

Lincoln—Restyled and Refined

Appearance and engineering in the high style for modern motoring

LINCOLN'S 205-HORSEPOWER, OVERHEAD-valve, V-8 engine adds many mechanical improvements and styling refinements which may be seen in the new 1954 Lincolns. Included among the engine refinements are a larger, more flexible single-diaphragm vacuum-controlled four-barrel carburetor, redesigned hydraulic tappets, a new filter element in the fuel pump and a self-cleaning filter for the fuel tank.

Improved 4-Barrel Carburetor

The new Lincoln and Lincoln Capri models feature the new 205-horsepower engine. This low-friction, high-compression engine has a compression ratio of 8 to 1 and a displacement of 317 cubic inches. The four-barrel carburetor, which was designed to give a faster and freer flow of air into the engine and a more thorough mixing of the fuel, for faster acceleration, has been improved. The engineers say they have developed a vacuum method of operating the second two barrels. In normal driving only the first two barrels are needed, but whenever the power requirements of the engine exceed the breathing capacity of the primary barrels this vacuum diaphragm opens the secondary throttle plates to the exact position that will admit the right amount of additional air and fuel.

Entirely divorced from the accelerator, the operation of the two secondary barrels depends only on the amount of air flowing through the first pair. This assures not only the power supply when it is required but results in economy performance by preventing waste of fuel through unnecessary use of the second barrels when they are not required.

The 1954 carburetor is equipped with a new external venting action that lets fuel vapors pass harmlessly outside the carbure-

tor when the engine is idling or stopped, leaving the intake manifold dry and ready for instant starting. When the throttle is opened the vent is shut, permitting normal carburetor operation.

The Lincoln has been equipped with a throttle lever with two idle adjustments, one to regulate the normal idle speed on the warm engine and the other to regulate the fast idle engine speed whenever the automatic choke is in operation. Development of the new throttle linkage has resulted in a smoother shift of the automatic transmission. A larger, more flexible, single-diaphragm vacuum distributor control has been added. The greater sensitivity of the new diaphragm eliminates the need for the mechanical linkage previously used and it assures ample initial spark advance for smooth, positive acceleration from standing starts. The spark was advanced previously by a mechanical spark control which linked the carburetor and the distributor.

A low-restriction oil-bath air cleaner forms the carburetor air horn and encloses a dual-float concentric fuel bowl, which is mounted over the four barrels. This assures a continuous flow of filtered air around the fuel bowl when the engine is running and protects against vapor lock.

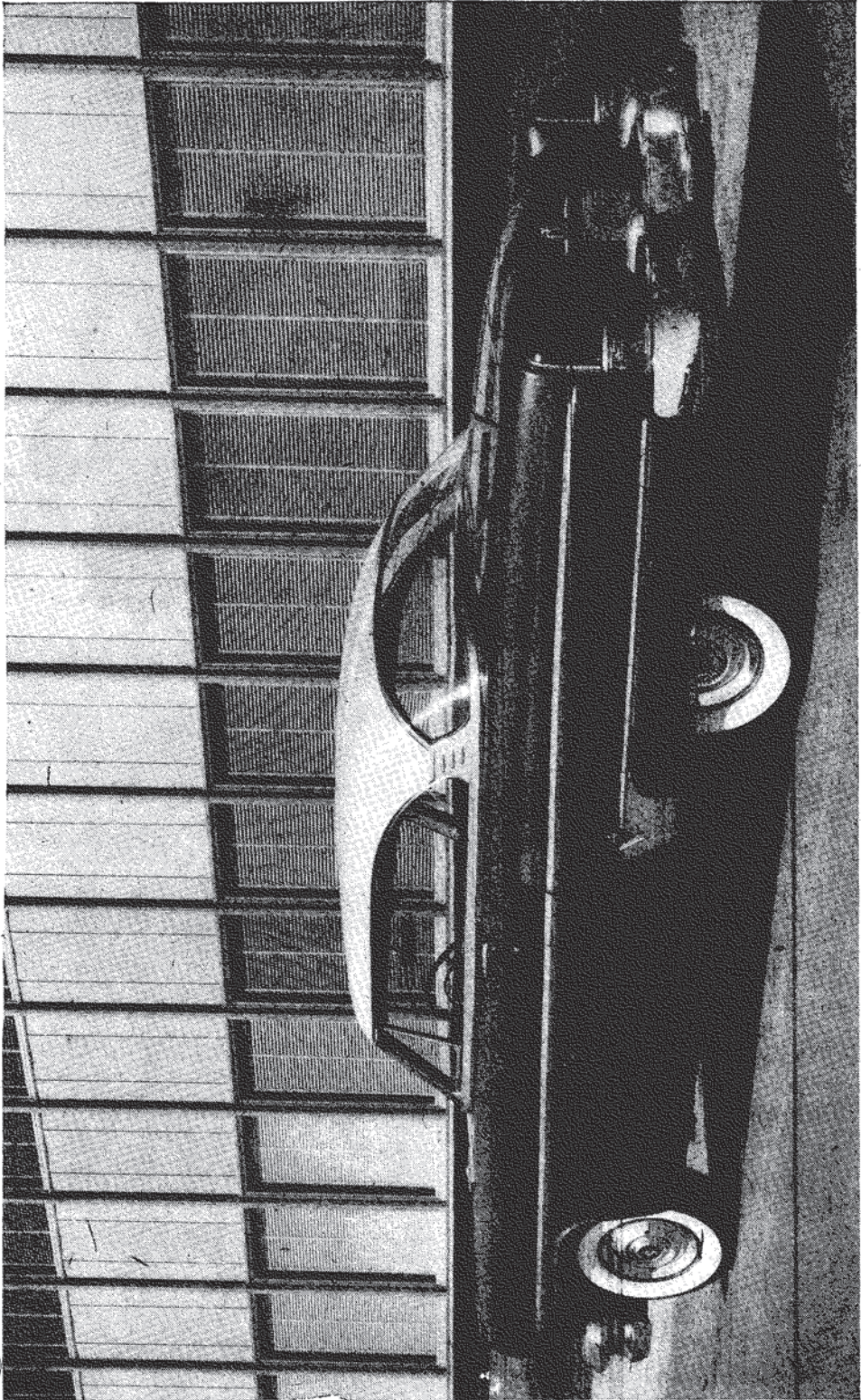
A new magnetic fuel-pump filter in the 1954 Lincoln has nearly twice the efficiency of the former one, giving positive protection against the penetration of the smallest metallic particles into the fuel system.

Hydraulic tappets have been redesigned to provide a higher oil level so there is plenty of oil to fill the compression chamber when starting a cold engine.

Despite the close tolerances on all parts used to build the 1954 Lincoln engine, and despite the balancing of sub-assemblies, each Lincoln engine is given a final mass-balancing after it has been assembled in order to insure smooth performance.

Larger Braking Area

Larger brakes have been developed for the 1954 Lincoln, with brake diameter in-



The Lincoln hardtop coupe for 1954.

creased to 12 inches. This has resulted in a 10% increase in the braking area to 220 square inches. This additional capacity is effective throughout the entire car braking range, requiring a quarter to a third less effort to stop the car at given speeds.

Power brakes, available as optional equipment with the Lincoln, offer greater driving ease. With power brakes, only about one-third as much pressure on the pedal is needed for a normal stop as is required with standard brakes.

Lincoln's vacuum-hydraulic type of power brakes consist of a power cylinder and master cylinder combination; a special pedal linkage, a reservoir tank and the necessary connecting lines.

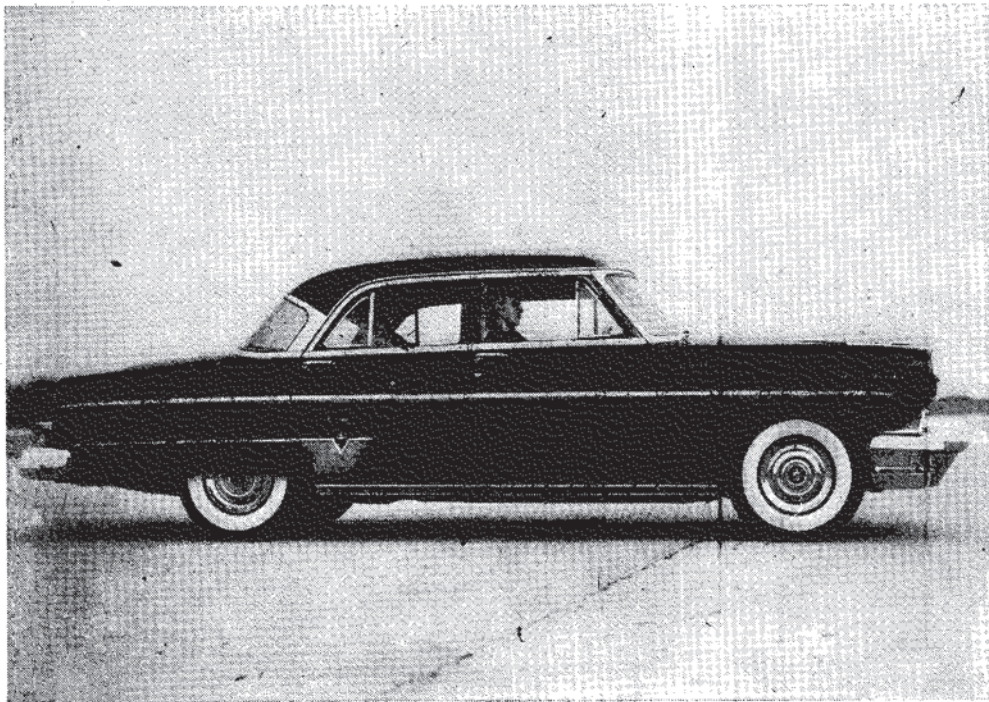
The vacuum reservoir tank is located on the frame on the left side of the car halfway between the front and rear wheels. It provides the required volume for maximum stroke operation and also permits several additional stops in case the driver turns the engine off before making a complete stop or in case the engine stalls.

Power steering is also offered as optional equipment. If chosen, it is an integral part of the steering-gear assembly. It is activated by a pump mounted on the left-hand side of the engine between the cylinder block and fan. The pump is belt-driven from the crankshaft.

The steering column on the 1954 Lincoln has also been made more rigid by the addition of a rod extending from the column support to the cowl. In addition, the area of the column supports has been reinforced by adding a brace to the dash and cowl top panels.

Electric window lifts and four-way power seats are offered as additional optional equipment.

A noise-suppression feature has been incorporated on all tires for the Lincoln to minimize tire squeal caused by the vibration of the outside shoulder ribs of the tires when the car is driven around a turn fast enough to cause these ribs to slide. Buttons or spacers have been added between the ribs of the tires to muffle the noise.



THE NEW styling scheme for the Lincoln is seen here in the Capri four-door sedan. New bumper guards and wrap-around bumpers

combine with new side moldings and a "jewelled" gravel shield to give greater visual length.



LINCOLN aims at outstanding appearance and engineering excellence, characterized here

by the Capri hardtop coupe. Interior trims available include gabardine.

Greater rigidity in the hood and the front end has been obtained by a new, straight hood-lock support-plate rod, the lower end of which is attached directly to the frame.

Lincoln Models For '54

The models offered by Lincoln in '54 are the Lincoln four-door sedan and "hardtop" coupe, and the Lincoln Capri four-door sedan, "hardtop," and convertible. And new color options in both interior and exterior finishes are available.

The interior-trim schemes utilize a new line of modern interior fabrics, including gabardine, which is offered as an upholstery fabric for the first time by Lincoln. Also provided for your choice are whipcords, genuine leathers, modern weaves, and spun nylon. The new colors for the interior have been carefully harmonized with the exterior ones.

Jetting bumper guards and full wrap-around bumpers form the styling theme of the 1954 Lincoln. The jetting guards are designed to give the new Lincoln a forward thrust. The massive, wide-and-low look has been accentuated by a new bumperguard air scoop and the addition of three vertical bars located between the upper and lower impact bars. This wider appearance is further emphasized by the functionally correct out-

board position of the parking lights and turn indicators, the Lincoln designers point out. A new hood ornament with a wide "V" is the background for the traditional Lincoln crest.

While the wrap-around bumpers and the jetting guards add to the forward thrust of the new models, restyling of the side molding gives greater visual length, and a newly designed rear-quarter gravel shield emphasizes the lowness and length of the car.

The integral back-up lights have been designed to fit in with the new exterior styling theme. They are combined with the Lincoln taillights as standard equipment on all 1954 models.

Interior Dimensions

Interior dimensions in inches for the four-door sedans are: Head room: front, 35.5; rear, 34.7; Leg room: front, 44.3; rear, 42.8; Shoulder room: front, 57.5; rear, 57.2; Hip room: front, 62.3; rear, 62.1. For the coupes they are, again in inches: Head room: front, 34.1; rear, 33.4; Leg room: front, 44.3; rear, 38.2; Shoulder room: front, 57.5; rear, 55.5; Hip room: front, 62.3; rear, 59.8. For the convertible: Head room: front, 35.1; rear, 35.3; Leg room: front, 44.3; rear, 38.1; Shoulder room: front, 57.5; rear, 46.0; Hip room: front, 62.3; rear, 48.5.



THIS IS HOW the Lincoln four-door sedan looks in 1954. The wheelbase is 123 inches, the over-all length, 214.8 inches. The 205 hp engine is standard on all models.

SPECIFICATIONS

Engine: Overhead valve, V-8 type. Bore, 3.80 in.; stroke, 3.50 in. Displacement, 317 cu. in. Compression ratio, 8.0 to 1. Horsepower, 205 at 4200 RPM. Torque, 305 foot-pounds at 2300-3000 RPM.

Fuel: Capacity, 20 gal. Vacuum-controlled, 4-barrel carburetor. Oil-bath air cleaner.

Cooling: Capacity, 22.5 quarts.

Electrical: Six-volt battery system; 63 plates; 110 ampere-hour rating.

Power Train: Automatic transmission. Rear axle ratio, 3.31 to 1.

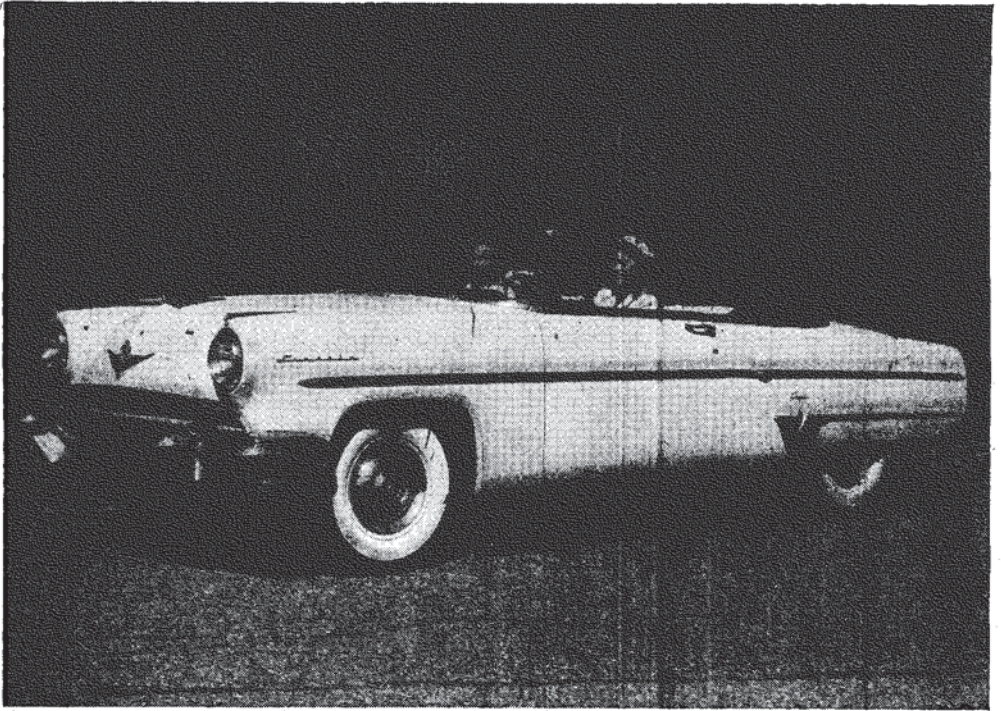
Brakes: Four-wheel hydraulic. Brake lining area, 220.06 sq. in.; 12-inch drums. Power brakes, optional; vacuum-hydraulic type with power cylinder and master cylinder combination.

Suspension: Front: ball-joint, individual coil. Rear: longitudinal semi-elliptic.

Steering: Power steering, optional. Over-all ratio: manual, 26.1 to 1. Power, 21.3 to 1. Turning diameter, 45.7.

Dimensions: Wheelbase, 123 in. Over-all

length, 214.8 in. Over-all width, 77.4 in. Over-all height (loaded) 62.7 in. Tire size: super balloon, 8.00 x 15; on convertible, 8.20 x 15. Tread: front, 58.5 in.; rear, 58.5 in.



THIS CONVERTIBLE is one of the three body styles available in the Lincoln Capri line.

The other two are the four-door sedan and the hardtop.

Mercury Has Plexiglas Roof

"Sun Valley" is featured model; new engine and suspension also emphasized

AN ENTIRELY NEW MODEL WITH A transparent roof, a new high-compression, low-friction engine which supplies the 1954 Mercury with 161 horsepower, and a new type of ball-joint front suspension are featured this year. The new overhead-valve V-8 represents a jump of 36 horsepower over the L-head 125-horsepower engine in the 1953 Mercury. More important, the engineers feel, is the boost in power without an increase in engine size.

Mercury, of course, is no "come lately" to the ever-growing V-8 field. Every Mercury built has had the advantage of V-8 power.

Features of the New Engine

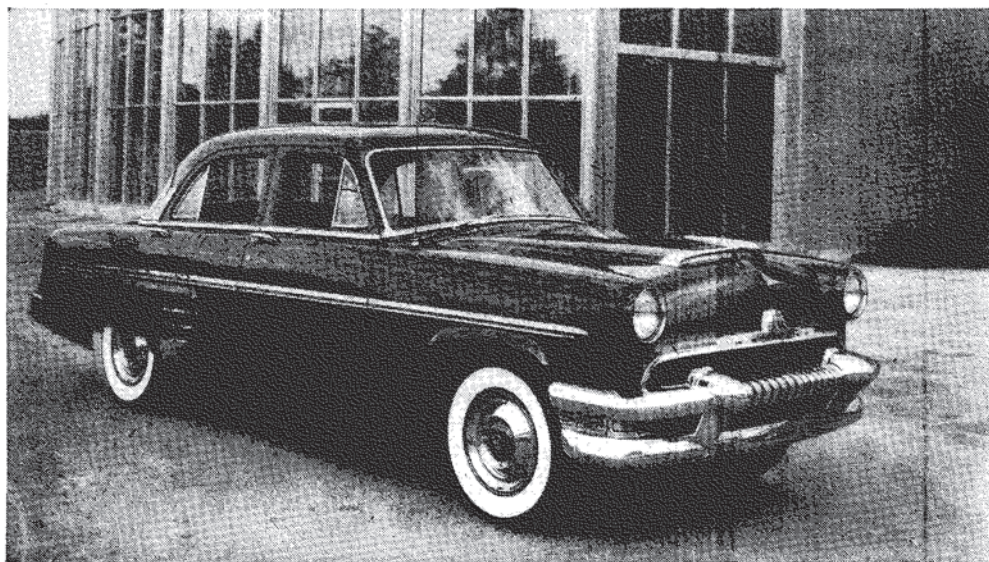
* The Mercury engineers say the new engine is more rigid than its predecessor, and

more efficient because of its reduced internal friction, delivering 12 per cent more of its developed power as useful horsepower. Piston travel has been reduced more than 22 per cent by using a shorter stroke (3.10 inches) and a larger bore (3.62 inches), designed to lengthen the life of the engine one-third by reducing wear and at the same time giving greater fuel economy.

The same amount of piston travel used in taking the 1953 Mercury 10,000 miles will take the 1954 Mercury 12,900 miles, or 29 per cent farther.

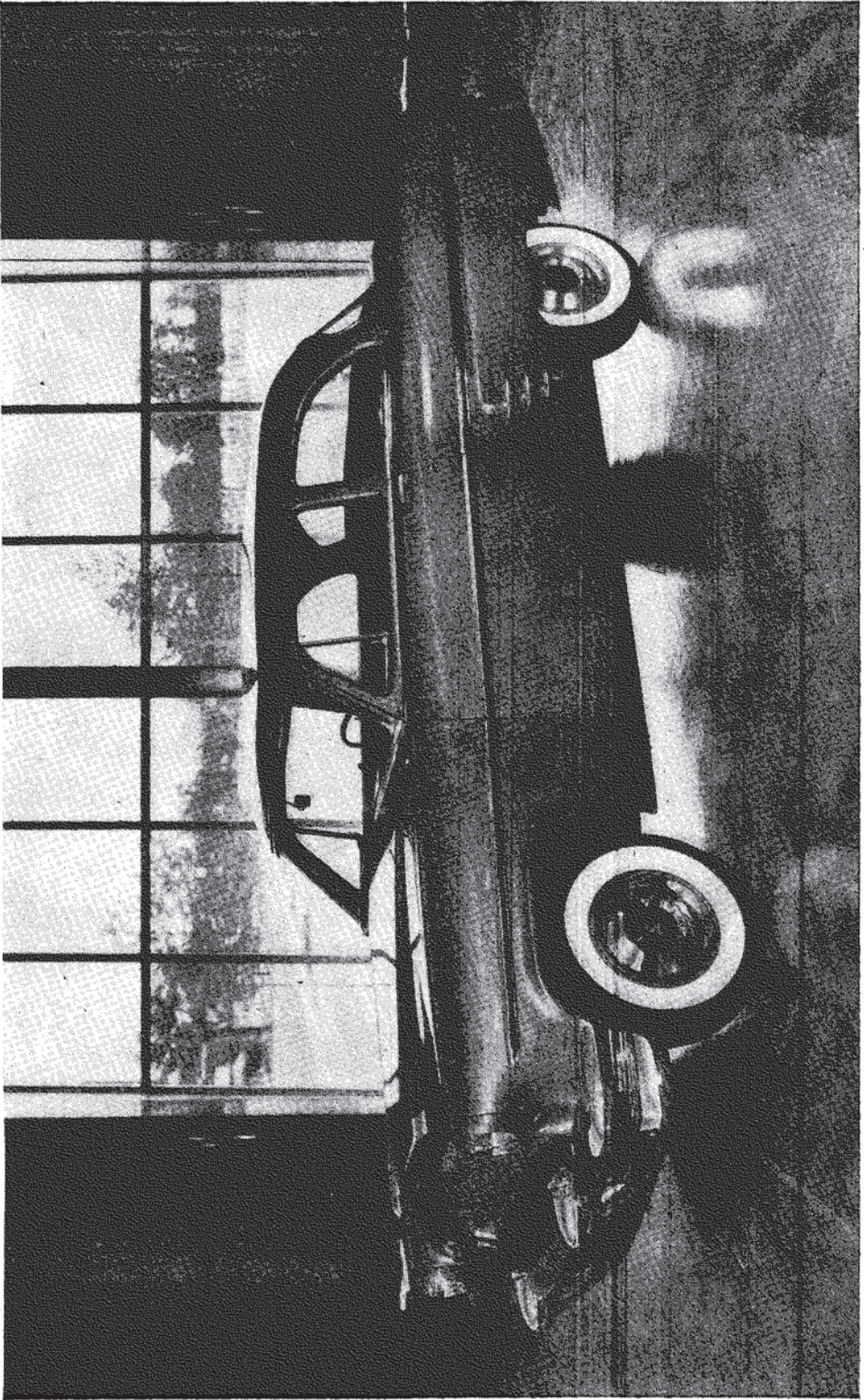
With an increase in compression ratio to 7.5 to 1, the new Mercury engine has a stronger yet lighter crankshaft, with five main bearings compared to three main bearings in the 1953 L-head. Precision molded of alloy iron, this crankshaft has eight counterweights for precise balance and smooth operation. This rigid, lean crankshaft has proved its superior resistance to torsional vibration.

A new four-barrel carburetor to provide power for rapid acceleration and economical operation—offered by Mercury, with exclu-



THE MERCURY four-door sedan, shown here, with the two-door also shown, and the sport

hardtop coupe, completes the trio of body styles in this line.



The two-door sedan in the Mercury custom series for 1954.

sive features, for the first time in its price range—has been developed for the new engine. The carburetor improves the control of the gas-air mixture by the vacuum operation of the secondary venturis. This four-barrel carburetor with external as well as internal vents for quick starting is a “demand” carburetor in which the first two barrels alone are used in normal driving; the second two barrels are activated automatically by a vacuum-controlled diaphragm only when needed by the engine to produce extra power for passing and for high speeds.

A dual-float concentric fuel bowl is mounted directly over the barrels or venturis and is enclosed by a new, low-restriction oil-bath air cleaner, which forms the carburetor air horn. This gives a continuous flow of filtered air around the fuel bowl whenever the engine is running, for maximum protection against vapor lock.

The stronger, lighter, and more rigid crankshaft used in the 1954 Mercury engine

has its valve guides cast integral with the cylinder heads, which reduces the valve temperatures more than 100 degrees and prolongs valve life up to 50 per cent.

While balance-length intake-manifold passages distribute the fuel-air mixture, the high turbulence of the wedge-shaped combustion chambers, with unusually large valves, gives fast, smooth burning.

The full-flow oil filter cleans all the oil all the time, which is claimed to reduce engine wear as much as 66 per cent.

Valve rotators have been placed on all the valves, for better sealing over a longer period.

Additional engine features are heat-shielded, water-cooled spark plugs, and autothermic aluminum alloy pistons with chrome-plated top compression rings which give long life and reduce cylinder bore wear.

A 40-ampere low-speed charging generator and a new starter located on the fly-



HERE IT IS, a sports coupe with a transparent front roof section. Mercury calls it the first new body style since the hardtop, available as a production car.

wheel housing have been designed for faster cranking speeds and quieter starting. A new fuel pump, located in the air stream from the fan, provides better cooling and minimizes the likelihood of vapor lock in summer weather or warm climates.

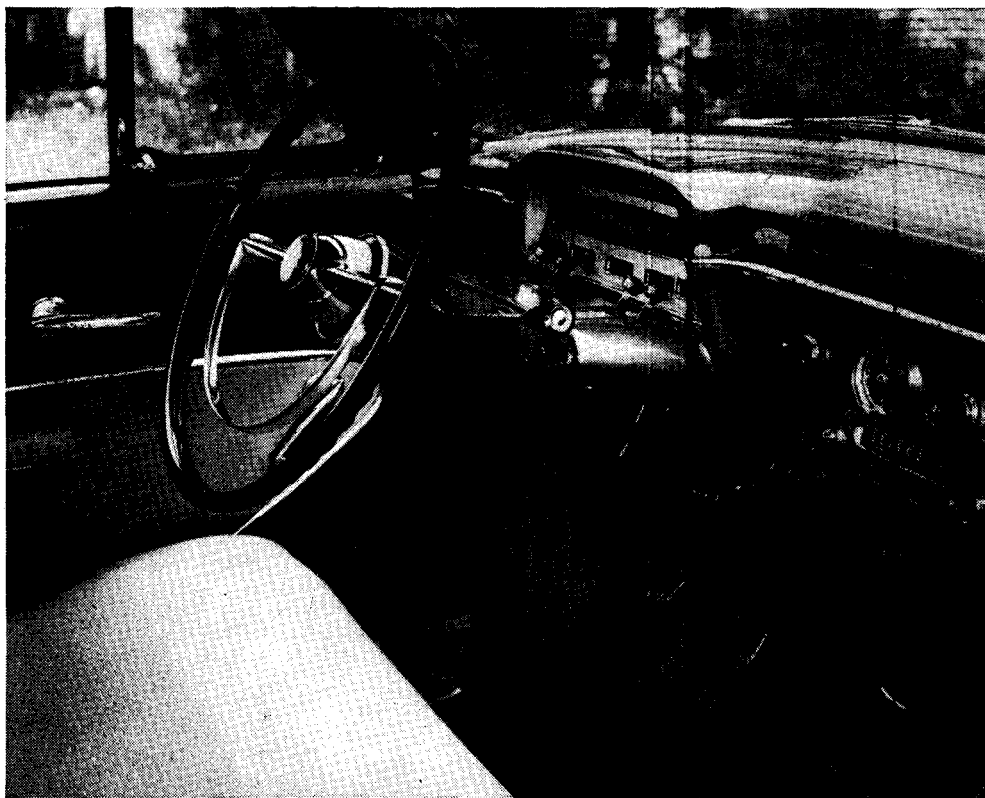
This new Mercury engine, the company reports, is the climax of five years of work, which saw more than one million man-hours devoted to the development of an entire

new family of engines by Ford Motor Company's engine design group. Since the project was begun in 1948, a total of 640 experimental test engines were built, part by part.

These engines were subjected to more than a quarter-million hours in dynamometer tests alone, and the prototypes of the production engine underwent nearly four million miles of road tests.

MERCURY ENGINE COMPARISON, '54 TO '53

1954 Mercury Overhead Valve V-8		1953 Mercury L-Head V-8	
161 at 4400 RPM	Horsepower	125 at 3800 RPM	
3.62 in.	Bore	3.19 in.	
3.10 in.	Stroke	4.00 in.	
256 cu. in.	Displacement	255.4 cu. in.	
238 lb-ft at 2200 to 2800 RPM	Torque	218 lb-ft at 1700 to 2200 RPM	
7.5 to 1	Compression Ratio	7.2 to 1	



WHAT YOU SEE as you get behind the wheel of the 1954 Mercury. Handle near lower

end of the steering column is the overdrive control.

This year the engineers are also pointing to their mechanical steering system, which is being introduced for the first time in the Mercury price class. It is a ball-joint method of connecting the front wheels to the car. In this new suspension, the front wheels are connected to the spring supported arms coming out on each side of the frame by two simple ball-and-socket joints on each front wheel, one connecting to the top supporting arm and the other to the bottom supporting arm.

Lighter yet stronger and more flexible than the type of suspension it replaces, the ball-joint method eliminates the kingpin and reduces lubrication points from sixteen to four, at the front end. At the same time it makes more usable space available in the engine compartment and makes servicing and alignment adjustments easier than ever before.

Previously this Ford-designed ball-joint front suspension was available only on the

Lincoln, which introduced it with its 1952 models.

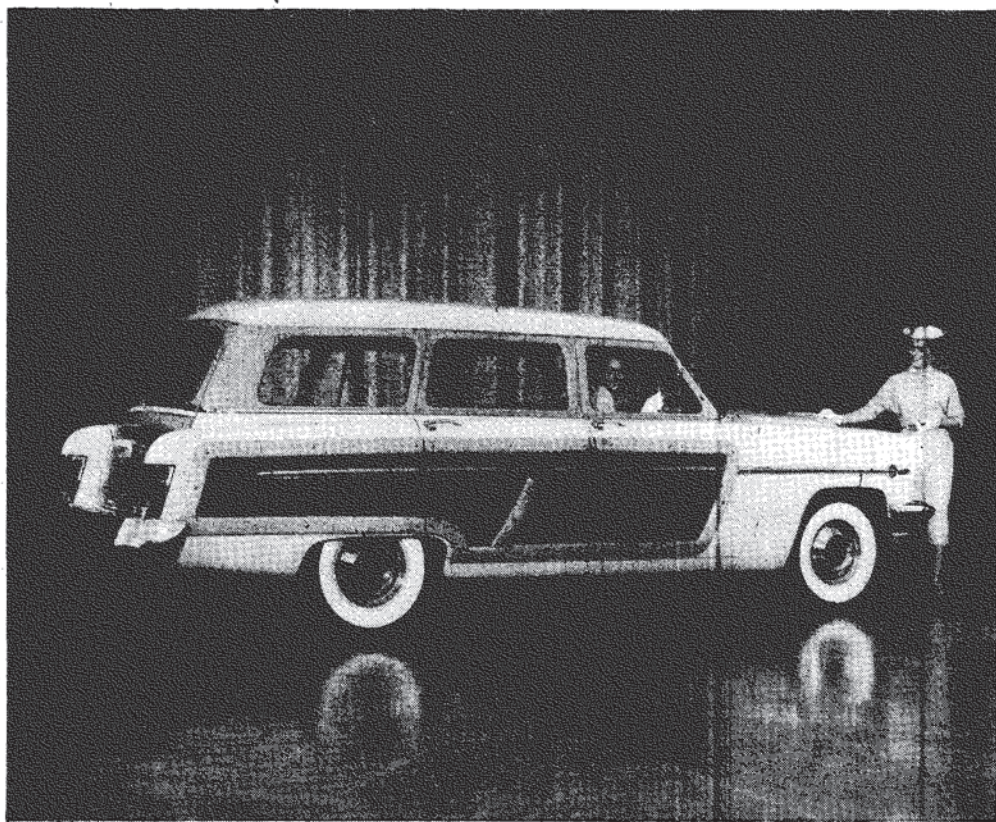
Mercury again offers a choice of three transmissions: synchronized standard transmission; Merc-O-Matic, a fully hydraulic automatic transmission; and overdrive.

A full complement of power features is offered as optional equipment, including the four-way power seat, which adjusts forward, backward, up and down to provide an almost limitless number of positions to suit all drivers.

Power steering takes much of the work out of steering, yet leaves the driver with complete control regardless of road conditions.

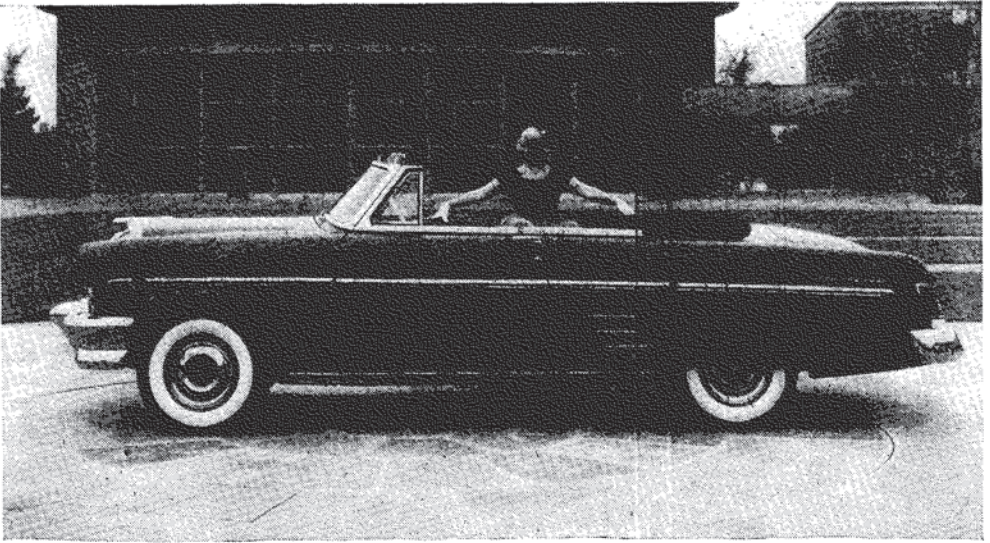
Power brakes reduce pedal pressure required for normal stopping by about one-third. Since the brake pedal is closer to the floor and level with the accelerator it is simple to swing the foot from one to the other with little lost motion.

Other chassis improvements are new



THE 1954 ENTRY by Mercury in the station-wagon sweepstakes. This model is in the Monterey line, which also includes the con-

vertible shown elsewhere, a four-door sedan, a hardtop, and the new Sun Valley model with the transparent roof.



CONVERTIBLES are popular. This one is in the Mercury Monterey special custom series.

Eight models, 14 basic colors, and 22 two-tone combinations are offered in '54.

front shock absorbers and springs, and modifications to the standard, overdrive, and Merc-O-Matic transmissions for increased life and more effective use of the power in the new engine.

The "Sun Valley" Model

New body styling in the Mercury line features the "Sun Valley," a new model in which the front half of the roof is made of transparent plexiglas.

A quarter-inch thick section of plexiglas has replaced the steel above the front seat completely across the roof and 35 inches back from the header bar.

Tinted green to minimize light glare and heat, the plexiglas roof panel creates the illusion of riding in an open convertible, while at the same time protecting passengers from the adverse effects of rain, wind, and cold.

A chrome strip has been added along the roof line of the Sun Valley to accent its unusual feature; it extends to a point where the rear of the roof meets the conventional drip rail at the rear body line. The name of the model has been inscribed in simulated gold script on either front fender.

Technically described as an "acrylic resin" plastic, the Sun Valley's transparent roof is of a similar material to that originally

developed for use in aircraft in the pilot's canopy, nose bubble, and other portions where visibility and protection were essential.

Two experimental automobiles designed by Ford Motor Company, the X-100 and the XL-500 featured transparent roofs, but the "Sun Valley" is the first production car in which such a feature has been offered to the buying public.

Special interior trims, exclusive in the Sun Valley, have been designed in leather, vinyl, and cloth. Two color combinations to complement the green plexiglas roof are offered, one a light green lower and dark green upper scheme, the other a light yellow-dark green combination.

Colors and Body Styles

Mercury in 1954 will offer 14 basic colors, including eight new and brilliant shades, plus 22 two-tone combinations. Customized upholstery fabrics in broadcloth, nylon cord, vinyl, and leather are featured in harmonizing combinations.

Mercury for 1954 is offered in two series with a total of eight models. The custom series includes a two-door sedan, four-door sedan, and sport hardtop coupe. The Monterey special custom series offers a four-door sedan, hardtop, convertible, the Sun Valley, and four-door station wagon.

SPECIFICATIONS

Engine: Overhead valve, V-8. Bore, 3.62 in.; stroke, 3.10 in. Piston displacement, 256 cu. in. Compression ratio, 7.5 to 1. Horsepower, 161 at 4400 RPM. Torque, 238 foot-pounds at 2200 to 2800 RPM.

Fuel: Capacity, 19 gallons. Four-barrel carburetor; dual-float concentric fuel bowl. Oil bath cleaner.

Cooling: Capacity with heater, 20 quarts; without heater, 19 quarts.

Electrical: Battery system, 6 volts, 57 plates, 100 ampere-hour rating. Generator output, 40 amperes.

Transmission: Conventional transmission, standard. Optional: Merc-O-Matic (hydraulic automatic); overdrive. Rear axle ratios: Conventional, 3.91 to 1; automa-

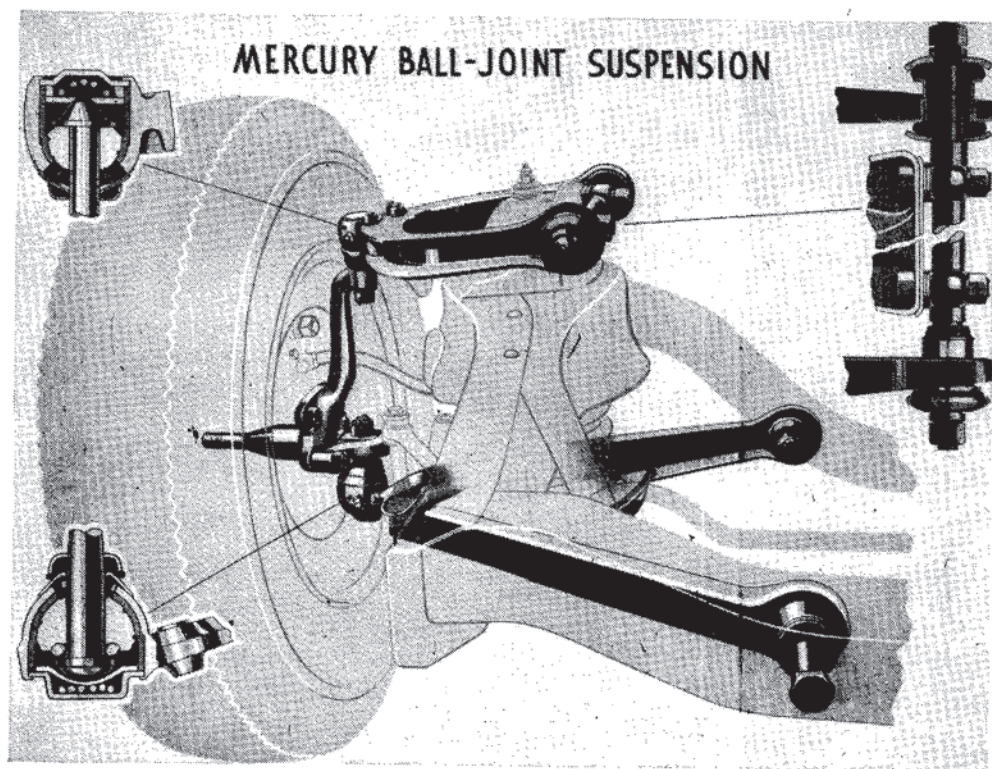
tic, 3.54 to 1; and overdrive, 4.09 to 1.

Brakes: Four-wheel hydraulic, duo servo. Braking area, 159.08 sq. in. Power brakes, optional.

Suspension: Front, individual coil; ball-joint connection. Rear, longitudinal semi-elliptical.

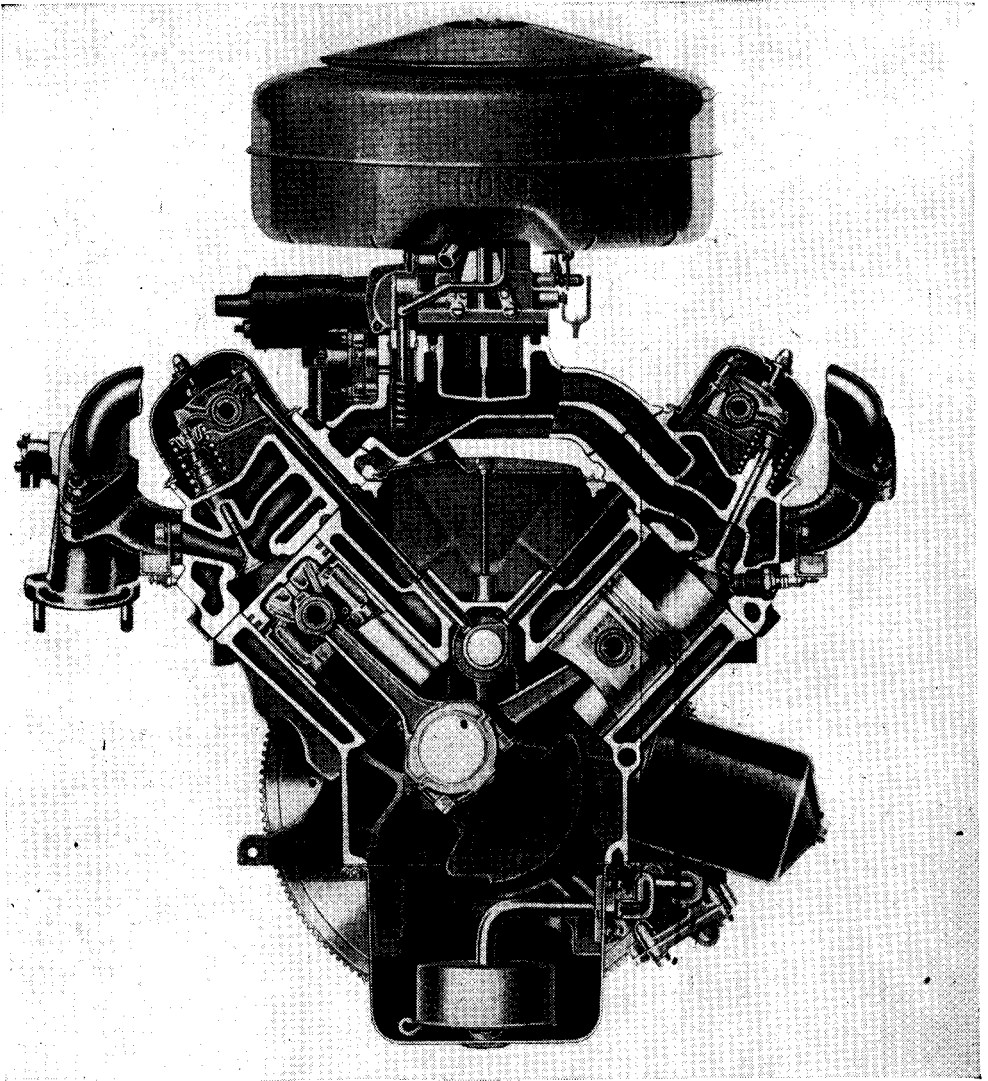
Steering: Over-all ratio, 25.4 to 1. Turning diameter, 40.95 ft. Power steering, optional.

Dimensions: Wheelbase, 118 in. Over-all length (with bumper guards), 206.20 in. Over-all width, 74.4 in. Over-all height, 62.2. Tire size (extra low pressure): sedans and hardtops, 7.10 x 15; convertibles and station wagons, 7.60 x 15. Tread: Front, 58 in.; rear, 56 in.



NEW SUSPENSION is shown here in this diagrammatic sketch. Grease fittings on the front

end are reduced from 16 to four, providing quicker, easier, cheaper maintenance.



CROSS SECTION, from the front, of Mercury's new overhead-valve V-8. In this power plant, the compression ratio for Mercury is now up to 7.5 to 1, and the horsepower it puts out is 161 at 4000 RPM. Part of this increase in hp is due to a reduction in internal friction, so that 12 per cent more of the developed power can be used to push you along. Piston travel is down by about 22

per cent—the stroke is shorter and the bore is larger. Mercury expects this to lengthen engine life by one-third and at the same time give greater fuel economy. Along with this goes a new, four-barrel, "demand" carburetor. Five years and 640 test engines went into developing the new engine. Quite a change from the former, 1953 L-head, isn't it?