

# The TULSA



*Witt Thompson Motor Company  
Tulsa, Oklahoma*



# The TULSA

## Each Tulsa Unit the Masterpiece of a Great Associated Factory

No single automobile factory on earth compares in size, efficiency and perfection of product with the combined factories which produce the various units of the Tulsa.

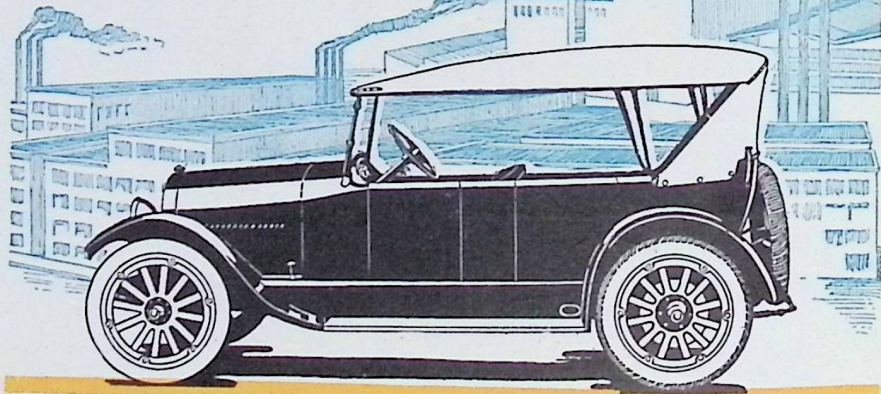
Each maker to his chosen specialty, concentrating skill, experience and efficiency of specialized manufacture, on one individual part. Thus, has greatest perfection and economy been made possible.

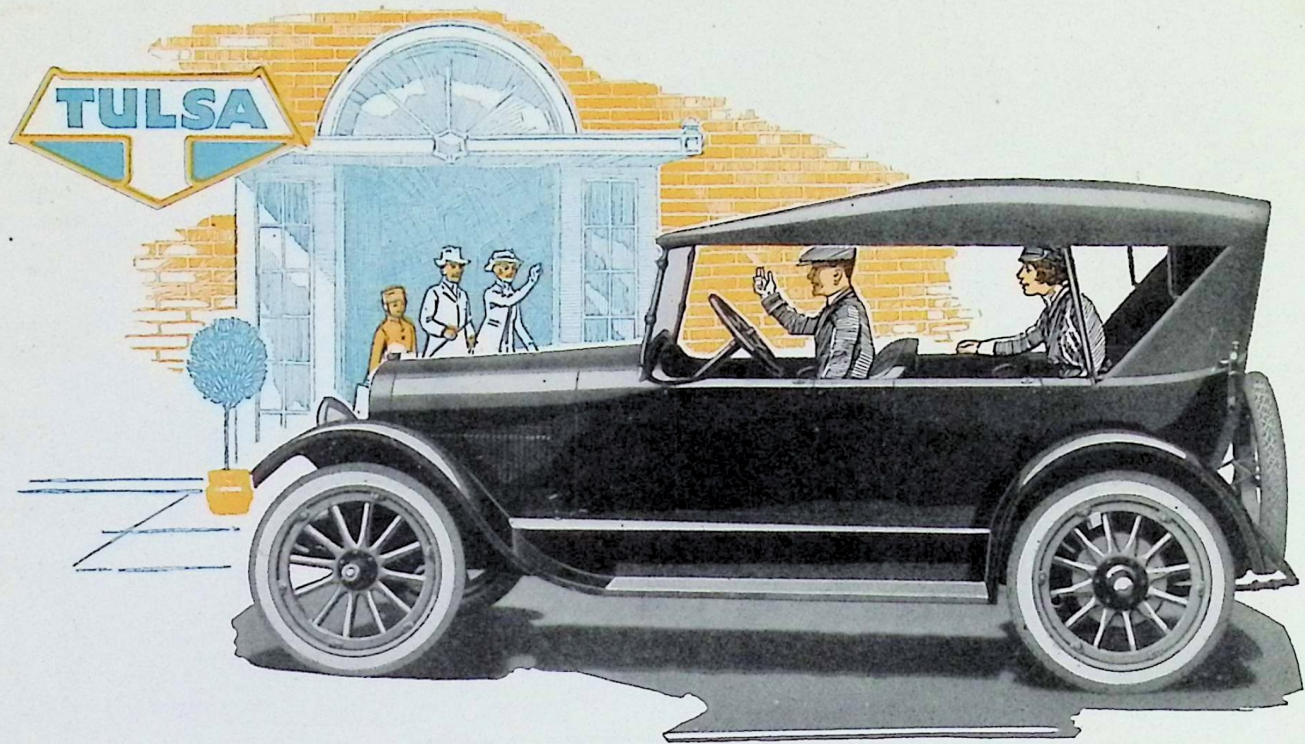
From the world of specialized manufacture, the engineers who designed the Tulsa picked and chose the important units, each for its excellence as a unit and for its fitness and harmonious performance in the composite car.

Thus in the purchase of a Tulsa today you get not only the proven merit of the car itself but the assurance of dependability and enduring worth of each individual part. The reputation of each has been honestly won and will be zealously guarded for all time.

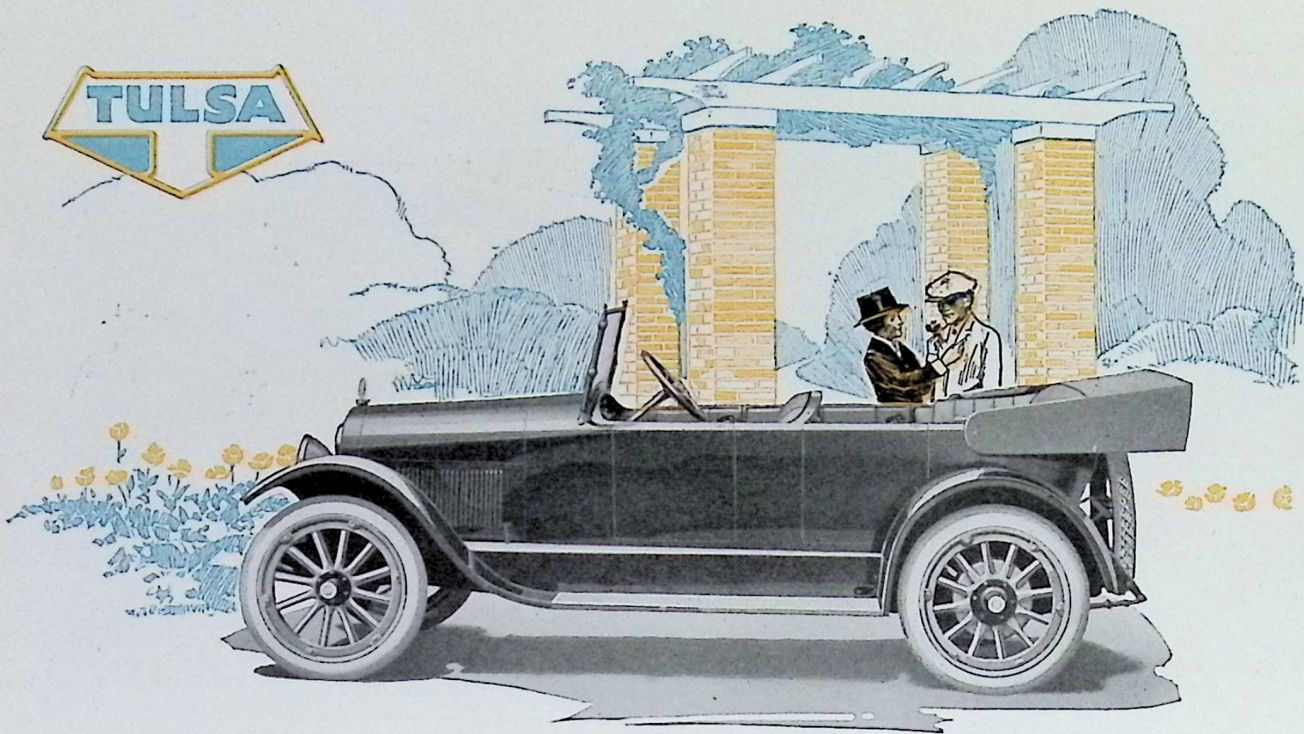


Herschell-Spillman  
Motor  
Connecticut Ignition  
Dyneto Starting  
Lighting  
Exide Battery  
Brown-Lipe-Chapin  
Gears  
Warner Gears  
Muncie  
Transmission  
Zenith Carburetor  
Borg & Beck Clutch  
Jamestown  
Radiator  
Salisbury Axles  
With  
New Departure  
Ball and Timken  
Roller Bearings  
Firestone Tires  
Stewart Speedometer  
and Vacuum Feed  
117 inch Wheel Base

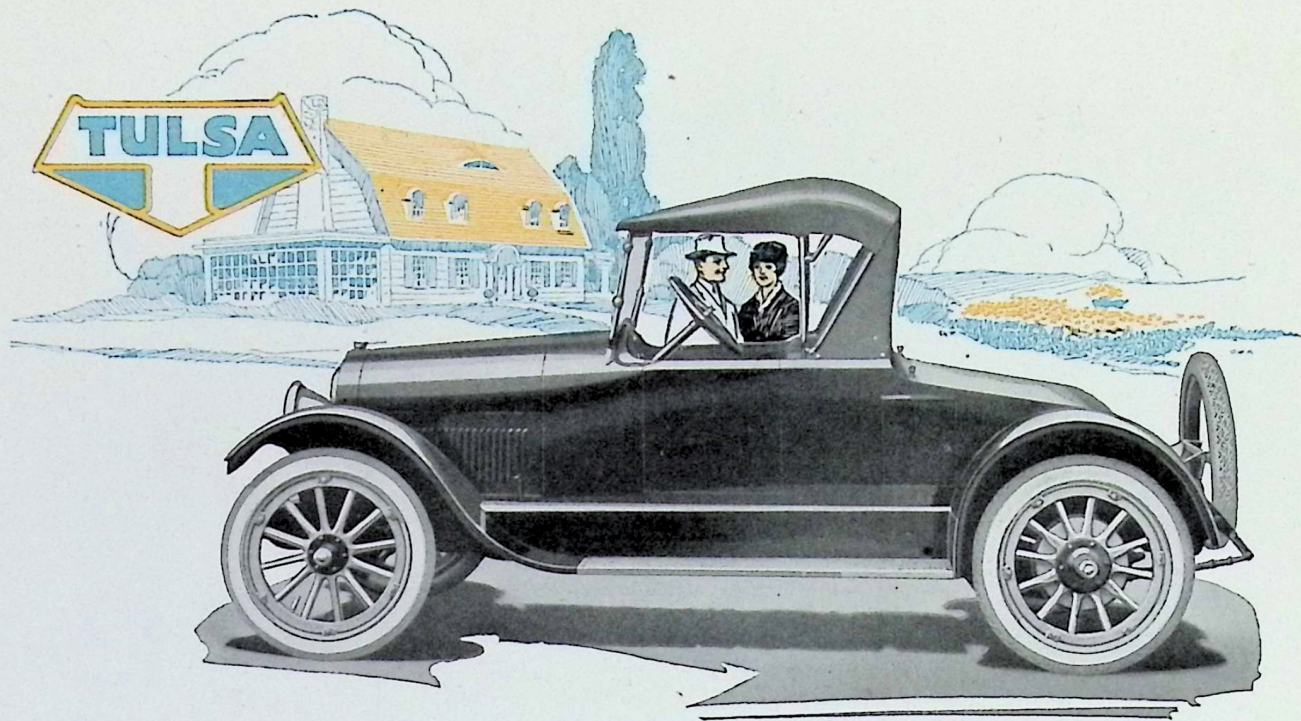




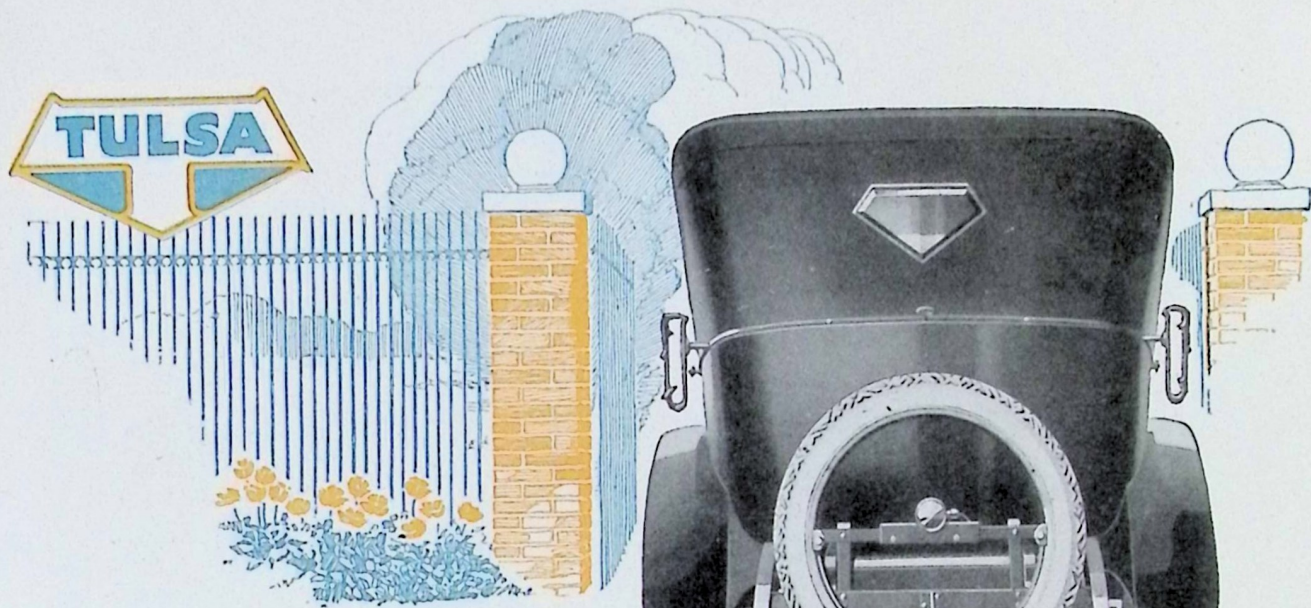
Tulsa Touring Car—Nothing in grace or beauty is sacrificed in this view of the Touring Car with top extended. Rather, through smart designing, the long sweep of the body lines is accentuated and improved. Chassis the same as that of the car "that conquered the world's worst roads."



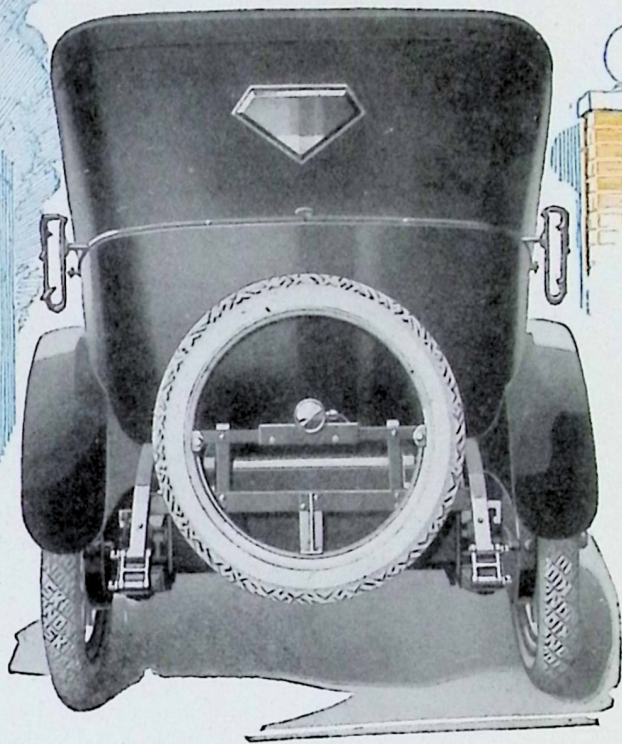
Tulsa Touring Car—The above is a faithful reproduction of the New Tulsa five-passenger Touring Car shown with top down. Note its long, graceful, beveled lines, yet sturdy, rugged strength. Built upon the Chassis "that conquered the world's worst roads."

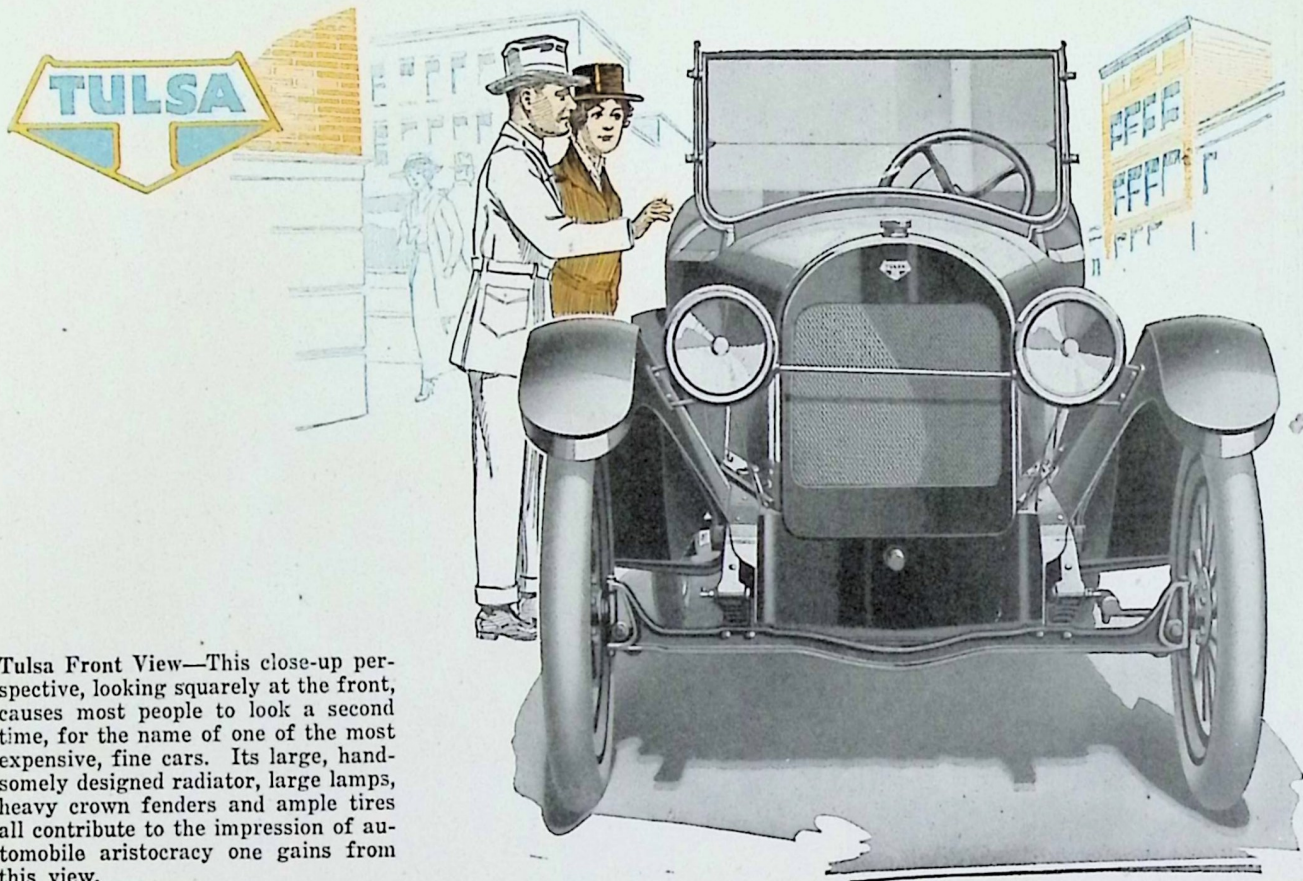


Tulsa Roadster—In this racy model all the quick get-about and coziness of the two-passenger car is seen at its best. The long hood, slanting wind shield and graceful sloping rear all blend into a symphony of lines that suggest untried power and swiftness that make one yearn for the open road. Built upon the same Chassis that built the Tulsa's reputation for mastery of all roads.

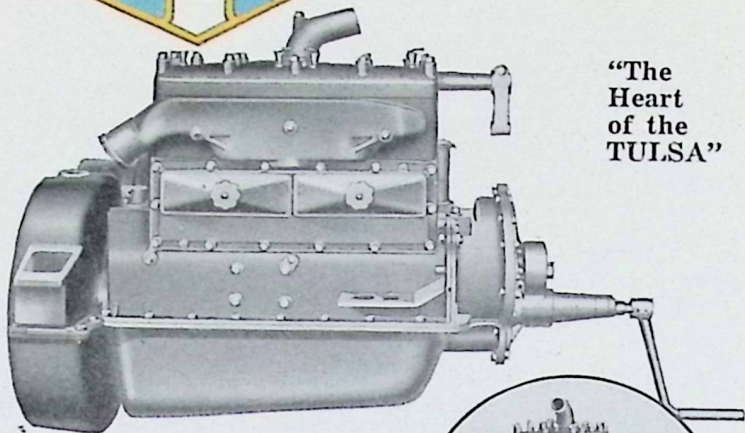


Tulsa Rear View—There is no angle from which one may look at this car which does not impress one with the beauty of line, staunchness of construction and that look of expensive quality which is found in no other car of such moderate price. This rear view shows large gasoline tank on rear; heavy, long crown fenders and plate glass rear light.





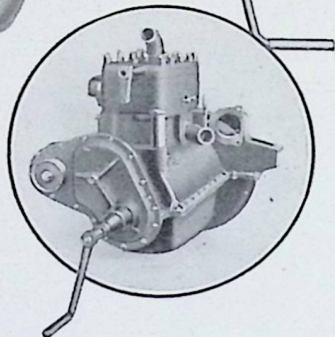
**Tulsa Front View**—This close-up perspective, looking squarely at the front, causes most people to look a second time, for the name of one of the most expensive, fine cars. Its large, handsomely designed radiator, large lamps, heavy crown fenders and ample tires all contribute to the impression of automobile aristocracy one gains from this view.



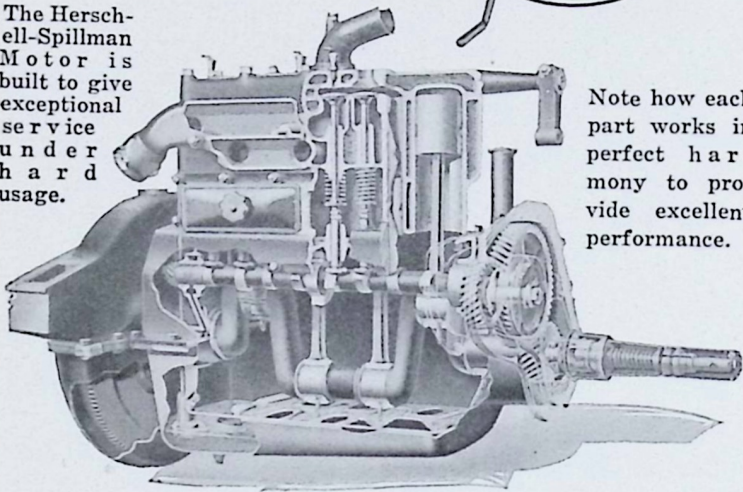
**"The Heart of the TULSA"**

**The Powerful and Dependable  
HERSCHELL-SPILLMAN  
"H-S Four" Motor**

No matter what car you buy or what price you pay, 90 per cent of the satisfaction you get, or the grief you have, depends upon the motor.



The Herschell-Spillman Motor is built to give exceptional service under hard usage.



Note how each part works in perfect harmony to provide excellent performance.





## General Description of the Tulsa Motor

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**Type**—4-cylinder cast en bloc, 3 1-2-in. bore by 5-in. stroke, one-piece removable L head, horsepower brake test 37—A. L. A. M. 19.6.

**Cylinders**—Cast en bloc from a special gray iron mixture and accurately machined on special machinery. Cylinder barrels are ground to a mirror finish.

**Manifolds**—Intake and exhaust manifolds are cast integral and are so arranged that when the gasoline passes through the intake pipe it is heated by the exhaust pipe walls to such an extent that it generates a gas by the time it reaches the combustion chamber, which is a big factor in power and economic gas consumption. The "hot spot" idea is carried as far as rational practice will permit.

**Crank Case**—Is cast integral with cylinders and designed to give rigidity to the motor.

**Oil Pan**—Is a steel stamping, combining strength with lightness, and is easily removed. The connecting rods and pistons may be removed quickly without taking the motor out of the frame or disturbing any other part, after the oil pan has been removed.

**Valve Mechanism**—Entirely enclosed and operated by a single cam shaft. Both inlet and exhaust valves are of liberal size.

The complete push rod assembly is set in a removable carrier bolted in position against cylinder block and when removed gives easy access to this entire assembly. The carrier is covered with removable side plates for easy adjustment of valves and keeps the mechanism free from grit. The valve push rods are special alloy steel, mushroom type.

**Pistons**—Are cast iron, ground to size. Special care is taken in boring and reaming the piston pin holes to insure perfect alignment, accurate size and smooth finish.

**Piston Rings**—Are of one-piece construction diagonally split, expansion type, carefully machined on the circumference and sides to standard dimensions and accurately fitted to the pistons.

**Piston Pins**—Are extra large, open hearth steel, case hardened.

**Connecting Rods**—"I" beam section of open hearth steel, drop forged, heat treated, carefully machined and reamed to insure perfect centers and alignment, and perfectly balanced. The upper end of the rod is bushed with phosphor bronze—the lower end is fitted with bronze shell, babbit lined bearings.

**Cam Shaft and Cams**—Are forged in one piece from open

hearth steel, annealed, rough machined and rough ground, carbonized, machined, case hardened and finished ground.

**Crank Shaft**—Is drop forged from open hearth steel, heat treated, machined and balanced on a special crank shaft balancing machine. The extra large main bearings and liberal connecting rod bearings are accurately ground to size.

**Timing Gears**—Are made with extra wide face and delicately cut. The gear set is composed of one crank, one cam and one generator drive gear. These gears are practically noiseless and are easily accessible.

**Bearings**—All main and connecting rod bearings are bronze shell, babbitt lined. Cam-shaft bearings, three in number, are soft grey iron. All bearings are accurately reamed and scraped to a perfect fit.

**Cooling**—Is by means of the thermo-syphon system, of sufficiently large capacity to keep motor at the correct temperature at all speeds.

**Fan**—The fan is 16 inches in diameter and driven by flat belt.

**Flywheel**—Is attached to the crank shaft by six ground steel bolts. Has 138 teeth for 13 tooth starter pinion, weight 55 pounds.

**Balancing**—Special care is given to accurate balancing of all revolving parts. The flywheel and crank shaft are given accurate running balance on special machines de-

signed for that purpose. The pistons, connecting rods and all reciprocating parts are likewise weighed and balanced, reducing vibration to a minimum.

**Oiling System**—Is combination force feed and splash. An oil pump is located in the oil pan entirely submerged in oil. It is driven by a vertical shaft, geared to the camshaft. Oil is drawn from the oil reservoir through a fine mesh screen, and is distributed by a steel distributing tube located horizontally the full length of the crank case.

**Suspension**—3 point.

**Firing Order**—1, 3, 4, 2.

**Piston Displacement**—192.4 cu. in.

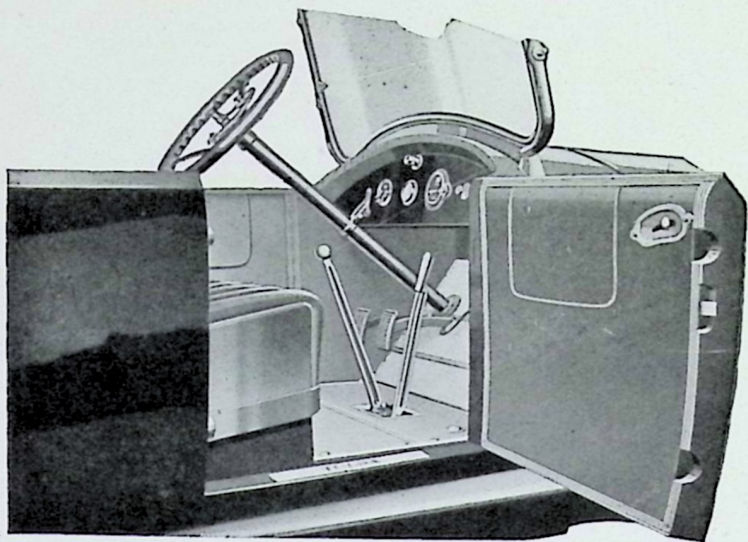
**Bearings**—Connecting rod bearing (bronze shell, babbitt lined) 2 in. diameter by 2 in. length. Crank shaft bearings (bronze shell, babbitt lined) 2 in. diameter by 4 in. length. Piston pin  $\frac{7}{8}$  in. diameter by  $3\frac{1}{4}$  in. length. Piston pin bearings (phosphor bronze)  $\frac{7}{8}$  in. diameter by 17-16 in. length. Cam shaft front bearings 2 1-16 in. diameter by  $2\frac{7}{8}$  in. length—center bearings 2 1-32 in. diameter by  $\frac{7}{8}$  in. length—rear bearing  $1\frac{1}{8}$  in. diameter by  $2\frac{1}{8}$  in. length.

**Carburetor**—Mounting for  $1\frac{1}{4}$  in. side outlet Zenith carburetor with S. A. E. horizontal flange.

**Fan Bracket**—Adjustable.

**Bell Housing**—S. A. E. standard with starting motor mounting flange with inboard bendix drive.

**TULSA**

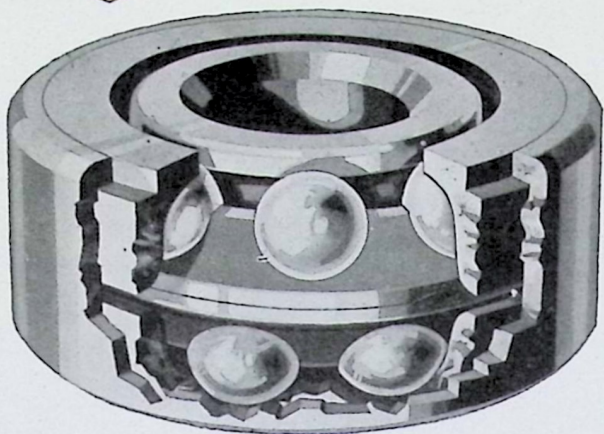


### **A Glimpse of the Roomy, Comfortable, Handsomely Appointed Driving Compartment**

Comfort and ease of operation was one of the big factors first considered in designing each model of the Tulsa Automobile. The moment you slip into the driver's seat, you are impressed with the natural "fit" and

"feel" of the seating and arrangements. Your hand falls naturally to the steering wheel; it is placed precisely at the proper angle and position; not close against your chest, nor yet awkwardly far in front.

**For Export Trade The Tulsa is Made With Either  
Right or Left Drive and With or  
Without Magneto**



New Departure Ball Bearings.

### Interesting Facts About the Tulsa

**Body Finish**—20 gauge metal body, 21 operations in connection with the application of the best color coats and varnish obtainable; large, noiseless, close fitting doors with latches set flush; cork linoleum covered running boards; front floor covered with cork linoleum; rear floor of Touring Car covered with Wilton carpet and equipped with foot rest and flexible robe hanger suspended from rear of front seat.

**Fenders**—18 gauge pressed steel, full crown, extra long curve extending over wheels, strongly braced and bolted to the frame. Finished with heavy black enamel, baked on.

**Colors**—Black enamel running gear and fenders. Body Tulsa Standard Blue. Special color schemes extra.

**Road Clearance**—The 11-inch road clearance enables the Tulsa to travel over roads with unusually high centers, stumps, etc.

**Weight**—2700 lbs. approximately, depending on the type of body—Touring Car or Roadster.

**Fuel Consumption**—Repeated tests show an average of 18 to 22 miles per gallon on gasoline, and 450 miles per gallon on lubricating oil.

**Tool Kit**—Consists of complete set necessary for all general repairs.



# TULSA

**C. A. S. Steering Gear**—Worm and sector type, 18-inch highly polished walnut steering wheel, nicked quadrant, spark lever and throttle, electric horn button mounted at center of steering post.

**Horn**—Trojan electric, sounds loud, commanding warning, operates by round rubber button.

**Fan**—Oil flooding type, 16 inches in diameter, 4 blades, belt driven, adjustable, bearing absolutely quiet—oil reservoir supplies oil automatically. Will run from 25,000 to 30,000 miles without needing additional lubricant.

**Bearings**—New Departure ball and Timken and Bower roller bearings are used at application points best suited for that particular type of bearing.

**Lights**—Two large black nickel trimmed head lamps equipped with dimming attachments and instrument light and tail light are operated from the dash switch; single wire contact, 21 candle-power bulbs, 6 volts.

**Firestone Tires**—Plain tread on front, non-skid on rear; size 33x4, straight side; owners get from 8,000 to 10,000 miles service on these Firestones.

**Upholstering**—Highest grade, box pleated material, padded with curled hair over MARSHALL cushion springs. Cushions and backs deep and luxurious. They keep their shape and have no tufts to catch dust.

**Windshield**—Rain vision, ventilating type, heavy plate glass, extra strong side supports, rubber rain strips at top, center and bottom.

**Top**—One man type, Neverleek material, fastens to windshield by ball and socket, plate glass window in rear; curtains fit snugly around top and windshield, detachable curtain supports on both doors, curtains open and close with the doors, Lift-the-Dot fasteners, duet cover and clamp type top holders.

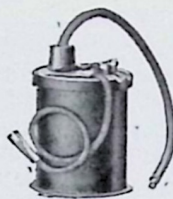
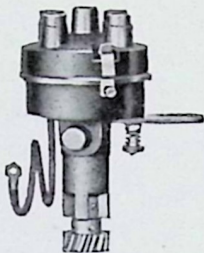
**Wheelbase**—117 inches insures the same riding surface used in cars that ordinarily sell for from \$2000 to \$3000.



# TULSA

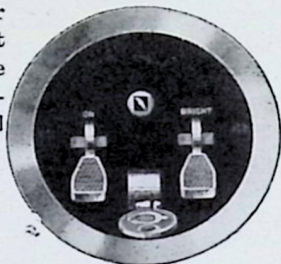
## Connecticut Ignition System

The ignition system consists of a Distributor, Coil and Automatic Switch. The changing of the low voltage current to high voltage, to enable it to jump the spark plug gaps under all conditions, is accomplished by the distributor operating in conjunction with a simple, non-adjustable coil. The distributor is mounted on the front end of the engine and driven by spiral gears from the cam shaft.



A combination lighting and ignition switch is mounted on the instrument board. The operation of the left hand lever turns all lights on and off. The position of the right hand lever determines whether the lights are bright or dim. The key in the center controls the ignition. The switch will

"kick" itself "off"—automatically—the minute the current is being wasted. This switch is more than human—it never forgets.

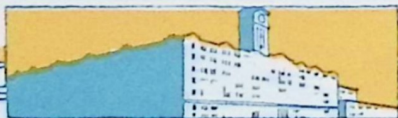
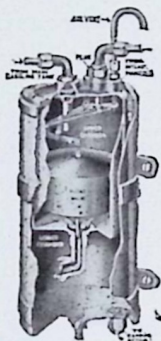


### Stewart Speedometer

The latest type Stewart Speedometer is mounted on the instrument board. It registers the total mileage, trip mileage and speed accurately.

### Stewart Vacuum Feed

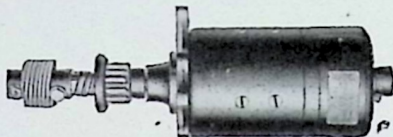
The carburetor is fed by gravity from the Stewart vacuum tank, which draws gasoline from the 18-gallon storage tank suspended to rear of chassis. The tank is of extra heavy metal, hung with strap iron, hot riveted to the frame, and is equipped with the latest dial gauge.





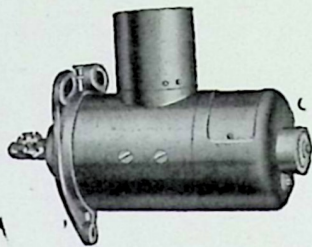
## Dyneto Two Unit Starting and Lighting System

The extreme simplicity of the DYNETO starting and lighting system makes an instant appeal to motorists. Ample current for starting, lighting and ignition is supplied by a DYNETO generator, driven by the engine. It keeps the storage battery properly charged at all times, and is equipped with a safety cutout switch which prevents overcharging and discharging.

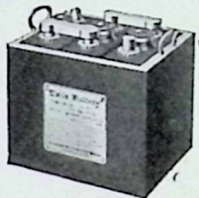


Press the starter switch on the floor board and the powerful DYNETO starting motor holds instantly with strength sufficient to start the engine quickly under all conditions. The fear of a stalled engine in traffic jams or railroad crossings is almost banished, for the starter has enough power to move the car itself.

A Standard Ammeter—flush type, white lettering on a

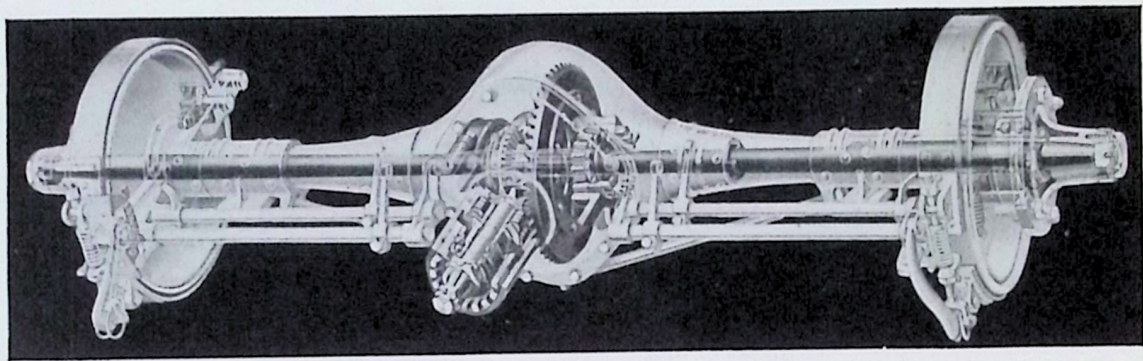


black dial, with heavy glass lens — on the instrument board, keeps the driver constantly informed whether the storage battery is charging properly.



The EXIDE Storage Battery is located under the front seat and furnishes ample current for operating the starting motor, ignition system, horn and lamps. A factory guarantee is furnished with each battery.



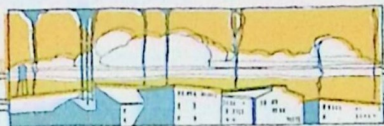


**Salisbury Rear Axle**—Floating type, pressed steel housing fitted with 1¼ in. drive shaft; differential has spiral bevel pinion and ring gear, ratio 10 to 45, operating on TIMKEN roller bearings. Differential readily accessible by removing back cover; pinion gear is adjustable. Double acting brakes operate on 14-in. drum.

**Salisbury Front Axle**—Drop forged "I" beam section, heat treated, fitted with Bower and Timken roller bearings.

**Muncie Transmission**—Standard, selective sliding gear type, three speeds forward and reverse; extra wide gears cut from the highest grade chrome nickel steel, heat treated. Main shaft equipped with double row of extra large New Departure ball bearings.

**Universal Joints Extra Heavy 3000 Series B. G.**—Hotchkiss drive.

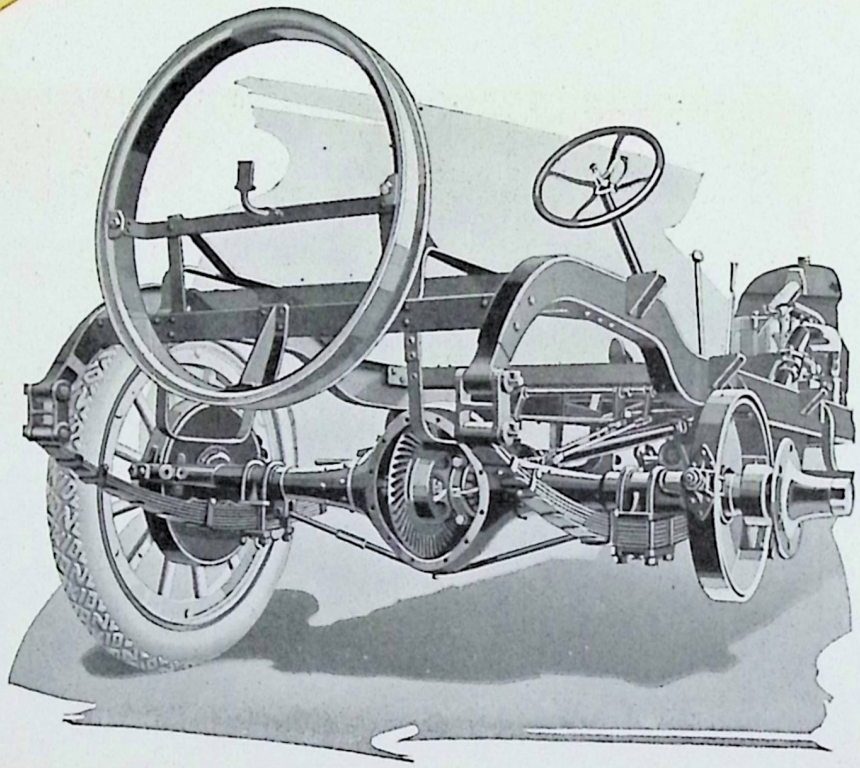


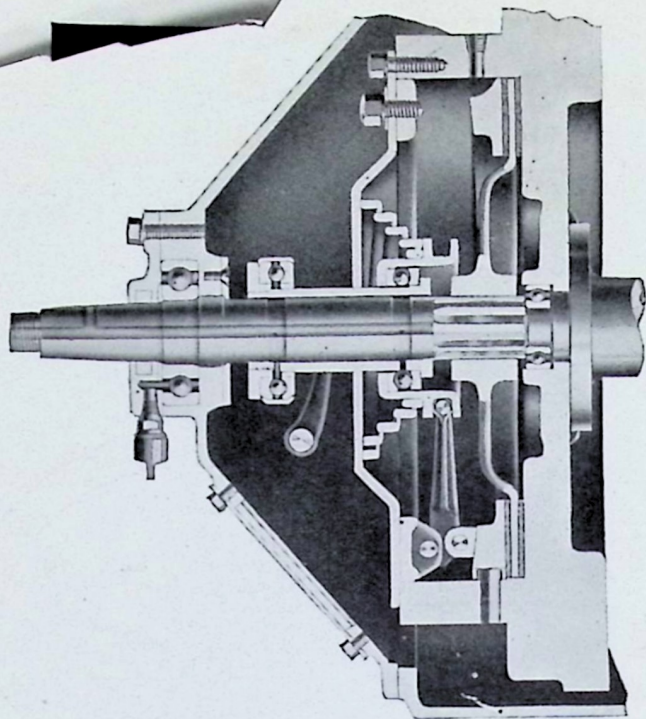


ings—Canton semi-clip-  
type, under-slung effect,  
in. wide by 34 in. long,  
leaf; rear 2 in. wide by 52  
long, 8-leaf. Springs are  
ade of vanadium steel, ex-  
ceptionally strong and flex-  
ible. Special designed bolt  
filers makes lubrication an  
easy simple operation—no  
grease cups to fill.

**Brakes** — Double acting.  
large 14-in. brake drums, 2  
in. wide; emergency brake  
internal expanding; service  
brake external contracting;  
lined with Thermoid lining.

**Wheels**—Equipped with the  
latest artillery type wood  
wheels of best quality sec-  
ond growth hickory, 1 3/4-in.  
spokes, 12 in number. Stand-  
well demountable rims, 33-4  
in., held firmly in place by  
6 lugs. Front wheels run on  
Bower roller bearings, rear  
on New Departure ball bear-  
ings. Wire or Disc wheels  
optional.





### Single Plate, Dry Disc Clutch

The fact that practically all of the high grade cars use this type clutch is sufficient guarantee of its dependability. The clutch used in the TULSA is the new 10 inch single plate, dry disc clutch, fully enclosed with the fly wheel in the bell housing.

Its ease of operation makes this clutch especially popular with women drivers. Its action is gentle, yet positive. The slightest touch of the foot disengages the clutch; it engages gradually without grabbing and when fully engaged will not slip.

As this clutch operates dry, there need be no worry about cleaning and lubricating. The adjustment is a very simple matter. Every mechanic knows this clutch perfectly.



