

= Duesenberg Model A =

The Duesenberg Model A was the first automobile in series production to have hydraulic brakes and the first automobile in series production in the United States with a straight @-@ eight engine . Officially known as the Duesenberg Straight Eight , the Model A was first shown in late 1920 in New York City . Production was delayed by substantial changes to the design of the car , including a change in the engine valvetrain from horizontal overhead valves to an overhead camshaft ; also during this time , the company had moved its headquarters and factory from New Jersey to Indiana . The Model A was manufactured in Indianapolis , Indiana , from 1921 to 1925 by the Duesenberg Automobiles and Motors Company and from 1925 to 1926 at the same factory by the restructured Duesenberg Motor Company . The successors to the company began referring to the car as the Model A when the Model J was introduced .

= = Background = =

Fred and August Duesenberg built aircraft and marine engines during World War I and used this expertise to design and build racing engines and to design a car . The Duesenberg Automobiles and Motors Company was incorporated in Delaware and founded to manufacture and market the production car while Duesenberg Brothers , a separate organization , built racing cars and engines .

= = Introduction and delay = =

The Duesenberg Straight Eight was introduced in late 1920 at the Commodore Hotel in New York City , but production of the Straight Eight did not begin until late 1921 . The main reason for the delay was Fred Duesenberg 's decision to redesign several aspects of the car , including the valvetrain . The headquarters and manufacturing facilities of the Duesenberg Automobiles and Motors Company were relocated from Newark , New Jersey , to Indianapolis , Indiana during this time . The move was completed in May 1921 , but the redesign was not .

= = Design and engineering = =

= = = Drivetrain = = =

The Straight Eight was the first car in series production in the United States with a straight @-@ eight engine . The engine had a cast iron block , a detachable cast iron cylinder head , and an aluminum lower crankcase and oil pan . The crankshaft ran in three main bearings . While the prototype Straight Eight shown at the model 's introduction had horizontal valves of the type used in earlier Duesenberg @-@ designed marine and racing engines , the model that entered production had a shaft @-@ driven single overhead camshaft which used rockers to operate two valves per cylinder in a hemispheric combustion chamber .

The engine used a single updraft carburetor ; early versions used a Stromberg unit , which was replaced by a Schebler unit . The carburetor was on the right side of the engine , the mixture went into a passage through the engine block to the intake manifold on the left side of the engine . Ignition was by Delco coil and breaker points , with the distributor at the end of the generator / starter unit .

With a 2 @. @ 875 in (73 @. @ 0 mm) bore and a 5 in (127 @. @ 0 mm) stroke , the engine had a displacement of 260 cu in (4 @. @ 3 L) . The standard compression ratio of five to one yielded 88 hp (66 kW) at 3600 rpm and 170 lb · ft (230 N · m) of torque at 1500 rpm .

A single dry @-@ plate clutch and an unsynchronized three @-@ speed gearbox were bolted to the engine . The gearbox was operated directly with a central shift lever . The drive shaft was enclosed in a torque tube and drove the live rear axle through a spiral bevel drive .

== Chassis ==

The chassis was based on a pressed steel ladder frame with channel @-@ section side members and fabricated and tubular cross members . Suspension was by semi @-@ elliptic leaf springs and Watson Stabilator dampers front and rear , with a tubular beam axle at the front and a live axle and radius rods at the rear . The standard wheelbase was 134 inches (3 @,@ 400 mm) , with a wheelbase of 141 inches (3 @,@ 600 mm) available for seven @-@ passenger bodies . The front and rear tracks were both 56 inches (1 @,@ 400 mm) wide . Center @-@ locking wire wheels with 5 " x 33 " tires were used front and rear .

The Duesenberg Straight Eight was the first production automobile to use hydraulic brakes on all four wheels . The brakes on the front wheels were 16 inches (410 mm) in diameter and were finned to dissipate heat . The fluid used in the system was a mixture of glycerine and water .

== Reception ==

The initial production target was 100 cars per month . By the end of 1922 , after slightly more than a year of production , fewer than 150 Duesenberg Straight Eights had been built . Production of the Straight Eight continued through several changes in management , placement of the Duesenberg Automobiles and Motors Company into receivership in January 1924 , and the restructuring of the company into the Duesenberg Motor Company in February 1925 , until the purchase of the company by E. L. Cord in October 1926 . About 650 Straight Eights had been built when Cord ended production in 1926 .

== Legacy ==

The Duesenberg Model X , a derivative of the Straight Eight , had a short production run in 1927 . About twelve were built . The Model X had an engine with the same bore and stroke as the Straight Eight but with a non @-@ crossflow head . The engine delivered 100 horsepower (75 kW) . The chassis had a wheelbase of 135 inches (3 @,@ 400 mm) .

Despite its regional and worldwide automotive firsts , the Straight Eight has been obscured by the later Model J. It is no longer widely known by the Straight Eight name under which it was marketed and sold , having been renamed the " Model A " after the introduction of the Model J.