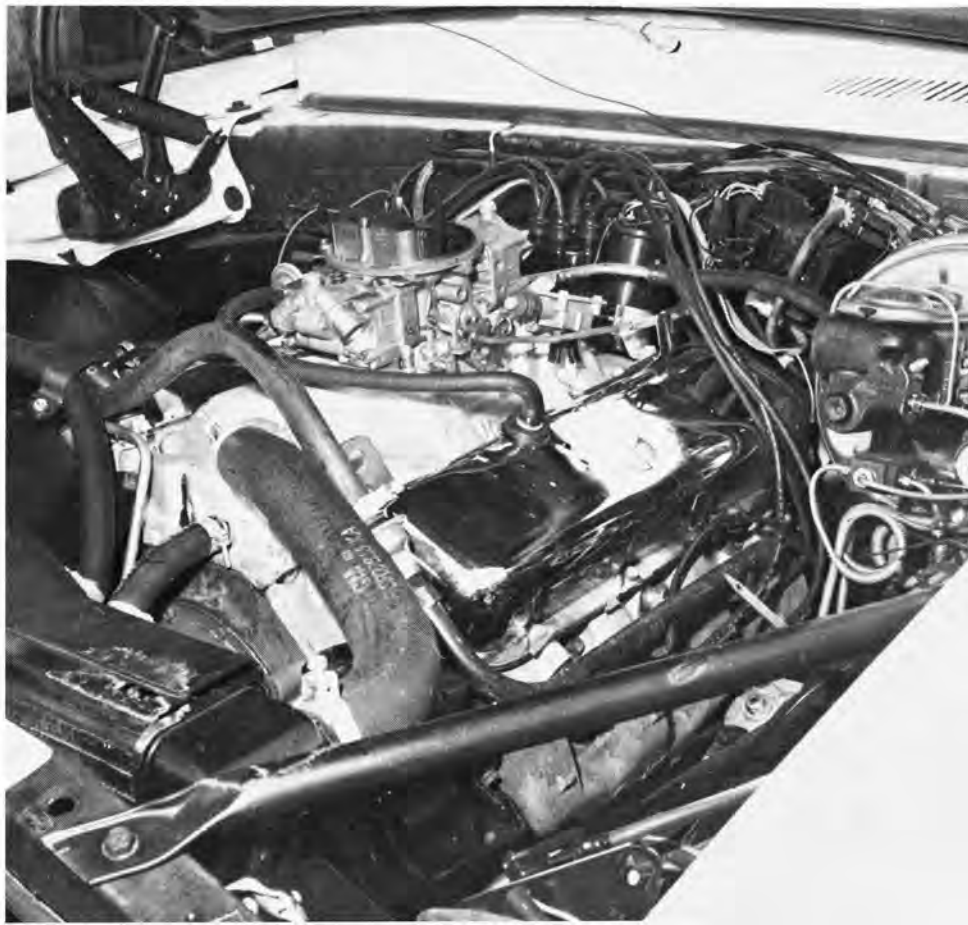
Overall the L-78 Camaro SS package is good. And don't forget how easy it would be to make the 396 engine really produce power!

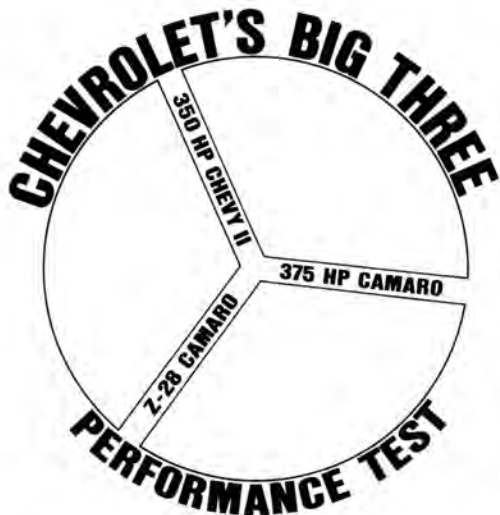


*Chevy's 375 hp 396 Camaro is as good looking as it is powerful. Sleek lines and low appearance give an action flavor to this sporty super car. It handles well, too.*

*POP ROD's Lee Kelley changes to Casler slicks during the Camaro SS tests. Although 396 Camaro had definite 13-second capabilities, poor gearing made good times impossible.*

*Heart of the 375 hp Camaro is this 396-cubic-inch engine that features on an aluminum heads and a 780 cfm Holley 11.0-to-1 compression, optional aluminum intake manifold.*





## Z-28 CAMARO

Chevy's Z/28 Camaro first emerged on the high-performance scene in 1967 as a 302-cubic-inch ball of fire that threatened to put Mustang right out of the TransAm picture. Well, in just one year's time and with a lot of refinements, the Z/28 managed to do exactly that, and in so doing it picked up a lot of followers who weren't just interested in racing. These people wanted a Z/28 of their own to drive on the street. When Chevrolet made the Z/28 available in '68, the public bought them at a rate 10 times faster than Chevy had anticipated! Needless to say, the small-block Z/28 was carried over into the '69 model year. It's a fun pony car that is eye-catching, interesting to drive and performance-oriented. What more is there?

Before we get into our Z/28 test, let's talk about what to expect from this package. Our test car had all the good things a standard Z/28 is supposed to have: 302-cubic-inch engine

with 11.0-to-1 compression and rated 290 hp at 5800 rpm, a Muncie M-22 close-ratio four-speed transmission with Hurst linkage, a 3.73 rear end with Positraction, six-inch-wide wheels and Goodyear E70 x 15 tires, heavy-duty front and rear suspension, quick steering (power), front disc brakes (power) and a heavy-duty radiator. Chevy's 302 for '69 features four-bolt main caps and a Holley R4055A four-barrel carburetor that flows 780 cfm. Our test car also featured a set of Bill Thomas four-tube headers. So after reading this impressive list of high-performance equipment, you'd expect the standard Z/28 to run low 13s at speeds over 105 mph, wouldn't you? Well, you'd be wrong if you said yes!

Hot rodders are expecting too much from the standard Z/28, and a good deal of the fault lies with misinformation. The car is not a 13-second machine as it comes off the showroom floor. That 3.73 gear is good for a car that has plenty of cubic inches and lots of torque, but the 302 Chevy doesn't even begin to run until over 4000 rpm, and the 3.73 doesn't let the Z/28 stay in its peak range during the quarter-mile. The 3.73 isn't a bad combination for street/strip driving, but you certainly don't want to go "super car hunting" in a 3.73-equipped Z/28, not unless you like getting beat. Hot rodders have to realize that they have to go to 4.56 or 4.88 gears to make that small block wail. Okay, so now that we know what to expect from our test car, let's get on with the story.

The Z/28 was a real fun car to test. Everywhere we went we drew admiring glances, thanks mainly to the Z/28's Hugger Orange paint job, its unreal no-restriction exhaust system (rump-rump-rump) and the wild spoiler on the rear deck. The Z/28 is just like the rest of the high-performance pony cars on the market in that

there is plenty of room for two people in the front bucket seats (which, incidentally, fall far short of being as comfortable as the buckets in the Mach 1 Mustang), but there is only room for one large dog where the two rear passengers are supposed to sit. We're not complaining, because we like the pony cars and we don't want them lengthened to make more inside room, but isn't it about time the factories stopped telling us about all the leg room that the rear seat passengers have in these cars?

The dash of the Z/28 is really not very pretty, but it is functional. Hopefully, Chevrolet will change the Camaro's dash in 1970. We'd like to see them integrate all the instruments that presently inhabit the top of the console between the seats into the dash so that everything would be within easy view of the driver. At least the tach's easy to read, and that's more than we can say for the tachs on the majority of the pony cars.

We took our test Z/28 to Orange County International Raceway to wring it out, and there's where we found that standard Z/28, while not being a 13-second street machine, is one heck of a road course car. Orange County features a nice, curvy road course and our Z/28 put it to good use. When we were through we had straightened out most of the curves, and the Z/28 had proven itself to be a truly great handling sports machine. There's a lot of expensive foreign machinery that would be hard pressed to stay with the Z/28 through any winding mountain pass! Mike Jones, OCIR's head man, put our little Camaro through its paces and he, too, was impressed with its superb handling characteristics.

As we mentioned before, the standard Z/28 with a 3.73 gear is not going to be any street eliminator. While we were at OCIR, we made several passes



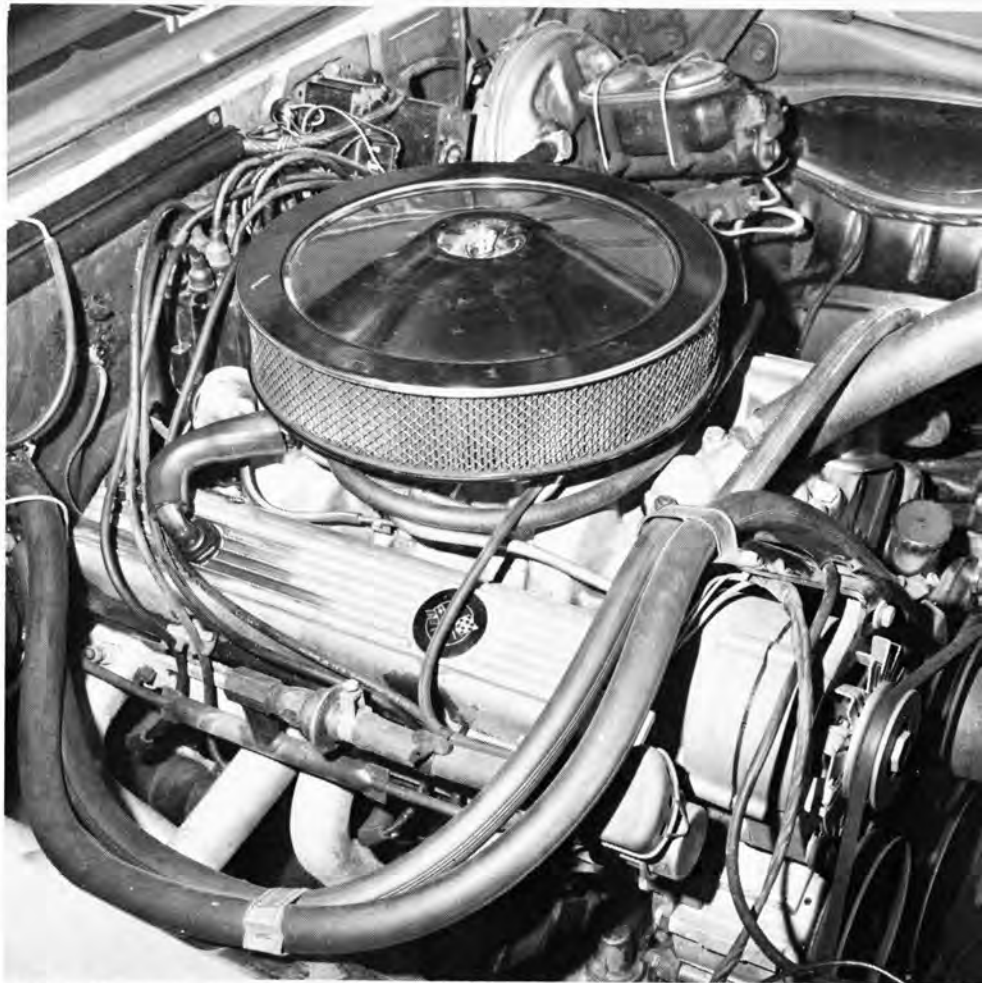
Front and rear spoilers are standard equipment on '69 Z/28 Camaros. These spoilers give Camaro much greater stability at high speeds.



*Interior of Z/28 is functional, features complete set of gauges mounted on console, easy-to-read tach and Hurst shifter.*

through the quarter-mile. All shifts were made at 6500 rpm, with starting line rpm in the 3000-3500 rpm range. The best times with street tires and the headers closed were 14.74, 95.88. With street tires and open headers, the Z/28 went 14.58, 96.98. We never went into fourth gear on any of the runs, again pointing up the need for a stiffer rear gear. We've seen Z/28 Camaros with 4.88 gears, headers and a set of slicks run 13.10-13.20 at 107 mph, so it can be done. It just takes the right combination.

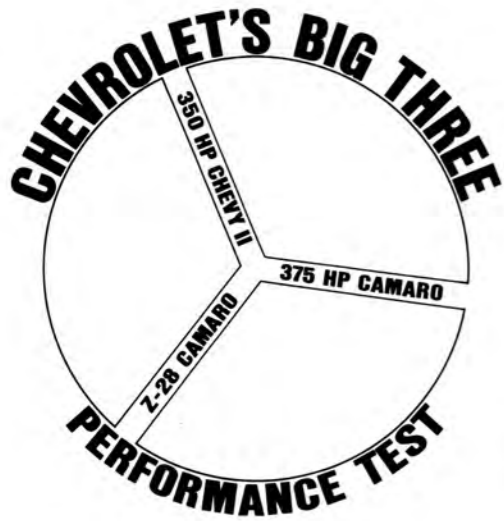
Well, there it is; Chevy's own low-budget answer to the Corvette. And would you believe that it's every bit as much fun to drive as the 'Vette? Just remember that there's a small block under that hood, so gear accordingly. With the right combination, it's a wild ride!



*This is the mouse that roars, a 302-cubic-inch V-8 that features four-bolt main caps, 11.0-to-1 compression, Holley 780 cfm carburetor and aluminum intake manifold. Our Z/28 test car engine also featured Bill Thomas four-tube headers, was rated 290 hp at 5800 rpm.*

*Z/28 Camaro is one of the most streamlined cars in the so-called pony car lineup. Its wailing small block engine and superb handling characteristics make it one of the best buys in the field.*





## 350 HP CHEVY II

Oh, the fabulous performance machines that result from the natural evolution taking place every year in Detroit! A few years ago when everyone wanted a compact car for economy, GM offered them the Chevy II. But, as trends sometimes do, the demands changed towards more power and increased performance. Thus, there appeared such cars as we have recently tested, including the 396-cubic-inch Chevy II Nova SS.

We formed some opinions about the car within minutes of climbing behind the wheel. First, this one's a potent, exciting street machine. However, the power steering and power brakes have no place here. Had the factory decided to make a luxury car out of the Chevy II, a smaller engine along with all this power equipment would have served the purpose better. But the Nova SS was built to perform, and the power equipment just hampers its performance.

We took our Nova out for a Sunday afternoon's testing at San Fernando Raceway with good results. Actually though, the car was capable of more than we recorded on the clocks, since we did all our racing on wide oval street tires instead of slicks. Also to be considered is the fact that this track is not the world's best as far as traction goes. The elapsed times ranged from a worst of 15.89 to a quickest of 15.15 seconds. As for speeds, they were all over 92 mph, with a best of 94.33. It didn't make a lot of difference whether we shifted the gears manually or let the TurboHydromatic handle the task, but with a little more practice it could

*It's not a big car yet, but the Chevy II Nova SS is sure no economy compact. It's built for fun.*

be the winning edge. Our best speed and elapsed time both came on runs when the transmission was shifted; the difference was a shift at about 5500 rpm automatically or just over 6000 rpm manually.

This Nova's 396 cubic inches of powerplant puts out 350 hp at 5200 rpm. For carburetion one Rochester QuadraJet four-barrel is used, and we pumped Standard Custom Supreme through it during our testing session. Since we were interested in seeing how the car would perform under normal circumstances, we made most of our runs with the air filter in place. No noticeable increase was noted by removing it. Also, the timing was left at 36 degrees, where it was on delivery.

The transmission of this car from a sleek street cruiser to a competitive drag machine was impressive. The hydraulic lifters keep the engine smooth and quiet at a stop light, and don't seem to hamper performance on the strip. However, if you get one of these cars for more racing action than street driving, don't even consider using the showroom tires. Our ETs could have been lowered close to half a second merely by adding slicks. Also, though the engine seems to be working pretty hard on the freeway with 3.73 gears, 4.10's or 4.56's would give a big boost at the drags.

The driver's compartment is quite comfortable and functional as well. A tachometer has been installed into the instrument panel, just left of the speedometer. It's great in daily driving, but a little hard to read in competition because of its small size. Rather than clutter the driver's vision with instruments that need only periodic checking, Chevrolet put the oil pressure,

temperature, fuel and ammeter gauges on the console in a cluster in front of the shifter.

Red line tires added both good looks and speed to the car's exterior appearance. The wheel covers, built to simulate custom wheels, are a little too flashy for this car but are attractive. In fact, tech people took a quick look at them at the strip and, thinking they were wheels, didn't question us when we left them in place during our runs.

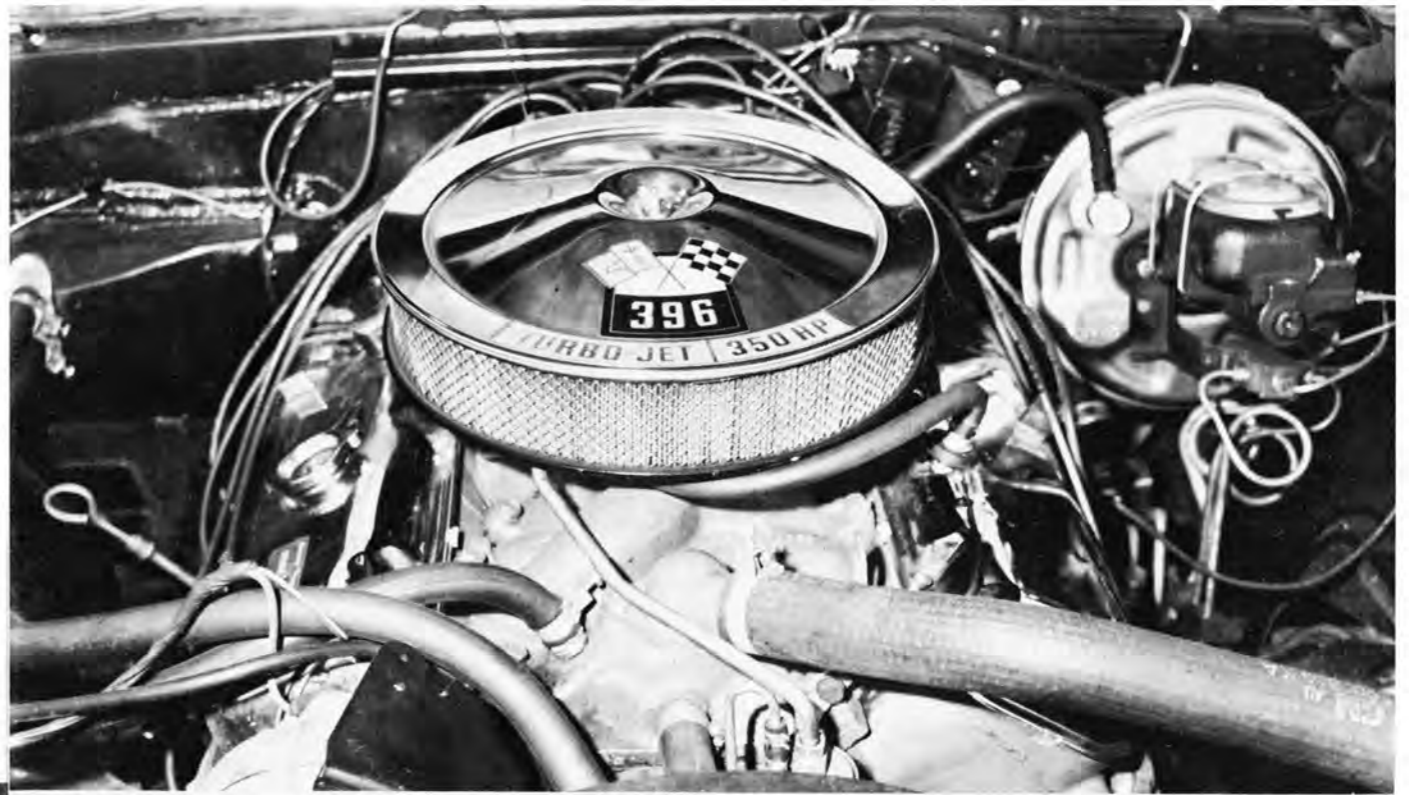
From the showroom floor the Nova 396 SS is a bit hard to classify. A little too much for the street, but requiring some modifications for the strip or track. It won't thrill you with gas mileage, but you could win a big share of races if you had the notion to install slicks and traction bars.

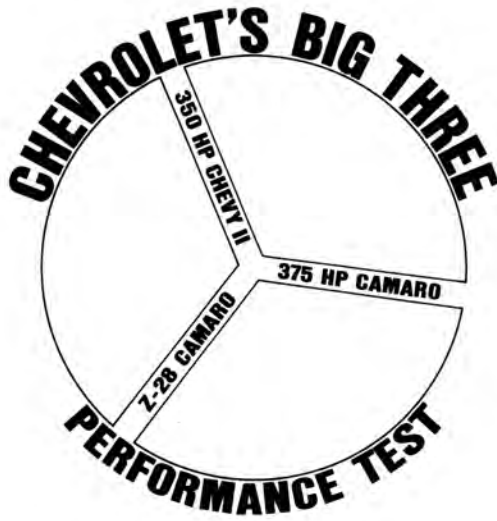


*With 396 cubic inches and 350 hp under the hood, you're in for a thrill with the Nova SS. The TurboHydromatic is a perfect backup and, unless you're just a die-hard, there seems to be no need to go four-speed.*

*The attractive Chevy II interior includes a small tach to the left of the speedometer.*

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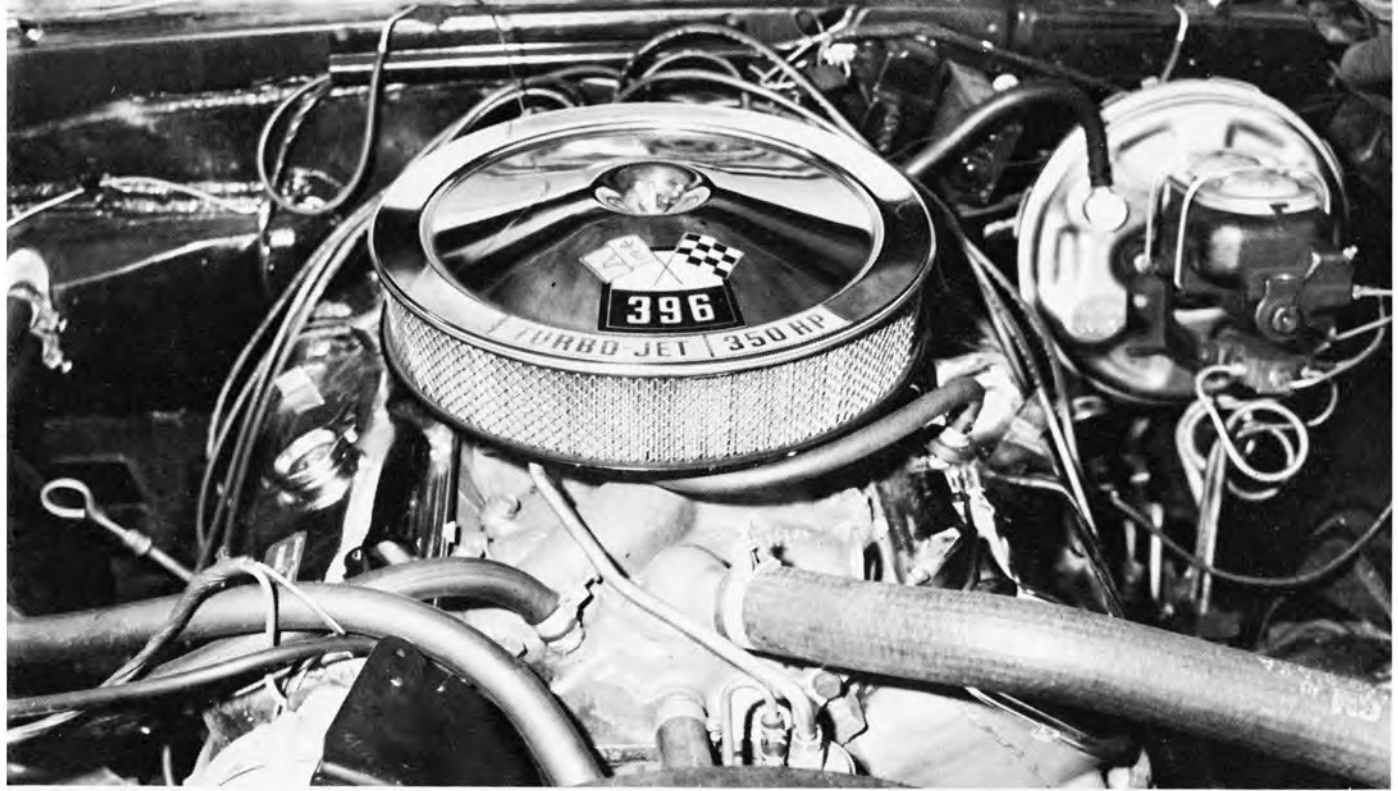
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