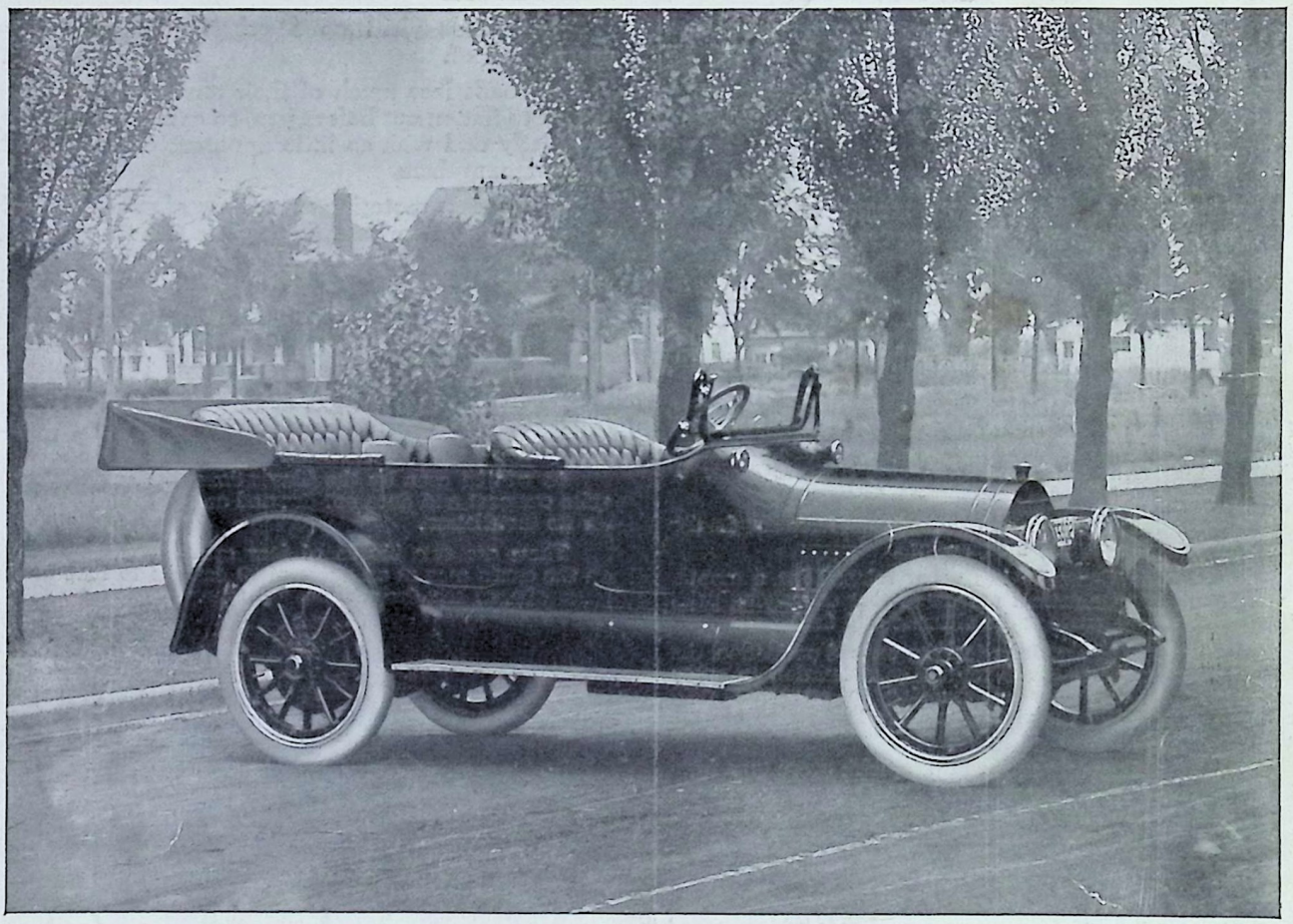
ADVANCE
LEAFLET

The Eight Cylinder Cadillac

(Type 51)

The matchless mode of motoring reserved to only a few privileged persons in the Old World (at an almost prohibitive price) developed by the Cadillac Company for American motorists!



"The sweetest running car in the World!"

This is the verdict of those who have experienced the super-luxury of the Cadillac Eight.

The old Cadillac saying, "Just get in and ride," applies with greater significance now than ever before.

In the High-speed High-efficiency Eight-cylinder V type engine, there are eight power impulses during each complete cycle—one power impulse every quarter turn of the fly-wheel.

There is no intermission between impulses but rather an overlapping so complete that one melts or merges into another. The torque therefore is constant and the flow of power is continuous.

As the Cadillac softly speeds along under the almost magic influence of this new power-principle, the sensation is as unique as though you had never motored before.

It is useless to try to depict in words, thrills which you have never felt or to portray a degree of ease which you have never experienced.

Nothing but your first memorable ride in the new Cadillac Eight can reveal the wealth of motoring luxury which this car affords.

As you sink into the soft, yielding cushions, you become enraptured in that delightful sensation of floating through space. You revel in exceptional re-

laxation and ease, oblivious to the wonderful mechanism which gives you motion.

The doors are wide and easy of entrance and exit. The tonneau is large and roomy, the rear seat accommodating three passengers comfortably.

In the seven passenger car, there are two comfortable extra seats, which fold into recesses, and are concealed out of the way when not in use.

The tilting steering wheel, which is on the left side, and the position of the control levers, make it possible for the driver and front seat passenger to enter the car at either side.

The gear change lever and the hand brake lever are in the center. They are set well forward, facilitating entrance and exit, yet are within easy reach of the driver.

The switches for the electric lights and for ignition are located conveniently on the cowl board.

A pedal button in the floor brings the electric cranking device into action.

The multiple disc clutch is soft and velvety in operation. The car starts with ease and smoothness, without jerk, shock or jar.

The shifting of gears is easy and quiet. After getting under way, which is only a matter of moments, one rarely has occasion to change gears unless at times, perhaps, to meet some unusual or extreme condition.

The steering is steady and positive; the natural inclination of the car is to travel straight ahead.

The brakes are powerful, yet easy of application.

In operation you enjoy the widest flexibility. From less than three miles an hour in crowded city streets and congested traffic—without change of gears and without nursing or especially skillful manipulation—to more than sixty miles an hour on the open highway has been demonstrated to be the range.

The Cadillac Eight is a car of practically throttle control, of rapid and easy acceleration. From a snail's pace to the speed of the wind, without apparent effort, without hesitation, without tremor.

Comfort is subserved in the highest degree by the absence of vibration, the soft upholstery, the yielding springs, the large wheels and tires, the easy control, the unusual flexibility, the extreme smoothness accentuated by the worm bevel driving gears, and the quietness of motion.

Good roads yield up a velvet quality of travel undreamed of.

Bad roads lose much of their terror and hills seem almost to flatten out before you, so easily, so smoothly, so quietly and with so little apparent effort does the car surmount them.

The supreme motoring experience of your life awaits you when you take your first ride in this truly remarkable car.

The Cadillac Eight Cylinder V Type Engine

The ultimate in motor car engines. Such is the verdict of the industry's representative engineers concerning this most recent evidence of Cadillac progressiveness as exemplified in the High-speed, High-efficiency, Eight Cylinder V type Engine.

Serious minded motor car manufacturers have sought the ideal power principle for fifteen years.

The Cadillac Company has never relaxed for a month, a week, or a day, its patient pursuit of that underlying principle which would prove to be ultimate and final.

In the course of that long journey toward perfection, the Cadillac Company has given serious consideration to every reputable type of motor—endeavoring to scrutinize with scientific impartiality the virtues and the limitations of each and every one alike.

Building and experimenting in turn, with every type from the single cylinder to the six, and from the poppet to the rotary and to the sliding valve, we have been carried forward irresistibly, by the impetus of our own research, to the highest form of frequent-impulse motor—the V type Eight Cylinder.

It is admitted, we believe, that this Company produced in the four cylinder field a succession of cars which earned the title, "Standard of the World."

Beyond that, loomed for us only one hope and possibility—the promise of a motor in which there would be **no** lapse, **no** pause, **no** hesitation between impulses, but an overlapping of strokes so complete as to produce a flow of power almost literally liquid in its continuity.

We sought the medium by which the Cadillac would be endowed, not with **approximate** freedom from gear shifting, or **approximate** hill-climbing ability on high, or **approximately** swift acceleration, but with the **highest possible form** of these three characteristics.

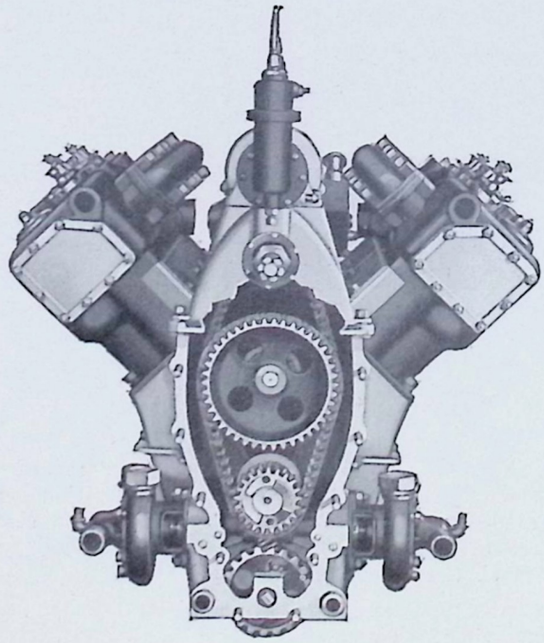
The Cadillac already possessed those qualifications in extraordinary measure, but we wanted them developed to a point **beyond which it was not possible to go.**

This requirement pointed straight to an eight cylinder Cadillac with four power impulses during every revolution of the fly-wheel—an impulse every quarter turn.

How fully these luxuries of travel have been achieved, nothing but your first memorable ride in the new Cadillac can reveal.

As will be seen by the illustrations, the engine itself is quite compact and does not demand an unusually long space for its installation.

There are two blocks of four cylinders each, mounted on the crank case at an angle of 90 degrees to each other—from whence the designation, "V type."



CADILLAC EIGHT CYLINDER V TYPE ENGINE
FRONT VIEW

There is but one crankshaft and one camshaft. There are eight cams on the camshaft.

In firing, there is a power impulse from a cylinder on one side, followed by an impulse from a cylinder on the opposite side, the firing alternating, first one side and then the other.

This gives eight impulses to each complete cycle (of two revolutions) or, in other words, one impulse every quarter turn of the fly-wheel.

The advantage, of course, lies in the fact that there is no intermission between impulses. The torque is constant and the flow of power is continuous. This gives an engine in which vibration is practically nil, whether at low or high speeds.

The cylinder bore is 3⅛ inches and the piston stroke is 5⅛ inches, giving a total piston displacement of 314 cubic inches.

The horsepower as computed by the Society of Automobile Engineers formula is 31.28. This formula, however, is not competent for computing the power of this engine, dynamometer tests showing it to develop in excess of sixty horsepower.

If there has been any one single feature in which, more than another, the Cadillac Company has been acknowledged as occupying a position of pre-eminence, it has been in the design, execution and efficiency of its engines.

The present type, like its predecessors, is the product of that division of the Cadillac plant which during the past twelve years has produced a greater number of high grade internal combustion engines than any other motor car plant in the world.

The cylinders are cast in two blocks of four cylinders each with water jackets, combustion chambers and intake manifolds integral. They are cast from a special grade of metal compounded after our own private formula, the result of long experience and exhaustive research in our laboratories. This metal has a fine close grain and possesses unusual strength and toughness. A critical inspection reveals an absence of the spongy portions and blow holes characteristic of many castings. It possesses the further and very essential quality of resisting to the greatest possible degree, the influence of heat, consequently it is not so susceptible to contraction and expansion as are ordinary castings.

In casting the cylinders, the utmost precaution is exercised that the cylinder walls shall be of uniform thickness in order to facilitate uniform cooling throughout their surfaces. Further precautionary measures are taken to obviate the formation of webs which would prevent proper water circulation.

The cylinder heads are provided with openings which afford access to the piston heads and combustion chambers, thereby facilitating the removal of carbon deposits.

Cylinders are accurately ground to a glass-like surface.

The pistons are cast in our own foundry, from a special grade of metal of our own formula. Many years experience has shown this to be the best metal we know for the purpose.

All pistons are accurately ground.

We use special steel piston rings in multiple, there being three rings in each of the three ring groves of each piston.

With the cylinders and pistons, ground to 1/1000 of an inch accuracy and the steel piston rings ground to equal precision, we obtain the maximum benefits of combustion.

The crankcase is cast of special copper alloy aluminum.

The crankshaft is 1⅞ inches diameter. It is made of special chrome nickel alloy steel, heat treated and possesses unusual strength and toughness. Its bearing surfaces are accurately ground.

It is supported by three reinforced bronze, babbitt lined bearings of liberal proportions.

Its length is but 26⅛ inches between the outer ends of its forward and rear bearings. With this relatively short length, the periodic vibration or thrashing which has proven so disastrous in engines requiring a long crankshaft, is overcome.

The cylinders being of the L head type, the inlet and exhaust valves are all on the same side of the cylinder blocks.

The valves are actuated by a series of rocker arms provided with hardened steel rollers which are actuated by a single cam shaft positioned directly above the crankshaft. The cam shaft is driven by a silent chain from the crankshaft.

The exhaust valves are flat head type, made of Tungsten steel.

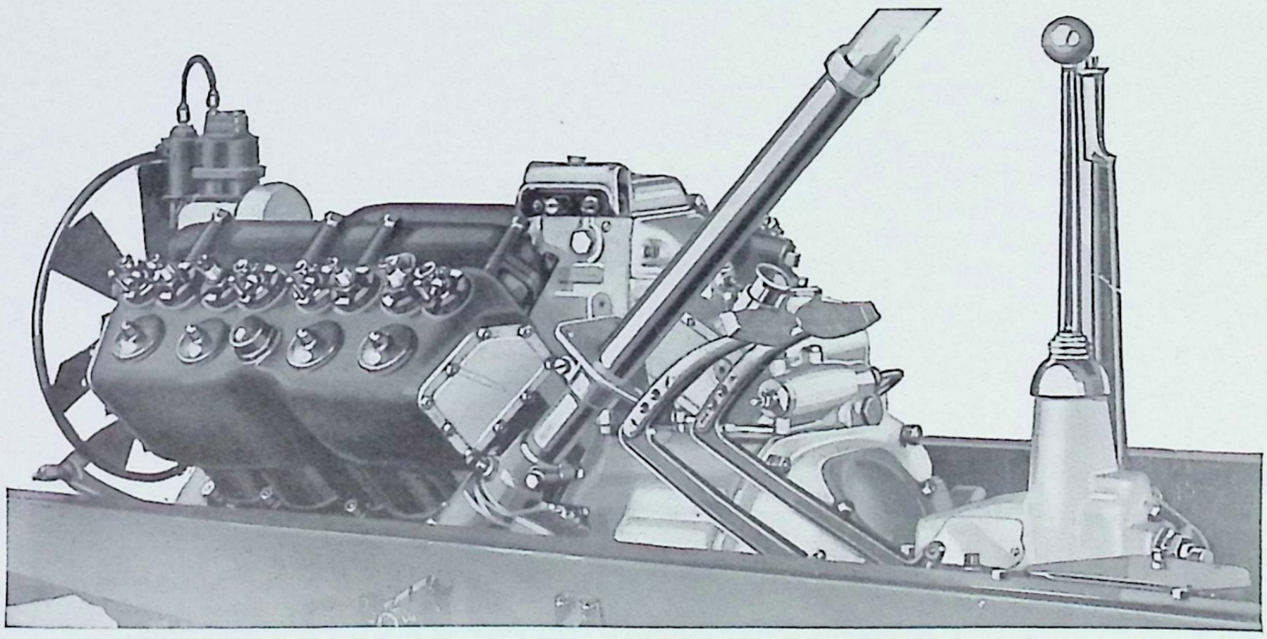
The inlet valves are tulip shape to facilitate the intake of gas.

This latter is an example of the extreme degree to which attention has been devoted to details. And it is the care exercised in the refinement of such small details that is largely responsible for this truly remarkable engine.

The valve mechanism is enclosed.

This unit power plant—engine and transmission is mounted in the chassis by our three point suspension plan. The two rear points are bolted to the frame and the forward point is a ball and socket joint.

One of the factors which contributes materially to smoothness and absence of vibration in this engine is the lightness of its reciprocating parts, comprising pistons, connecting rods, valves, etc.



CADILLAC UNIT POWER PLANT

EIGHT CYLINDER V TYPE ENGINE, TRANSMISSION, CRANKING DEVICE, CLUTCH AND BRAKE LEVERS, GEAR CHANGE AND HAND BRAKE LEVERS.

Ample strength however has not been sacrificed for the sake of lightness. For example, a pair of piston connecting rods weighs but 48 ounces, yet in making our laboratory tests, we found that it required a compression strain of more than 19,000 pounds, or more than 9 tons, to bend one of them.

One needs but to see this engine to appreciate its conception, its design and its execution, to appreciate how each and every function performing unit has been designed to operate in harmony with every other function and as a part of the whole.

LUBRICATION.

The engine lubrication is by our force feed circulating system.

A gear pump is located at the forward end of the engine. The lubricant is taken up by the pump from the oil pan of the crank case and forced under pressure to and around the main bearings; from there through passages in the crankshaft, to and around the connecting rod bearings. The crankshaft therefore practically floats in a film of oil.

The camshaft is lubricated by gravity feed from a supply of oil which is carried through a pipe extending parallel with and above the shaft.

The pistons, cylinders and piston pins are lubricated by oil thrown from the lower ends of the connecting rods.

The car is liberally supplied with lubricating facilities throughout.

CARBURETION.

The matter of scientific Carburetion is but one of the subjects which have been given unusual attention by the Cadillac Company. A special laboratory department has for years devoted its entire attention to the development of this important factor.

The present Carburetor is the result of vast experience and experimentation. It is designed and made by us especially for this eight cylinder V type engine.

The Carburetor is situated directly above the engine where it is readily accessible and in a position which insures a proper and uniform distribution of gas to the cylinders.

Having in mind the essential factors of flexibility to meet a wide range of speeds and conditions together with acceleration and economy, as well as simplicity, results would indicate that we have progressed in the matter of Carburetion to a point where it would seem that there is practically little if anything more within the range of possibilities to be accomplished.

FUEL SYSTEM.

A fuel tank with a capacity of 20 gallons and equipped with gauge is situated at the rear of the Chassis. The fuel is fed to the Carburetor by air pressure. The bowl of the Carburetor holds a small quantity of fuel which is usually sufficient to establish the initial pressure in the tank. A hand pump, however, is provided for emergency. After starting, the pressure is maintained automatically by an air pump operated by the engine.

COOLING.

The cooling system consists of the Cadillac tubular and plate type radiator with high efficiency rotating fan mounted on the forward end of the generator shaft which is driven by silent chain from the crankshaft.

There are two impeller pumps, one on either side of the engine, insuring proper water distribution. There is also liberal water circulating space around the cylinders.

The water chambers of the cylinders are provided with cover plates at the ends, making it possible for them to be flushed of sediment.

CLUTCH.

The clutch is our multiple disc dry-plate type, consisting of fifteen carbon steel plates, 7¾ inches in diameter.

The alternate plates—those driven by the fly-wheel—are faced with wire mesh asbestos.

The operation of the clutch is unusually soft and smooth, enabling the car to be started with exceptional ease and without shock or jerk.

TRANSMISSION.

The transmission is built in unit with the engine. It is the selective type, sliding gear, three speeds forward and reverse. All gears accurately cut and ground.

For further details, see "Specifications in Brief" on last page.

Specifications in Brief

ENGINE—Eight cylinder V type, High-speed, High-efficiency. Engine and Transmission built in unit, three point suspension. Cylinders cast in two blocks of four cylinders each with water jackets and combustion chambers integral. 3⅛ inch bore by 5⅛ inch stroke. Piston displacement 314 cubic inches. Crank case, aluminum, copper alloy. Exhaust valves of Tungsten steel, flat type. Intake valves, tulip shape to facilitate intake of gas. Valve mechanism enclosed. Three bearing crankshaft 1¾ inch diameter of chrome nickel alloy steel, special heat treated. Main and connecting rod bearings of liberal dimensions, bronze, reinforced, with special babbitt lining. Single camshaft, five bearings. Camshaft and generator shaft driven by silent chains from crankshaft.

HORSE POWER—S. A. E. rating 31.28, actual, more than 60.

COOLING—Water. Jackets cast integral with cylinders, liberal water circulating space. Two impeller pumps, one for each block of cylinders, insuring proper water distribution. Radiator, Cadillac tubular and plate type. Fan attached to generator shaft, driven by silent chain.

IGNITION—Cadillac Delco, improved Dual system. Current supplied by generator and dry cells.

LUBRICATION—Automatic pressure feed by gear pump. Oil forced to crank shaft and connecting rod bearings.

CRANKING DEVICE—Cadillac Delco, improved, patented.

CARBURETOR—Cadillac, designed especially for this engine, insuring uniform gas distribution and maximum efficiency. Auxiliary air control to facilitate starting. Intake pipe, hot water jacketed.

CLUTCH—Multiple disc, dry plate type: fifteen high carbon steel plates, 7¾ inches diameter; plates driven by fly wheel faced with wire mesh asbestos. Exceptionally soft and velvety in operation.

TRANSMISSION—Aluminum case in unit with engine. Selective type sliding gear, three speeds forward and reverse. Chrome nickel steel gears and shafts.

AXLES—Rear, Cadillac Timken, full floating type; Timken bearings; special alloy steel live axle shafts. Worm type bevel driving gears, ground to accuracy. Front axle, drop forged, special alloy steel, I beam section with integral yokes and spring perches; drop forged tie rod ends and steering spindles. Spindles fitted with Timken bearings at upper ends.

DRIVE—Tubular shaft. Two universal joints, the forward telescopic, each enclosed in housing and running in lubricant.

BRAKES—One internal and one external brake direct on wheels, 17 inch x 2½ inch drums. Exceptionally easy of operation. Both equipped with equalizers.

STEERING GEAR—Our own patented worm and worm gear sector type, adjustable, with ball thrust bearings. 18-inch steering wheel with corrugated walnut rim, aluminum spider. Steering wheel hinged to swing downward, facilitating entrance to front seats.

FRAME—Channel section, carbon steel, six inches depth; width 30 inches in front, 33 inches in rear.

WHEELS—Wood, artillery type running on Timken bearings, fitted with Demountable rims for straight side tires. (Option, Universal Demountable rims.) Special large hub flanges and substantial spokes.

TIRES—36 inches by 4½ inches (or 895 x 135 m/m) United States, or Goodrich. Chain Tread U. S. or Safety Tread Goodrich on rear wheels.

WHEELBASE—122 inches.

TREAD—56 inches. (Option 61 inches.)

SPRINGS—Front, semi-elliptic, 42 inches long by 2 inches wide; rear, three-quarter platform; sides, 54 inches long by 2 inches wide. Rear cross 39½ inches long by 2 inches wide.

CONTROL—Left hand drive, center control. Gear change lever and hand brake lever in center, set well forward yet within easy reach. Service brake, foot lever. Clutch foot lever. Throttle accelerator, pedal button with foot rest. Throttle and spark levers at steering wheel. Throttle auxiliary air control, hand lever, on steering column.

GASOLINE SYSTEM—Twenty gallon tank with gauge at rear of chassis. Fuel forced by air pressure to carburetor.

UPHOLSTERING—Hand-buffed black leather over genuine curled hair and deep coil steel springs.

RUNNING BOARDS—Linoleum covered, with metal binding.

STANDARD EQUIPMENT—Cadillac "One-man" top, windshield, full lamp equipment, especially designed for Cadillac cars, black enameled, nickel trimmed. Gasoline gauge, electric horn, power tire pump, foot rail, robe rail, license tag holders, tire irons, tool box with locks, set of tools including tire repair kit. Universal key fitting tool box, and ignition and lighting switch. Warner Autometer.

PRICES on automobiles and parts are positively net F. O. B. Detroit.

No allowance will be made for any part of standard equipment if ordered omitted.

NOTE—The Cadillac Motor Car Company reserves the right to make changes or improvements at any time without incurring any obligations to install same on cars previously sold.

STYLES AND PRICES

Standard Seven passenger and Five passenger cars, Four passenger Salon and Roadster, $1975.
Landaulet Coupe, $2500. Five passenger Sedan, $2800. Seven passenger Standard
Limousine, $3450. Berlin type Limousine, $3600. Prices F. O. B. Detroit.