

PLYMOUTH STREET HEMI

CAR LIFE ROAD TEST



Can Clark Kent Reach Lois Lane In Time?

CLARK KENT learns Lois Lane's life is in danger. The mild-mannered reporter leaps into the nearest coat closet, sheds his outer garments and emerges to soar up, up and away—doing the locomotive and tall building bit in his true identity.

"Look! Up in the sky! It's a bird! It's a plane! It's. . . ." and so forth.

Compare this to automotive reality.

The mild-mannered 1966 Plymouth Satellite rolls unobtrusively along the secondary road at 55 mph, quiet, serene and comfortable, with no more than a suggestion of engine sound. A straight stretch is encountered. The driver's right foot is thrust abruptly to the floor. Just six roaring, full-thrust seconds elapse before 90 mph is reached. The Satellite accomplishes this without resorting to a cloakroom quick-change, a skin-tight red-and-blue leotard and the shouts of awed onlookers.

The peculiarities of the planet Krypton aren't involved either. The whole trick is done with the 425 bhp of the 426-cu. in. "Street Hemi" engine installed underhood.

As delivered, this particular Plymouth Satellite 2-door hardtop presented a Clark Kentish outward appearance.

That is to say, in metropolitan freeway congestion, the Satellite would be recognized only as another Plymouth. Alone, the Satellite presented a neat, clean and brisk appearance without the excesses of chromium trim which sometimes mask simplicity of body line. Smoothly applied red acrylic enamel and simu- ►



CHAN BUSH PHOTOS

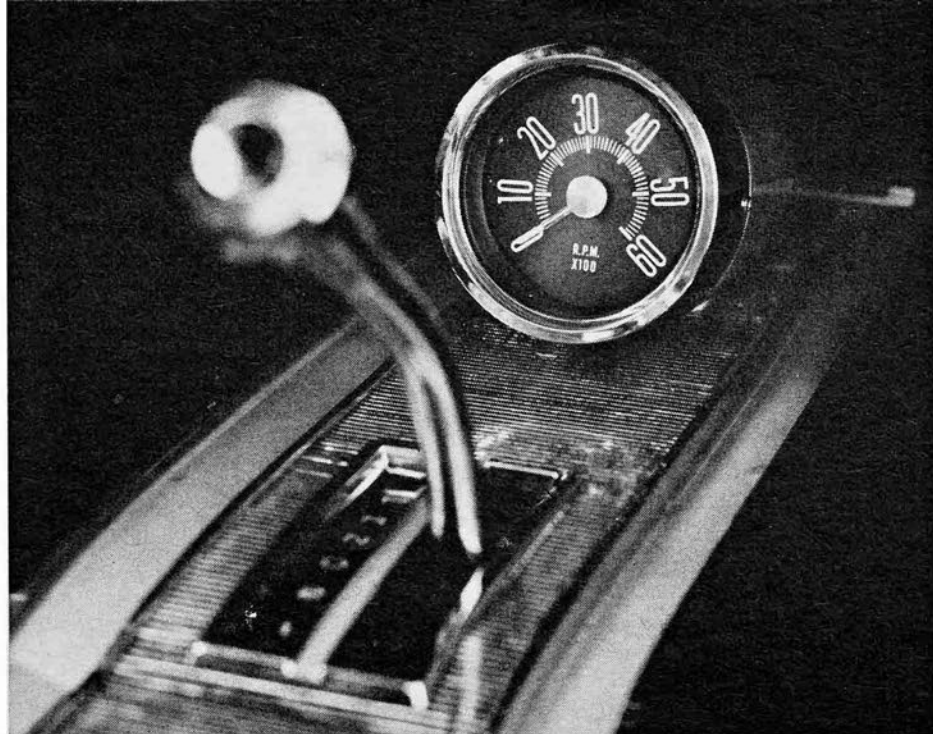
HEMI

lated knock-off hubcaps indicated only that this apparently mild-mannered automobile wore conservative sports attire, rather than a financial district business suit. The thin blue piping on the Goodyear Blue Streak tires accented the point.

The only indications of the automobile's prowess—giveaways similar to a corner of red cape hanging below Clark Kent's coattail—are "426" on the small hood ornament and "426 Hemi" on right and left lower front fender panels. Such understatement is all the more enjoyable to the driver observing objects diminishing in his rearview mirror.

Test weight recorded for the 426 Satellite was a hefty 4350 lb.—including two crewmen, test equipment and a half-tank of fuel. Nevertheless, the Hemi-powered Plymouth was capable of consistent quarter-mile times of 14.5 sec. and terminal speeds of 95 mph; 0-100 mph time was recorded at 15.8 sec.—this from an engine "detuned" for street use.

Detuning the competition 426 Hemi to a street version is accomplished by (1) replacing a ram-type magnesium intake manifold with an aluminum non-ram model; (2) replacing aluminum



CONSOLE-MOUNTED tachometer was accurate, but difficult to read during acceleration runs. Instrument panel location would be preferable.

cylinder heads with cast-iron counterparts; (3) exchanging racing Holley R3116 for Carter 4139S and 4140S carburetors; (4) installing a camshaft of shorter duration; (5) reducing the compression ratio from 11:0 to 10.25:1; (6) installing cast iron, rather than fabricated steel, exhaust headers; and (7) providing for manifold heat.

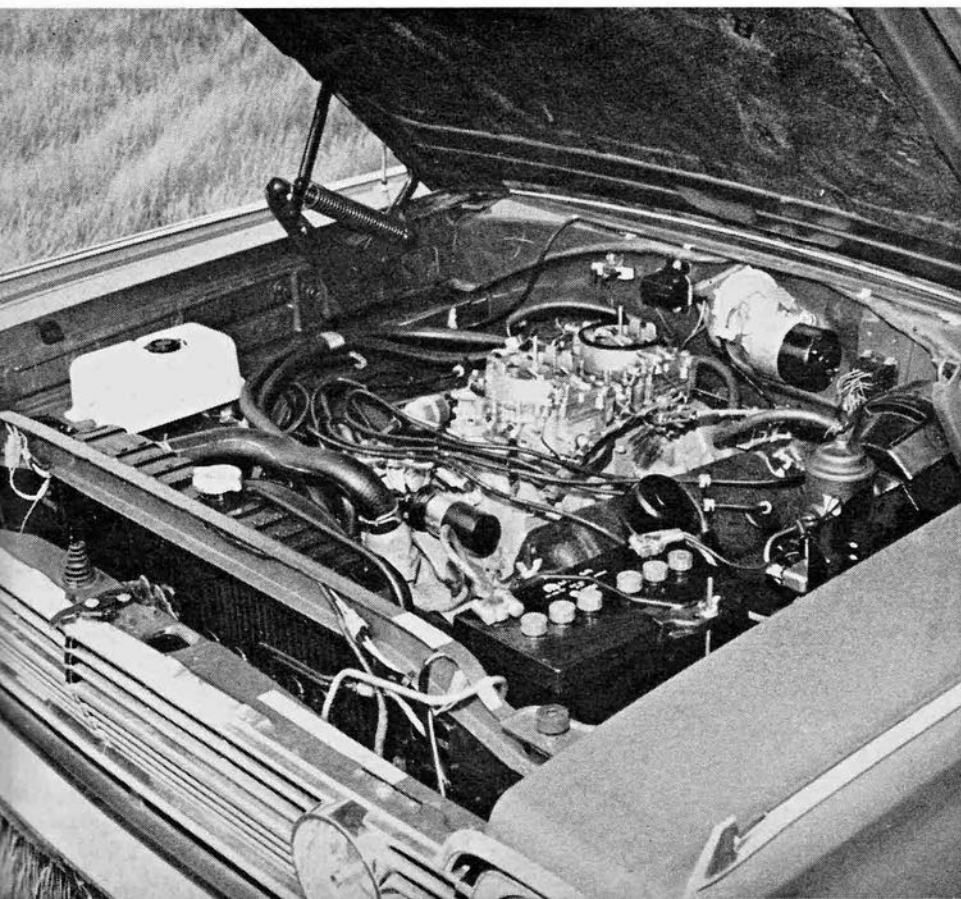
The 426 Hemi engines, specially assembled at Chrysler's Marine/Industrial Division plant, deliver a rated 425 bhp at 5000 rpm and 490 lb.-ft. of torque at

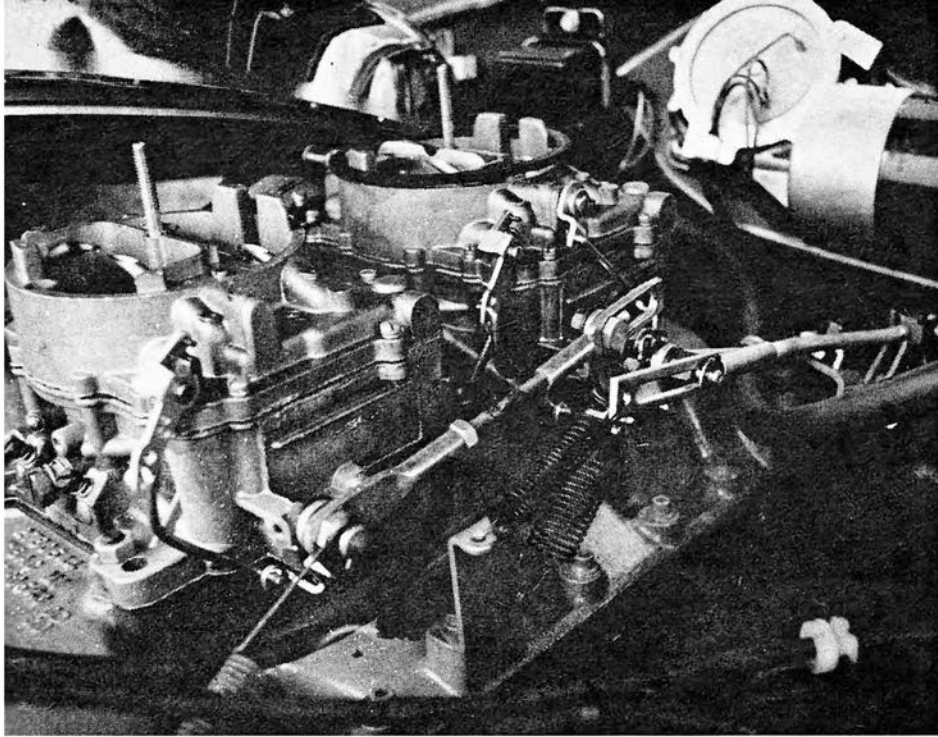
4000 rpm—pretty impressive figures for a street engine. (Authoritative estimates are that the Street Hemi's racing "King Kong" ancestor developed approximately 550 bhp.)

The street engine carries timing chain and sprockets of the double roller type used in the 1965 competition version. Lightweight tappets and pushrods—designed to reduce valve train inertia—operate forged steel rocker arms. Valves themselves are of special alloys with small stem diameters, also to aid inertia reduction.

Unlike its racing brother, the street engine is equipped with a conventional automatic choke on the rear of two 4-barrel carburetors. And, progressive linkage allows the rear carburetor's primary throttle butterflies to open by approximately 40% before the front carburetor primaries start to open. From this point onward, both sets of primary butterflies operate in unison and reach the full open position simultaneously. Hence the 426 Street Hemi operates at low and intermediate speeds on the two barrels of the rear carburetor. This is one reason for the street Hemi's reputation for mild temperament.

VELOCITY-CONTROLLED secondary barrels are equivalent to Clark Kent's trip to the cloakroom. The secondaries of both carburetors remain closed until air velocity across the carburetors is sufficient to create a pressure drop great enough to overcome the counterweights which hold the secondaries closed. This can happen with a sudden "whoosh"—as in "Up, up and away!" The fuel/air charge from both carburetors is admitted to a common plenum chamber—which induces greater flexibility in engine speeds.





PROGRESSIVE LINKAGE for primary barrels and velocity control for the secondaries contribute to great flexibility in engine speed range.

The Hemi's cooling system includes a high speed water pump and a stretch-resistant drive belt for high engine speeds. The 426's lubrication system features an extra deep oil pan and a 0.625-in. dia. oil pickup suction orifice.

EITHER A 4-SPEED manual transmission or a heavy-duty TorqueFlite 3-speed automatic is available with the 426 Street Hemi. The automatic employs a 10.75-in. torque converter with a one-more-than-standard 5-disc front clutch, and a 2.5-in. wide second gear band, 0.5-in. broader than normal-engine TorqueFlites. During acceleration runs, the transmission shifted automatically 1-2 at 4900 rpm and 2-3 at 5200 rpm.

Chrysler Corp. delivers all automatic-equipped 426 Hemi engines with a 3.23:1 rear axle ratio, the numerically lowest available. Higher ratios are available.

To match the engine's heft and provide a measure of better handling capability, the Satellite was fitted with 0.92-in. heavy-duty torsion bars in front and high rate (125 lb./in.) rear springs.

All these technical details of high performance aren't apparent as the Satellite is driven through city streets or along back country byways. The Hemi-powered Plymouth performs as though it were a modest Six or small V-8—if the driver's foot treads lightly. In 1000 miles of test driving, perhaps 90% was done at posted speeds or under. The cautiously driven Hemi-Satellite proved docile, tractable and not the least brutish.

Handling on freeways and around town, with power-assisted steering, was similar in nature to other large V-8 powered Chrysler Corp. products. Although steering response was positive, road feel was absent. It lacked the deft-

ness desirable for a performance-powered automobile. Cornering briskly on a rural roadway induced a degree of body lean and tire protest out of keeping with other aspects of the car's behavior.

The last portion of the test drive was done with foot well down—if not fully flat—on the Hemi's throttle. Wide-open throttle from rest induces noisy, unproductive wheelspin and a great amount of tire smoke. Feathering the throttle to minimize wheelspin and produce maximum traction produces the sensation of

being shoved vigorously in the back by the Satellite's bucket seat. The data panel acceleration graph displays a curve which goes quickly up, up and away.

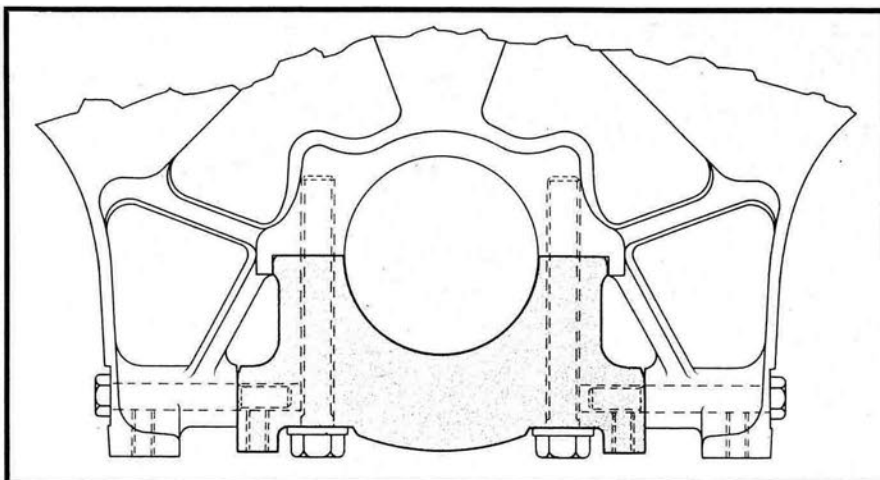
That the Hemi-Satellite accelerates in a straight line in astonishing fashion cannot be disputed. However, attempts to brake the car in a straight line during panic stop situations met with difficulty. All-on braking at 80 mph induced rear wheel lockup almost instantly, which in turn created noise and random, sliding directional changes. The Satellite's braking system was the Chrysler Corp. heavy-duty "police" option supplied with Hemi engines—11-in. drums, with 3-in. shoes in front and 2.5-in. shoes at the rear. The system made it clear that big brakes aren't necessarily the best brakes. Big brakes can stop a wheel in mid-revolution, which, of course, can induce a skid. Brakes with a greater capacity for maximum deceleration without skidding, such as the front disc/rear drum system available for larger Plymouth, Dodge and Chrysler cars, are to be recommended. If this system, in addition, could be fitted with a proportioning device similar to that employed in Lincoln and Thunderbird disc/drum systems to reduce the possibility of rear wheel lockup, it would provide the braking reliability necessary for the nose-heavy Hemi-Satellite.

The Hemi option package Blue Streak tires offer good load capacity for sustained high speed driving, and a toothy bite for dragstrip gymnastics and rapid cornering, so long as pavement remains dry. But even a small amount of mois-





ORNAMENT is the clue to Hemi power under a mild Satellite's hood.



THE HEMI'S main bearing caps are cross-bolted to the cylinder block by horizontal tie bolts—an example of engineered-in strength.

ture on the road surface can make the 'Streaks a bit more slippery than might be termed comfortable.

The interior of the Satellite was treated with pattern-embossed black vinyl upholstery, black textile headliner, black-painted metal panels and black nylon carpeting. Again, understatement pleased the CAR LIFE staff. The horizontal instrument grouping, directly in front of the driver, was easily read.

Two blunders, apparently perpetrated

by Plymouth stylists, definitely detracted from the car's overall aura of well-engineered functionality, and raw power in mild-mannered disguise. The console between the bucket seats was topped with chromium-plated, ribbed metal which reflected blinding glints into the driver's eyes if the sun angle were just right. And, the tachometer, an option which retails for \$48.35, is placed ahead of the console-mounted shift lever, under the center of the dash panel. It's a long swing for the eyes during all out accelera-

tion runs, in which full use of the tachometer is mandatory.

One annoyance, out of proportion to the others, was that the Satellite's doors were very poorly fitted. It seemed either door required at least two overly hearty slams to complete closing and latching operations. A casual pull wasn't enough and thus several times the car was driven away from the curb with one or both doors not completely secure.

The basic Satellite, in which the Chrysler Corp. 273-cu. in. V-8 is stan-

1966 PLYMOUTH SATELLITE STREET HEMI



DIMENSIONS

Wheelbase, in.....	116.0
Track, f/r, in.....	59.5/58.5
Overall length, in.....	200.5
width.....	75.5
height.....	53.2
Front seat hip room, in.....	2 x 22.0
shoulder room.....	56.0
head room.....	37.8
pedal-seatback, max.....	50.5
Rear seat hip room, in.....	60.6
shoulder room.....	58.0
leg room.....	34.3
head room.....	37.1
Door opening width, in.....	43.1
Floor to ground height, in.....	12.8
Ground clearance, in.....	6.0

PRICES

List, fob factory.....	\$2695
Equipped as tested.....	4360
Options included: 426/425 engine, courtesy lights, TorqueFlite transmission, limited slip differential, radio; power brakes, steering and windows; bumper guards, electric clock, tinted glass, mirrors, padded sun visors, seat belts.	
CAPACITIES	
No. of passengers.....	5
Luggage space, cu. ft.....	17.3
Fuel tank, gal.....	19.0
Crankcase, qt.....	5.0
Transmission/diff., pt.....	18.5/4.0
Radiator coolant, qt.....	17.0

CHASSIS/SUSPENSION

Frame type.....	unitized
Front suspension type: Independent by short & long upper and lower control arms, torsion bar springs, telescopic shock absorbers.	
ride rate at wheel, lb./in.....	120
anti-roll bar dia., in.....	0.92
Rear suspension type: Hotchkiss drive with parallel, longitudinal, semi-elliptic leaf springs; telescopic shock absorbers.	
ride rate at wheel, lb./in.....	150
Steering system: Rack and sector gear with integral power assist; trailing parallel idlers and equal-length tie rods.	
gear ratio.....	15.7
overall ratio.....	19.0
turns, lock to lock.....	3.5
turning circle, ft. curb-to-curb.....	40.6
Curb weight, lb.....	3940
Test weight.....	4350
Weight distribution, % f/r.....	56.5/43.5

BRAKES

Type: Single-line hydraulic, manually-adjusted duo-servo shoes in cast-iron drums.	
Front drum, dia. x width, in.....	11 x 3.0
Rear drum, dia. x width.....	11 x 2.5
total swept area, sq. in.....	380.1
Power assist.....	integral, vacuum line psi @ 100 lb. pedal.....
	930

WHEELS/TIRES

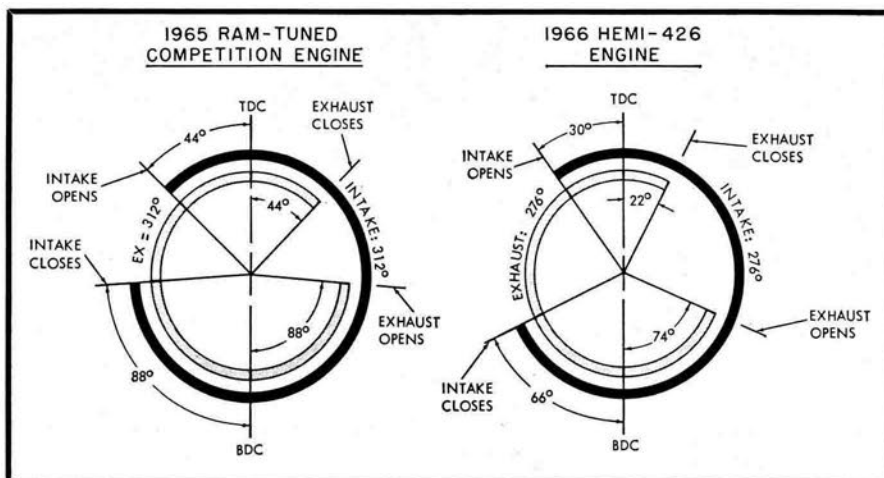
Wheel size.....	14 x 5.5K
optional size available.....	none
bolt no./circle dia., in.....	5/4.5
Tire make: Goodyear Blue Streak size.....	7.75-14
recommended inflation, psi.....	24
capacity rating, total lb.....	4500

ENGINE

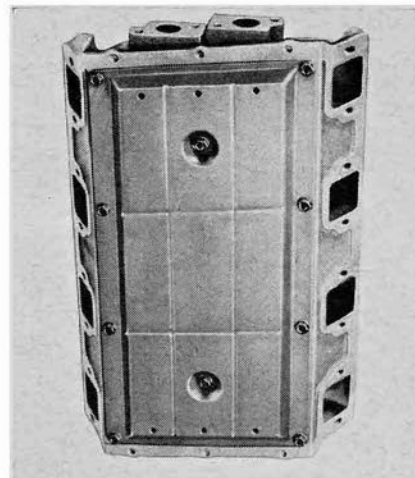
Type, no. cyl.....	V-8, ohv
Bore x stroke, in.....	4.25 x 3.75
Displacement, cu. in.....	426
Compression ratio.....	10.25
Rated bhp @ rpm.....	425 @ 5000
equivalent mph.....	118
Rated torque @ rpm.....	490 @ 4500
equivalent mph.....	95
Carburetion.....	Carter, 2x4 barrel dia., pri./sec.....
	1.44/1.69
Valve operation: Mechanical tappets, pushrods and overhead rocker arms.	
valve dia., int./exh.....	2.25/1.94
lift, int./exh.....	0.46/0.46
timing, deg.....	30-66, 74-22
duration, int./exh.....	276/276
opening overlap.....	52
Exhaust system: Dual, reverse-flow mufflers.	
pipe dia., exh./tail.....	2.5/2.25
Lubrication pump type.....	rotary
normal press. @ rpm.....	45-65 @ 2000
Electrical supply.....	alternator
ampere rating.....	35-40
Battery, plates/amp. rating.....	78/70

DRIVE-TRAIN

Transmission type: Torque converter with 3-speed planetary gearbox.	
Gear ratio 4th () overall.....	
3rd (1.00).....	3.23
2nd (1.45).....	4.68
1st (2.45).....	7.92
1st x t.c. stall (2.20).....	17.40
synchronous meshing?.....	planetary
Shift lever location.....	console
Differential type: Hypoid with torque-bias limited slip.	
axle ratio.....	3.23



SHORTER DURATION of Street Hemi's camshaft is evident in comparative diagrams. Note competition engine's earlier opening, later closing points.



HEAT shield under intake cuts heat transfer to fuel/air charge.

dard, retails for \$2810. The Hemi engine adds another \$1105 which makes the minimum Satellite-Hemi total price of \$3915. Other options, taxes and license fees can push the price well over \$4000.

Who'll pay that price for a mild looking medium-sized car with a detuned "King Kong" engine? Chrysler's answer to this question is: "Vehicles powered by the 426 Hemi were developed for a growing market of new car buyers—especially those who maintain an active interest in sanctioned, off-highway

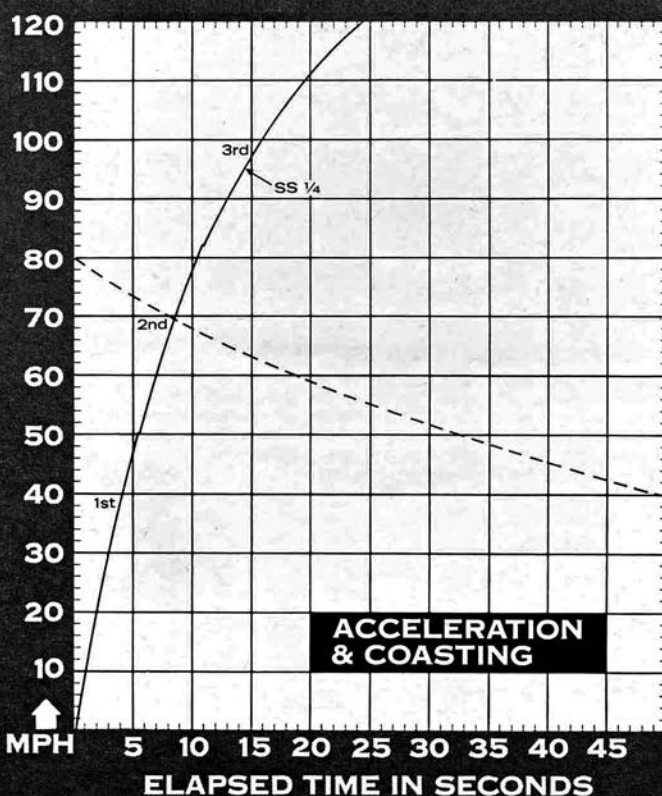
timed trials." That means drag racing.

For the enthusiast, then, the capabilities displayed by the Hemi-Satellite offer a near perfect combination—docile drive-it-to-the-dragstrip capability and robust 14-sec. quarter-mile activity once there. That a number of enthusiasts already have taken the \$4000 step is evidenced by growing numbers of Hemi-equipped Chrysler products competing in the large-displacement stock classes at NHRA and AHRA events.

And thus it is that Clark Kent parts

with \$4000 of his wages earned as a mild-mannered news reporter. He drives his new Hemi-Satellite to the Metropolis Dragway. There he changes slacks, sport shirt and horn-rimmed spectacles for helmet and flame suit—red and blue, of course. He buckles his harness, rolls up to the line and waves to Lois Lane. The Christmas tree ticks off seconds in yellow, yellow, yellow, GREEN! Over the roar of Hemi engines and cheering of spectators, clear voices are heard: "Look! Out on the strip! It's. . . ." ■

CAR LIFE ROAD TEST



CALCULATED DATA

Lb./bhp (test weight)	10.2
Cu. ft./ton mile	14.3
Mph/1000 rpm (high gear)	23.7
Engine revs./mile (60 mph)	2530
Piston travel, ft./mile	1580
Car Life wear index	39.9
Frontal area, sq. ft.	22.3
Box volume, cu. ft.	465.2

SPEEDOMETER ERROR

30 mph, actual	28.3
40 mph	35.6
50 mph	45.4
60 mph	55.6
70 mph	63.8
80 mph	73.7
90 mph	81.7

MAINTENANCE INTERVALS

Oil change, engine, miles	4000
transmission/differential	24,000/24,000
Oil filter change	8000
Air cleaner service, mo.	6
Chassis lubrication	32,000
Wheelbearing re-packing	as req.
Universal joint service	not req.
Coolant change, mo.	12

TUNE-UP DATA

Spark plugs	Champion N-9Y
gap, in.	0.035
Spark setting, deg./idle rpm	0/1000
cent. max. adv., deg./rpm	17/2800
vac. max. adv., deg./in. Hg.	11/15
Breaker gap, in.	0.014-0.019
cam dwell angle	27-32/37-42
arm tension, oz.	17-21.5
Tappet clearance, int./exh.	0.028/0.032
Fuel pump pressure, psi	6-8
Radiator cap relief press., psi	14

PERFORMANCE

Top speed (5500), mph	130
Shifts (rpm) @ mph	
3rd to 4th ()	8.8
2nd to 3rd (4900)	8.2
1st to 2nd (5200)	5.0

ACCELERATION

0-30 mph, sec.	2.9
0-40 mph	4.2
0-50 mph	5.4
0-60 mph	7.1
0-70 mph	8.8
0-80 mph	10.7
0-90 mph	13.0
0-100 mph	15.8
Standing 1/4-mile, sec.	14.5
speed at end, mph	95
Passing, 30-70 mph, sec.	5.9

BRAKING

(Maximum deceleration rate achieved from 80 mph)	
1st stop, ft./sec./sec.	21
fade evident?	no
2nd stop, ft./sec./sec.	21
fade evident?	slight

FUEL CONSUMPTION

Test conditions, mpg	11.1
Normal cond., mpg	10-13
Cruising range, miles	199-221

GRADABILITY

4th, % grade @ mpg	
3rd	16 @ 95
2nd	23 @ 81
1st	35 @ 48

DRAG FACTOR

Total drag @ 60 mph, lb.	229
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