

Two Super Chief Catalina Coupes—one with power brakes, power steering, power seat, power antenna; both with Hydra-Matic and 347-cubic-inch, 270-horsepower V8 engines. A comparative test

**DONTIAC** began emphasizing performance last year with fair results. This year, few cars, especially in its price range, will be able to keep up with it. Without losing any of the comforts of the family sedan, it has become a real "fun to drive, get up and go" automobile. The Pontiac looks quite harmless, being devoid of space-ship-type apparatus, but it's another story under the hood!

The two cars used for comparative testing were identical in body style, color, trim and upholstery-a most confusing situation until license plate numbers were noted, 002 being full power and 003, Hydra-Matic only. (But it should be easier if we call them Car A and Car B, respectively, unless comments are applicable to both cars.)

Neither car had many miles on the odometer. Car A had 21: Car B, 12.8. In order to give them a fairer test, considerable driving was done in the limited time available. Some 600 miles were registered before actual testing began, 250 in town and 350 on the open road up to 7000 feet altitude and through snow, rain, sleet and the complications of Los Angeles' San Bernardino Freeway. All 600 miles of this "compressed driving" were a definite pleasure.

It should be noted here that our test results would have been even better had the cars been driven a few thousand miles more.

#### Performance: the Car that Changed

After the first few miles of driving, we became fully aware that this car had an engine that would show the car's tail lights to anything in its field. Acceleration is simply fantastic in any speed range. The performance results in the table on page 31 show the average of three runs in each direction. However, the best 0-60 run, made by Car B, was in 8.3 seconds and the best 1/4-mile in 16.2 seconds at 85 miles per hour. The full-power car was only fractions slower. It is very possible that if the cars had been driven several thousand miles and were carefully tuned, the eight-second mark on the 0-60 acceleration run would have been broken.

The Pontiac is the fastest-accelerating Detroit family car that

MOTOR TREND has tested yet this year, which surprised us. Performance is even more astonishing when one considers that the cars, with oil, water and full tanks of gas, weighed 4270 and 4150 pounds, power and non-power respectively.

The improved performance over last year's car is largely due to the increase in cubic inches from 316.6 to 347.04. This was achieved mainly by redesigning the crankshaft, giving a stroke of 3.56 inches, as compared to last year's 3.25 inches. A new piston was developed, the compression ratio raised from 8.9 to 1 up to 10.0 to 1, and the diameter of the intake and exhaust valves was increased for better engine breathing and efficiency. It is extremely smooth, even at idle, performing equally well at sea level and high altitudes and starting instantaneously under all conditions. The four-barrel carburetor, however, starves out sometimes in sudden acceleration and on right turns. This can be a trifle annoying going into a fast slide on an uphill turn when one needs all power to pull out. As previously stated, there are no space-ship gadgets attached for dead-stick landings. The fuel starvation was the only engine complaint found, however.

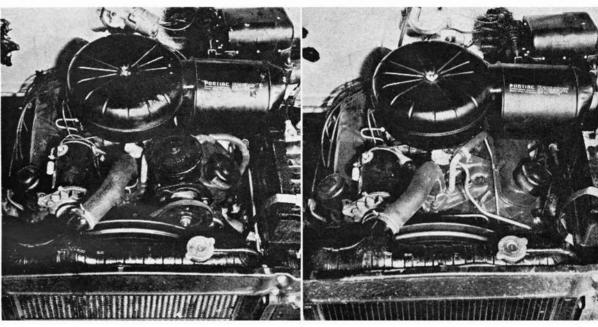
This engine is standard on the Star Chief and Super Chief series but is not the most potent one Pontiac has available. Details on the various super-powered, three-carburetor and fuel injection engine options are at the end of this story. For the piddlers, the 252-hp, two-barrel carburetor engine is standard on the lowerpriced Chieftain series.

The up and down shifts on the dual-range Hydra-Matic worked very smoothly at all times. However, when using the passing kick-down there was a noticeable lag before the lower gear took hold. Car A developed a transmission oil leak after the first 200 miles and had to be returned to the shop for repair. The oil lines which run from the transmission oil cooler were loose at the transmission and practically all oil was lost. This, of course, was due to faulty assembly. Those Detroit gremlins, you know, working overtime again. The transmission then continued quiet, but Car B developed a noticeable rear-axle whine at steady speeds between 45 and 60 miles.

continued on page 30



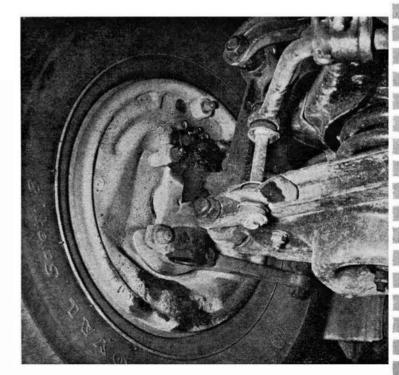
## TWO PONTIACS



ENGINE COMPARTMENTS of the two cars are recognizably similar, but Car A's at left is filled with accessory devices such as the power steering pump on top of the left cylinder bank. Repairs to Car B would be easier.

an MT Reseach Report by Otto Zipper

BRAKE FADE increases in most '57 cars are easily explained with the aid of this photo. Reducing the wheel diameter to 14 inches and the use of wider rims have resulted in a virtually complete shrouding of the brake drum. Cooling air now finds no access to the hotter portions of the drum, but only to the backing plate. Those seriously desiring safe, dependable brakes should send complaints to the manufacturer of their car (Pontiac is not the only, or worst offender). Air scoops on the backing plates will help, if the manufacturers don't.



## TWO PONTIACS

continued from preceding page

#### A Handling Surprise

The handling characteristics are good. While by no means in the sports car class, the car is, after all, designed for a different purpose. Firm springing affords good road feel, and the subsequent vibrations are well worth while when one considers that this characteristic will give better warning of the car's intentions. (Now all the car needs is something to warn it of the driver's intentions.) Cornering is good, although the lean is quite noticeable, and once in a slide the quick response and power will get one out of trouble. Normal dips, rough surfaces, street car tracks and the like have small effect. Bottoming occurs only occasionally at speed over bad dips, and then recovery is quick. The car, also, behaves very well in snow and on wet roads.

Steering, without the power assist, is precise, but has too many turns from lock to lock. Power steering, of course, is easier and quicker, but seems less precise and gives less road feel. Frequent wheel correction is needed on straight roads and the feeling of security found with non-power steering is somewhat lost. It is recommended that those drivers who insist upon lolling and driving with one hand forego power steering. The necessity for close attention to wheel antics is true, of course, of most power-assisted steerings.

#### . . . And a Braking Surprise

The only real weak point of the car involves the brakes. For normal use, they are no more than adequate, and severe brakings, such as on long, down-hill grades, result in rapid overheating and fade. This seems to be a characteristic of 14-inch wheels in general, whether on Pontiac or other makes. Fast cooling action is virtually impossible because the wide rim and 14-inch diameter of the wheels completely engulf the brake drums, and cut down air circulation.

The power brakes on Car A faded quicker than the others. After making two slow-downs from 60 mph to 20 mph at a rate of 15 feet per second per second, they pulled left. After two more similar slow-downs, they pulled to the right and began to smell. On the sixth run they faded so badly no further tests were made. After a five-minute rest, the smell was still present but the fade was gone. (Some old soldier should be able to do something with that sentence.)

The non-power brakes of Car B, tested under the same conditions, lasted for six slow-downs before fade began and, at the same time, the car pulled to the right. With the seventh run, the pull to the right became worse, and a bad smell developed. The eighth run produced a very severe swerve to the right, as did the ninth, and at the tenth the braking action was practically nil. Five minutes later, action was normal again.

Although these were severe tests, and are rarely encountered under normal circumstances, such conditions are possible.

Apparently some modern engineers are latter-day Ettore Bugattis. No other explanation seems possible for so much emphasis on "go" and so little regard for "stop."

#### The Inside View

The seating position is very good, and comfortable for driver and passenger. The eight-way power seat is particularly adaptable to the driving comfort of any size person. Upholstery and interior coverings are of good quality vinyl-covered and nylon fabrics, and the floors are carpeted, wall to wall. Vision is excellent all around, with no appreciable distortion in either the back window or the front windshield. There are no paint or chrome reflections in the windshield, although the chromiumplated steering wheel spoke blinds the driver when hit at certain angles by the sun. Perhaps, to alleviate this condition, Pontiac will soon be offering sun glasses as an accessory. All four fenders

are easily seen, with or without glasses, and the hood line has been lowered 1.6 inches, with no cluttering hood ornament. The rear-view mirror, however, is much too small.

All instruments are easily legible, being well grouped and in contrasting colors. They are, unfortunately, framed in a sharp, hard edge that could be dangerous in case of accident, particularly for children. Heater controls are close to the driver's hand and easily operated. Both heater and defroster fans are silent. There are two ash trays, one being convenient to the driver, as is the cigarette lighter. The glove compartment is handily located just right of the center. The emergency brake is foot operated, with an easy hand release that just might be too easy—enough so for it to be knocked open accidentally. If the release were



IDENTICAL-LOOKING hardtops pause in wet and cold spot high above usual desert testing grounds. Cold starts were fast.

relocated, the brake would be as good as any we have tried. Head and leg room are good, although, in the two-door, some contorting is necessary to get in and out of the back seat. Prolonged riding there could become tiresome to long-legged people.

The doors are well fitted, closing hard but solidly. Opening them, however, was often difficult, the doors sticking on the chrome weather strippings above the windows.

Body paneling, paint, trim and upholstery were above average in quality for Detroit, but various rattles and a whistle developed, to the tune of Yankee Doodle Dandy, where the left wind wing and rubber stripping did not meet on the non-power car. The rattles can be blamed on poor assembly. The gearshift quadrant on the non-power car, for example, came loose, as did the radio speakers on both cars. A hunt for the cause of other rattles was not made, however, since we were not driving the Safari. Window operation is stiff, particularly for a woman.

All in all, the car is superior in many ways to others in its price range and compares favorably to many higher-priced automobiles. Except for the previously noted brake deficiency, the car is safe and a pleasure to drive.

#### Comparative Economy

In comparing the two cars against each other, we found very little difference in performance. Car B outperformed the other only by fractions of seconds, the 0-60 run differing only by one mph. In the economy department, however, the picture looked different. The fuel economy runs made proved the non-power car to be much thriftier at low speeds, while at high speeds the cars' gas consumption was practically identical. This indicates that the drag of the power equipment affects the engine more at lower rpms. Since this is most noticeable at speeds up to 45 mph, city driving will make the power-equipped car more costly in operation. Our total tank mileage, however, was virtually the same—14.2 mpg for the power and 14.5 for the non-power over almost the same distance. This was due to much high-speed driving, and a conservative driver should do much better.

# Performance '57 (ar A

(270-bhp engine, Hydra-Matic, power steering, power brakes)

#### SPEEDOMETER ERROR

Read 30 at true 30, 46 at 45, 51 at 50, 62 at 60, 78 at 75, 83 at 80

#### **ACCELERATION**

From Standing Start
0-45 mph 5.6 0-60 mph 8.8
Quarter-mile 16.9 and 83 mph
Passing Speeds
30-50 mph 3.9 45-60 mph 3.2
50-80 mph 8.6

#### **FUEL CONSUMPTION**

Using Mobilgas S
Steady Speeds
19.6 mpg @ 30 17.8 mpg @ 45
16.6 mpg @ 60 13.9 mpg @ 75
Stop-and-Go and Highway Driving
14.2 mpg tank average for 883 miles

'57

(270-bhp engine, Hydra-Matic, no power steering, no power brakes)

Car B

Read 30 at true 30, 46 at 45, 52 at 50, 64 at 60, 81 at 75, 88 at 80

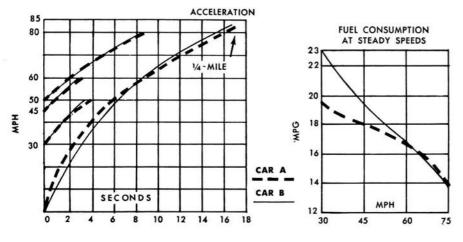
From Standing Start 0-45 mph 5.5 0-60 mph 8.7 Quarter-mile 16.6 and 84 mph Passing Speeds 30-50 mph 3.5 45-60 mph 3.0 50-80 mph 8.3

#### OIL CONSUMPTION

None added in 895 miles

#### REAR-WHEEL HORSEPOWER

Clayton dynamometer showed: 73 road hp @ 2000 rpm and 25 mph 94 road hp @ 2500 rpm and 31 mph 116 road hp @ 3000 rpm and 58 mph Clayton dynamometer showed: 85 road hp @ 2000 rpm and 30 mph 108 road hp @ 2500 rpm and 40 mph 140 road hp @ 3000 rpm and 50 mph



## **Specifications**

ENGINE: Ohv V8. Bore 3.94 in. Stroke 3.56 in. Stroke/bore ratio 0.90:1. Compression ratio 10.0:1. Displacement 347 cu. in. Advertised bhp 270 @ 4800 rpm. Bhp per cu. in. 0.726. Piston travel @ max. bhp 2848 ft. per min. Max. bmep 156.0 psi. Max. torque 359 lbs.-ft. @ 2800 rpm.

TRANSMISSION: Standard transmission is three-speed synchromesh with helical gears. Automatic transmission is Hydra-Matic, four speed planetary gearbox with fluid coupling: ratios: 3.97:1, 2.55:1, 1.55:1, 1.00:1. Overdrive is not available.

REAR-AXLE RATIOS: Synchromesh 3.42:1. Automatic 3.08:1.

STEERING: Turning diameter 42.50 ft. Turns lock to lock mechanical 5.06, power 4.25. Overall ratio: mechanical 25:1, power 22.5:1. Type: mechanical and power, recirculating ball bearing.

WEIGHT: Test car A with gas, oil and water, 4270 lbs. (55% front, 45% rear.) Test car A weight/bhp ratio 15.8:1. Test car B with gas, oil and water, 4150

lbs. (54% front, 46% rear.) Test car B weight/bhp ratio 15.4:1.

DIMENSIONS: Wheelbase 122.0 in., overall length 206.8 in., overall height 60.1 in., overall width 75.2 in., front tread 59.0 in., rear tread 59.4 in., rear overhang 49.4 in. TIRES: 8.00x14 tubeless.

PRICES (including suggested retail price at main factory, federal tax, and delivery and handling charges, but not freight): CHIEFTAIN two-door sedan S2463, four-door sedan S2527, two-door hardtop S2529, four-door hardtop S2614, two-door station wagon S2898. SUPER CHIEF four-door sedan S2664, two-door hardtop S2735, four-door hardtop S2793, four-door hardtop S2735, four-door hardtop S2793, four-door deluxe sedan S2896, two-door hardtop S2901, four-door hardtop S2975, convertible S3105, two-door Safari station wagon S3481. ACCESSORIES: Hydra-Matic S231, power steering S108, power brakes S39, eight-way power seat S97, six-way manual seat S41, power windows S102, radios S99 and S125, heater and defroster S91, air conditioning \$431, dual exhausts S24, tinted glass \$34.

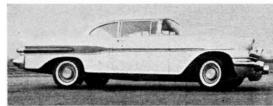
### '56

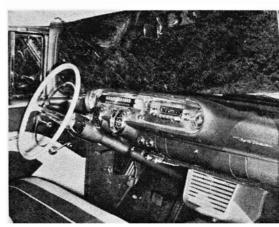
(227-bhp engine)

Read 31 at true 30, 47 at 45, 63 at 60, 79 at 75

From Standing Start
0-30 mph 4.0 0-60 mph 11.4
Quarter-mile 18.1 and 76 mph
Passing Speeds
30-50 mph 5.1 50-80 mph 13.7

Using Mobilgas S
Steady Speeds
20.2 mpg @ 30 18.8 mpg @ 45
16.2 mpg @ 60 12.6 mpg @ 75
Stop-and-Go Driving
12.1 mpg tank average









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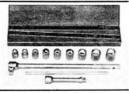
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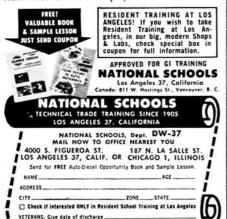
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# HIGHWAY ROBBERY

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and police know the line is there; nonresidents find out the hard way.

One of the most objectionable soakthe-stranger devices used by crooked authorities is the establishment of skyhigh court costs. In North Carolina, for instance, these costs range up to \$40. In theory a minor traffic infraction may cost a motorist only a dollar in fines, but he'd still have to fork over \$41.

In the Kentucky county where the Michigan couple was arrested in the nopassing trap, court expenses were fixed at \$16.50, of which \$6 went automatically to the arresting officer—a strong incentive for him to make as many arrests as possible during a working day.

Many motorists have found it almost impossible to get a fair trial in certain

counties of Indiana, where an antiquated fee system is still in force. Here, a justice of the peace can charge up to \$15 for court expenses. He gets one-third of this amount-but only if the victim is convicted. The temptation for the justice to find the driver guilty is thus almost irresistible. Local motor clubs report that a driver is a dead duck once he is ticketed in these sections of Indiana.

The increasing use of radar equipment for nabbing speeders has contributed enormously toward the safety of American highways. But it has also posed important questions about ethical law enforcement. No one denies that the flagrant speeder should be caught and punished. There is a distinct threat to the motorist's rights, however, when these speed-timing devices are used by money-hungry officials.

The files of the AAA are stuffed with complaints about unfair arrests and phony trials pinned on radar evidence. In some cases, the Association has championed driver-victims and complained to local authorities about letter-of-the-law enforce-

### TWO PONTIACS

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Hot, Hotter, Hottest

As we reported in last month's Spotlight, the new, low-production "Bonneville" with fuel injection is to be made available only to dealers for the present. But following close upon the heels of the F.I. job are two specials which are to be made available to the public. Each of these hot jobs uses three dual-barrel carburetors (Pontiac calls it "Tri-Power"). Here's the way Detroit Editor Joe Wherry describes these three hot Pontiacs:

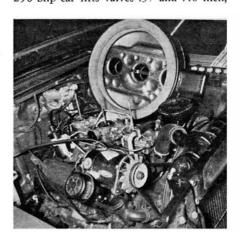
"Each of these three engines is based on the 347-cubic-inch block. The first option substitutes only a new fuel manifold upon which are mounted three dual-barrel carburetors. Topped with a huge, round, flat paper-packed air cleaner, the three carburetors are rigged up very similarly to those described for the Oldsmobile last month. That is, the center carburetor, or the primary one, is strictly conventional, contains the automatic choke mechanism, and is connected to the accelerator linkage. Up to about 34-throttle, this primary carburetor supplies all the fuel to the engine from the usual fuel system. Flooring the throttle, or exceeding the 34 position, actuates a vacuum-operated linkage which opens the throttle valves on the two end carburetors. With no other changes except the "Tri-Power" installation, maximum rated brake horsepower becomes 290 at 5000 rpm and torque is 356 pounds-feet at 3200 rpm.

The next option up the power line delivers 317 bhp and 359 pounds-feet torque

0-60

50-80

at 5200 and 3600 rpm respectively. Compression ratio remains stock at 10.0 to 1 but valve timing is considerably changed and the camshaft, with hotter grind, raises both intake and exhaust valves .411 inch (the stock engine camshaft used in the 290-bhp car lifts valves .37 and .40 inch,



intake and exhaust respectively). The customer has his choice, in this engine, of optional mechanical lifters over the stock hydraulic lifters; so equipped, valve lift increases to .435 inch. Rated bhp is still 317. The same triple induction manifold is used as on the preceding engine and three dual-barrel carburetors are used, differing only slightly in specification. They operate the same, with the center carburetor doing most of the work. Heavier valve springs are used, the drive ratio of the generator is stepped up, and heavierduty ignition components are used.

"As for the almost certain to be elusive

290 hp, three carburetors	317 hp, three carburetors	!! hp, fuel injection
8.2	8.4	8.1
8.7	8.0	8.8

ment of unreasonable and unrealistic regulations.

Example: In 1954 the police of Staunton, Va., acquired a radar set, which can be purchased for about \$800. Arrests for speeding in this city promptly jumped from 90 in 1953 to more than 900 in 1954. The vast majority of those receiving tickets were outlanders who were just passing through. Protests of the local auto club went unheeded. Finally, the club stymied prospering traffic officials by posting huge warning signs at every entrance to Staunton.

According to latest reports, 834 radar sets have been licensed by the federal government for use on the nation's traffic arteries. This represents an increase of 46.8 per cent within the past 12 months.

Among the worst pitfalls for out-oftowners is tow-car racketeering, which can only be operated with the knowledge and cooperation of the police. Radio-equipped trucks tune in on police calls and speed to the scene of an accident. Since the police are bound to find out about the

fuel injection job, the installation closely parallels that of Chevrolet. Compression ratio, we can now say, remains a stock 10.0 to 1. Pontiac engineers, with whom I discussed these engines before and after driving them, refused to discuss a horsepower or torque figure for the F.I. job, nor would they allow themselves to be quoted on performance. But, from what I've been able to gather from both ear-to-ground and behind-the-wheel positions, I think it safe to say, that the F.I. engine puts out sufficient moxie to fly low at well over 130 mph. For that matter the 317-hp 'Tri-Power' job should do this too, and even the 290-horse 'Tri-Power' car should top 120 with ease.

"Fortunately I was able to drive each of these cars over the same course with climatic conditions remaining quite constant. There were a few patches of ice, and a sand-scattering truck didn't help matters either, but the cars were all in fair tune. To enable all three cars to be worked during the allotted time, I skipped the usual 0-30 and 0-45 mph readings, preferring to tackle the 0-60 and 50-80 times instead. All speeds are true—could be bettered with fine tuning and completely dry roads-but they will give you an idea of Pontiac's new go-power. All three cars had Hydra-Matic transmission and 3.23 axles. The F.I. job was the long-chassis Star Chief (like the Bonneville convertible but without the extra chrome trim) while the two 'Tri-Power' cars were four-door sedans on the shorter 122-inch chassis. All times are the result of averages of at least three runs in each direction. It is evident that the lowerrpm maximum torque of the 290-hp car pays off better in the lower speed ranges. The 317-hp job is for racing, with top-end torque the aim. The F.I. car was plagued by a stammering Hydra-Matic, should have shown up better. Manual transmissions are available; they should really go."-O.Z.

concealed radio when the same truck arrives at the scene time after time, there must be a bribe involved.

This type of swindle is particularly notorious because it catches the motorist in a time of trouble, when he's apt to be emotionally upset and not in a position to protect himself.

It is not uncommon to find unscrupulous cops entering into collusive arrangements with garage owners. In return for a sizeable kick-back-which is squeezed from the touring outlander-the police will send wreckers to favored garages. This means the driver cannot hire the mechanic of his choice, and usually has to pay a heavy price.

J. C. Whitney & Co., 1917 (0-3) Archer Ave., Chicago 16, III.

Motorists can protect themselves by refusing to let a tow-truck operator handle their cars until there has been full agreement on the cost. This is particularly important when an unbidden truck shows up at the accident site.

America's highways will continue to be marred by roadside racketeering until honest officials, local motor clubs and auto owners themselves become aroused enough to stamp the cheats out of business. As automobile sales hit new peaks, the future looks brighter for practitioners of soakthe-stranger gyps. So next time you jump into the family sedan for a motor jauntkeep your eyes on the road and your hand on your pocketbook!

