

THE MITCHELL SIX MODEL D-40

Model D-2-24 2 Passenger Roadster \$1165 f. o. b. La Grande
Model D-5-40 5 Passenger Touring \$1165 f. o. b. La Grande

40 Horse Power Six Cylinder Size 3 1-4 inch bore
5 inch stroke Wheel Base, 120 Inches

MOTOR—The motor used in this D-40 Model Mitchell Six is light and powerful with long stroke—small bore and of the high speed, high efficiency type with all reciprocating parts perfectly machined and balanced and made as light as is practical and consistent with the very best engineering practice, insuring a silent, flexible, and highly efficient power unit. All moving parts are fully enclosed but ample cover plates are accessibly provided for ready adjustment.

CYLINDERS are of the L head type, cast in block, integral with the crank case. The construction gives a rigidity to the motor and reduces vibration in the motor to a minimum. Cylinders are machined perfectly presenting a smooth and true surface. The cylinder head is a one-piece casting securely held in place by means of three rows of bolts accessibly placed and a leak proof fit is assured by the use of a one-piece copper covered asbestos gasket placed between the cylinder head and the cylinder block. The cylinder head can easily be removed without disturbing any other part of the engine and exposes the valves and tops of pistons for inspection and cleaning when necessary.

CRANK SHAFT—Three Bearings, size, front 2 in. by 2 3-8 in.; center 2 in. by 2 3-8 in.; rear 2 in. by 3 1-4 in. Crank shaft is 1-2 in. offset from center of cylinders and is made of the highest grade special analysis steel, double heat-treated and tested to 160,000 pounds minimum tensile strength. All bearings are accurately ground, perfectly true and finished to a high polished surface.

MOTOR BEARINGS—Crankshaft and Connecting Rod Bearings are all of high grade babbitt, die cast under pressure. The main bearings are securely fastened to the crank case and bearing caps can be readily renewed, should it become necessary, without removing the motor from the car. The front and center bearing caps are securely fastened to the crank case by two 9-16 in. studs, the rear by four 1-2 in. studs, all provided with castellated nuts and cotter pins. Shims of assorted thicknesses are provided under each bearing cap so that the natural wear of these bearings can be conveniently adjusted.

CONNECTION ROD—I beam type drop forging of specially selected steel, double heat-treated. 2 x 1 7-8 in. bearing. Caps are secured to rod by two 7-16 in. nickel steel bolts provided with castellated nuts and cotter pins. Each piston and connecting rod assembly is of exactly equal weight, which insures perfect balance and consequent absence of vibration in motor.

VALVES—Made of non-warping nickel steel and in accordance with the latest practice are very large, being 1 7-16 in. in diameter, 45 degree bevel seats. Inlet 5-16 in. lift, exhaust 3-8 in. lift. Valves completely enclosed. Valve stem guides removable.

MOTOR GEARS—Gears driving the cam shaft and electric generator and automatic ignition distributor are enclosed in housing which is an integral part of the crank case. Gears are of the silent helical type with a special formula cut tooth. Teeth have 1 in. face, insuring the best possible wearing surface.

COOLING—Proper cooling of the motor is insured by large water jackets completely surrounding each cylinder. Cellular radiator with an oven-baked enameled removable shell. Circulating water pump mounted with cooling fan back of radiator. Water manifolds cast integral with cylinder block.

WATER MANIFOLD—Integral with the cylinder casting.

WATER JACKETS—Particular attention has been paid to the design of the water jackets which uniformly surround cylinders, and are free from obstructions, giving an easy passageway for the circulating water. Water jackets also completely surround all the valve seats, these being extra large around the exhaust valve seats insuring their proper cooling at all times.

RADIATOR—Extra large, cellular type, with four coats oven baked black enameled removable shells. These shells being built entirely separate from the radiator makes this oven baked finish possible, thus insuring an everlasting lustre finish, perfectly matching the balance of the car. Mounted on special flexible brackets, protecting radiator from strains due to the road inequalities, which are transmitted from frame to radiator where other mounting is used.

CARBURETOR—Specially designed for our motors, automatic, giving maximum efficiency at all speeds and altitudes on lowest grade gasoline. Carburetor is mounted on right side of motor.

LUBRICATION—Mitchell non-smoking combination circulating and splash system. Positive circulation insured by a plunger pump operated by an eccentric integral with the cam shaft. On account of the extreme importance of the lubrication of the motor this pump is exceptionally accessibly mounted on the rear left side of the engine base on the outside where it can be easily and quickly inspected. The strainer through which all oil for the engine must pass can be taken out and cleaned by simply removing the top of the oil pump. Oil is pumped from oil reservoir at bottom of crank case to individual troughed compartments directly under each connecting rod. Supply of oil to these compartments is such as to keep them constantly overflowing, so that there is always a proper amount of oil for the connecting rod scoops to dip into. Also keeps the oil level to a point where the gears in front end of motor are constantly operating in a bath of oil. The oil supply in the oil reservoir can be replenished through the cap, at the right side of the forward end of the engine. A plunger indicator on the instrument board automatically operated by the oil flow from pump indicates the proper working of the oiling system. Oil level indicator showing amount of oil in crank case is located on the right side of engine close to the oil filler. Breather openings are provided from the crank case to the valve chambers allowing the oil vapor to constantly lubricate the push rods and valve stems.

IGNITION—Mitchell Automatic Breaker and Distributor, single unit type, low current consumption, simple in mechanical construction and operation and very accessible for adjustment.

FRONT AXLE—One piece double heat-treated I beam forging, with double heat-treated steel-front wheel spindles with special heavy duty bronze-bushings. Adjustable ball wheel bearings.

STEERING—Left hand with center direct connecting spark and throttle control, worm and full worm gear, irreversible type. Tie rod behind front axle. All important parts of the steering mechanism made of specially selected steel double heat-treated assuring utmost safety.

CONTROL—Large steering wheel, 18 inches, rim—walnut natural finish, having corrugated finger grips. Spider and steering tube black enameled, levers on top of the steering wheel are exceptionally large, and easy to operate. Quadrant notchless silent type. Foot accelerator conveniently located.

REAR SPRINGS—Particularly easy riding. Bate improved Cantilever type giving perfect riding qualities. So constructed as to eliminate entirely the use of snubbers, shock absorbers or rebound straps so necessary to cantilever type spring of other construction. 50 in. long and 2 1-2 in. wide. Mounted directly under the frames side members and attached to the rear spring seats by double spring bolts. The spring seats turn free on the axle housing. Forward ends are fastened to side frame members by shackles which allow free play for the spring action giving excellent riding qualities to the car with or without load. Spring ends bushed.

GASOLINE TANK—In rear, 18 1-2 gallons. The use of the Vacuum Gasoline System makes it possible to suspend the gasoline tank in the rear, doing away with all annoyances so common when carrying tank in cowl or under front seat. Also does away with all the troubles of the Pressure Feed System.

ELECTRIC STARTER—Is accessibly located at the right rear of the engine and starts engine through the gear upon the flywheel. The starting gears are automatically engaged through aid of the Bendix drive.

ELECTRIC LIGHTS—Two head lights, tail light and instrument board light. The head lights are Dimming Search Lights, Mitchell Parallel series. No glare with focusing adjustment permitting change of range of lights. Mounted on adjustable brackets. Mitchell Tail light located at extreme rear of car clear of extra tire and fender and in position for illuminating license plate. Instrument board light with shade located to shield driver from the glare, clearly illuminates all the instruments. This light can be turned on or off at will by a switch independent of the balance of the lights.

POWER TIRE PUMP—Mitchell Power Tire Pump with a capacity of 80 lbs. pressure in five minutes, does away with last disagreeable feature of motoring. The pump is engine driven and located back of cooling fan. Powerful and capable of pumping the largest tires to full pressure. The hose supplied is of sufficient length to reach any of the four tires. Hose is equipped with gauge and oil separator.

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