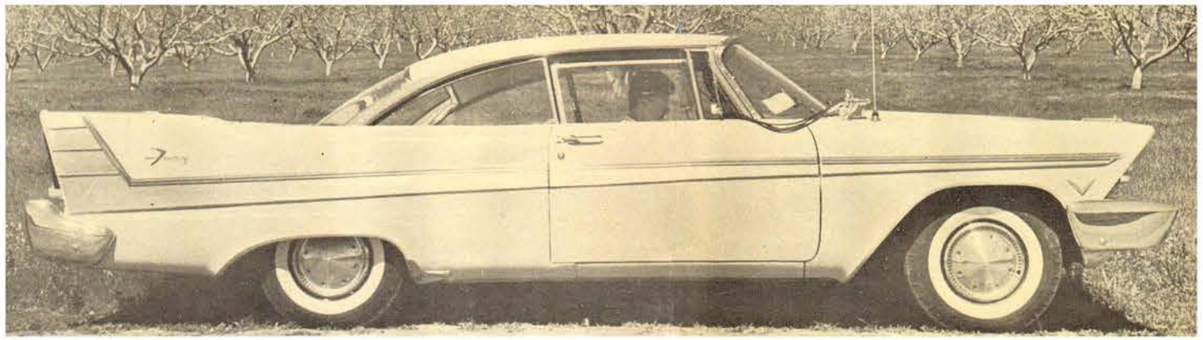
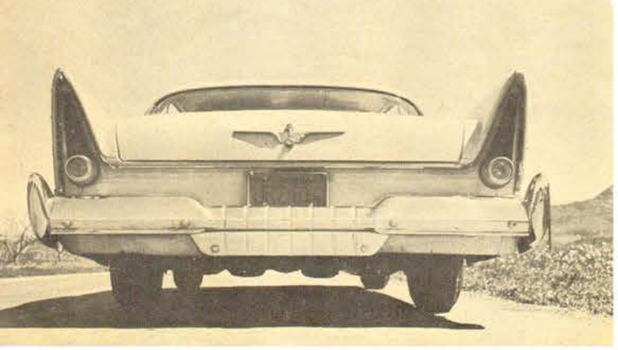


ABOVE: Fury is indistinguishable from stock Plymouths from front view. Inside lights are parking and directional lamps. RIGHT: In profile Fury stands apart from sister line by two distinguishing features—the Fury signature and the white-and-gold color scheme. BELOW: Rear fender fins are moderate in height, not exaggerated. Back is not overly ornate, but simple and clean in line.



SCI ROAD TEST:

Plymouth Fury

AS THE world knows, the 290-bhp Fury is a very hot family-size car. But what impressed us most during an 800-mile wringing out of this clean projectile had little to do with the car's brute strength. Its greatest merit lies in its handling qualities.

The Fury corners with a smooth agility that formerly has been obtainable only on outright sports cars, usually the kind that are sprung like a park bench. But there isn't a trace of harshness in the Fury's ride nor is there any tendency to pitch, roll or tramp. Imagine if you can a wedding of Detroit creampuff ride with first-class sports car handling and you'll have a pretty fair picture of the Fury's road manners. This is more than just a successful engineering compromise; it's a genuine achievement, an important "advance," to use the jargon of the trade. This improvement is shared by all '57 Chrysler Corporation products to varying degrees and for this the company and its engineers deserve exceptional recognition.

The Fury is the best-handling, best-riding Detroit sedan we've ever driven. The basis for this, of course, is Chrysler's new suspension system with longitudinal torsion bars at the front and outboard-mounted leaf springs at the rear. There is no magic in torsion bars, *per se*, that accounts for the improvement; it's as easy to build a bad torsion bar layout as any other. The important point is the level of performance that the designers make up their minds to achieve, and the standards were set sky-high for Chrysler's '57 lines. The Fury, however, uses heavy duty springs and shocks all around but although they're about 25 per cent stiffer than on the normal Plymouth no penalty of harshness is apparent. The Fury's torsion bars are adjusted downward and the leaf springs are mounted lower to bring the frame and body a half inch closer to the ground. The stiffer springs and lower center of gravity make the anti-sway bar fitted to past Plymouths unnecessary and it is deleted from the entire line. Among the many factors contributing to its superior handling are wheels with six-inch rims in place of the five-inch rims used on the standard Plymouth.

It's very difficult to adjust to the fact that here is a big Detroit sedan that can easily out-corner many *bona fide* sports cars. You bend it through turns faster and faster, looking for its limits of adhesion and expecting the typical Detroit vices to appear. But they don't. You don't have to pull hard on the wheel to hold the car in the turn; it tracks effortlessly in the direction it's aimed. In spite of startlingly high cornering speeds there is barely a trace of tire squeal. Instead of the front end pushing out as with the typically nose-heavy Detroiter when pressed hard, the Fury's rear wheels slide just the right amount and they do it gradually and controllably. When you rock the steering wheel on the straight to simulate S-bend weight transfer the body does not rock on the springs at all. It sets a new standard.

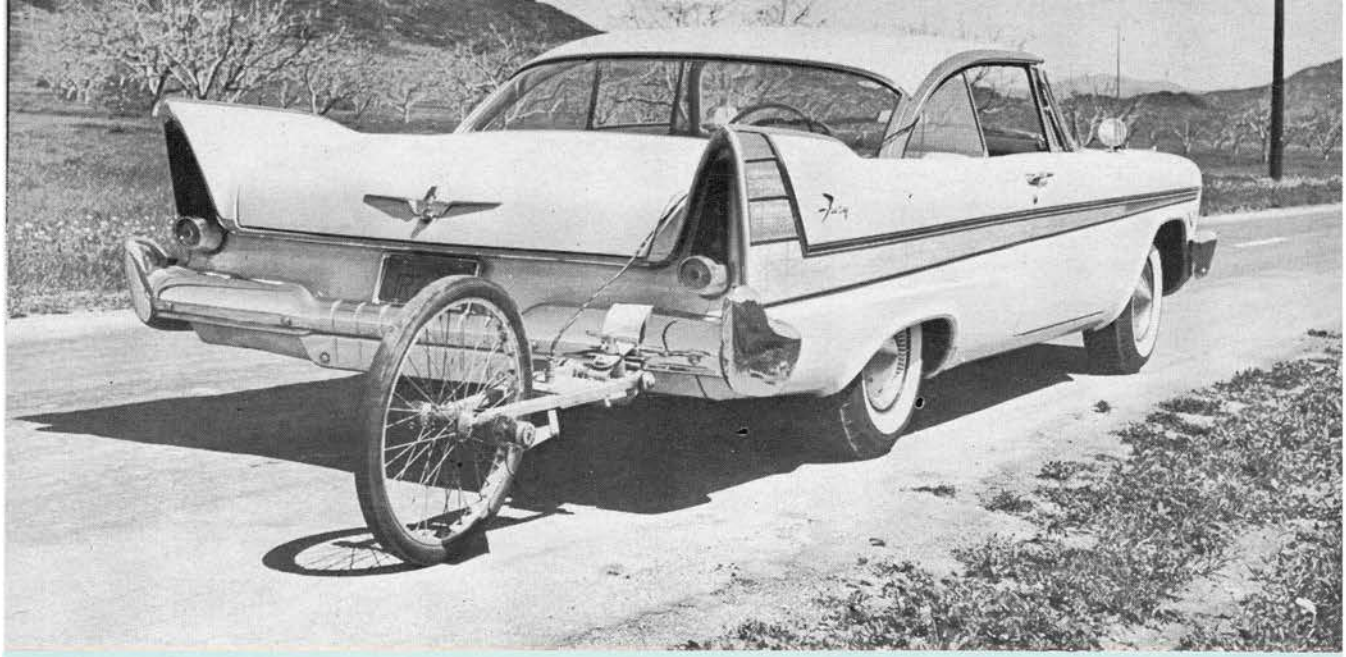
As an accelerating machine the stick-shift Fury has a unique personality due to its being cammed like a competion car, but for different reasons. The engine develops its peak torque at the lofty figure of 4000 rpm—1200 higher than the regular 301 cu. in. engine. At low revs it has very little torque indeed.

With Chrysler's three-speed torque-converter transmission this creates no problems. First speed is 2.45 to one and it is multiplied by as much as 2.7 by the converter, which produces genuine jackrabbit starts. But with the manual-shift trans, bottom cog is 2.5 to one, period. Evidently the Fury's cam design incorporates no compromises in favor of the fast-disappearing stick-shift box.

The result is that good as its acceleration times are, those of the stick-shift Fury are not all that can be expected from a machine pulling less than 14 lbs. per bhp, wet. To get the best times nothing short of a full racing start will do, with the engine wound out to a screaming pitch before the clutch is popped. Elapsed time for zero to 30 mph with a 2800 rpm start was 3.2 secs. By using about 4000 rpm before letting out the clutch we were able to chop this to 2.8. Nevertheless, when the clutch bites the flywheel it pulls engine revs down low in either case. The impression during the 2.8 run was that the first two seconds were consumed in getting the car off the line and that, once moving, it leaped from zero to 30 in the remaining eight-tenths.

Acceleration on the road with the Torque-Flite equipped Fury can be startling at times even to those used to sports cars of the more impressive variety. Normally only one of the two quad carburetors is in operation and, under cruising conditions, only two of the four barrels are in operation. As one pushes the accelerator pedal the carb acts as a normal quad unit and the other two barrels come into operation

SCI's test curve is quite sharp and no mistake. Here the Fury bores at 55 mph with hardly a murmur from the tires. A more expensive import tested on this corner emitted screams that could be heard a mile.



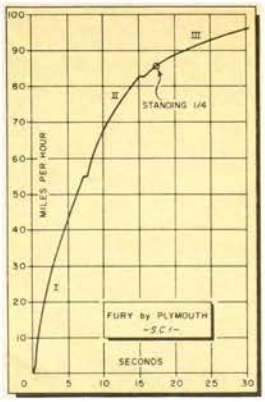
Fifth wheel accurately measures mph for both high and low speed runs. See specifications for speedo error.

with a resultant increase in speed that by today's standards is not particularly impressive. Toe the pedal a little harder and the second carburetor comes in with an insistent push at the shoulders and hip pockets. Push again and the pedal rides over a slight spring resistance; suddenly you're moving out with a tremendous rush as the transmission kicks down from high to second gear. Go back again to cruising on two barrels and high drive then slam the pedal to the floor. All of the above effects occur at once and in the space of time it takes to get past one car you're going fast enough to bite off two more before you slow down unless you've been gentle with the accelerator. This is the kind of performance expected only in a competition car yet under proper guidance it's as docile as a kitten in traffic. It's an experience that has to be felt to be believed particularly by those who in past years have considered Plymouth products to be fit only for little old ladies from Pasadena.

Because of the high-rpm torque peak and because the torque curve evidently drops off rapidly as revs drop, second gear is of vital importance for passing and can be used up to a true 85 mph. To punch the throttle at 50 mph in top gear and expect a surge of power is to be mistaken.

The conclusion we draw is that the regular Fury package has been designed around the torque-converted transmission. If you're a die-hard who wants a stick shift—and I'm one—and you're buying a Fury—and I'd be delighted to—one of your first moves should be to invest in a specialist camshaft that will provide a useful amount of thrust over a more useful rpm range. Then you'll be able to jet off the line as well as the torque-converter jobs, if not better. As it is, you can't lay a smudge of rubber no matter how violently you strive for a solid getaway bite. Another alternative would be to specify one of the six lower (higher numerical) final drive ratios such as a 3.9 or 4.1 to 1.

Sharp inward turn of front wheels indicates strong understeer characteristics. At cornering speeds of 55 mph, the rear wheels would slide outward very gradually. Body roll was very slight.



Furry Fury mill has lots of extras including twin carbs, hotter-than-stock cam, and solid tappets. In top tune, torque is all at upper rpm ranges.

If the manual shift box in our test Fury is representative, there's much room for improvement. First or Reverse could *not* be engaged without severe grinding of teeth unless the lever was first dropped into a synchronized position. Up- or downshifts to Second were very difficult and often downright impossible. Because of the engine's torque characteristics it would be very handy to be able to downshift to First while in motion, but this defied our hardest double-clutch efforts.

That's one point to watch if you're shopping for one of these cars. Another is the fit of the rear axle hub tapers. Those on our test car did not match precisely, with a resulting clank during even light acceleration or deceleration. These tapers will wear to fit each other but in the meantime a certain amount of axle-nut tightening will be necessary. Be sure your dealer is prepared to provide this service.

For sheer speed the Fury is rapid enough. Using a one-mile approach to the measured quarter-mile timing trap we clocked 115 mph. The car had some acceleration left, but not much. With an approach twice as long it should be possible to get close to 125 mph if you're in that much of a hurry. At 115 we can state that the Fury feels just as secure as at much lower speeds, and this can be said of few cars. The front end does not develop a light feel nor does it hop about—further proof of the car's excellent suspension and handling.

(Continued on page 57)

PLYMOUTH FURY HARDTOP COUPE

PERFORMANCE

TOP SPEED:

Two-way average	113.6 mph (one mile approach)
Fastest one-way run	115.2 mph (indicating about 130 mph)

ACCELERATION:

From zero to	Seconds
30 mph	2.8
40 mph	4.1
50 mph	6.3
60 mph	8.5
70 mph	10.7
80 mph	15.2
90 mph	21.7
Standing ¼ mile	17.2 secs.
Speed at end of quarter	78 mph

SPEED RANGES IN GEARS:

I	0-55 mph
II	?-85 mph

SPEEDOMETER CORRECTION:

Indicated	Actual
30	30
40	38
50	47
60	55
70	63
80	71
90	79
100	86
110	93

FUEL CONSUMPTION:

Hard driving on test	11.0 mpg
Average driving (under 60 mph)	12.7 mpg
At steady 30 mph	23.5 mpg

BRAKING EFFICIENCY (10 successive emergency stops from 60 mph, just short of locking wheels):

1st stop	78
2nd	74
3rd	64
4th	57
5th	45
6th	45 (one minute wait)
7th	66
8th	64
9th	51
10th	48

SPECIFICATIONS

POWER UNIT Plymouth V-800:

Type	90° V8, polysphere combustion chambers.
Valve Arrangement	Pushrod OHV, mechanical lifters.
Bore & Stroke (Engl. & Met.)	3.91 x 3.31 ins.; 99.3 x 84.1 mm
Stroke/Bore Ratio	0.85/1
Displacement (Engl. & Met.)	318 cu. ins.; 5212 cc.
Compression Ratio	9.25/1
Carburetion by	dual Carter 4-barrel
Max. bhp @ rpm	290 @ 5400
Max Torque @ rpm	325 @ 4000
Idle Speed	500 rpm

DRIVE TRAIN:

Transmission ratios I	2.50
II	1.68
III	1.00
Final drive ratio (test car)	3.54
Other available final drive ratio	3.18, 3.36, 3.73, 3.90, 4.10, 4.30, 4.56, 4.89.
Axle torque taken by	Rear springs.

CHASSIS:

Wheelbase	118 ins.
Front Tread	60.9 ins.
Rear Tread	59.6 ins.
Suspension, front	Longitudinal torsion bars.
Suspension, rear	Longitudinal leaf springs, outboard of frame.
Shock absorbers	1-in. piston Oriflo.
Steering type	Manual: Worm & 3-tooth needle-bearing roller. Power: Rack & Gear Sector with Recirculating Ball Nut.
Steering wheel turns L to L	Manual: 4.8. Power: 3.4.
Turning diameter	42 ft. 4 ins. curb to curb.
Brake type	Center-plane, 11 x 2 ins.
Brake lining area	184 sq. ins.
Wheel studs, circle diam.	5½ in. studs; 4½ in. circle diam.
Tire size	800 x 14.
Rim width	6 ins.

GENERAL:

Length	206.1 ins.
Width	79.4 ins.
Height	53.7 ins.
Weight, test car	3960 lbs.
Weight distribution, F/R	53/47
Fuel capacity—U. S. gallons	20

RATING FACTORS:

Bhp per cu. in.	.91
Bhp per sq. in. piston area	3.02
Torque (lb-ft) per cu. in.	1.02
Pounds per bhp—test car	13.7
Piston speed @ 60 mph	1500 fpm
Piston speed @ max bhp	2979 fpm
Brake lining area per ton (test car)	93 sq. ins.

Plymouth Fury R.T.

(Continued from page 41)

From standing at idle to sprinting full-bore the Fury is a very quiet car. The engine is surprisingly silent in spite of mechanical valve lifters and a rather wild cam that nevertheless provides a silk-smooth idle at 500 rpm. Some characteristics of the standard and Fury cams are:

		Std.	Fury
Intake opens	BTC	8°	17°
Intake closes	ABC	52°	59°
Exhaust opens	BBC	52°	55°
Exhaust closes	ATC	8°	21°
Lift, intake & exhaust		.387	.405

Unlike other Plymouth engines, the Fury is equipped with a crankshaft vibration damper which plays an important part in the general effect of smoothness.

The standard Plymouth V8 engine has a 3.13 inch stroke and 301 cubic inch displacement. The Fury uses a crankshaft from one of Chrysler's Canadian lines having a stroke of 3.31 inches and giving a swept volume of 318 cubes. Other Fury parts are twin four-barrel carbs, the camshaft and vibration damper just described, stiffer valve springs, high compression pistons (Fury's c/r is 9.25 and standard is 8.5), special dual-breaker distributor, and a heavy duty clutch. While the standard Plymouth has a single exhaust system with 2.25-inch main pipe and 2-in. tail pipe, the Fury has a dual setup with 1.875-inch main pipes and 2-in. tail pipes. While the advertised bhp and torque figures for other Plymouth models are based on 98 octane (research method) fuel, the Fury's are based on 105-octane *kraftstoff*.

The Fury engine is optionally available on many other Plymouth models: the Plaza, Savoy, and Belvedere V8's. This will appeal to many buyers because the Fury model is loaded with extra bric-a-brac, all of which must be paid for. With the V-800 engine option the other Plymouth models come equipped with the police-and-taxi heavy duty suspension components and wheels with six-in. rims all included in the price of $245. While the stick-shift Fury is normally fitted with 3.54 final drive gears and the automatic trans with 3.36's, a huge range of options is available: 3.18, 3.73, 3.9, 4.1, and 4.3. Also on tap as special export ratios (for the Himalayas?) are 4.56 and 4.89!

All Detroit super-stock cars and sports cars to date have been equipped with brakes that are no different than those used on less potent standard models. The Fury follows this practice although heavy duty, fade-resistant linings are available. The 11 x 2 inch center-plane brakes used on the Plymouth are exceptionally good by Detroit standards. They are powerful and show little tendency to pull to the side. One brutal test that is highly revealing is a hard stop from 100 mph or better. Many cars will have *no* brakes left after one stop like this, but our Fury's binders suffered little from this punishment. The ten-stop fade test from 60 mph told a more critical

continued on next page

Plymouth Fury R.T.

continued from preceding page

story. By the fifth stop there was a 42 per cent loss of braking power and only about one inch of pedal was left. After the sixth stop we let the brakes rest for exactly one minute and on the next stop they had bounced back to 85 per cent of their original effectiveness. They are good brakes; they're not fade-proof but they recuperate fast.

Our observer who reads the decelerometer during these tests is in the habit of bracing himself against being flung forward violently when the brakes are jammed on. But after our first emergency stop in the Fury he looked up with a broad grin. The instrument told him that we had braked very hard, but he had hardly needed to brace himself at all. Under the hardest braking the Fury did not nose down perceptibly.

Another key to the new Plymouth's improved handling is the adoption of ball-joints in place of pivot pins in the front suspension. The old style suspension allowed only slight positive or negative caster adjustment, and this no doubt involved a certain amount of binding at the pins. But a ball joint is virtually impossible to bind and the new front suspension permits as much as 2.5 degrees of positive caster.

The more positive caster you have, the stronger the car's self-righting tendency on coming out of turns and the more resistance there is to putting it into a turn. As a concession to the lazy driver Detroit generally favors negative caster, which implies less effort to begin the turn. Other factors, such as king pin inclination, can ease the chore of getting out of the turn.

In the past, the average Chrysler product has had an available range of caster running from minus 0.5 to minus 1.75 or 2.0 degrees. With manual steering the adjustment was set well on the negative side but, even with power steering to do the work, little positive caster was available. This contributed to the dead and flaccid character of Chrysler-product steering response as we've known it in recent years.

With the new setup and with power steering Plymouth uses 0.75 degrees of positive caster, which livens the steering response. Manual-steering cars are set at 0.75 degrees negative caster. However, the owner who wants strong self-righting action coming out of turns can have up to at least 2.5 degrees of positive caster by simply adding dealer-available shims between the upper control arm inner pivot brackets and the frame sub side-member brackets. It's easy to tailor this part of the steering to your personal preference.

Plymouth's '57 bodies are very controversial and we were showered with unsolicited opinions on the Fury's styling. All observers were in agreement on the attractive cleanness of the design. But there were no vague opinions on the fins: they excited either strong acceptance or total rejection. Sales figures are proving that the wedge profile of the Chrysler family of cars is a hit on the market.

The Plymouth is styled to "read" as long and wide as possible, the body dimensions at the fender line being very close to the outer bumper dimensions. The greenhouse comes very close to matching the full body width and consequently there's adequate interior space for seven or even eight occupants of average size. Padding is necessarily thin over the shaft tunnel. The steeply-raked wraparound windshield is pleasantly free from distorting effects. The windows are almost flush with the outside of the windshield and roof pillars, which is a factor in reducing wind noise. It's possible to drive this car at 100 mph with the windows down and *not* be buffeted unpleasantly by the wind. In a great many cars wind-drumming can become unbearable in the passenger space at 50 mph if one window is partially open.

Eyebrows over headlights are used widely because they make cars seem longer. This is their only excuse for existence and it must be admitted that, as used on the Plymouth, they make for a well-balanced composition. But they exact a heavy price in terms of wind drag at high speeds and just sit there consuming power and fuel. We'd like to see this basically-clean body evolve into a shape similar to that of Chrysler's experimental Dart.

In our opinion the '57 Plymouth is a beautiful car, designed with excellent taste. The Fury is the best-handling U. S. production sedan we know of. It is a fast car but not grotesquely so. It has very strong acceleration with automatic transmission but must be re-cammed if optimum performance is to be enjoyed with a manual-shift box. Its fuel consumption is moderate at steady low speeds but this is not a car that wants to be driven with a light foot; you'll do well to get 14 mpg on an average run. The brakes are better than average for Detroit, the ride is superlative. Like all the rest, the car has a bug or two. And it has some virtues that its competitors are unable to match.

—Griff Borgeson

By Hand

(Continued from page 31)

The rear suspension follows a practice that is well proved, although perhaps not as popular as it once was. Two trailing quarter elliptic springs carry the solid MG rear axle and final drive unit. Torque and braking reactions are controlled by outboard radius rods. The method of attaching the springs and radius rods to the rear axle is of special interest. Box-type brackets are fabricated of sheet stock and welded to the axle housing top and bottom, at the same point that originally carried the stock spring hangers. The upper brackets, about six inches in length, carry the trailing end of the radius rods. The lower brackets, slightly longer than those at the top, accommodate the spring eyes of the quarter elliptics. This is in effect a Watt's link and its action under braking and acceleration is easy to evaluate. Under acceleration the tendency is for the axle housing to rotate in the opposite direction of the wheel. The forces exerted against the radius rod are, of course, to the rear and have the effect of transfering the weight to the rear. Weight transferance under severe braking is to the front, but

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