2 MERCS ON TRIAL

Testing the Monterey and Park Lane proves that "The Big M" stands not only for big size but also for big engines and big performance

A MOTOR TREND RESEARCH REPORT by Don Francisco

IF YOU'RE IN A HURRY and have to make a choice between stopping behind a '57 or a '58 Mercury at a stop light, and you can tell the difference between them, take a chance on the '58. If it isn't a Medalist chances are that when the light turns green it will be long gone before the '57 takes the slack out of its driveline. The old and the new Meres are no longer brothers under the tin. Under the sheet metal, the '58 Monterey, Montclair and Park Lane differ from the '57 models as Zsa Zsa differs from Zasu.

So that I could get the full impact of the new Mercury line, I was given a Park Lane four-door Phaeton and a Monterey four-door to test. The economy car of the line – the Medalist – wasn't available at the time of the test but this wasn't important because it is so similar to the '57 models.

The big news about the '58 Mercurys is their new "Marauder" engines, and man, they're something. One of them is a monster of 430 cubic inches and the other is a comparative midget of 383 inches. Both engines have the same cylinder bore of 4.3 inches but they have different stroke lengths. These are big engines, in any company, and the 430 is the largest passenger-car engine in the industry; the 383 is fourth from the top. They are big, husky critters that wouldn't be out of place under the hood of a truck and they manage to pull the cars in which they are installed up or down any road without straining.

Their displacement, combustion chambers, and valve displacement are the main features that make Marauder engines so different from previous Mercury overhead valve powerplants. Combustion chambers are formed by milling the top of the cylinder block on an angle of 10 degrees with the cylinders. The valve placement differs from the ordinary in that the valves have been repositioned in the heads so that no two exhaust valves are next to each other. This is said to eliminate local hot spots in the heads that might cause pre-ignition.

The intake manifold is heated by water from the cooling system. This eliminates the need for a manifold heat control valve in the exhaust system. However, there is a hot air stove on the left exhaust manifold through which warm air is inducted into the engine to help vaporize the fuel until the water in the cooling system and intake manifold reach their operating temperatures. When the manifold is hot enough, a valve in the hot air stove opens to let cold air enter the engine.

To bring the water in the cooling system up to operating temperature as quickly as possible, the engine is fitted with three thermostats. Two of the thermostats are located in the water outlets in the front of the cylinder block and the other one is in the water outlet in the intake manifold. During the first stage of cooling all the thermostats are closed and water circulates only in the cylinder heads and intake manifolds. For the second stage the thermostats in the block open and water circulates through the block as well as through the heads and manifold. For the third stage all the thermostats are open, allowing water to circulate through the radiator as well as the engine. The thermostats in the block open at approximately 142° F, and the one in the intake manifold opens at approximately 162°.

All standard Marauder engines have single four-throat carburetors. The "Super Marauder," which is optional in all models, has three dual-throat carburetors on a special aluminum intake manifold.

Camshafts in the engines are of alloy iron and they are said to incorporate larger check valves and larger orifices for optimum quietness at all engine speeds. The heads of the valves are of large diameter, as they must be for engines that have the displacement these have, and they are aluminum coated to add to their durability. The diameter of the valve stems has been increased to give them more strength. Pushrods are of solid steel and the ratio of the rocker arms has been increased to 1.76 to 1.

The valve springs are twice the size of ordinary springs and they have more tension than most of the special springs used with reground camshafts. They are real brutes. All valves are fitted with Ford's free-valve rotators – these aren't really rotators in the true sense of the word because instead of exerting a force on the valves to rotate them, they reduce the friction between the valve stems and the spring keeper washers so the natural vibration of the springs will cause the valves to rotate. A valve that rotates will have a much longer life than one that remains stationary in its guide.

The fuel pump has been placed on top of the timing chain cover, where it gets a blast of air from the engine fan. The vacuum pump has been taken off the fuel pump and added to the oil pump, which is now in the crankcase and is of the rotor type instead of the gear type used on previous engines. Taking the vacuum pump off the fuel pump relieved most of the load on the camshaft lobe that actuates the fuel pump. All the oil from the oil pump is filtered by a full-flow filter at the left front of the cylinder block before it reaches the engine's bearings. The filter's cartridge can be removed easily from beneath the car.

The power steering pump is now bolted to the front of the timing chain cover and it is driven directly by the crankshaft. Driving the pump in this manner eliminates the belts and pulleys used on earlier engines and also does away with the noise the belts made when they got a little loose and the front wheels were turned all the way one way or the other. This noise was caused by the belts slipping on the pulleys.

A big engine in a light chassis has always been the ideal of hot rodders, and these Meres are the closest thing to this ideal that Detroit has ever produced. The chassis aren't as light as they might be but the engines are big enough to handle the weight. An engine with an abundance of cubic inches has the advantage over one with fewer inches of being able to create a higher torque output at low engine speeds, and torque is the measure of an engine's ability to accelerate a car; however, there is another thing that enters into acceleration ability, and that is the gear ratio in the car's rear axle. The lower the ratio, the better the acceleration, and vice-versa.

The old saying is that "seeing is believing" but for the new Mercurys tradition is going to have to yield. You can look at one of the new Meres from now on and not find a thing to believe. But change the saying to "feeling is believing" and you've got a winner. One feel with the seat of your pants just might make you a believer. Mercurys for '58 are big cars in every sense of the word, and although they aren't as big or heavy as a few of the so-called luxury cars, they are definitely out of the Ford-Chevy-Plymouth class. But they are big cars a man can enjoy driving, and of big cars that are enjoyable to drive "there ain't many today."

THIS IS THE FIRST YEAR for Mercury's new Multi-Matic transmission. The Multi-Matic is a three-speed box that is an improved version of the standard Mere-O-Matic. It can be used as either a two- or three-speed unit by pushing the desired button on the transmission control panel. The button for two-speed operation is marked "Cruising Range" and the one for three-speed is marked "High Performance Range." The difference in the two ranges is that in High Performance the car starts in the bottom of the three speeds and the transmission shifts twice to reach high gear, and in Cruising Range it starts in the middle of the three gears and shifts once. The same second and high gears are used in both ranges. In high gear with either the Multi-Matic or the standard Mere-O-Matic engine torque flows straight through the transmission.

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PHOTOS BY BOB D'OLIVO, JOE WHERRY

DYNAMOMETER TESTS gave 173 maximum horsepower at full load in second gear for Park Lane, 162 for Monterey engine.

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continued

In High Performance Range the Multi-Matic upshifts from low to second at approximately 50 mph, with the throttle pedal on the floor, and from second to high at approximately 74 mph. In Cruising Range the transmission upshifts from second to high at the same speed as when it is in High Performance. In High Performance it downshifts to low when the throttle is kicked open at speeds below approximately 35 mph. In Cruising Range low gear cannot be engaged.

Pushing the "Hill Control" button at speeds above approximately 25 mph causes the transmission to downshift to second gear and at speeds below 25 mph the downshift is to low gear. Once the transmission has shifted to low gear it will remain in that gear until another button is pushed. The Multi-Matic also has a hill-holder that prevents the car from rolling backward on hills when the transmission is in Cruising Range and the engine is running.

The standard Merc-O-Matic is also controlled by pushbuttons but it has only one button for normal driving. This button is marked "Cruising Range." In Cruising Range the transmission starts in second gear when the throttle is partially depressed. If the throttle is kicked to the floor when the car is at rest or moving at a speed below 35 mph the transmission will downshift to low gear for maximum acceleration and upshift to second and high at approximately the same speeds as the Multi-Matic. At speeds between 35 and 65 it will downshift to second gear when the throttle is kicked to the floor.

Pushing the "Hill Control" button at any speed above 25 mph shifts the transmission into second, where it will stay until car speed drops to approximately 25 mph. Under 25 mph the transmission shifts into low. It then stays in low gear until another button is pushed.

The Park Lane I tested had a 430-inch engine with a four-barrel carburetor, Multi-Matic transmission, power seat, power windows, and all the other deluxe items. The Monterey had a 383-inch engine and a standard Mere-O-Matic. It was the economy model without any power equipment.

MERCURY HAS NULLIFIED some of the acceleration potential of their new cars by fitting them with the highest rear axle ratios in the industry. Cars with 430-inch engines have 2.91 to 1 axle gears and cars with 383 engines have 2.69 to 1 gears. The reason for the higher ratio in cars with the smaller engine, which doesn't make sense to performance-minded drivers, is to boost the fuel mileage of these cars. Either of the ratios gives the same effect as an overdrive in a car with a synchromesh gearbox while at the same time allowing the ease of driving made possible only by an automatic transmission. This is the effect for which the engineers were striving.

Some of the advertising the Ford Motor Co. is putting out on their '58 models stresses the angle of better fuel mileage as a result of the higher rear axle ratios but the higher ratios have other benefits that are equally enjoyable. Among these is the pleasant advantage of quiet cruising at any car speed because in high gear the engine is not turning fast enough to stir up a fuss. At 60 mph a sharpy with a good ear can count the explosions in the cylinders.

Although the high rear axle gears take some of the edge off the going ability of the cars, there is more than enough left over for anything but drag racing. Acceleration with the high ratios is excellent. At any speed up to about 60 mph either test car would jump when the throttle pedal was moved. The pedal didn't have to be kicked to the floor to get the car moving; car speed increased in proportion to throttle movement. There was none of the old pushing the pedal and then waiting for the car to catch up.

The Park Lane ran well enough for average driving with its transmission selector in Cruising Range but it got out of the chute considerably faster with the selector in High Performance. When the throttle in the Monterey was floored to downshift the transmission to low, the car would spin its rear tires for a few feet while it was getting going. Between the time the throttle was opened and the time the car started to move there was a fraction of a second delay while the slack was being taken up in the things in the hydraulic torque converter and transmission. Then the wheels would start to turn and the car would begin a steady rate of acceleration until the throttle was eased off. This delay wasn't nearly as noticeable with the Multi-Matic; however, it is possible that the adjustment of the Mere-O-Matic could have had something to do with this condition.

Both '58 transmissions are a long day's trot ahead of earlier Merc-O-Matics and I would venture to say that from the driver's standpoint the Multi-Matic, and its counterparts used in other Ford products, is the best automatic transmission in the industry. This endorsement does not include the push-button control for the transmission, which is one of the worst engineering blunders I have seen in a long time.

Pushbuttons are without a doubt the clumsiest method ever devised for making gear selections in an automatic transmission. The main thing against them is that it is difficult to find the right button without looking at the panel each time the engine is to be started or a change of transmission range is to be made. And the mechanism out of sight behind the panel is just more stuff to get out of adjustment and cause trouble. If the driver isn't careful with pushbuttons it is easy to push the wrong one, especially when he wants to engage the hill retarder gear. If the button pushed isn't pushed far enough the transmission goes into neutral, and this could happen at the wrong time for safe driving. A guy who does a lot of stop-and-go driving could get "automation finger" from pushing all the buttons.

THE EXCELLENT LOW SPEED PERFORMANCE of both cars makes them easy to drive in traffic. All the acceleration any driver would ever need is on instant demand, giving him complete control of the car and enabling him to take advantage of any breaks or openings he might see. This makes for happy driving because in traffic there is nothing more frustrating, or dangerous, than a sluggish car. A touch of the throttle keeps the car ahead of traffic and there is seldom any necessity to push the throttle to the floor to engage passing gear.

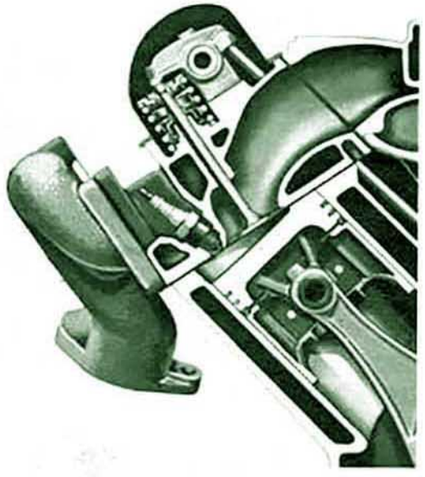
At speeds over approximately 60 mph the cars lose some of their punch but they still accelerate better than most of the cars they will be passing. The only thing wrong with them for highway cruising is that there is so little noise from the engine compartment and wind noise is so low that if one isn't careful he will repeatedly catch himself driving over the speed limit.

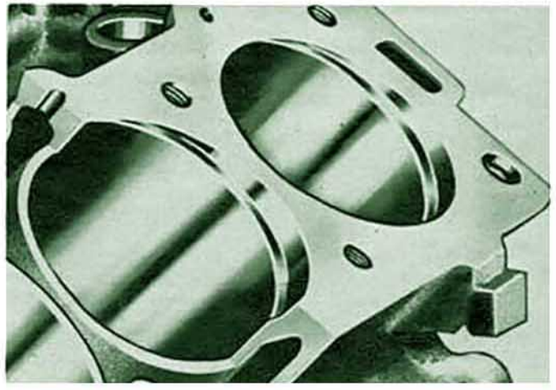
One thing about the performance of both engines during high-speed acceleration that wasn't off the top of the barrel was the action of the secondary throttle valves in the carburetors. These valves are actuated by vacuum created in the carburetor's primary throats and the driver has no control over their opening and closing times. The result when the accelerator pedal is kicked to the floor is a smooth flow of power until the secondaries open and then the car gives a mild but noticeable lurch and charges on until the accelerator pedal is allowed to lift a little to allow the car to resume normal cruising speed again. Then the secondaries close and the car lurches again, this time severely.

Disregarding the carburetor throttle action, the only thing I could find wrong with the engines, and it wouldn't take a Pinkerton man to find this fault, was a bad detonation problem. The detonation was noticeable on acceleration, at any speed but most pronounced at lower speeds, and it grew worse as mileage on the engines allowed carbon to build up in their combustion chambers. The detonation was worse in the Monterey than in the Park Lane but this was probably due to the leaner air/fuel mixture delivered by the Monterey's carburetor. The mixture in the Monterey was so lean that the engine surged on steady throttle at normal cruising speeds. Surging is a condition that would vary with altitude and could be eliminated by installing richer metering jets in the carburetor.

Detonation can be harmful to an engine. When a manufacturer brings out a model that is afflicted with it to such a degree as the new Meres, there must be a good reason. The story behind the Mercury problem is that when these engines were in the design stage the engineers on the project were assured by the petroleum industry that the minimum rating of premium grades of gasoline in all areas of the country when the engines would be available to the public would be 98 octane. With this assurance, a compression ratio of 10.5 to 1 was decided on and subsequent tests with the engines showed them to be free of detonation with this ratio and 98-octane fuel. Then, when the cars were released to the public, trouble with detonation was noticed immediately because in some areas of the country, including Los Angeles, the octane rating of premium gasoline was not up to the promised 98. However, while this test was being conducted, some of the major oil companies in the Los Angeles area introduced their new gasolines with octane ratings of at least 98.

In areas where 98-octane gasoline is not readily available, detonation will be a problem requiring some mechanical adjustment to the engine or its accessories. The nature of the detonation would indicate it could be eliminated by altering the advance curve in the distributor or by installing another distributor of a different type. These engines are good enough to deserve the best ignition system available and at the present time they may not have it. Normal meth-





BIG 430-CUBIC-INCH ENGINE has fully-polished combustion chamber in block; top of cylinder block is machined at an angle of 10 degrees with the cylinders.

PUSHBUTTON CONTROL PANEL for gearbox hides transmission locking lever immediately below. Sub-dash position can mean extra blind fumbling.

Acceleration

	MONTEREY (330-bhp engine)	PARK LANE (360-bhp engine)	
		Cruising Range	High Perf. Range
0-45	6.0 secs	8.2 secs	6.2 secs
0-60	9.5	12.4	10.0
Quarter-mile	17.7 & 83 mph	19.6 & 78.5 mph	18.0 & 80.5 mph
30-50	3.4	—	3.4
45-60	3.5	—	3.8
50-80	9.3	—	10.6

Fuel Consumption

Stop-and-go Driving	12.4 mpg for 222 miles	11.2 mpg for 209 miles
Highway Driving	15.5 mpg for 473 miles	13.3 mpg for 1084 miles

Fuel Used: Mobilgas Special

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continued

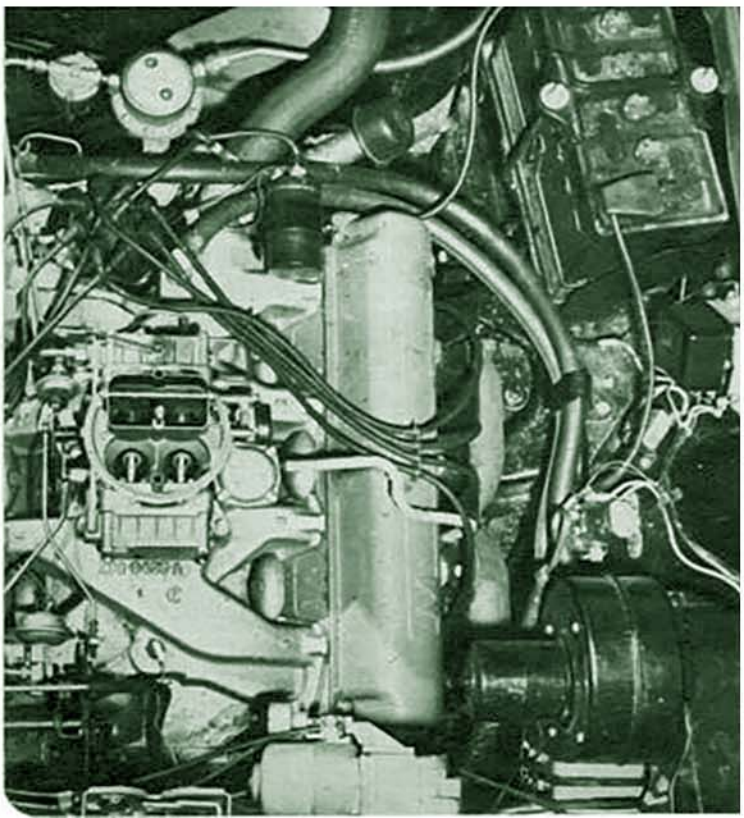
ods of killing the detonation would be by enriching the fuel mixture, retarding ignition time, or by combinations of both.

The power steering on Ford products has always been the best and the Mercury version in the Park Lane is excellent as far as feel is concerned; however, the ratio is too low for easy steering around right angle corners and in cramped spots. A guy could wear his arms out turning the wheel and this isn't necessary with the power assist. A higher ratio would be much better for slow speed stuff and it wouldn't hurt anything at high speeds.

The steering in the Monterey was not power assisted but while the car was moving it felt about the same as the power version. When the Monterey was stopped, or nearly so, its steering wheel was harder to turn than the wheel in the Park Lane but the difference was not too great. The additional resistance would be noticed most by women drivers. The ratio of the steering seemed to be about the same as that in the Park Lane and even without the power assist it was much too slow. A full one and one-half turns of the wheel was necessary to turn the car around a right angle corner. This is ridiculous to the point of being dangerous.

Mercury has an air suspension system that is available as optional equipment but the cars I tested had conventional suspension, consisting of coil springs on the front and longitudinal leaf springs on the rear, that does a good job of providing a smooth ride on all types of roads. The wheels on any car are continually moving up and down as they follow the surface of the road; in the Mercs the wheels must not be too well insulated from the frame because much of their movement is transferred to the frame and body and then to the seats and passengers in the form of vibration. But although the vibration is noticeable by the passengers and could be eliminated without being missed, it isn't severe enough to keep me from liking the car.

NEW "MARAUDER" ENGINE is a monster of 430 cubic inches, largest passenger-car engine in the industry. Standard is a single four-throat carburetor; the "Super-Marauder" (optional) has three dual-throat carburetors.



On straight, level roads there was hardly any body movement to disturb the passengers. What movement there was from undulating road surfaces was mild and didn't cause any discomfort. There wasn't any of the pitching and wallowing that is so characteristic of cars as large and heavy as the Mercurys. When crossing dips at intersections of city streets the frame and body would drop as the wheels rolled into the dips and if the frame bottomed on the front suspension members or on the rear axle the parts came together so gently that the contact wasn't felt in the car. The rubber bumpers between the frame and the suspension members were probably responsible for the absence of severe contact. Coming out of the dips the frame and body would rise a little above their normal height and then settle to normal. All the motions were so well controlled by the shock absorbers that I began to enjoy driving fast through dips just for the unusual sensation of feeling the car take them so well.

On mountain roads, the Park Lane handled very well for a big car. When entering a turn it leaned less than average for a car of its size and then it held this position the rest of the way through the turn. The 24 pounds in the tires (cold tires) wasn't conducive to good cornering but despite the size of the car and the low pressure I always had a feeling of confidence in turns. The ride of the Monterey was firmer in all respects than that of the Park Lane, due, no doubt, to its shorter, stiffer rear springs, lighter weight, and shorter wheelbase, and it went through the turns flatter than the Park Lane. There are many smaller cars on the road that would have trouble keeping up with a Monterey in the mountains, either in the turns or on uphill stretches.

VACUUM-ASSIST POWER BRAKES are standard on the Park Lane and optional on other models; I would recommend them for easy driving. For a given pressure exerted by the driver on the brake pedal, the vacuum-assist boosts the pressure in the brake lines approximately 50 per cent. This is enough to take the work out of applying the brakes and makes it easy to drive with left foot braking. The brakes on the Monterey weren't power assisted and they required considerably more pedal pressure to stop the car.

Brakes on all Mercurys are self-adjusting. When their linings have worn a predetermined amount and the brakes are applied while the car is moving in reverse a simple linkage on the rear shoe of the brake assemblies rotates the adjusting star wheel that spreads the lower ends of the shoes. The mechanism works only in reverse so that the brakes won't be overtightened when their drums are hot.

The brakes on both cars stop the cars well at all normal speeds but the feeling of stopping lots of weight is felt by the driver. The reason for this may be that the cars really are heavy. It might be possible to eliminate this feeling, or at least reduce it, by providing more assistance with the booster but I believe that while there should be enough power assistance to make braking comfortable, there should not be so much that the driver loses the feeling that he is stopping what amounts in the Park Lane to a two-and-a-quarter-ton guided missile. With too much power assistance it is easy to lose the feeling of a car's weight and, as a result, become overconfident of the braking system's ability. Then, when something out of the ordinary happens, the driver is 'way over his head and he can't stop the car in time to keep from hitting someone or something or going into the ditch.

The usual MOTOR TREND brake fade test was conducted with both cars. This test consists of repeatedly braking the car at a rate of 15 feet per second per second from a speed of 60 mph to 20 mph until the brakes fail to stop the car.

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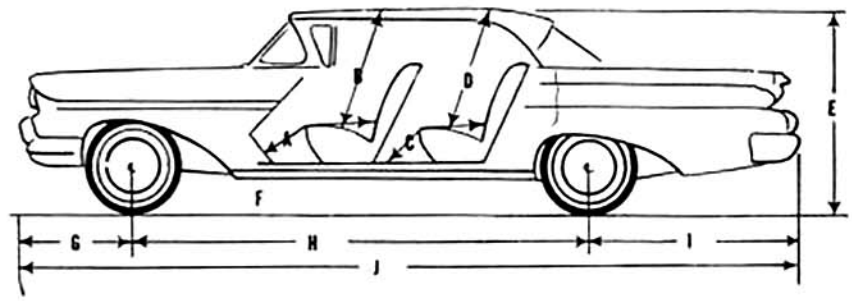
With the Park Lane, the first six stops were normal; on the seventh and eighth the brakes pulled to the right slightly; on the ninth the pedal was quite hard; on the 10th through the 13th the pedal got progressively harder; on the 14th the brakes faded badly; and on the 15th the rate of deceleration could not be held.

With the Monterey, the first five stops were normal; on the sixth the pedal became harder; on the seventh the brakes had cooled while the car was being turned around and the pedal was back to normal; on the eighth through 10th the pedal was hard; on the 11th through the 13th the pedal was very hard and the brakes had a tendency to grab; and on the 14th the rate of deceleration could not be held.

For cars the size and weight of the Mercurys, this is good brake performance. With the Hill Holder feature of the transmission it shouldn't be necessary to use the brakes hard enough to give them the brutal treatment of this test. The Hill Holder works equally as well on the level as it does on downgrades and in the event of an emergency it's mighty pleasant to push the Hill Holder button (if it can be found and the Neutral button isn't pushed instead) and feel the transmission drop into second gear and the engine slow the car.

Mercury advertising of the past few weeks has been stressing the power of their '58 models. This sort of advertising is in direct violation of the Automobile Manufacturers Association edict banning the use of anything to do with speed or power in advertising, but I don't blame Mercury for their break. I think they have something to crow about and despite what the AMA has to say, the car-buying public is still performance-conscious.

But if you don't want to believe the advertising claims, take my word for it: there's no glue on the tires of the '58 big-engine Mercs. And with lower (numerically higher) gears on their rear axle and a super-tuning job, they would really have wings on their heels. /MT



SPECIFICATIONS OF TEST CARS

	Monterey	Park Lane
A—Front Legroom	44.1	44.1
B—Front Headroom	33.9	34.0
C—Rear Legroom	43.4	43.4
D—Rear Headroom	33.2	32.8
E—Overall Height	56.6	56.8
F—Min. Road Clearance	5.9	6.2
G—Front Overhang	33.7	33.7
H—Wheelbase	122.0	125.0
I—Rear Overhang	57.5	61.5
J—Overall Length	213.2	220.2

Mercury Park Lane

ENGINE: Ohv V8. Bore 4.30 in. Stroke 3.70 in. Stroke/bore ratio 0.86:1. Compression ratio 10.5:1. Displacement 430 cu. in. Advertised bhp 360 @ 4600 rpm. Bhp per cu. in. 0.84. Piston speed @ max. bhp 2837 ft. per min. Max. bmep 168.3 psi. Max. torque 480 lbs.-ft. @ 3000 rpm.

TRANSMISSION: Automatic Merc-O-Matic Multi-Drive 3-element torque converter with planetary gearing; ratios 2.37:1, 1.48:1, 1.00:1.

CHASSIS: Front suspension—independent ball joint coil spring with lower trailing arm. Rear—longitudinal semi-elliptic leaf springs. 8.50x14 tubeless tires. Power steering, recirculating ball and rack, 4.5 turns lock-to-lock, overall ratio 24.0:1, turning diameter 44.6 ft. Rear axle—conventional differential, ratio 2.91:1.

DIMENSIONS: Wheelbase 125.0 in., overall length 220.2, overall height 58.4, overall width 81.1, front tread 59.4, rear tread 59.0, rear overhang 61.5, weight with gas, oil and water 4680 lbs. (54% front, 46% rear), weight/bhp ratio 13.0:1.

PRICE: Factory-suggested retail price of test car equipped as described, including dealer delivery-and-handling charges and federal tax but not state and local taxes, delivery charges or freight $4565.

Mercury Monterey

ENGINE: Ohv V8. Bore 4.30 in. Stroke 3.30 in. Stroke/bore ratio 0.77:1. Compression ratio 10.5:1. Displacement 383 cu. in. Advertised bhp 330 @ 4800 rpm. Bhp per cu. in. 0.86. Piston speed @ max. bhp 2640 ft. per min. Max bmep 167.3 psi. Max. torque 425 lbs.-ft. @ 3000 rpm.

TRANSMISSION: Automatic Merc-O-Matic 3-element torque converter with planetary gearing; ratios 2.40:1, 1.46:1, 1.00:1.

CHASSIS: Front suspension—independent ball joint coil spring with lower trailing arm. Rear—longitudinal semi-elliptic leaf springs. 8.00x14 tubeless tires. Mechanical steering, recirculating ball and rack, 5.5 turns lock-to-lock, overall ratio 31.0:1, turning diameter 43.7 ft. Rear axle—conventional differential, ratio 2.69:1.

DIMENSIONS: Wheelbase 122.0 in., overall length 213.2, overall height 58.2, overall width 81.1, front tread 59.4, rear tread 59.0, rear overhang 57.5, weight with gas, oil and water 4300 lbs. (54.5% front, 45.5% rear), weight/bhp ratio 13.0:1.

PRICE: Factory-suggested retail price of test car equipped as described, including dealer delivery-and-handling charges and federal tax but not state and local taxes, delivery charges or freight $3257.