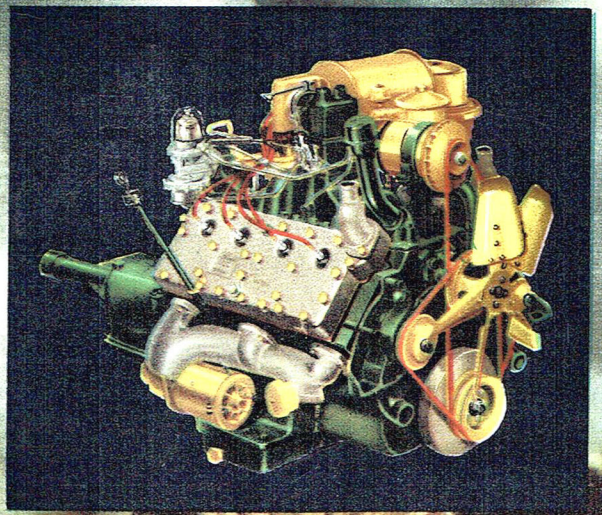
The 1950 *Lincoln* "inVincible eight"



FEATURING

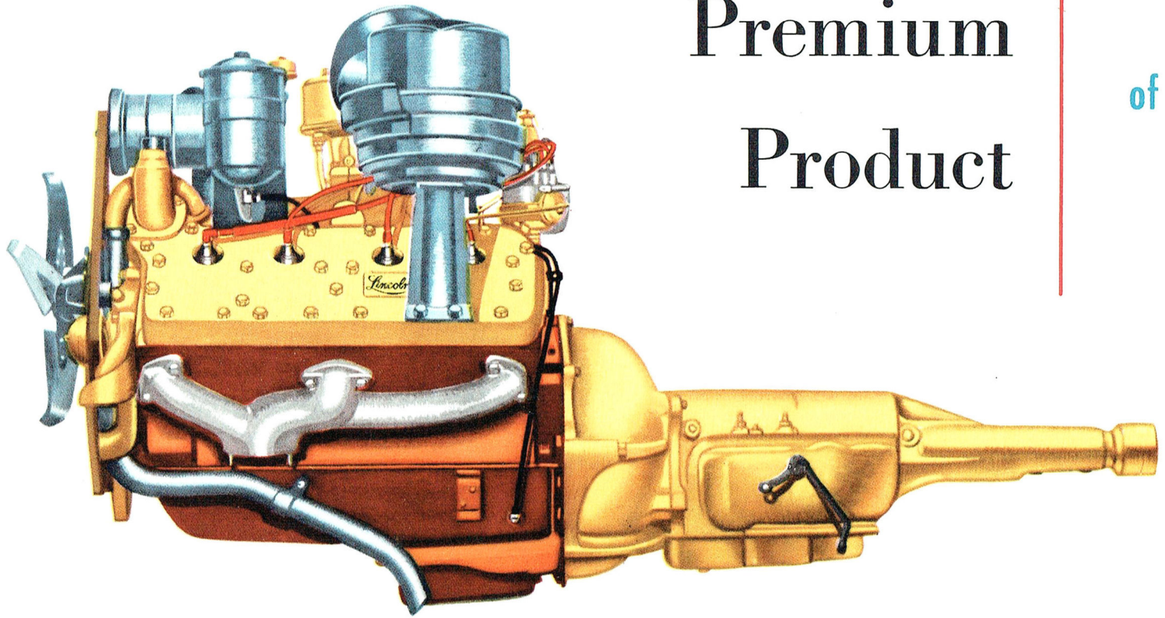
V-TYPE DESIGN

HIGH COMPRESSION

AND WHAT THEY

MEAN TO YOU

Premium Product



The 1950 Lincoln 8-cylinder, V-type, high compression, 152-hp engine

of the world's largest volume experienced producer of V-type engines

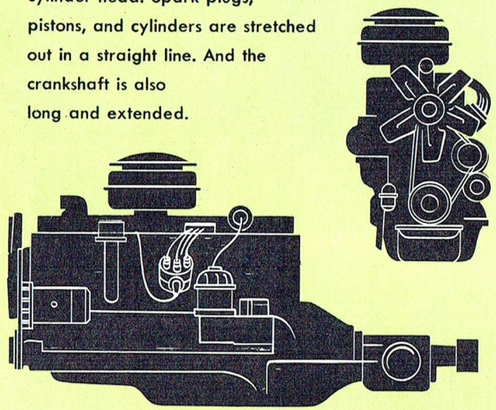
The 1950 Lincoln engine stands as the culmination of more than a quarter of a century's experience in V-type design . . . the premium product of the Ford Motor Company . . . builders of *more* V-type engines than all manufacturers *combined*.

The result of this leadership is now a matter of history. It pointed the way to greater engine efficiency, higher compression, smoother, quieter operation.

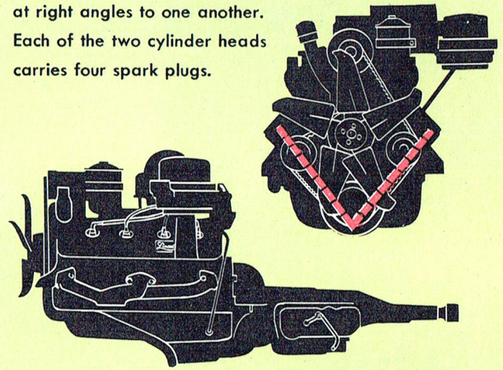
But Lincoln's search for perfection continues. The reward of this never ending quest is synthesized in the 1950 Lincoln engine—the finest automotive power plant, we believe, available today.

Why "V-type" design results in a better engine

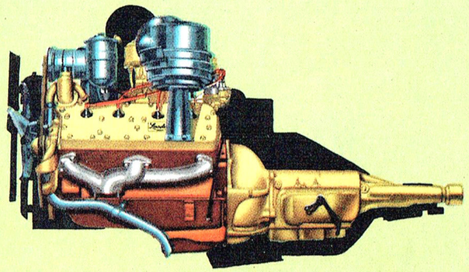
CONVENTIONAL "IN-LINE" STRAIGHT-EIGHT ENGINE: The engine is long and narrow, with one cylinder head. Spark plugs, pistons, and cylinders are stretched out in a straight line. And the crankshaft is also long and extended.



YOU CAN'T MISTAKE A V-TYPE "EIGHT": The engine is short and compact, with cylinders arranged in a "V". The eight cylinders and pistons are divided into two banks and operate at right angles to one another. Each of the two cylinder heads carries four spark plugs.

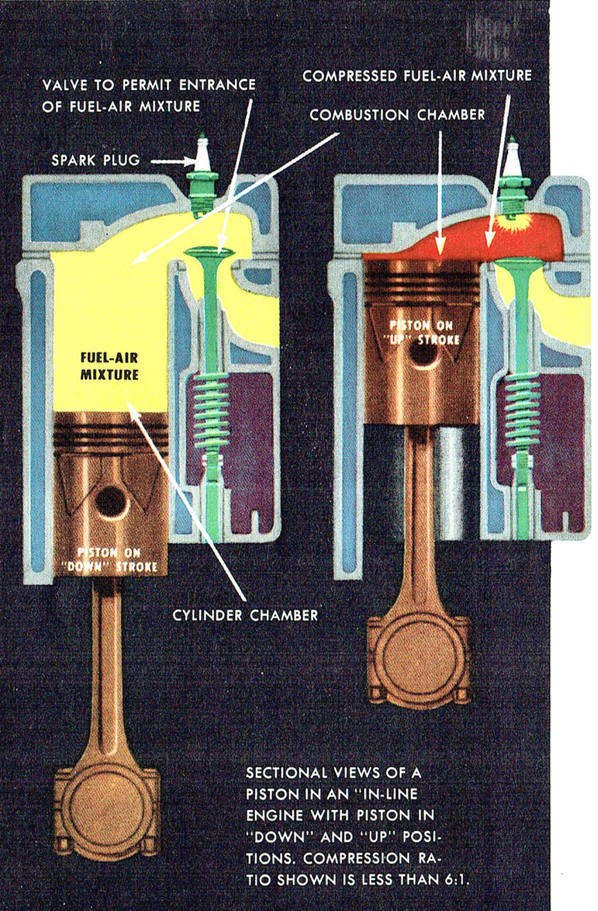


Many of the advantages of the V-type engine are clearly visible to the eye, as illustrated below. Others are hidden from sight but, in many respects, are even more important to you as a motorist. For example, V-type design brings you:



LOOK AT THE DIFFERENCE: The V-type engine is shorter, permits more room in the passenger compartment. The rear seat can be moved well ahead of the rear axle in the "comfort zone." Its smaller size also results in 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" is prevented.
- **LESS VIBRATION:** 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 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. Wear is reduced. You get more dependable operation.
- **SMOOTHER OPERATION:** 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 engine smoothness inherently superior to that of "in-line" engines.
- **LESS MAINTENANCE:** The design simplicity of V-type engines reduces the number of main bearings needed—only three in the Lincoln 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.
- **HIGH 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.



SECTIONAL VIEWS OF A PISTON IN AN "IN-LINE ENGINE WITH PISTON IN "DOWN" AND "UP" POSITIONS. COMPRESSION RATIO SHOWN IS LESS THAN 6:1.

quick facts about high compression

HOW GASOLINE IS TURNED INTO POWER

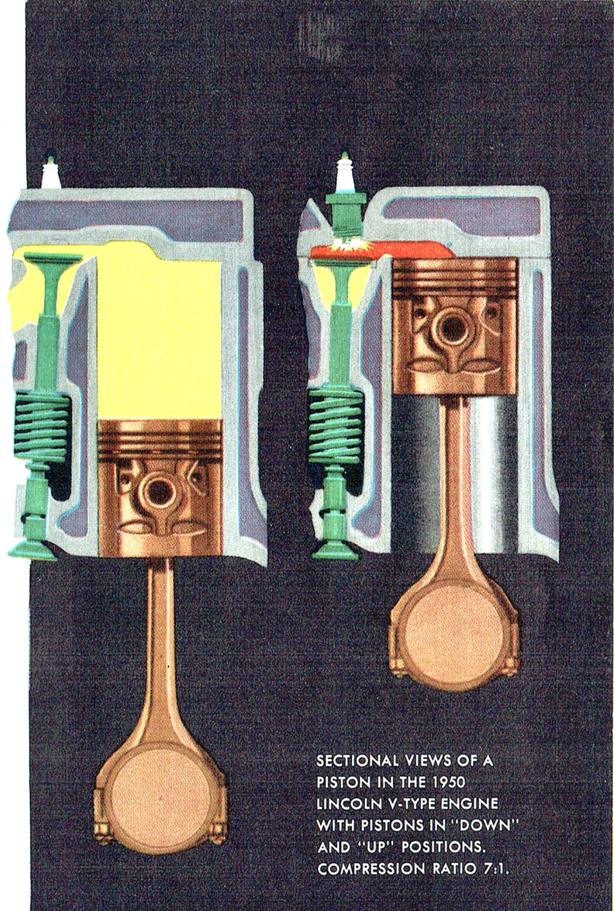
Gasoline—in its natural, fluid state—is a relatively slow-burning fuel. However, when mixed with air, and ignited at a specified pressure and temperature, it becomes highly explosive. This is the job of your carburetor and pistons. The carburetor mixes the gas with air, turns it into a mist-like vapor. This mixture is fed into the combustion chambers and cylinders when the pistons are on the down stroke. When you step on the starter—or the engine is already going—the pistons move and the upstrokes of the pistons compress 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 other parts.

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 Lincoln engineers have done (see red area in illustration at right). The 1950 Lincoln's compression ratio is 7:1—just about as high as it is practical to go with today's gasolines. But even more important, so carefully has the Lincoln 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.



SECTIONAL VIEWS OF A PISTON IN THE 1950 LINCOLN V-TYPE ENGINE WITH PISTONS IN "DOWN" AND "UP" POSITIONS. COMPRESSION RATIO 7:1.

THE 1950 *Lincoln* ENGINE

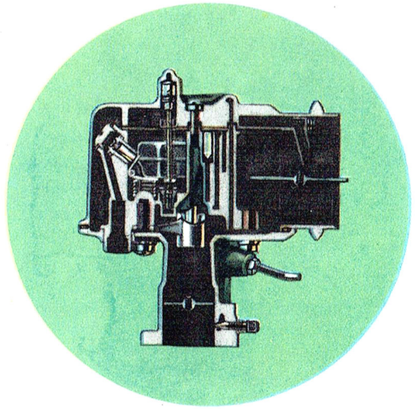
IN ADDITION TO

V-TYPE DESIGN AND

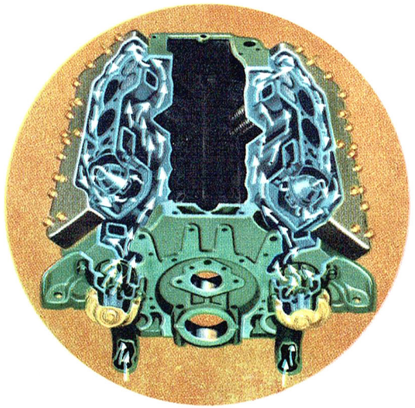
HIGH COMPRESSION

BRINGS YOU

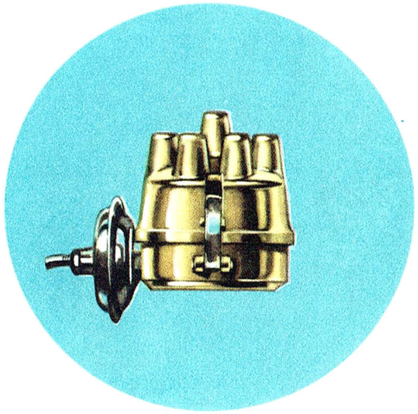
extras like these



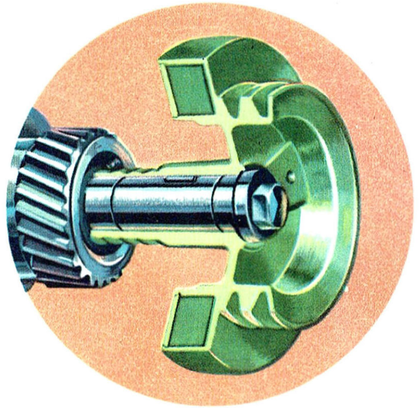
THIS DUAL "CONCENTRIC FLOAT" CARBURETOR is efficient at all engine speeds, road angles, and temperatures (starts in less than two seconds at zero temperatures!). Intake air circulates completely around the fuel chamber . . . keeps fuel comparatively cool . . . minimizes vapor lock and other hot starting 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.



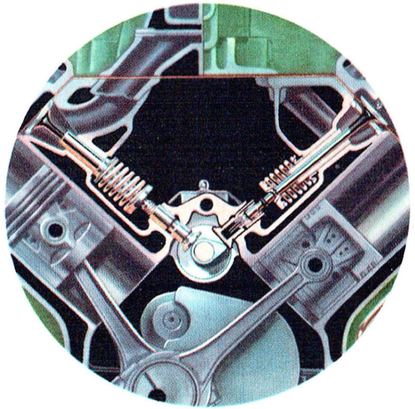
FULL-FLOW COOLING—Two high-capacity water pumps, one in each bank of cylinders, circulate water at high velocity around and past *every* cylinder *all* the way through the block . . . then on through the cylinder heads around every combustion chamber to the radiator. Completely water-jacketed valve seats and other parts are all uniformly cooled. A pressure radiator cap keeps system under slight pressure and prevents loss of coolant by evaporation.



NEW AUTOMATIC SPARK CONTROL—The new Lincoln 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. Construction is simplified and service life is improved.



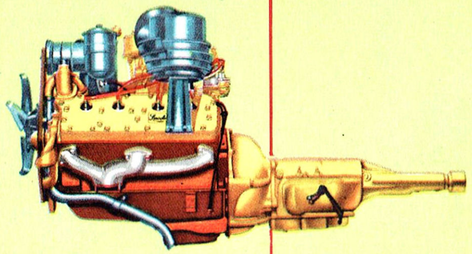
THIS FLUID VIBRATION DAMPER mounts on the front end of the crankshaft . . . absorbs any torsional vibration which might develop at high speed . . . adds a final touch of smoothness. The damper consists of a heavy metal ring (or flywheel); a stable, high-viscosity fluid in which the ring floats; and a welded, hermetically sealed housing. The damper is efficient at all car speeds, is practically unaffected by temperature changes, and never requires servicing.



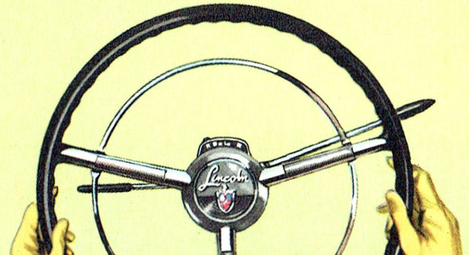
THIS VALVE SYSTEM is unusually quiet, efficient, and durable. It consists of zero-clearance, hydraulic valve lifters that eliminate tappet noise and assure full seating . . . exceptionally large-diameter, non-vibrating valve springs . . . hardened alloy-steel valve-seat inserts for the exhaust valves . . . one-piece valve guides pressed in block for rapid heat transfer and low valve temperatures . . . and completely water-jacketed valve seats.

the great *Lincoln* engine with Hydra-Matic*

—an unbeatable performance team



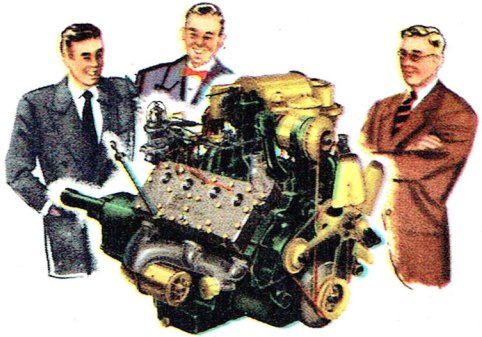
Hydra-Matic transmission, the finest in automatic shifting, is a perfect complement for the powerful 1950 Lincoln engine. Together, they give unsurpassed performance. Improved Hydra-Matic delivers the fleet power of the Lincoln engine to the driveshaft smoothly and effortlessly with greater gasoline economy and comfort. Its fluid coupling and fully automatic transmission eliminate the clutch pedal and the conventional gearshift. Just a touch of the accelerator and you move from low to high in one smooth glide—no tiresome clutch pedal operation—no manual shifting.



This outstanding performance is due in part to the modern Lincoln manufacturing methods. Components of the Lincoln engine and Hydra-Matic are precision balanced as a unit under conditions that duplicate everyday driving conditions . . . another important step that assures super-quiet, super-smooth operation. There is no more magnificent combination than Lincoln power and *proven* Hydra-Matic—surely nothing could be finer.

**Hydra-Matic transmission optional at extra cost.*

1950 *Lincoln* ENGINE SPECIFICATIONS



RATING: The 1950 Lincoln V-type, L-head engine develops 152 horsepower at 3600 rpm. Bore, 3½ in.; stroke, 4⅜ in. Three-point rubber mounting. Compression ratio, 7 to 1. Counter-balanced crankshaft with three large bearings. Heat-treated aluminum-alloy pistons with steel struts. Two compression rings and one oil ring. Alloy-steel valve inserts. One-piece valve guides pressed in block.

LUBRICATION: Gear-type oil pump. Force feed to all main, connecting rod, and camshaft bearings. Heavy-duty oil filter. Sludge traps in crankshaft. Positive crankcase ventilation minimizes sludging. Oil capacity, 6 quarts (includes oil filter).

COOLING SYSTEM: Full-flow system circulates all coolant around all cylinders and back through head of each side of engine for uniform cooling and longer engine life. Two high-capacity water pumps, permanently lubricated. Full water jacket keeps oil, cylinder wall, pistons, and rings at most efficient operating temperature. Advanced design 5-bladed silent fan. Coolant capacity, 34.5 quarts.

FUEL SYSTEM: Fuel tank capacity: Lincoln, 19½ gal.; Lincoln Cosmopolitan, 21½ gal. Camshaft-driven diaphragm-type fuel pump. Automatic choke. Automatic idling control. Oil-bath air cleaner. Improved concentric type, dual-downdraft carburetor checks vapor lock, reduces fuel consumption.

ELECTRICAL SYSTEM: Battery, 17-plate, 120 ampere-hour. High capacity generator (40 amperes at 7.1 volts) with automatic current and voltage control, especially designed to handle the extra load of radio, heater, window lifts, etc. High-speed, single breaker-arm distributor. New pressure-type automatic spark control.

LITHO IN U.S.A.—2-50