

CAR and DRIVER ROAD TEST

PLYMOUTH 426 HEMI

Under that sedate
exterior, 425
ferocious horses

Well, all we can say to the guys at Plymouth is, "You shoulda been here last month." Had they sent us our Hemi test car in time for the March issue's comparison of the six "Super Cars," they would have taken home all the marbles. Without cheating, without hordes of expensive NASCAR mechanics, without towing or trailing the Plymouth to the test-track, it went faster, rode better, handled better, stopped better, and caused fewer problems than all six of the cars tested last month. What's more, it had been driven from Detroit to New York and used as a jitney in a solid week of bumper-to-bumper traffic during the transit strike before we ever took it to New York International Raceway for testing.

Mechanically, the Plymouth is the best car in this class. However it has a couple of strikes against it, and we should mention these at the outset. The price for the Hemi-426 engine option is a staggering \$907.60—our test car listed for about \$4200 and it wasn't loaded, by any means. And at the same time, this very high price tag does not give the purchaser a particularly distinctive or good-looking automobile. Our test car was a bright red Belvedere Satellite sport coupe, and its appearance—both interior and exterior—could only be described as drab. It isn't in the same league with cars like the Pontiac GTO or the Fairlane GT, both of which make a powerful visual statement of high performance.

One more factor that weighs against the Hemi as a GTO-beater—at least in the case of our test car—is bad quality control. The right-hand door never closed on the first try. The console glove-box popped open within an hour of the time we

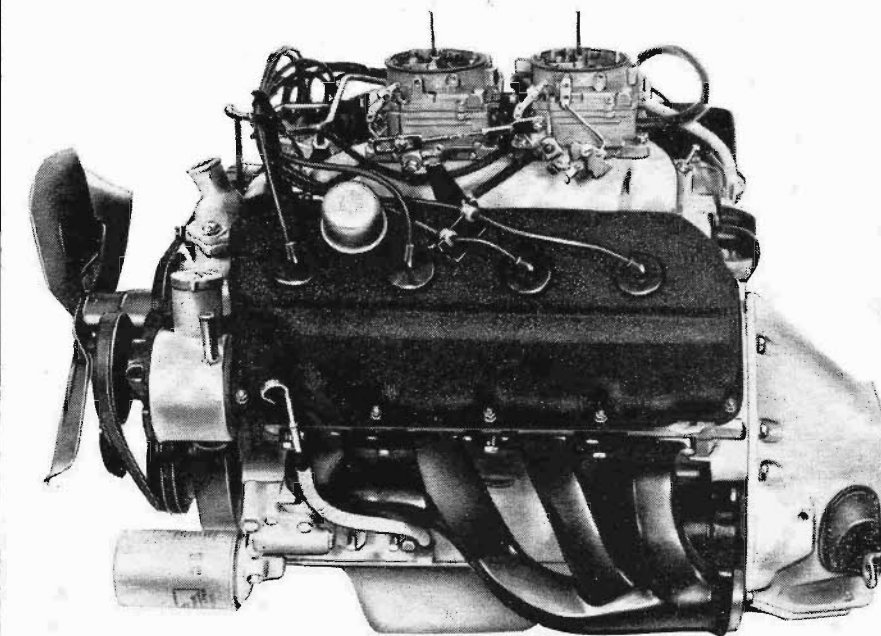
picked the car up, kept popping open, and finally had to be taped shut. The steering gearbox was not properly bolted down and its looseness made us think that the car was virtually unsteerable, until we found the trouble and got it fixed. And finally, we had to put up with an awful lot of wind noise—a constant rumble of turbulence around the windows that sometimes became pretty tiresome.

But as a machine for sitting down in and going fast—and never mind all that jazz about what it looks like or how the windows fit—that's where Chrysler Corporation's Hemi-426 really gets the job done. It offers the best combination of brute performance and tractable street manners we've ever driven. Passengers, even knowledgeable enthusiasts, can ride around in the car and never know what a bomb it is, unless the driver chooses to unleash the might of all those big Omigawd-ferocious horses.

The Hemi-426 option—as fitted on our test car—consists of the following components: 426 cu. in. V-8 engine (425 bhp @ 5000 rpm, 490 lbs/ft of torque @ 400 rpm); heavy-duty torsion bars, rear springs, front stabilizer bar, shock absorbers, prop shaft, ring and pinion, steering gear;

We think that the car will be substantially improved by the addition of the disc brakes, but the metallic lined drums on our test car stopped it like it was hooked onto an arresting cable. Their only flaw was their grabbiness when cold, which was at first dramatically accentuated by the vagueness of the loose steering gear. Once we got the steering fixed we found the brakes to be much more effective and directionally stable—quite capable of a series of 80-0 mph panic stops without serious fade.

But the real story of our love for the Plymouth Hemi-426 is the performance of the engine. In trying to describe it, we keep falling back on words like "sporty" and "zippy,"—words that really aren't too satisfactory as an expert definition. We compare it to another all-time favorite engine, the 327 cu. in. Corvette V-8. Both the Corvette and the Hemi have a free-breathing, effortless ability to rev forever. A quick stab at the throttle pedal—in any old gear—will send the tachometer needle flying around the tach like a teeny little Fiat Abarth, or a Ferrari. It just doesn't feel like a seven-liter engine—except for the fact that you're suddenly doing 120 and you don't know how you got there.



7.75 x 14 Goodyear Bluestreak (police-type) Nylon tires on 5.5-in. rims, 11 x 3-in. front and 11 x 2.5-in. rear drum brakes (the biggest in Detroit) with metallic linings. That's what you get for your \$907.60. Then you also have to buy the following mandatory options: heavy-duty Torque-Flite 3-speed automatic (\$206.30) or 4-speed manual transmission (\$184.20). Front disc brakes are optional . . . and recommended.

The origins of this engine go far back into the earliest fifties, when Chrysler experimented with all kinds of sophisticated high-performance powerplant designs, ranging as far out as double overhead cam sixes, and finally settled for the tremendously successful 331 cu. in. "Firepower" V-8, which featured hemispherical combustion chambers and power potential that is still being exploited by hot rodders to-

day. It was discontinued in 1958, because its complexity made it expensive to build, but it was so good that you'd be hard put to find one in a junkyard today. Any old Firepower engine that isn't still hauling some worm-eaten Chrysler, Dodge, or DeSoto around, is apt to be hauling some courageous youth off down the drag strip at a ridiculous speed.

It was only natural that Chrysler's 1963 return to stock car racing should revive interest in the still-unbeatable "hemi" design, and, further, that the roaring success of these new Hemis would create a vigorous demand from the performance-hungry public for a street version. It took a couple of years for the engineers to tame the beast, but the result was well worth the trouble.

The street Hemi is available only in Plymouth's 116-in. wheelbase Belvedere, or the similar-size Dodge Coronet and Charger. It's doubtful if Chrysler will make a nickel from the sale of these engines, even at

the high premium they're charging, but there's no question in our mind that the man who wants to have the hottest setup in his neighborhood, will *have* to opt for the Hemi—and this should have substantial "image" benefits for the rest of the Chrysler line.

The street Hemi comes about as close to being "hand-made" as any production line engine could. All critical parts are carefully chosen for perfect fit and balance, and completed engines run through a much more sophisticated test procedure than anything short of specially-built racing powerplants.

The street Hemi differs from the racing version in several ways: the racing Hemi has aluminum heads, magnesium "ram" intake manifolding, and fabricated exhaust headers. The street version has cast iron heads and exhaust headers, and a cast aluminum intake manifold that allows two four-barrel carburetors to feed both banks of cylinders, in-

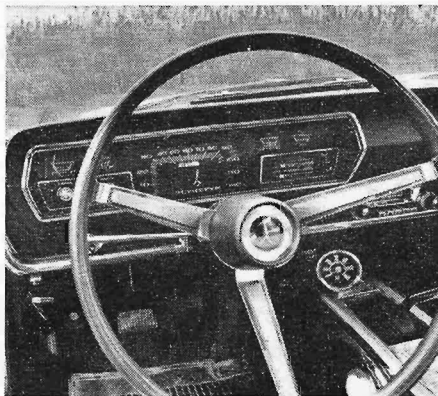
stead of each one feeding a single bank as on the ram-induction racing setup. The engine starts and runs at normal cruising speeds on the two primary barrels of the rear carburetor. As the throttle is opened wider, the two front primaries open up, and finally, at full-throttle, the four secondaries pop open and eight large barrels are dumping fuel and air past the 2¼-in. intake valves! It takes a lot of gas and even more courage to run the Hemi at full throttle for very long, and while the gas is fed through a fuel-line about as big around as your wrist, you have to supply your own courage. Our overall gas consumption for everything, including commuting, a 700-mile trip from Detroit to New York, and an afternoon at the drag strip, averaged 12.3 mpg—going as high as fourteen on the turnpikes and as low as eight when all those holes were opened up.

The compression ratio has been reduced from 12.5 to 10.25:1 on the



street Hemi, and the valve timing is a bit more conservative too. Otherwise, the bottom-end and valve-gear layouts are exactly the same as on the racing engine, as are the dimensions. The cam is located high in the block, between the two banks of cylinders, and staggered pushrods operate the valves via solid lifters and two rocker shafts per bank—the double rocker shafts being essential to obtain the necessary inclined intake and exhaust valves for the hemispherical combustion chambers.

The engine's power range and ultra-responsive flexibility make it more useful than anyone would dream possible with such high power outputs. Driven normally, one gets the feeling that the engine sort of functions as its own torque converter, and the four-speed transmission is there mainly to provide a choice of axle ratios. We never used all four gears around town—usually starting in first and then changing to third, or starting in second and going



to fourth. Our car had the standard 3.54 rear axle ratio (with limited-slip differential) and we found that it would even take off quite smoothly from a standstill in third, but our conscience wouldn't allow us to do too much of that.

One thing is apparent. This car, with this engine, needs a four-speed box like it needs porcelain bud vases in the engine compartment. We didn't drive one equipped with

Torque-Flite, but we would unhesitatingly recommend the automatic transmission to anyone who plans to buy a Hemi—even for the drag strip.

The best technique for getting good acceleration times with our test car seemed to be to run the revs up to about 12-1400 rpm and drop the clutch. Then floor it as soon as the car was off the line with both wheels getting a bite. There's still plenty of wheelspin this way, but it's much easier to control with the throttle, and we got very good times. In fact, after we'd gotten the technique worked out, we got better quarter-mile times with thirty-five pounds of air in the tires (we had forgotten to lower the pressures) than we had managed earlier with a more typical starting procedure and only 18 psi.

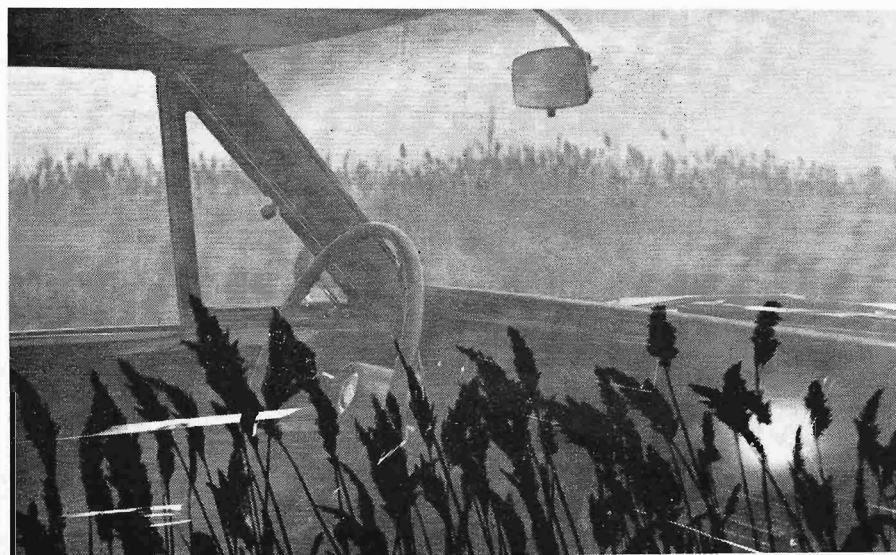
Part of the car's ability to accelerate so well, we're sure, comes from a pretty decent suspension layout—it really does seem to get an awful lot more of the available power onto the ground. And better still, it's a more roadable car at the same time. After the engine, we'd select the shock absorbers as the car's most impressive component. We brought it back from Detroit with five people aboard, a full load of luggage and some antiques we'd purchased, and it never came close to bottoming the suspension, even when we had to negotiate the cratered streets of New York City.

Even on ice and snow, the power comes on so smoothly, and the limited-slip differential works so well, that you can bash around very comfortably at normal driving speeds when other citizens with less spirited steeds are tiptoeing around and still getting all out of shape.

On first climbing in, one finds very little to make him aware of the car's power. The tachometer is mounted on the floor, which is about as useful as wearing your wristwatch on your ankle, and it only reads to 6000 without any red-line at all. The rest of the instruments are right out of any Plymouth taxicab, and the phony hand-tooled vinyl interior doesn't make it any easier to love. The steering wheel is one of the plastic-wood jobs, which isn't bad, but the spokes have sharp edges and there's no horn ring—you have to let go of the wheel to reach the center horn button.

Your first clue to the car's better side comes when you fire up the engine and the fast-idling rumble of the exhaust makes itself heard. Incidentally, it starts faster, with less

(Continued on page 82
Specifications Overleaf)



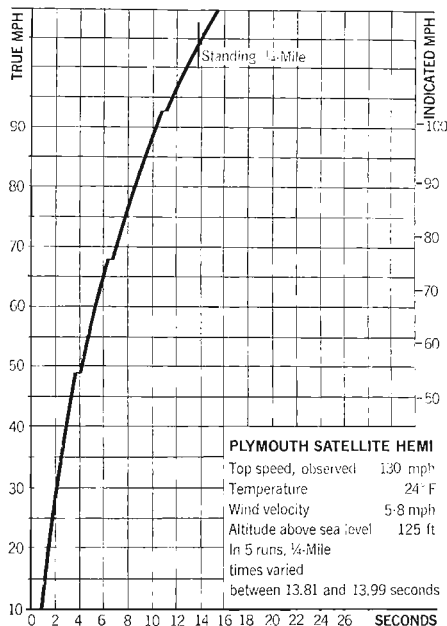
PLYMOUTH SATELLITE HEMI

Manufacturer: Chrysler-Plymouth Division
Chrysler Motors Corporation
12200 East Jefferson Avenue
Detroit 31, Michigan

Price as Tested: \$4182.22 FOB Detroit

ACCELERATION

Zero To	Seconds
40 mph.....	2.8
50 mph.....	4.1
60 mph.....	5.3
70 mph.....	6.9
80 mph.....	8.4
90 mph.....	10.2
100 mph.....	12.6
110 mph.....	15.7
Standing 1/4 mile.....	104 mph in 13.8



ENGINE

Water-cooled V-8, cast iron block, 5 main bearings
Bore x stroke..... 4.25 x 3.75 in, 109 x 96 mm
Displacement..... 426 cu. in, 6983 cc
Compression ratio..... 10.25 to one
Carburetion..... 2 4-bbl, progressive linkage
Valve gear, Pushrod-operated overhead valves, mechanical lifters
Power (SAE)..... 425 bhp @ 5000 rpm
Torque..... 490 lbs-ft @ 4000 rpm
Specific power output..... .99 bhp per cu. in, 61.03 bhp per liter
Usable range of engine speeds, 800-6000 rpm
Electrical system..... 12-volt, 78 amp-hr battery, 400W alternator
Fuel recommended..... Premium
Mileage..... 9-14 mpg
Range on 19-gallon tank..... 171-266 miles

DRIVE TRAIN

Clutch..... 11-inch single dry plate
Transmission..... 4-speed manual, all-synchromesh

Gear	Ratio	Overall	mph/1000 rpm	Max mph
Rev	2.58	9.13	8.4	51
1st	2.66	9.42	8.1	49
2nd	1.91	6.76	11.3	68
3rd	1.39	4.92	15.5	93
4th	1.00	3.54	21.5	130
Final drive ratio.....			3.54 to one	

CHASSIS

Wheelbase..... 116.0 in
Track..... F 59.5 R 58.5 in
Length..... 200.5 in
Width..... 75.5 in
Height..... 53.2 in
Ground Clearance..... 5.8 in
Curb Weight..... 3954 lbs
Test Weight..... 4369 lbs
Weight distribution front/rear..... 55/45%
Pounds per bhp (test weight)..... 10.3
Suspension F: Ind., unequal-length wishbones, torsion bars, anti-sway bar
R: Beam axle, semi-elliptic leaf springs

Brakes..... 11-in drums front and rear, 380.1 sq in swept area, metallic linings, power assisted

Steering..... Rack and sector, power assisted
Turns, lock to lock..... 5.4
Turning circle..... 44 ft
Tires and wheels..... 7.75-14 Goodyear Bluestreaks on 5.5J rim

CHECK LIST

ENGINE

Starting..... Excellent
Response..... Very Good
Noise..... Fair
Vibration..... Excellent

DRIVE TRAIN

Clutch action..... Very Good
Transmission linkage..... Very Good
Synchromesh action..... Very Good
Power-to-ground transmission..... Fair

BRAKES

Response..... Fair
Pedal pressure..... Poor
Fade resistance..... Very Good
Smoothness..... Poor
Directional stability..... Fair

STEERING

Response..... Fair
Accuracy..... Fair
Feedback..... Poor
Road Feel..... Poor

SUSPENSION

Harshness control..... Poor
Roll stiffness..... Very Good
Tracking..... Good
Pitch control..... Good
Shock damping..... Fair

CONTROLS

Location..... Very Good
Relationship..... Good
Small controls..... Good

INTERIOR

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

WEATHER PROTECTION

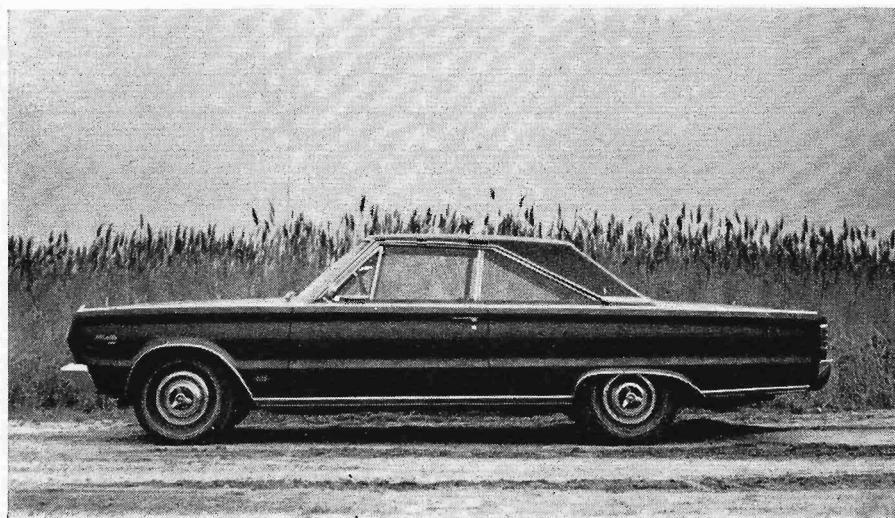
Heater..... Excellent
Defroster..... Excellent
Ventilation..... Very Good
Weather sealing..... Good
Windshield wiper action..... Very Good

QUALITY CONTROL

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

GENERAL

Service accessibility..... Fair
Luggage space..... Very Good
Bumper protection..... Very Good
Exterior lighting..... Very Good
Resistance to crosswinds..... Very Good





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HEMI (Continued from page 58)

fuss, than most cars—certainly better than any other hot machine in our experience. Your second clue comes when you depress the clutch—or attempt to, for there will be many who give up any dream of driving a Hemi right then and there—it's what you could call stiff. But once the clutch is disengaged, you grab the tree-trunk-like gear shift lever, poke it into first, and you know everything's going to be all right.

An enthusiastic run through the gears without a thorough pre-flight checkout will utterly amaze you, and could conceivably do bad things to the valve gear, since the engine will wind right off the clock without any hesitation or warning, and you'll be much too busy driving to try to find the tachometer—much less read it. The car doesn't bawl and haul like a GTO, but when you shift to fourth and relax enough to seek out the instruments, you'll find that you're going far faster than you might have guessed.

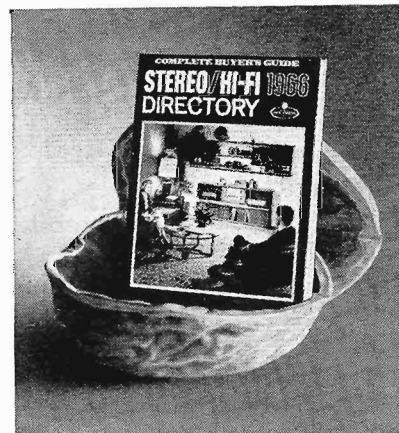
The Hemi, with all the suspension and brake bits that make up the complete package, is an extremely civilized Super Car. So civilized, in fact, that only the most knowledgeable man-in-the-street will ever spot it for what it is. The guy in the driver's seat will have no such problem, however. It may not howl and scream and paw the air when you open the tap but there's never any doubt that you're going somewhere in a terrible hurry.

All things considered, the Plymouth Belvedere with the 426 cu. in. Hemi engine is the best machine of the entire family of hot intermediate-sized American cars. The engine, the suspension, the brakes, and the drive line, are all superb in the way they perform their various functions. The car is very comfortable for the sports car-oriented man to drive, with a very good driving position and first-class controls. But then we have to start finding fault.

If the Plymouth Hemi expects to make it in the GTO league—especially with its very high price tag—it's going to need sprucing up. It needs to look like a hot car, and it needs to have a greater feeling of quality and distinction about its interior and exterior appointments.

In the meantime, we're quite sure that those guys who want the fastest, best-handling sedan Detroit can sell them, will be happily lining up to spend \$4200 on cars identical to the one we tested. It could look like a Land Rover and it'd still be the toughest kid on the block.

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