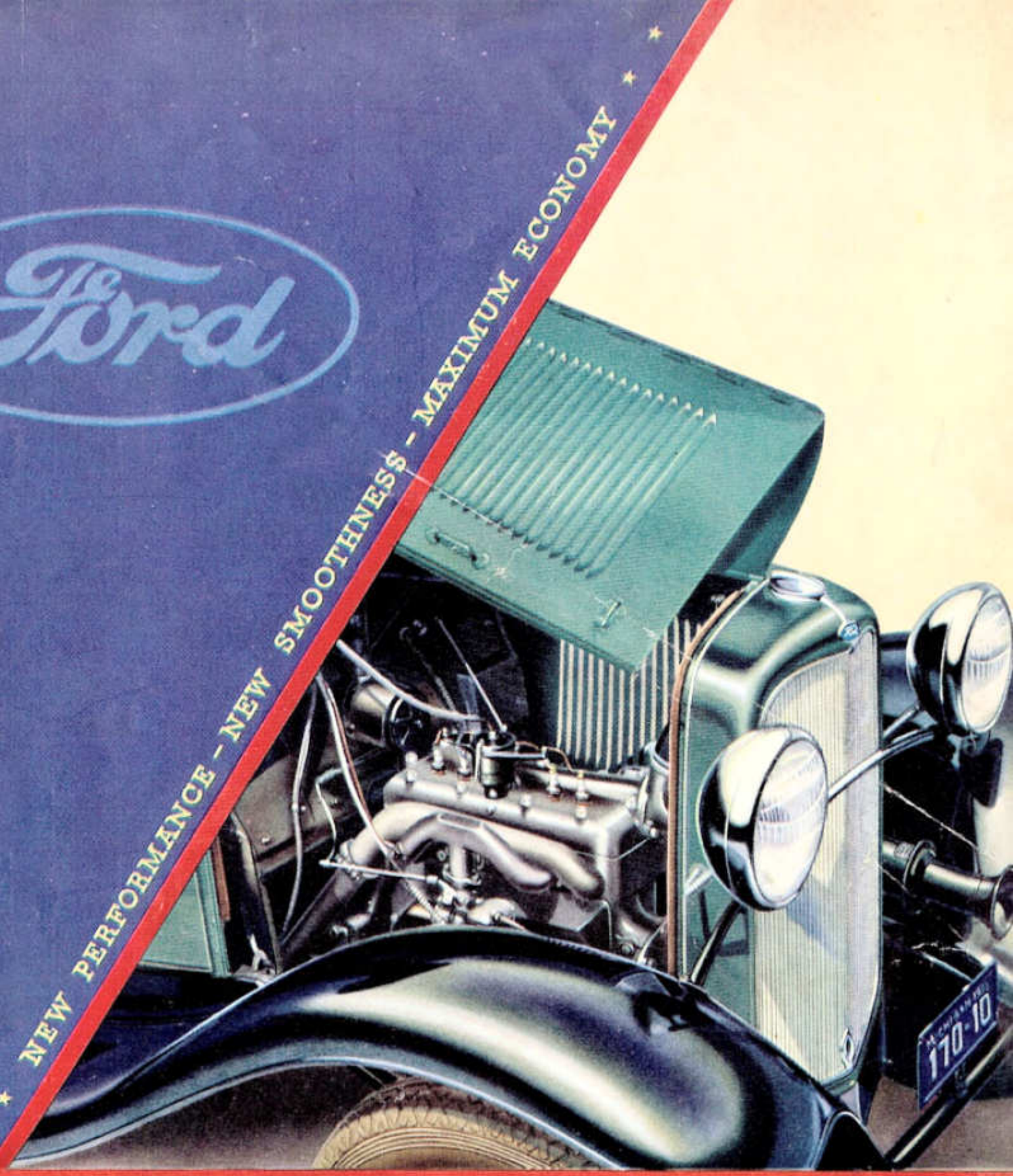
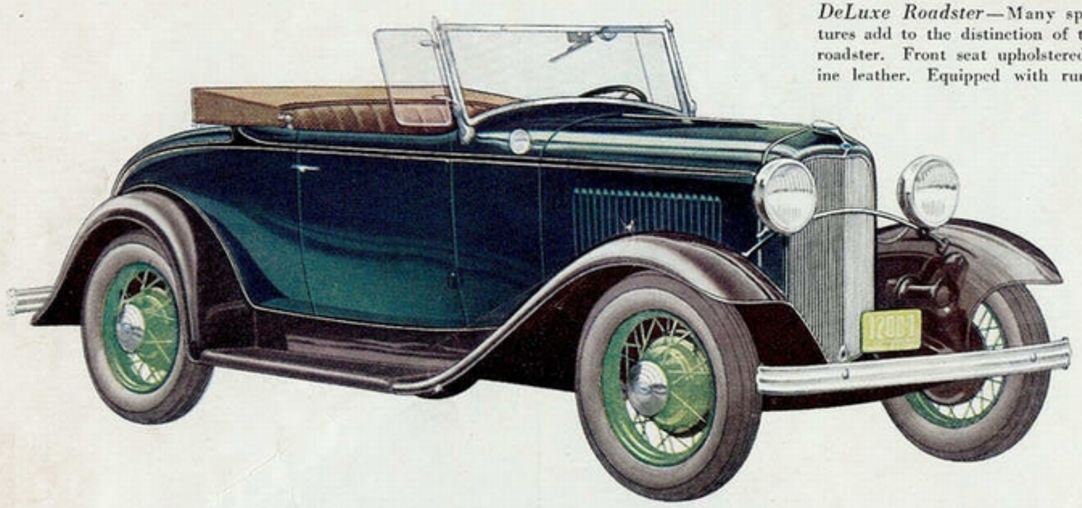
Ford

★ NEW PERFORMANCE - NEW SMOOTHNESS - MAXIMUM ECONOMY ★



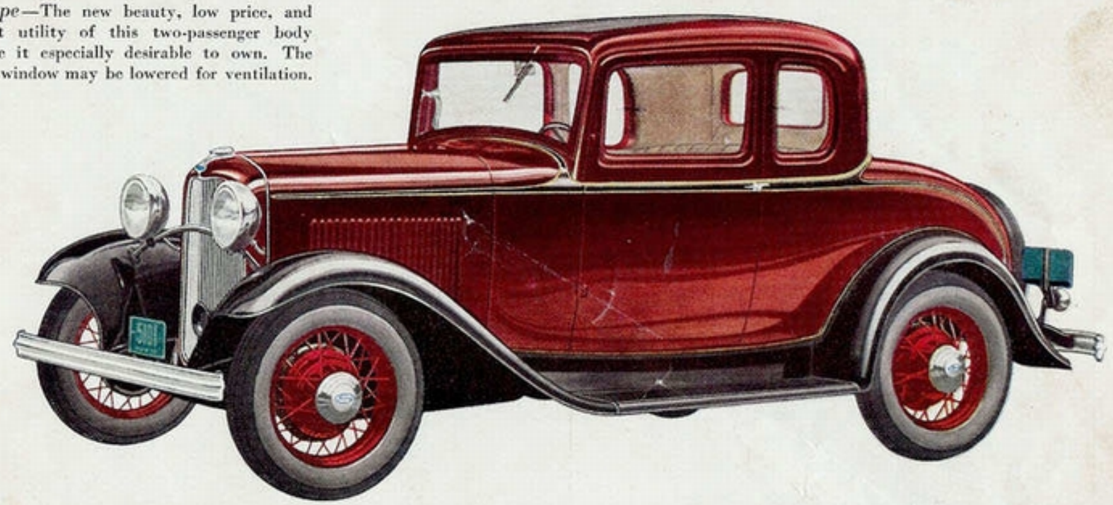
# THE 4 CYLINDER FORD

# Beauty—Comfort—Safety and Economy are built into the New 4-Cylinder Ford

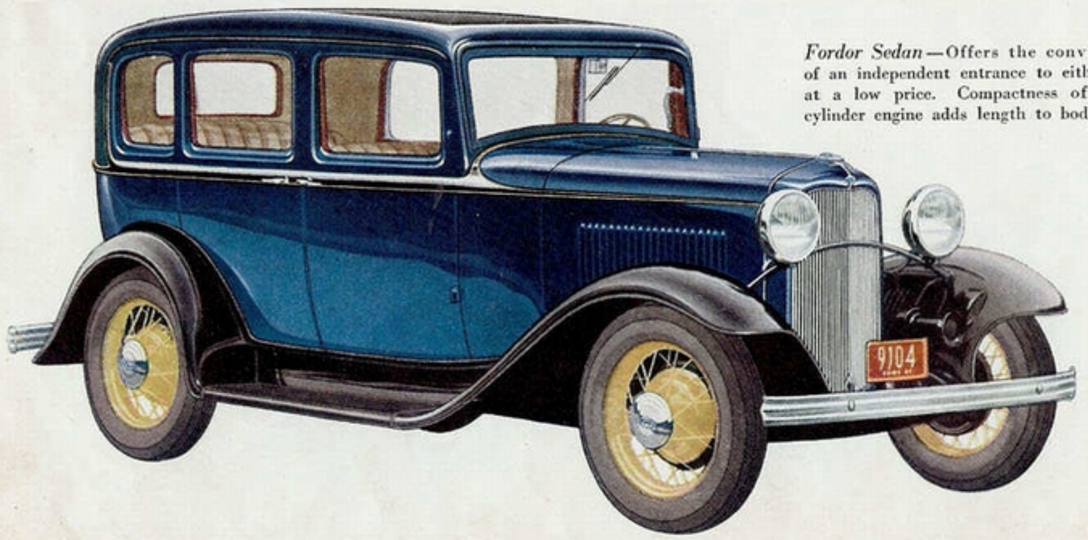


*DeLuxe Roadster*—Many special features add to the distinction of this deluxe roadster. Front seat upholstered in genuine leather. Equipped with rumble seat.

*Coupe*—The new beauty, low price, and great utility of this two-passenger body make it especially desirable to own. The rear window may be lowered for ventilation.

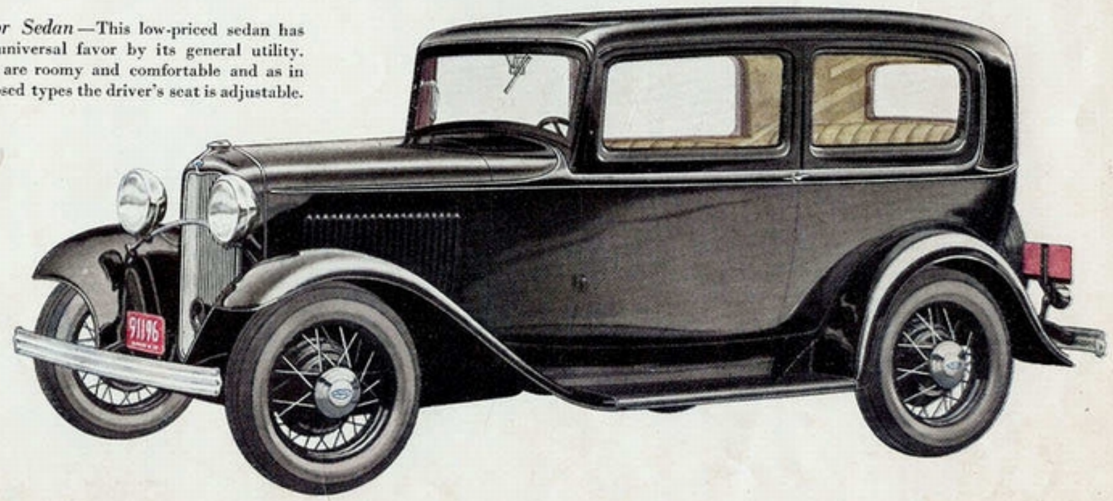


**The new Four-Cylinder Ford is a highly developed motor car. Like the V-8 it is simple in design, sturdy in construction and combines new beauty of line with new high standards of performance and a maximum of operating economy. Flashing acceleration and a top speed of from 65 to 70 miles per hour—safety and comfort which fully meet modern driving demands—the quickly-seen touches of quality that add so much to pleasure and pride of ownership—all and more are yours when you select the New Four-Cylinder Ford in any of its fourteen distinctive, standard or de luxe body types. And the beauty of this New Ford is in keeping with its inner excellence. Bodies and chassis are built low, because a low car is beautiful and comfortable. Distinctive features are: the handsome V-type radiator grille; the graceful new roof line; the slanting windshield; attractive steel-spoke wheels with large hub caps; the cowl ventilator; the deep, soft cushions; adjustable driver's seats; the choices of upholstery materials and body colors; the safety glass in all windshields, as well as in all windows of the de luxe closed bodies. All of these things and many more are brought to you at new low prices in the new 4-cylinder Ford because of a determined effort on the part of the Ford Motor Company to furnish satisfying, dependable transportation at the lowest possible cost.**

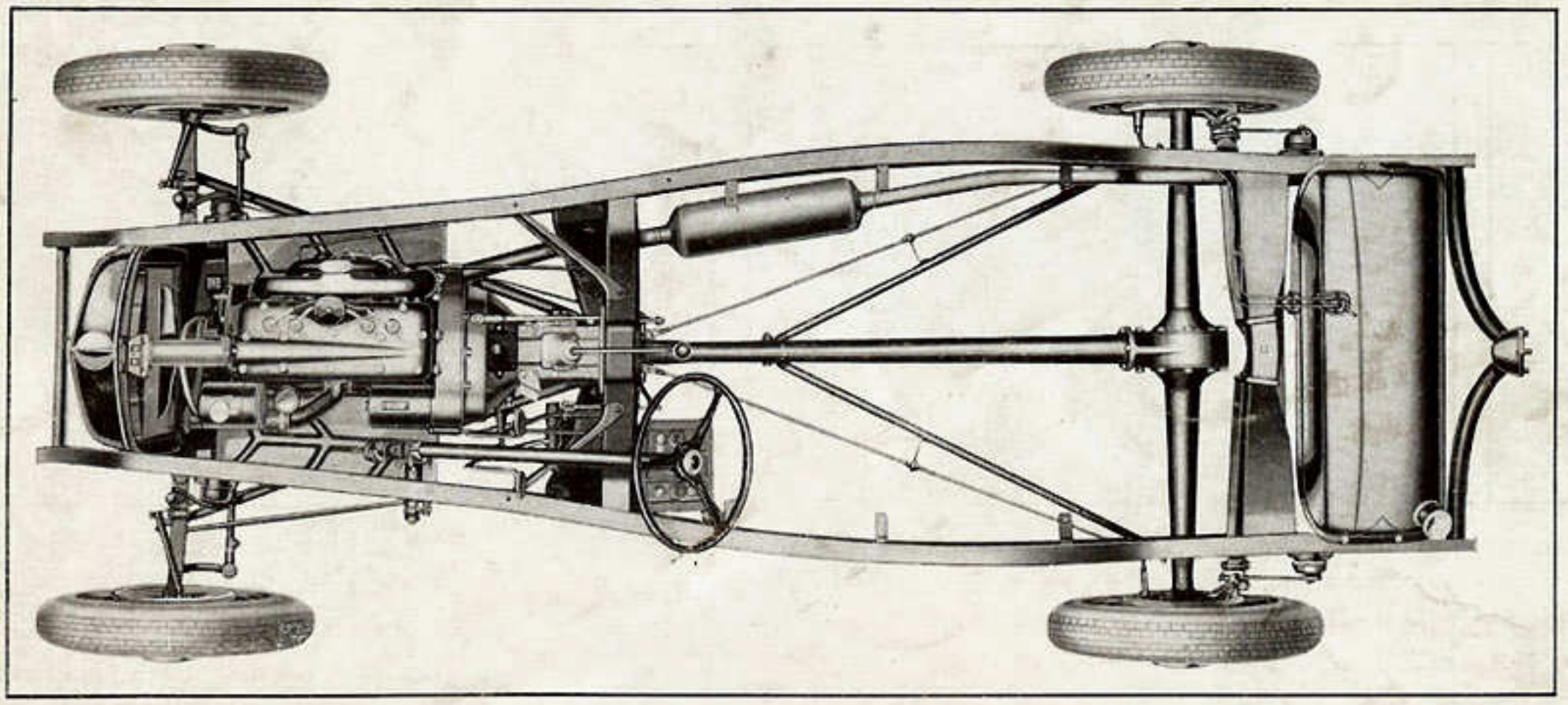


*Fordor Sedan*—Offers the convenience of an independent entrance to either seat, at a low price. Compactness of the 4-cylinder engine adds length to body space.

*Tudor Sedan*—This low-priced sedan has won universal favor by its general utility. Seats are roomy and comfortable and as in all closed types the driver's seat is adjustable.



# CHASSIS OF THE 4-CYLINDER FORD



## Other Features

SAFETY GLASS—Standard throughout in all de luxe bodies. Used in all windshields of standard types, and available throughout these types at small extra cost if specified at time of purchase. Windshield slant, 10 degrees.

RUSTLESS STEEL—This metal that retains its brightness untarnished under all conditions is used for lamps and many other exposed metal parts.

BONDERITE—Enameled parts, such as fenders and wheels, are Bonderized before the enamel is applied. The result is that rust will not spread under the enamel.

PYROXYLIN LACQUER—All Ford bodies are finished in pyroxylin lacquer, which is given a high polish, adding greatly to the enduring beauty of the car.

BEARINGS—There are 19 roller bearings in the chassis, and 5 ball bearings, an unusually large number, indicative of the high quality of the car. They minimize friction and wear.

DOUBLE DROP FRAME—With five cross members. Body is mounted directly upon it, for lowness, and the running boards are bolted to it, eliminating side dust shields.

ENGINE—4-cylinder. Bore, 3⅞ inches; stroke, 4¼ inches. Piston displacement, 200.5 cubic inches. S.A.E. horsepower rating, 24.03. Actual brake horsepower, 50 at 2800 r.p.m.

AUTOMATIC SPARK ADVANCE—Spark timing automatically advanced by centrifugal governor according to speed of engine. No manual spark lever

ENGINE LUBRICATION—Combination pump, gravity and splash. Positive pump oiling of main crankshaft bearings and the camshaft bearings. Oil pan capacity, 5 quarts.

COOLING—Combined centrifugal pump and thermo-syphon. Tube and fin radiator. Capacity of system, 3 gallons.

CLUTCH—Single dry disc, dished for easy engagement.

TRANSMISSION—Featuring silent second, and synchronizer that permits shifting in and out of second and high, up or down, regardless of car or engine speed.

REAR AXLE—Three-quarter floating, with spiral bevel gear and pinion for quietness. Roller bearings throughout.

BRAKES—Four-wheel mechanical, internal expanding shoe type, operated by both pedal and hand lever. Total braking surface, 186 square inches.

STEERING GEAR—Semi-reversible, with self-adjusting thrust bearings.

SPRINGS—New transverse double cantilever front and rear. Rear spring mounted behind axle.

TIRES—Balloon, 18 x 5.25.

WHEELBASE—106 inches.

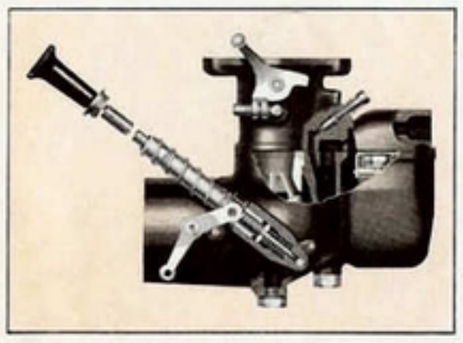
TREAD—56 inches.

EQUIPMENT—4 Houdaille hydraulic double acting self-adjusting shock absorbers, vacuum windshield wiper, rear-view mirror, pressure-gun chassis lubrication, tools, spare wheel.

*We reserve the right to make changes, without notice, in prices, specifications, and equipment at any time without incurring any obligation.*

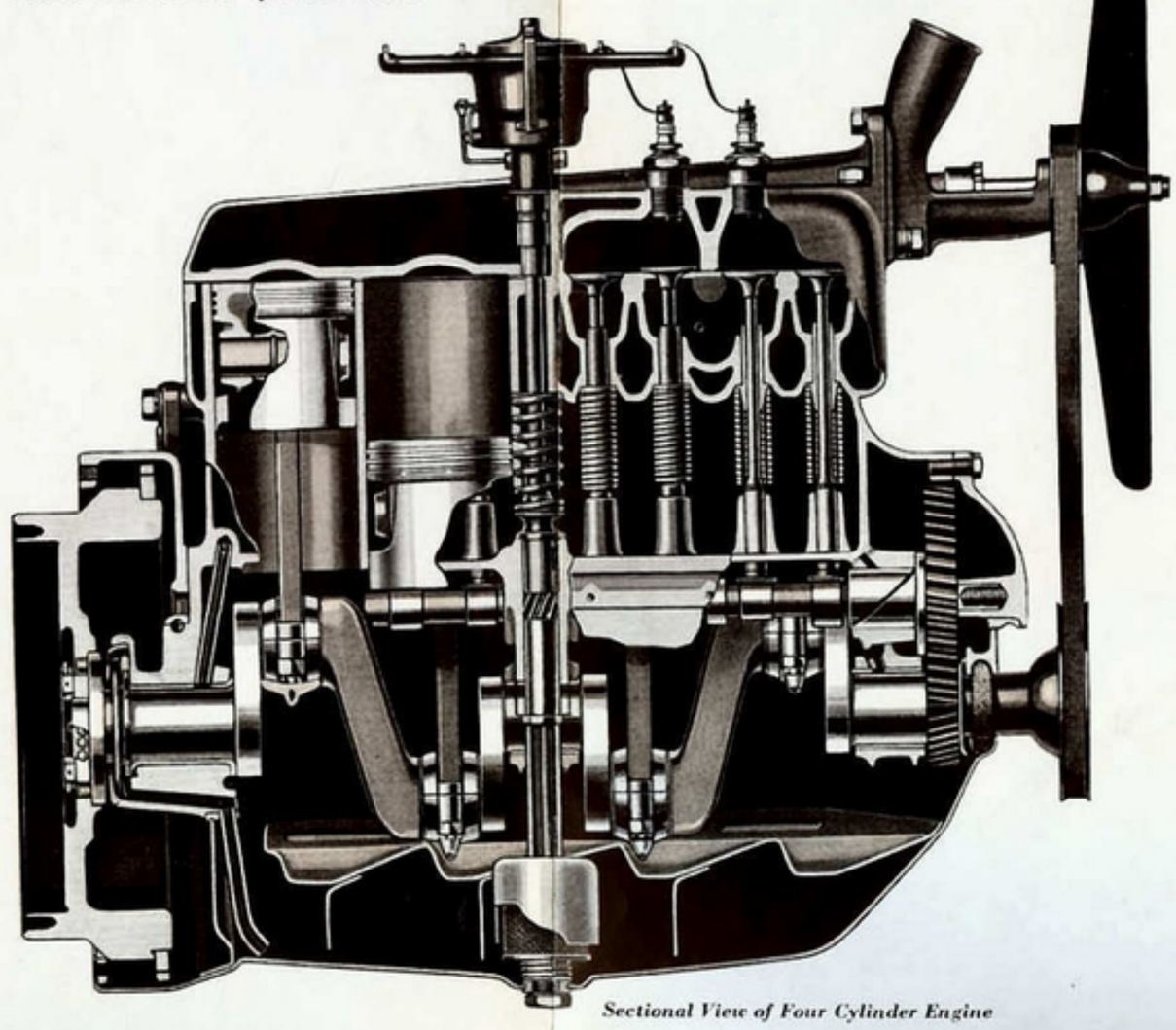
FORD MOTOR COMPANY, DETROIT, MICHIGAN

# Important Features of the 4-Cylinder Ford

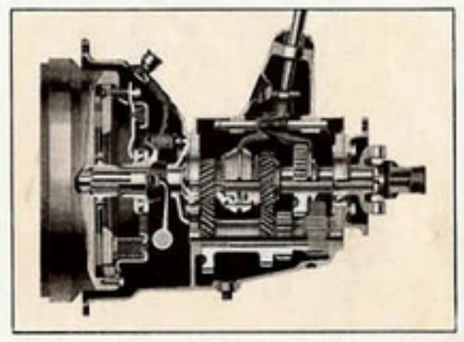


The new design of the 4-cylinder carburetor is in part responsible for the remarkable fuel economy of the engine. There are two fuel jets in the carburetor, one of which, the "power jet," comes into action only at high speeds and power peaks. This reduces the quantity of fuel passing through the carburetor at normal speeds, giving high fuel economy under average driving conditions. There is a dash adjustment of choke and needle valve. The carburetor is equipped with a silencer.

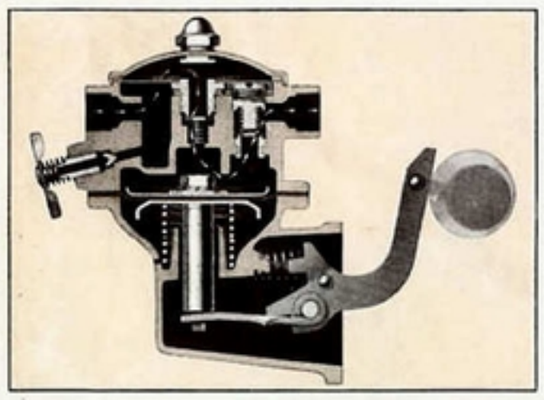
**The Ford 4-cylinder engine develops 50 horsepower at 2800 R.P.M. Some of the refinements in design which contribute to fuel economy and increased power are smoothly-machined valve ports, large intake manifold, high valve lift, a new carburetor, 90-pound compression and a 4.6 to 1 compression ratio. The crankshaft is statically and dynamically balanced, enabling it to revolve smoothly at all speeds. Water jackets surround the valves to cool them and lengthen their life. Pistons are aluminum alloy, and with the connecting rods are matched in sets for smooth operation. Cylinders are offset 1/8" from the center line of the crankshaft, which assists in smoothing engine operation and reduces wear on the cylinder walls.**



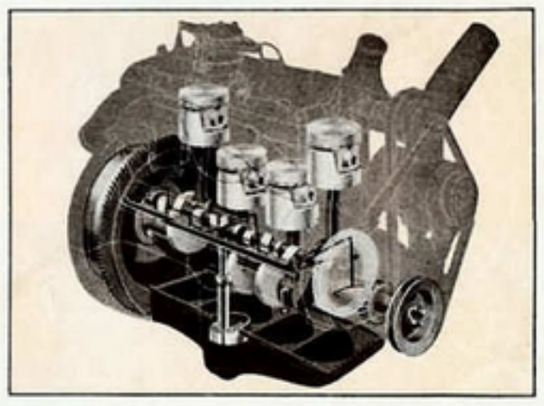
*Sectional View of Four Cylinder Engine*



Quietness and ease of shifting are features of the new Ford transmission. Constant mesh and second speed gears are helically cut, and revolve unusually quietly. A synchronizing device between second and high speed gears permits quick and quiet shifting up or down, regardless of speed, without clashing. All gears and shafts are made of heat-treated chromium alloy steel. The transmission contains three roller bearings and two ball bearings which reduce friction and wear to the minimum.

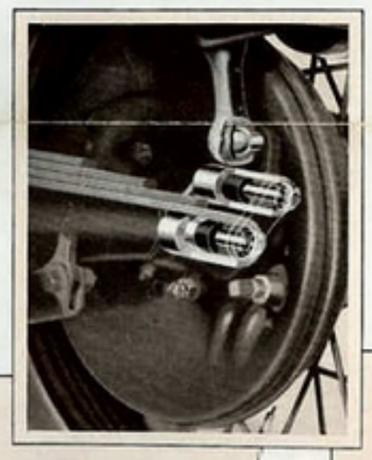


Fuel, which is fed to the carburetor by means of a specially designed pump, is drawn from the 14-gallon, electrically-welded tank in the rear. The pump is located on the right side of the engine, just forward of the carburetor, and is driven by the camshaft. A new feature is a built-in sediment trap and filter, which removes foreign particles before the fuel goes to the carburetor. The pump draws in at each stroke an amount of fuel equal to that consumed by the carburetor. Thus a constant supply of fuel is maintained. There is a hydrostatic fuel gage at the right of the oval instrument panel which shows the exact amount of fuel in the tank at all times.

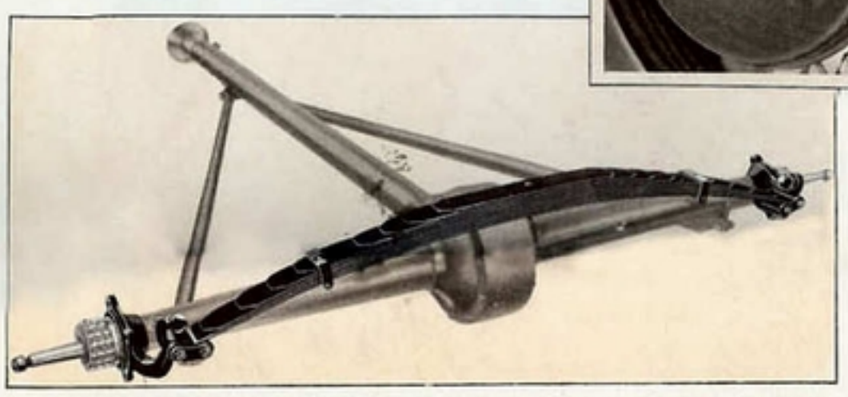


Lubrication of the Ford 4-cylinder engine has been refined, and given new features of reliability and economy. It is necessary to change oil only every 1000 miles. The lubrication system combines pump, gravity and splash, improved to give quick lubrication to main bearings of crankshaft and camshaft after the engine is started. The pump forces oil to a distribution duct, cast in the side of the cylinder block, from which it is supplied direct to main crankshaft and camshaft bearings. The overflow lubricates the timing gears, and passes into a splash pan into which the connecting rods dip, and splash oil to pistons and other moving parts. From the splash pan the oil returns to the oil pan to be recirculated.

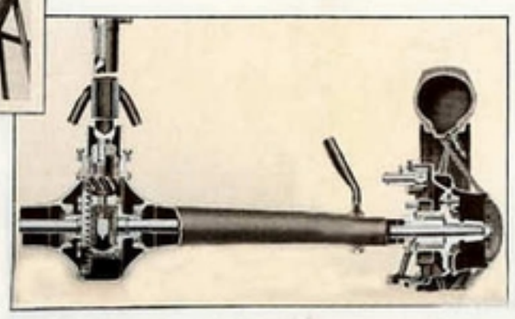
Rubber is liberally used throughout the New Fords, to reduce the number of wearing parts and to provide for smooth, quiet operation. The spring shackles contain insulators of live rubber, placed between the shackle and the shackle bolt. Rubber insulators are also used in the shock absorber links and at other chassis points. Thus, metal-to-metal contact is avoided, wear minimized, and complete silence attained. An additional advantage is that these points never need lubrication and service work is simplified. Rubber is also used to insulate the engine and torque tube from the frame.



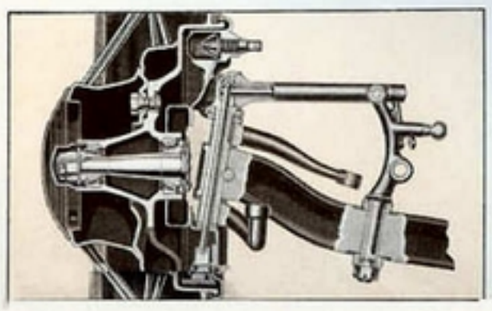
**Four of the newest type of Houdaille double-acting, self-adjusting, hydraulic shock absorbers are used on the New Fords. These are important features of comfort. Two unique controls perfect their shock-softening action. One is a thermostatic control, built into each, which automatically changes the adjustment in accordance with temperature. The other is an automatic compensation for sudden shocks. Thus the adjustment of each shock absorber is continually changed to meet changing conditions, and you get new and better riding comfort on all types of roads and at all temperatures. These shock absorbers are correctly adjusted to provide maximum riding comfort when assembled and except for an occasional replenishment of fluid require no further attention.**



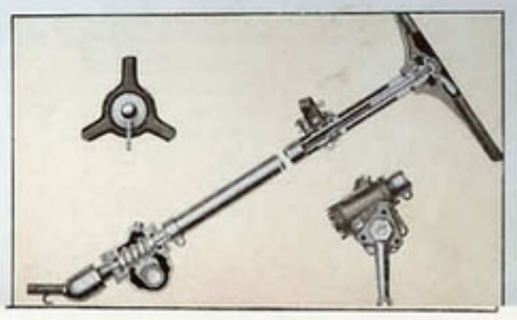
The rear spring is new in design. It is a transverse double cantilever, shackeled at both ends for free movement. It is held in spring perches that extend back of the axle, and is slightly bowed outward, enabling it to clear the differential housing. This contributes to the lowness which is a feature of the New Fords. The spring is soft and flexible and is an important item in riding comfort. All driving and braking forces on the rear wheels are taken by the torque tube and radius rods, leaving the spring free to perform its normal function of cushioning the load.



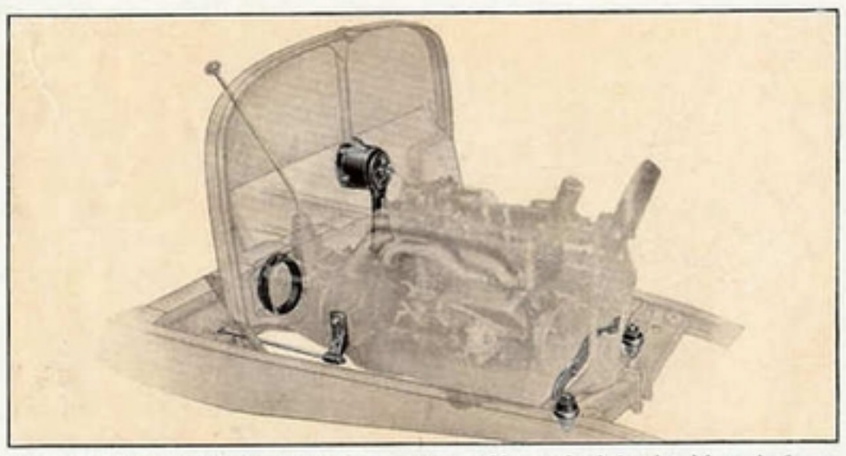
The Ford rear axle is the ¾ floating type, in which the weight of the car is carried entirely on the axle housing, and not on the axle shafts. This construction means maximum reliability and long service, as the axle shafts drive the car only. This view also shows the torque tube and radius rods, which together transmit the rear wheel braking and driving forces to the frame. The driving pinion and ring gear are of the spiral bevel type, for silent operation and long life. Notice that the entire drive is carried on roller bearings.



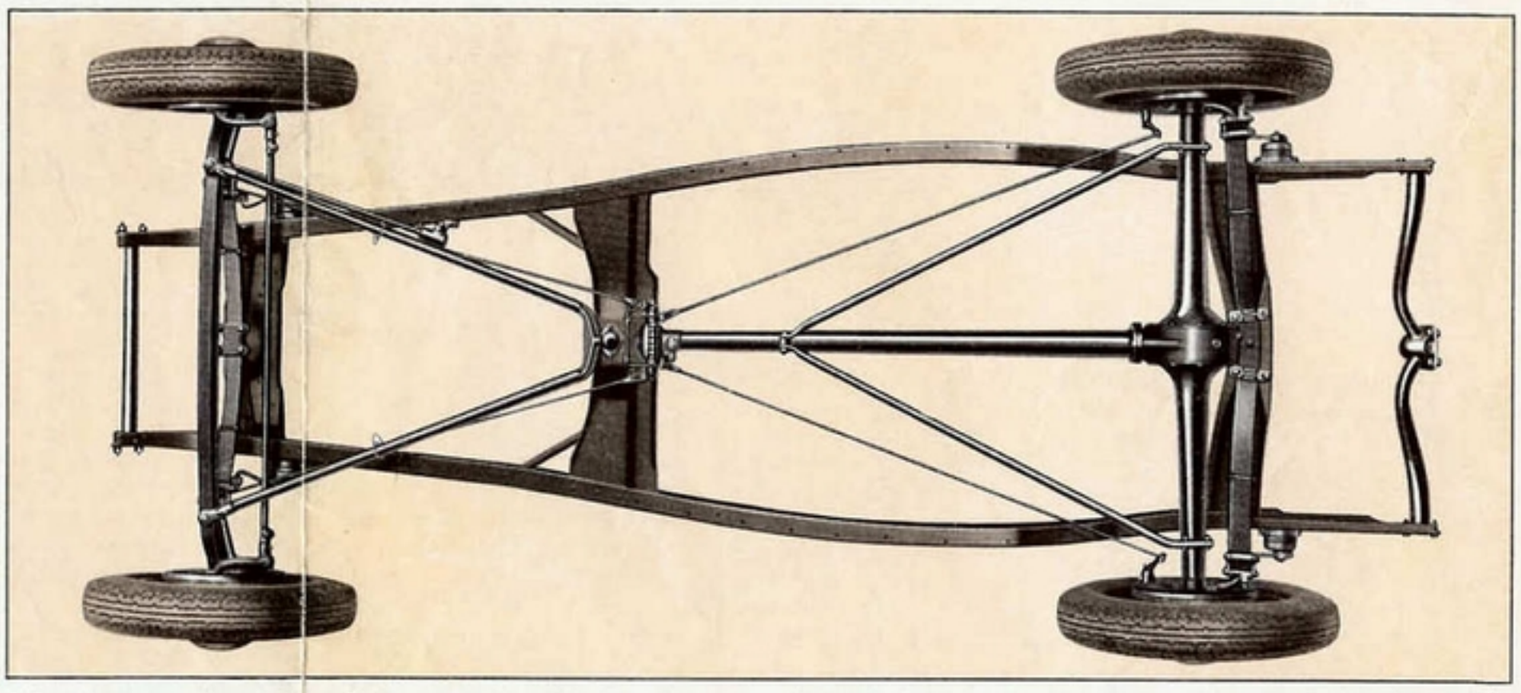
The front axle is so designed and built as to afford maximum safety at any speed and on any road. The axle itself is forged of alloy steel, as are the steering spindles. Radius rods hold the axle in correct alignment, and preserve the tilt that, with wheel and spindle inclination, assist materially in ease of steering. Spring movement, braking and steering forces, and road shocks cannot disturb axle alignment. Tires are 18 x 5.25 inches, and air pressure is 35 pounds. Rims are the drop center type, giving extra air capacity.



Steering of the New Ford is remarkably easy—true finger-tip control, enabling you to drive with new pleasure. The steering gear is the semi-reversible type, which gives you the "feel of the road," so that steering becomes instinctive, without conscious effort. Gear is of the worm and sector type, with a sector having three teeth for long wear and soft action. There is an automatic adjustment on the worm bearings, and the steering gear will go for long periods with no attention beyond lubrication.



The engine is mounted in the chassis at three points and is completely insulated from the frame by rubber. The rubber mountings were specially developed, are simple in design, and absorb the vibration of the motor so that little if any is transmitted to the frame. A bracket, bolted to the front of the engine, rests on a rubber insulator at each end. A second insulator is used between the bolt head and the underside of the cross-member. The engine is mounted at the rear in a support which consists of a steel plate with a large center opening around which rubber is vulcanized on both sides. This plate is bolted rigidly to the center frame cross-member. The rear end of the transmission housing is placed against the rubber on the forward side of the plate and is secured in position by the transmission rear bearing retainer which extends through the center opening in the support and bears firmly against the rubber on the rear side of the support plate. With this construction the entire power plant, is completely insulated from the frame by rubber. A friction type stabilizer is also used. It is mounted on the dash and attached to the rear of the engine. Engine radius rods transmit the driving and braking thrusts to the frame permitting the rubber mountings their full cushioning effect.



Under side of frame and running gear, showing torque tube, radius rods, and transverse cantilever springs. All driving and braking stress is brought to the heavy frame cross member through the torque tube and radius rods, leaving the soft flexible springs, controlled by the new double-acting, thermostatically-controlled shock absorbers, free to perform their normal purpose of absorbing road shock. This principle of Ford design is an exclusive Ford feature. It improves riding qualities due to the low unsprung weight, and gives the Ford car unusual stability on the road under all driving conditions. Road inequalities cannot affect braking or steering, because axle alignment is fixed. Note the simple, clean-cut construction. This view also shows how the new rear spring overhangs the axle.