

Why the 1950

Hi-Power Compression

MERCURY *engine*

is "Better than ever"



the 1950

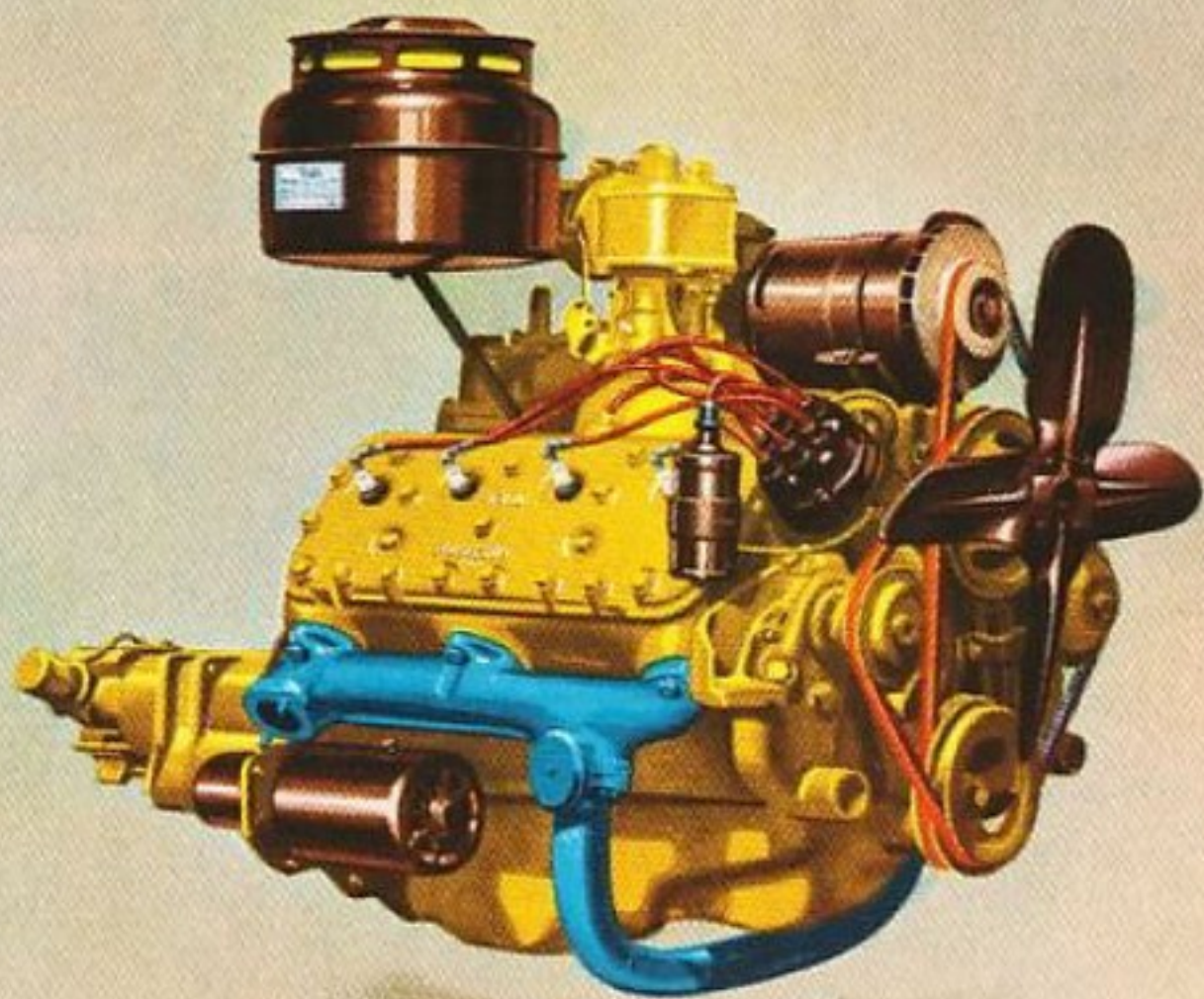
MERCURY

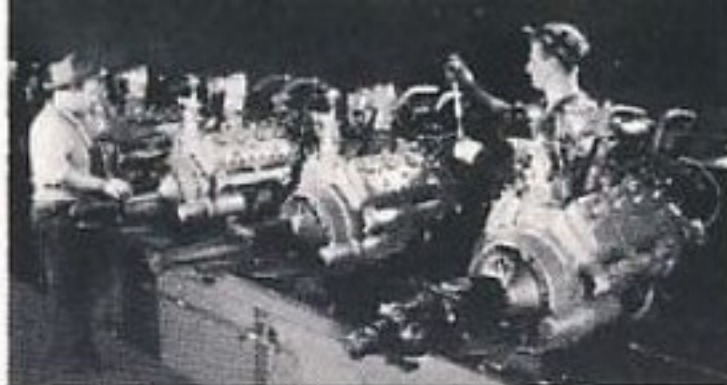
V-type

Hi-Power

compression

110-hp engine





*Designed and built exclusively for Mercury by the
world's largest manufacturer of 8-cylinder, V-type engines*

Superb performance . . . greater dependability . . . exceptional economy . . .
longer life . . . these are just a few of the outstanding qualities that Mercury owners
just naturally expect to find in their engines.

And rightfully so! Mercury 8-cylinder, V-type engines are the result of the combined skill
and experience of Ford Motor Company engineers and craftsmen who
have produced more such engines than all other manufacturers in the world.

Little wonder, then, that the *thrifty* new 1950 Mercury 8-cylinder, V-type engine—
built exclusively for Mercury—assures owners of better performance . . .
greater dependability . . . throughout its longer, more useful life. It's "better than ever!"



a word about
“high compression”

HOW GASOLINE IS TURNED INTO POWER

Gasoline—in its natural, fluid state—is a relatively slow-burning fuel. However, when mixed with air, and ignited at a specified pressure and temperature, it becomes highly explosive. This is the job of your carburetor and pistons. The carburetor mixes the gas with air, turns it into a mist-like vapor. This mixture is fed into the combustion chambers and cylinders when the pistons are on the down stroke. The up stroke of the pistons then compresses the mixture. The enormous pressure on the fuel brings it to a highly combustible state. When ignited by the spark plugs, the force of the explosion drives the pistons down. This motion is transmitted to the rear wheels by means of the crankshaft and various other parts.





Sectional views of the cylinder and valves of the 1950 Mercury V-type engine with pistons in "down" and "up" positions. Compression ratio 6.8:1.

WHAT IS MEANT BY "COMPRESSION RATIO"

First, the term "compression" merely means the act of "squeezing" the fuel-air mixture in order to raise its pressure. When the piston is at the bottom of its stroke, the space occupied by the fuel-air mixture consists of the cylinder plus the combustion chamber. When the piston is at the top of its stroke, the only space left is the combustion chamber. "Compression ratio" is merely the comparison of the total space to the remaining space (the yellow area compared with the red area shown in the illustration at the left). When the total space is six times the size of the remaining space, for example, you have what is known as a 6:1 compression ratio.

THE MEANING OF THE TERM "HIGH COMPRESSION"

The higher the compression (the smaller the space into which the fuel-air mixture is jammed), the more powerful its explosive or driving force. You get more work from a given amount of gasoline . . . more pep, power, and economy. One way to get this high compression is by reducing the size of the combustion chamber. This is exactly what Mercury engineers have done. The 1950 Mercury's compression ratio is 6.8:1. But even more important, so carefully has the Mercury engine's design been worked out, that there's *no need* to use high-test gasolines. You can climb steep hills or accelerate suddenly without "pinging." You get high-compression premium performance *without* high-cost premium fuels.



the V-type engine gives you these advantages —

More compact: Conventional "in-line" straight-eight engine is long and narrow. Cylinders, pistons, and connecting rods are stretched out in a straight line. The V-type eight is short and compact. Cylinders and pistons are divided into two banks and arranged in a "V". There are two short cylinder heads in place of one long one. The short V-type engine means more room in the passenger compartment, and a shorter engine hood for better "down-front" visibility.

Uniform power, easier starting: Since all the cylinders are grouped together rather than spread out, the passages that carry fuel to the cylinders can be short and of equal length. All cylinders get the same amount of fuel. Engine "roughness," as a result, is prevented and its operation is smoother.

Smoother operation: Because the V-type engine is shorter, the engine block, of course, is also shorter. It is less likely to warp or distort. Similarly, the shorter crankshaft made possible is much more rigid. There is less tendency for the shorter crankshaft to whip and vibrate.



Longer life: The shorter engine block of the V-type engine means that the passages that carry lubricating oil to vital parts are also shorter. There is less chance of the oil clogging. Engine wear is reduced. You get more dependable operation.

More natural balance: Since there are two banks of cylinders working at a 90-degree angle from one another, power strokes are delivered in two directions rather than one. Each bank tends to balance the other, cancelling out vibration. This feature, plus the counter-balanced crankshaft, results in smoothness superior to that of "in-line" engines.

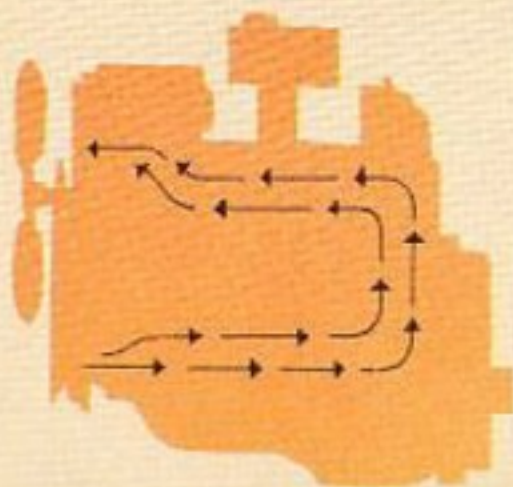
Less maintenance: The design simplicity of the V-type engine reduces the number of main bearings needed—only three in the Mercury as compared with the five to nine required in most "in-line" engines. The V-type bearings are wider, hold oil better, are easier to align, and rarely need attention.

Higher compression: The better rigidity, balance, and efficiency that resulted from V-type design made it practical, for the first time, to increase compression ratios without making the engine rough and noisy. With higher compression came the benefits of greater power, pick-up, and economy.

In addition to
Hi-power
compression and
V-type design

the 1950 **MERCURY** engine has these features—

The dual concentric-type "Econ-O-Miser" carburetor is efficient at all engine speeds, road angles, and temperatures (starts in less than two seconds at zero temperatures!). Intake air circulates completely around the fuel chamber . . . keeps the fuel comparatively cool . . . minimizes vapor lock and other hot starting troubles. The carburetor includes an automatic "fast idle" control and automatic choke. The latter has a unique filtered-air supply for reliable operation at all times.



Full-flow cooling—All the water circulates at high velocity around and past every cylinder all the way through the block . . . then on through the cylinder heads around every combustion chamber to the radiator. Completely water-jacketed valve seats and other parts are all uniformly cooled. Two high-capacity water pumps, one for each bank of cylinders, contribute to even, efficient cooling at all engine speeds.



Pressure-type automatic spark control— Good engine performance and economy depend largely on precise ignition timing. The new Mercury automatic spark control is of the vacuum or differential pressure type. It uses a differential pressure produced within the carburetor, which is a function of speed and load conditions. Accurate and efficient spark control is obtained over the whole engine performance range. Governor weights, used in conventional spark control systems, are eliminated. Design is simplified, service life is extended.



Long-life valves are hardened to resist pitting, burning, and corrosion. They have precision-ground stems and large valve areas. Highly efficient operation is assured by heavy valve springs, one-piece valve guides, and cooled valve seats. Valve clearances are made exact by precise factory adjustment. Valve seats have hardened alloy-steel inserts that will withstand the corrosive action of exhaust gases and the continuous pounding of operation.



Chrome-plated top piston ring gives better and more economical performance . . . longer engine life . . . reduces oil consumption. The light-weight, heat-treated, aluminum-alloy pistons are fitted with four piston rings. The two upper rings are for compression sealing and the two lower rings are slotted for efficient oil control. Pistons are tin-plated and have steel struts for accurate control of expansion.

now
"Better than ever"
the 1950
MERCURY engine
gives you _____



BETTER PERFORMANCE

For all-round day-in-and-day-out dependability, the 1950 Mercury engine is tops—with its 8-cylinder, V-type design, "Hi-Power" compression, full-flow cooling system, pressure lubrication, long-life valves, and super-silent, low-speed fan. It's got "get-up-and-go" to spare! The Mercury engine is smoother, livelier, and is built to go farther with less maintenance.

GREATER ECONOMY

Now the 1950 Mercury engine is "better than ever" in economy—with new improvements in the gas-saving "Econ-O-Miser" carburetor, chrome-plated top piston rings, and precise pressure-type automatic spark control.

Even Greater Savings with Touch-O-Matic Overdrive

Mercury's Touch-O-Matic Overdrive (optional at extra cost) adds even more miles to Mercury's unusual gasoline economy. . . up to 20 per cent, or two *free* gallons in every ten.



1950 **MERCURY** engine specifications

RATING: The 1950 Mercury 8-cylinder, V-type, L-head engine develops 110 hp. at 3600 rpm. Maximum torque: 200 ft. pounds at 2000 rpm. Taxable hp., 32.5. Bore, $3\frac{3}{16}$ in.; stroke, 4 in. Total displacement, 255.4 cu. in. Three-point rubber mounting. Compression ratio, 6.8 to 1. Counter-balanced crankshaft with three main bearings. Heat-treated aluminum-alloy pistons with steel struts. Two compression and two oil rings. Alloy steel valve inserts for long life. One-piece valve guides.

LUBRICATION: Gear-type oil pump. Forced feed to all crankshaft and camshaft bearings. Heavy-duty oil filter. Sludge traps in crankshaft. Positive crankcase ventilation to reduce moisture condensation. Oil capacity, 5 quarts.

COOLING SYSTEM: Full-flow system circulates all coolant all the way through block and cylinder heads, for uniform cooling and longer engine life. Two high-capacity water pumps. Long water jacket warms oil in cold weather—cools oil on long drives. Silent fan. Coolant capacity, 22.25 quarts.

FUEL SYSTEM: Fuel tank capacity, $19\frac{1}{2}$ gal. Camshaft-driven diaphragm-type fuel pump. Automatic choke. Oil-bath air cleaner*. New dual-downdraft "Econ-O-Miser" carburetor, concentric type, checks vapor lock, saves fuel.

ELECTRICAL SYSTEM: Battery, 17 plate, 100-ampere hour. High capacity generator with automatic voltage control. Automatic spark. Single-breaker distributor.

THESE SPECIFICATIONS WERE IN EFFECT AT THE TIME THIS MANUAL WAS APPROVED FOR PRINTING. MERCURY DIVISION OF FORD MOTOR COMPANY, DETROIT, MICHIGAN, WHOSE POLICY IS ONE OF CONTINUOUS IMPROVEMENT, RESERVES THE RIGHT, HOWEVER, TO DISCONTINUE OR CHANGE AT ANY TIME, SPECIFICATIONS, DESIGN, OR PRICES WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION.

*Optional equipment at extra cost.



It's the "Better than ever" **1950 MERCURY**



now, more than ever, you'll want to

Make your next car **MERCURY**

Better

in styling

in comfort

in performance

in safety

in steering

in visibility

in economy

in value

LITHO IN U. S. A.

2-50