

# Kational 40

NATIONAL MOTOR VEHICLE COMPANY INDIANAPOLIS INDIANA

MEMBER OF AUTOMOBILE BOARD OF TRADE

## F O R E W O R D

"National 40 Wins"—After each race meet of importance, these are the words that flash across the continent.

The casual reader, from the frequency of the National 40 victories, may be led to believe that this is a car made solely for speed.

This is not true.

The National 40 is essentially a pleasure car for every-day service. It is made with this idea alone in view. Its unparalleled winnings are but demonstrations of the superior design, construction, materials, perfect balance and tire economy, all of which are absolutely essential to the perfect car in your hands.

Its unequaled number of victories in stock car races, and the fact that every National 40 is so well made that any one selected at random is good enough to win, prove it

#### STOCK CHAMPION





# National 40

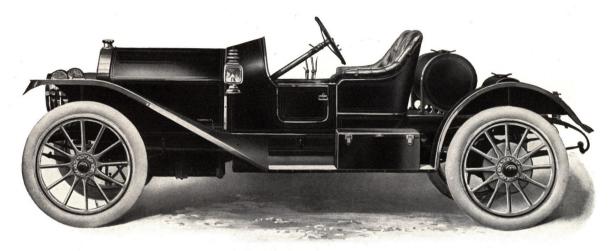


HE National 40 has come to be known as being all that is desirable in the modern motor car. In any of the eight styles in which it is offered you will find every feature that adds satisfactory service, safety and endurance. The best materials are used throughout. This, coupled with the experience gained through years of automobile manufacture, enable us to offer you a car that represents every advance toward the perfect automobile. In National construction the yearly model has been superseded by series of cars embodying the very latest improvements in each series as it appears. Hence the purchaser knows that he is not obliged to wait until a new yearly model comes out to get the benefit of the latest improvements engineering science has to offer.

The experienced motorist will find every refinement in the National 40. The chassis is well balanced; the body is roomy and beautifully proportioned, with deep, luxurious upholstery and correct spring suspension. In fact nothing has been spared or slighted in producing a car that will fulfil every desire of the owner, making him independent of rough or bad road conditions.

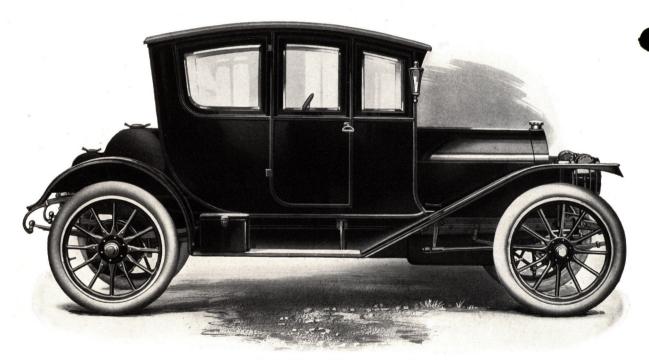
This is the one car in the whole of the motor world in which price is not the measure of value. The National 40 finds its buyers among those who can well afford to pay any price for motor car comfort and satisfaction, yet choose the National because of its superior capability, extreme comfort, easy riding qualities and lasting service in their own hands.

# National 40



#### SPEEDWAY ROADSTER—\$2500

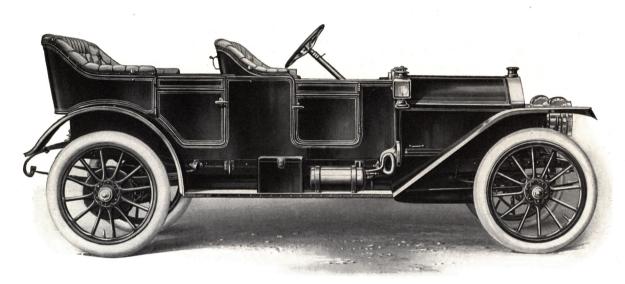
Faster than anything you will meet on the road, carrying you hundreds of miles without a stop, it is small wonder that this car is the favorite of men who want and can have the best in motordom.



#### COLONIAL COUPE—\$3000

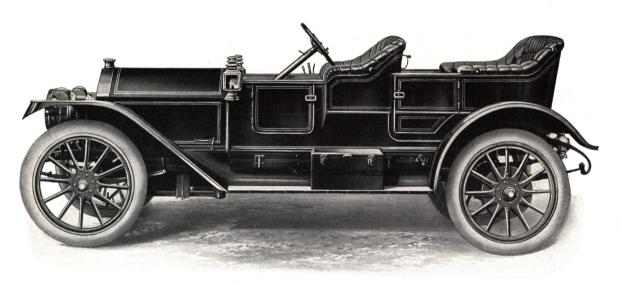
Speed and power, with limousine luxury and protection, for the man who drives his own car.

Seats three with comfort. The car without equal for the physician, clubman or miladi's use.



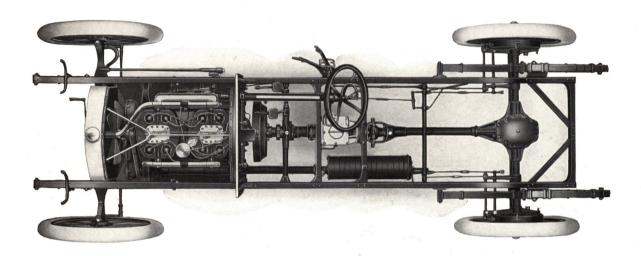
#### FORE-DOOR TOURING—\$2600

Big, powerful, comfortable, fast and reliable, this is the ideal five-passenger, fore-door touring car. It has a roomy, comfortable body, with deep cushions, and is superbly finished.



#### TOY TONNEAU—\$2600

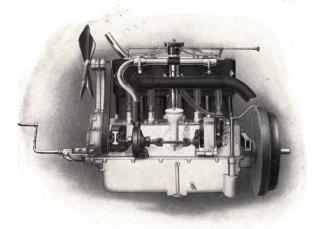
Nothing classier in the automobile world than this snappy toy tom.eau. Carries four persons in comfort. The chassis is the same as the one under the touring car.

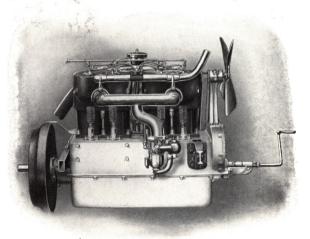


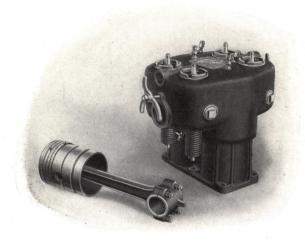
This plan view of the National 40 chassis shows its simple design and accessibility, while its perfect balance and tire economy are the talk of motordom.

#### MOTOR DETAILS

The unequaled National 40 motor is the result of experience gained in years of gasoline engine construction. Its superiority has been demonstrated in the most strenuous long-distance stock chassis races. Only an engine mechanically perfect, such as this, could have won the foremost stock car contests of the year, in many cases at speed greater than sixty miles an hour and without stops for stretches of over 200 miles. The National 40 motor is rated at forty horsepower, though in actual service it develops over 50 per cent. more power.





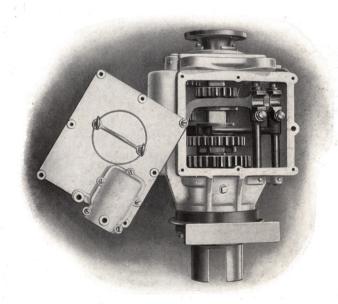


The same attributes that have enabled this motor to endure the excessive strain of racing conditions make it most satisfactory in your hands for everyday use. Its power makes you absolutely independent of road conditions or hills. Its flexibility at both high and low speed makes city driving, either on the boulevard or in the most congested downtown districts, simple and convenient. Owing to its freedom from mechanical trouble, the National 40 is especially

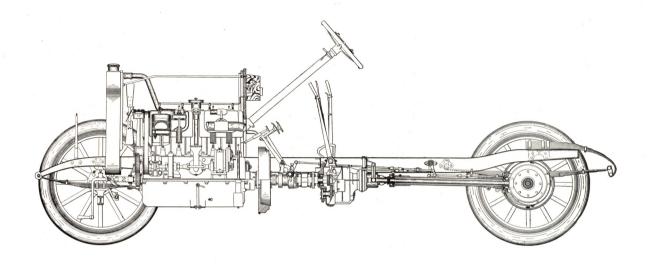
adapted for the man who wishes to handle his own car. Its great power is so thoroughly controlled, that when careful driving is required, it is an additional factor of safety.

The National transmission, after years of hard service, has proven thoroughly reliable and satisfactory in every respect. It is remarkably strong and yet easily accessible, having a removable inspection plate and cover, making inspection or refilling with lubricant a simple operation.

The accessibility and convenient placing of the levers make the shifting of gears an easier operation with the Na-



tional than with any other sliding gear transmission. It is accomplished without noise or grinding, which is a common fault in many transmissions.

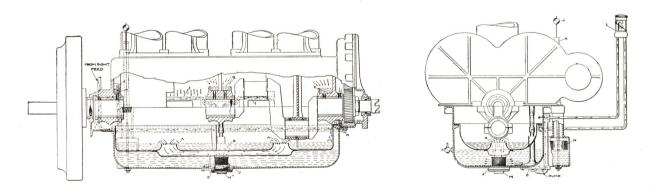


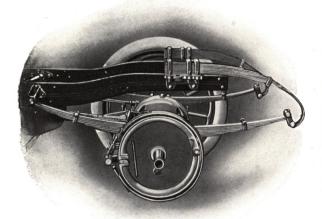
This tracing of the complete chassis will tell the trained student of mechanics more at a glance than would pages of description. Careful study of it is invited.

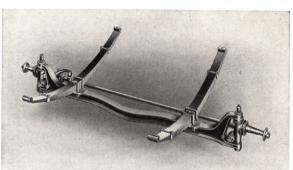
The National automatic oiling system is by no means the least factor in the National's well-known durability. No system less efficient could give the motor such perfect lubrication.

This is only one of the reasons why the National 40 has been able to triumph over the choicest products of America and Europe in every kind of competition, running century after century without engine trouble of any kind.

A careful study of the oiling system tracings will show why it is so thoroughly efficient and economical.

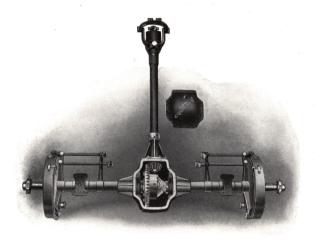






Highly efficient brakes are required to meet adequately the tremendous power and speed of the National. These add absolute safety and perfect control to the National under any and all driving conditions. This feature is appreciated especially by the experienced motorist and gives the man who drives and those who ride a feeling of ease and security.

Sturdy, dependable front axle construction are prerequisites to National 40 speed and endurance. Likewise the rear axle and differential must be superior in design, materials and workmanship to give the great endurance on this score found in all National cars.



#### SPECIFICATIONS

Motor—Four cylinders, 5 x 5 11-16 inches vertical, cast in pairs and thoroughly annealed, mounted on main frame. Extra large mechanical valves of nickel steel; exhaust and admission on opposite sides and interchangeable. Spiral cut timing gears operating cam shafts. Two separate sets of spark plugs. Tapered nipples used on intake, exhaust and water pipes in place of packing. Crankshaft of special steel ground to one-thousandth of an inch, with extra long Parson's white bronze bearings. Gear-driven distributor. Divided aluminum crank case. Interchangeable parts.

Self Starter—A simple efficient self starter operated from the seat is regular equipment on all models.

Clutch—Self-contained aluminum cone, leather faced, spring cushioned, giving gradual engagement. Clutch removable without disturbing transmission.

Transmission—Sliding gear, selective type. Three speeds forward and one reverse; direct on high. Self-contained Hess-Bright ball bearings on main and countershafts. Gears run in oil; their perfect fit makes them noiseless.

WHEEL BASE—124 inches.

GAUGE—56 inches; option 60 inches for Southern roads.

OILING—Crank case, constant level force feed oiler with gear-driven pump, oiling all working parts of motor. Capacity, four gallons. The roadster has an auxiliary oil tank on rear deck containing ten gallons, with pressure feed to crank case.

Gasoline Capacity—Touring, toy and torpedo, twenty gallons; roadster, thirty gallons.

Brakes—Two systems. Two internal expanding metal-to-metal hub brakes operated by foot pedal, and two brakes on outside of rear wheel drums operated by hand lever.

Frame—Pressed steel, wide flanged, 4½-inch channel section firmly riveted and braced and curved up over rear axle. No sub-frame.

Front Axle—I-beam steel one-piece forging. Large, adjustable roller bearings.

Drive—Bevel gear through straight line shaft enclosed in heavy seamless tube. One sliding universal joint automatically lubricated.

REAR AXLE—Compound construction; full floating type; inner axle used only as a driver; wheels turn upon double bearings on hollow axle, which carries all weight. Whole system readily accessible. The National rear system has never proven troublesome.

Bony—Straight line, sheet metal, side entrances. Divided front seats. Carrying capacity: Touring cars, five passengers and seven passengers; toy tonneau, four passengers; torpedo body, four passengers; speedway roadster, two passengers; colonial coupe, three passengers.

IGNITION—On all types except roadster two separate complete systems, one a gear-driven high-tension Bosch magneto, the other a storage battery, single vibrator coil and distributor. Each system has a separate set of spark plugs located in valve caps in cylinder heads. Either or both systems may be used at will.

ROADSTER IGNITION—A double distributor Splitdorf magneto with two sets of plugs and storage battery. This system fires both sets of plugs simultaneously on either battery or magneto.

Tires—36 x 4 on touring cars, toy tonneaus, colonial coupes and torpedos; speedway roadsters 36 x 4, option  $34 \times 4\frac{1}{2}$ ; seven-passenger touring cars and limousines,  $37 \times 4\frac{1}{2}$ ; Diamond, G & J, Firestone, Michelin or Continental.

Dust Protection—Detachable metal dust pans protect all working parts.

GUARDS—Continuous enclosed metal guards, front and rear. Metal dust shield between frame and running board.

Gasoline Feed—Touring cars, toy tonneaus and torpedo, gravity; roadster, pressure.

Carburetor—Schebler, 1¾-inch on all types but roadster; Schebler, 2-inch on roadster; metal strap holding it rigid to crank case.

Finish—National blue, with gray wheels; options, National green, National red, National gray body and gears.

UPHOLSTERING—Luxuriously upholstered in either dull or bright black long grain leather. Special spring mattress cushions. Colonial coupe either cloth or leather.

Steering System—18-inch hand wheel, inclined post. Worm and gear, non-reversible chuck. Ball joint connection to steering knuckle.

COOLING SYSTEM—Special straight line radiator of most approved cellular construction; adjustable ball bearing fan attached to engine base. Water circulation by centrifugal pump.

CONTROL—Single lever at driver's right controls all speeds. Three forward and one reverse. Foredoor touring car and torpedo have control levers inside of body.

Springs—Half elliptic, 40-inch front; 48-inch rear, three-quarter scroll elliptic.

Tool Boxes—Under tonneau seat and metal box on running board.

EQUIPMENT—Two 8-inch Gray & Davis gas lights with Prest-O-Lite tank; side and tail oil lamps; horn, tools, jack.

# Winner at Elgin

The Elgin Stock Chassis Road Races were the most important stock car races of the year. Again the cream of American cars went down in defeat before the stock National 40.

# First in Elgin National Trophy Race

August 26, 1911

305.03 MILES IN 275 MINUTES, 39.08 SECONDS 66.4 Miles Per Hour, Without a Tire Change

In this race the stock National 40 defeated five cars that had over 100 inches greater piston displacement, and six cars that sell for \$2,000 above the price of a National, and broke the record by 3.92 miles per hour, established the year previous by a \$4,000 car.

# First and Second in Illinois Trophy Race

August 25, 1911

203.35 MILES IN 185 MINUTES, 55.18 SECONDS 65.6 Miles Per Hour—Both Without a Stop—Only 9.65 Seconds Between First and Second

# World's Stock Straightaway Mile Record

Howard Wilcox, driving a stock National 40, certified under Reg. No. 311, broke the World's Record for the stock straightaway mile and established a new record of 40.32 seconds, over the Atlantic-Pablo Beach, March 30, 1911.

These are records of unequaled consistency. These victories prove the National 40

#### STOCK CHAMPION

# Breaks World's Road Race Record Twice in One Day at Santa Monica

October 14, 1911

The National 40 is the first American-made car to wrench the World's Road Race Record from the big speed creations of Europe.

Merz driving a National 40 won the 301-450 Class C event of 151.5 miles averaging 74.42 miles per hour. Two Nationals entered this event, finishing first and fourth.

Herrick, with the same National 40 which he drove into fourth place in the race above, won the free-for-all event of 202 miles, averaging 74.63 miles per hour. Three Nationals entered this event, finishing first, fourth and fifth.

Both winners broke the World's Road Race Record, established by Nazzarro in a 120-H. P. Fiat over the Florio Course, Italy, September 6, 1908. Both winners were strictly stock National 40's with the one exception—high second speed gears used in the transmission.

# THIS IS THE MOST PHENOMENAL PERFORMANCE IN THE HISTORY OF MOTOR CAR CONTESTS

This Showing Demonstrates the Superiority of Stock National 40 Design and Materials Over Even the World's Choicest Racing Cars and Proves the National 40

#### WORLD'S CHAMPION

### Wins the Great Desert Race

The Los Angeles to Phœnix Desert Road Race, 550 miles over the great American desert, through sand hub deep, was won by Harvey Herrick in the National 40, defeating one foreign and fourteen American cars and finishing two hours and fifty-two minutes ahead of the next car.

# Since January 1, 1911, National Cars Have Won 14 Firsts Out of 20 Races of 100 Miles and Over

This is the unequaled record of the National cars. These victories alone are greater both in class and number than most other manufacturers have won throughout the history of their racing campaigns.

But this is not all—National cars in the hands of thirty-five different drivers (only seven of whom were employed by the factory) won

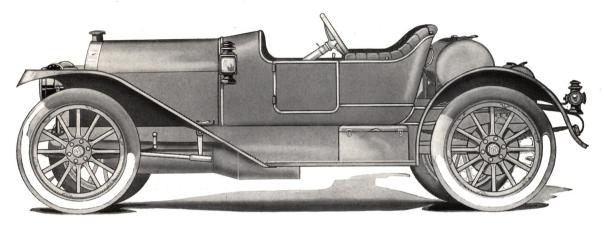
84 Firsts
48 Seconds

30 Thirds

Since January 1, 1911

Its showing entitles the National to be called

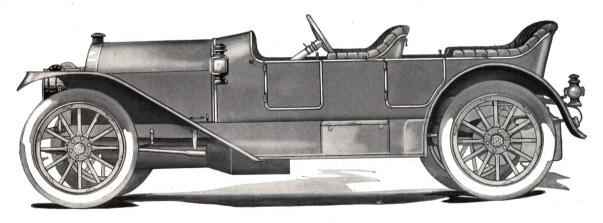
#### LONG DISTANCE CHAMPION



### SPEEDWAY ROADSTER Series V

With Standard Equipment—\$2,750

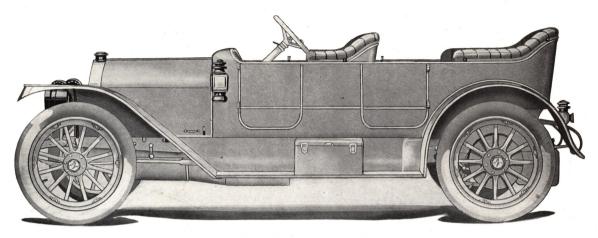
With mohair top, folding glass front, Warner 100 mile speedometer, and shock absorbers on rear in addition to standard equipment—\$3,000.



TOY TONNEAU Series V

With Standard Equipment—\$2,900

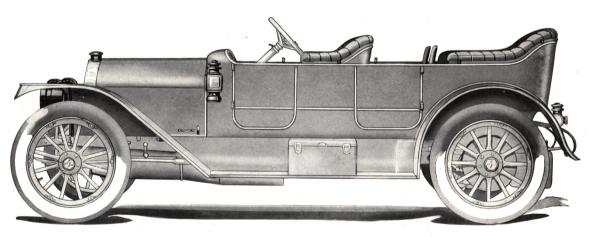
With mohair top, folding glass front, Warner 100 mile speedometer, and shock absorbers on rear in addition to standard equipment—\$3,150.



FIVE-PASSENGER TOURING Series V

With Standard Equipment—\$2,900

With mohair top, folding glass front, Warner 100 mile speedometer, and shock absorbers on rear in addition to regular equipment—\$3,150.



## SEVEN-PASSENGER TOURING Series V

With Standard Equipment—\$3,000

With mohair top, folding glass front, Warner 100 mile speedometer, and shock absorbers on rear in addition to standard equipment—\$3,250.

In order to satisfy requests for additional luxuries on Series S cars, we are building, in addition to our popular Series S, a new Series V, which will contain the National heritage of correct fundamentals enhanced by every possible subtle touch of comfort and refinement.

Continued reliability; power and speed; easy riding; absolutely noiseless; strong, straight and distinctive in lines; low bodies; roomy interior; wide doors; easy access to doors on both sides, in front and rear; smart slope to hood; and larger tires are some of the features that make Series V unequaled in motor values.

Motoring has been lifted from its last aggravating stage, that of cranking. By means of the modern self-starter, which is reliable, safe and simple to operate, the motoring fraternity finds unequaled comfort in this Series V. Women welcome this National with its self-starter, as they are no longer obliged to call for help or struggle in the street with the crank.

A close survey of the many fine points that give the National Series V its superior completeness, furnish the reasons for its predominance.

#### SPECIFICATIONS

Series V

Motor—Four cylinders, 4% x 6 inches vertical, cast in pairs and thoroughly annealed. Motor is mounted on frame. Extra large mechanically operated valves, with nickel steel heads, exhaust and admission on opposite sides and interchangeable. Spiral cut timing gears operating cam shafts. Two separate sets of spark plugs. Tapered nipples used on intake, exhaust and water pipes in place of packing. Crank shaft of vanadium steel, ground to one-thousandth of an inch, with extra long Parsons white bronze bearings. Horizontally divided aluminum crank case. Interchangeable parts. Valve stems and springs are completely enclosed, eliminating noise and affording protection.

Self Starter—Simple, reliable and easily operated.

CLUTCH—Self-contained aluminum cone, leather face, spring cushioned, giving gradual engagement. Clutch removable without disturbing transmission.

Transmission—Sliding gear selective type. Three speeds forward and one reverse. Gears made of special alloy steel, oil tempered. Annular ball bearings on main and counter shafts. Gears run in oil; their perfect fit makes them noiseless.

WHEEL BASE—Roadster 120 inches. Touring car and toy tonneau 128 inches.

GAUGE—56 inches; optional, 60 inches for southern roads.

OILING—Crank case, constant level force feed oiler, with gear-driven pump, oiling all working parts of motor. Capacity, four gallons. The roadster has an auxiliary oil tank on rear deck containing ten gallons, with pressure feed to crank case.

IGNITION—On all types except roadster one gear-driven, high-tension, double dual Bosch magneto with storage battery. Two sets of spark plugs are located in valve caps in cylinder heads.

ROADSTER IGNITION—A double distributor Splitdorf magneto with two sets of spark plugs and storage battery. This system fires both sets of plugs simultaneously on either battery or magneto.

Tires—Speedway roadster,  $34 \times 4\frac{1}{2}$ ; four-passenger toy tonneau and five-passenger touring,  $36 \times 4\frac{1}{2}$ ; seven-passenger touring,  $36 \times 5$ . Diamond, Firestone, G&J, Fisk or Michelin. Firestone demountable rims regular on all models.

WATER AND DUST PROTECTION—Detachable metal dust pans of an improved type protect all working parts and give perfect and water-tight protection.

# National 40

GUARDS—Wide continuous enclosed metal guards front and rear. Metal dust shield between frame and running board. Shield over rear spring shackle.

Gasoline Feed—Air pressure on all tanks generated by small pump in crank case.

Carburetor—Schebler 134-inch on all types but roadster. Two-inch on roadster; metal strap holds it rigid to crank case.

GASOLINE CAPACITY—Touring and toy tonneau, twenty-three gallons; roadster, thirty gallons.

Brakes—Two systems. Two internal expanding hub brakes lined with fabric operated by foot pedal. Two brakes on outside of rear wheel drums operated by hand lever. Rear wheel drums 16 inches in diameter.

Frame—Pressed steel, wide flanged, 4½-inch channel section firmly riveted and braced and curved up over rear axle. No sub-frame.

FRONT AXLE—I-beam steel one-piece forging. Large adjustment roller bearings in hubs and also at top of yokes.

Drive—Bevel gear through straight line shaft, with double universal joints and torsion member.

REAR AXLE—Full floating type, inner axle used only as driver, wheels turn upon double row of Timken bearings on hollow axle, which carries all weight. Whole system readily accessible.

Boby—Low; wide doors; side entrance at both sides front and rear; straight lines; sheet metal. Carrying capacity: Touring cars, five and seven passengers;

toy tonneau, four passengers, and speedway roadster, two passengers.

Finish—National blue; options, National green, National maroon and National gray body and gears. All metal trimmings nickel-plated except radiator, which is black.

Upholstery—Unusually deep and comfortable. In either dull or bright black leather. Special spring mattress cushions. Refinement and luxurious ease accompany these exclusive upholstery perfections.

Steering System—Eighteen-inch wheel, inclined post. Worm and gear, non-reversible chuck. Ball joint connection to steering knuckle.

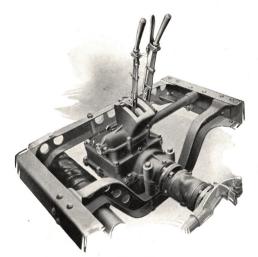
COOLING SYSTEM—Special straight-line radiator of most improved cellular construction; adjustable ball-bearing fan attached to engine base. Water circulated by centrifugal pump. Radiator mounted on trunnions.

CONTROL—Single lever at driver's right controls all speeds. Three forward and one reverse.

Springs—Half elliptic, forty-inch front, fifty-inch rear; three-quarter scroll elliptic two and one-fourth inches wide.

Tool Box—Under front seat and metal box on running board.

EQUIPMENT (Standard)—Nine-inch black, nickel-trimmed Gray and Davis gas lamps, with Prest-O-Lite tank. Combination electric and oil side and tail lamps, black, nickel-trimmed. Horn, tools, jack and tire irons.



TRANSMISSION MOUNTING AND CONTROL

#### W A R R A N T Y

We warrant all motor vehicles manufactured by us (except tires, ignition apparatus and trade accessories, such as lamps, tops, wind-shields, gas generators, speedometers, tools, etc.) against defects in materials and workmanship for six months from date of shipment from our factory. Should any part so warranted be found defective in materials or workmanship within said period, our entire liability of any kind is limited to making good said part at our factory, without additional compensation, provided that the purchaser shall send us the part alleged to be defective, carrier's charges prepaid.

We reserve the right to disclaim responsibility in connection with any motor vehicle manufactured by us if it has been altered or repaired outside of our factory, and we assume no responsibility whatever for repairs, replacements or other damages occasioned by misuse, negligence or accidents.

WE DO NOT MAKE OR AUTHORIZE ANY WARRANTY BEYOND THAT EXPRESSED ABOVE

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