THE

NEW Marquette

BUILT

BY

BUICK

THE

NEW

Marquette

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BUICK MOTOR COMPANY
Division of General Motors
BUILDERS OF BUICK AND MARQUETTE MOTOR CARS
FLINT, MICHIGAN

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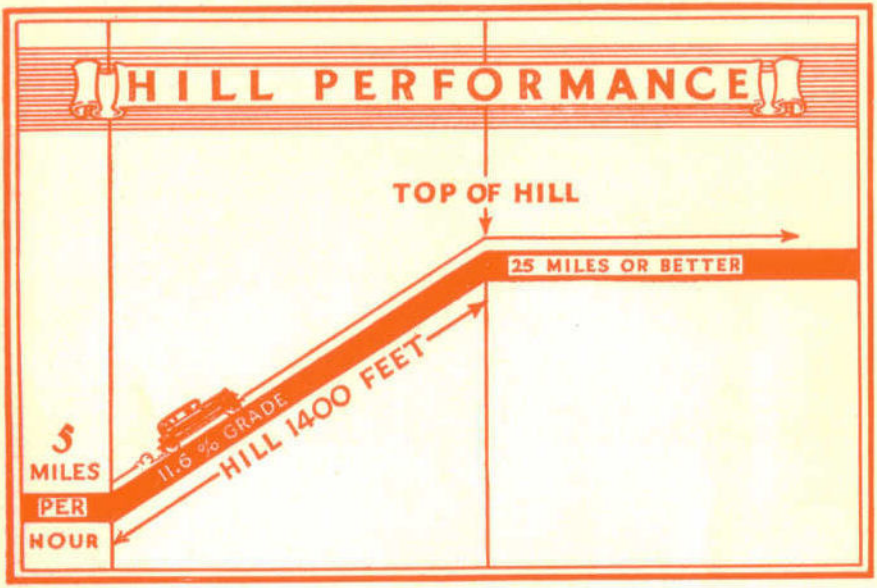
MORE than ordinary interest exists in the minds of motorists about the new Marquette. More than the usual curiosity about a new car is exhibited in its mechanism.

And this curiosity is fully justified, for the Marquette speaks to you in unmistakable terms and in compelling fashion. There is unusual polish in the easy swiftness of its get-away—a quiet mastery in its acceleration on steep grades—a smooth compliance with your utmost demands for speed which only a finely built mechanism could achieve.

To ride in the Marquette is to know that Buick engineering genius and Buick building excellence have produced a new car whose merit is far beyond the promise of its moderate cost.

To acquaint you with the main facts of its performance, to tell you the engineering reasons for them, and to explain the quality that guarantees their long-lived continuance, this booklet has been prepared.



Marquette performance

MARQUETTE brings to its price field new and impressive characteristics of performance. A few simple charts will suffice to illustrate how superior this performance is in all the major phases.

The first chart shows what the Marquette will do on a very steep grade. The test was made on a hill with an 11.6 per cent grade, as shown. The hill was 1400 feet from bottom to top. The Marquette started up this hill at a speed of 5 m.p.h., accelerated constantly as it climbed, and crossed the top at a speed in excess of 25 m.p.h. —an amazing demonstration of power and flexibility under extraordinary conditions.

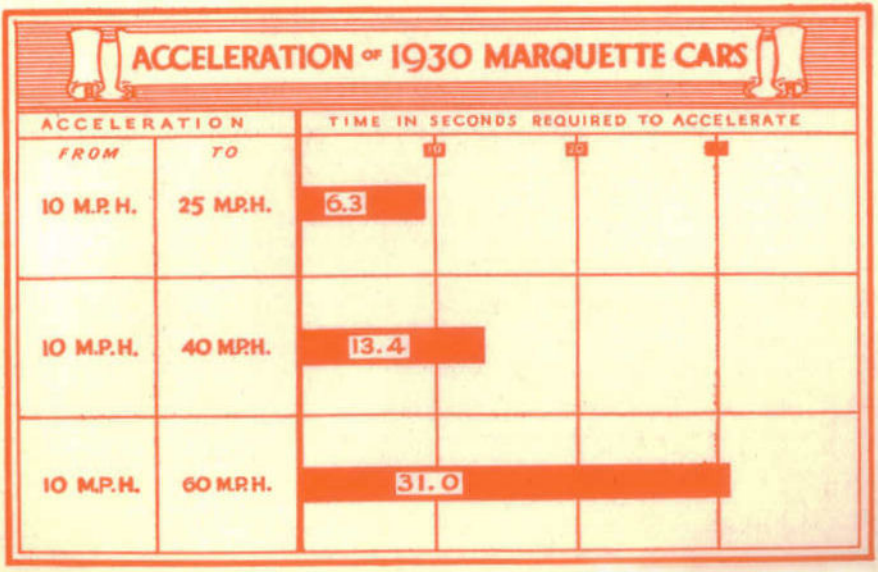
Acceleration

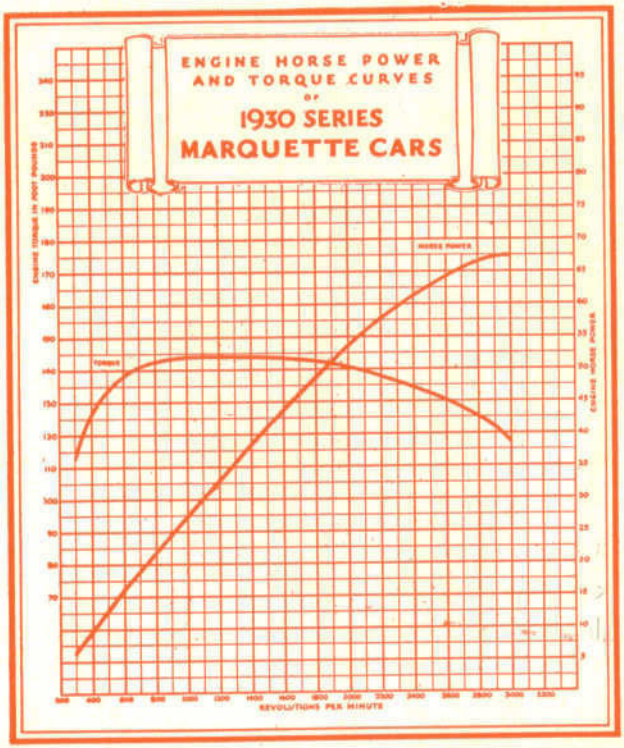
The second chart shows the vigorous acceleration of the Marquette. The three tests were made in high gear from an initial speed of 10 m.p.h., in order to give results which did not depend upon

skill in gear shifting. Note that the Marquette leaped from 10 m.p.h. to 25 m.p.h. in 6.3 seconds; from 10 m.p.h. to 40 m.p.h. in 13.4 seconds; and from 10 m.p.h. to 60 m.p.h. in practically half a minute.

You will wonder how these amazing results have been secured, and the two remaining charts will tell you. The third chart shows the horsepower curve of the Marquette engine, rising sharply from 10 h.p. at idling speed to 67½ h.p. at 3000 r.p.m.

The other curve on this chart is not usually found in automobile literature, yet it is extremely important in its bearing on performance. This is the engine torque curve at different speeds, expressed in foot-pounds. This means the number of pounds of weight at a distance of one foot from the crankshaft which would be required to equal the turning effort of the engine if applied at the speeds here charted. By reference to the fourth chart, you can check the car speed at any given engine speed and see why the Marquette has such remarkable power, acceleration, and flexibility throughout its driving range.




ENGINE HORSE POWER
AND TORQUE CURVES
OF
1930 SERIES
MARQUETTE CARS
HORSE POWER
TORQUE
REVOLUTIONS PER MINUTE

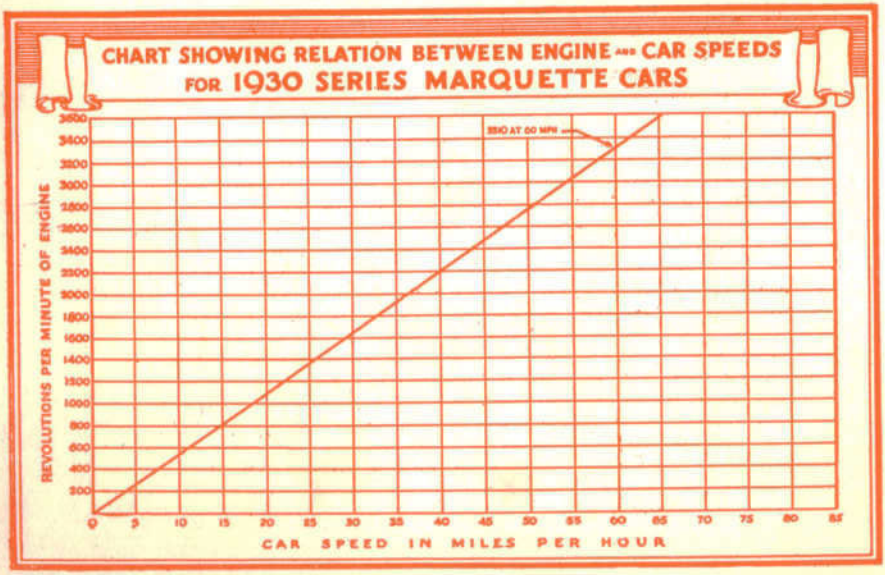
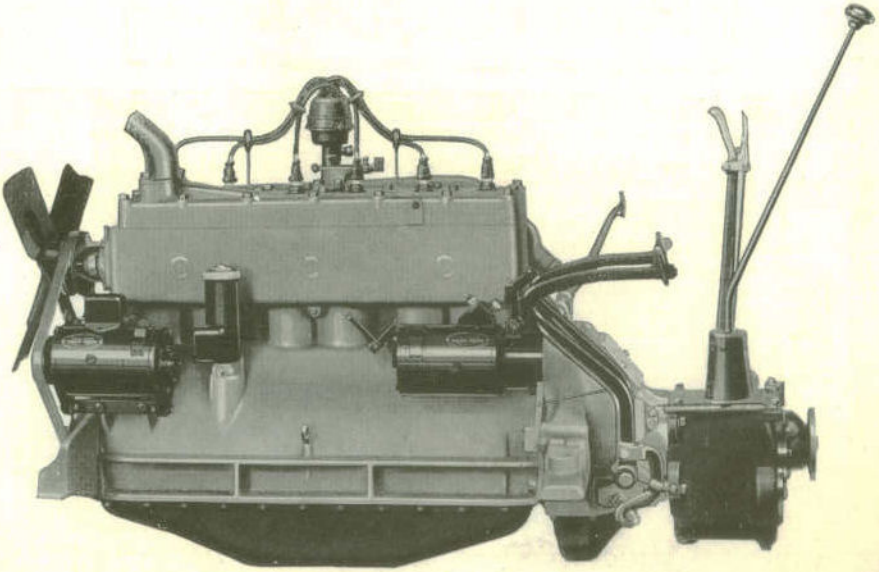


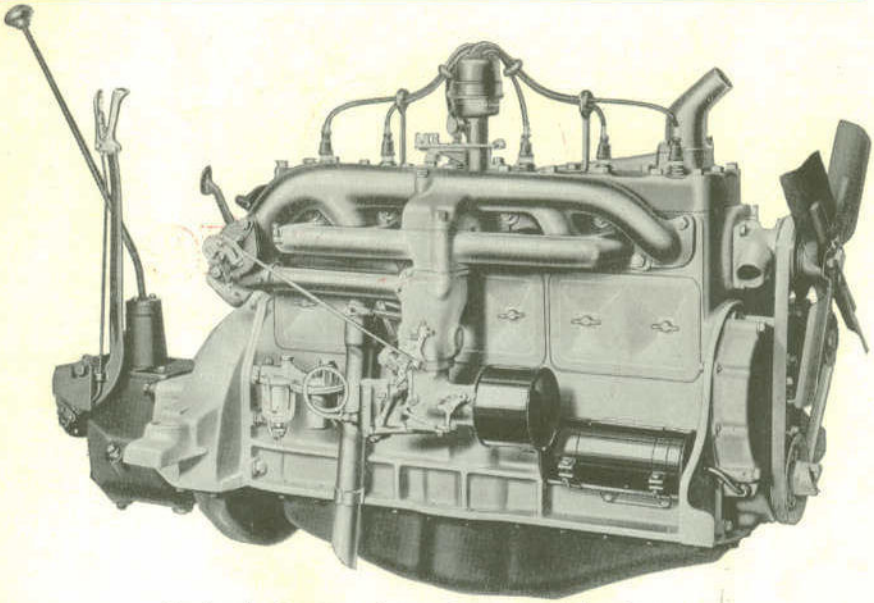
CHART SHOWING RELATION BETWEEN ENGINE AND CAR SPEEDS
FOR 1930 SERIES MARQUETTE CARS
3510 AT 60 MPH
REVOLUTIONS PER MINUTE OF ENGINE
CAR SPEED IN MILES PER HOUR

THE Marquette ENGINE

THE Marquette engine is the ripened fruit of more than a quarter century of Buick experience. It has many distinctive and exclusive features, as its performance shows, and it is a wonderful tribute to the Buick engineering department—considered by many the greatest in the whole automotive industry. There can be no other engine like



Left side of engine, showing generator and starting motor mountings



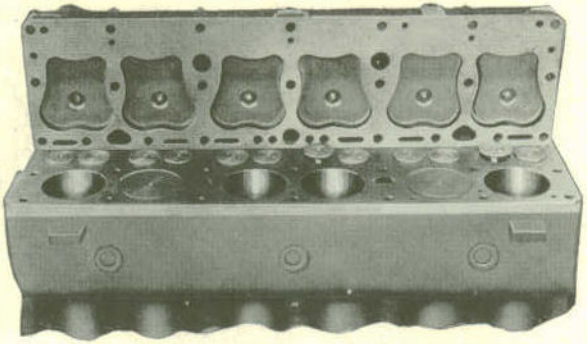
Right side of engine, showing heat controlled carburetor, air cleaner, gasoline and oil filters

it, because of the remarkable thoroughness with which Buick engineers have developed each part.

This engine develops 67½ h.p. from a displacement of 212 cubic inches. It affords a top car speed of from 68 to 70 m.p.h. It is especially smooth and economical. It is of the L-head type and combines with the clutch and transmission to form a unit power plant, assuring perfect alignment and proper housing of these important parts.

The bore is 3⅛ inches, the stroke 4⅝ inches. The valves are of expensive alloy steel, silchrome steel being used for the exhaust valves because it will not warp at the highest temperature developed in the combustion chambers.

Mushroom type valve lifters assembled in detachable guides are used. These guides contain four lifters each and are bolted to the crankcase. This construction makes for accessibility.



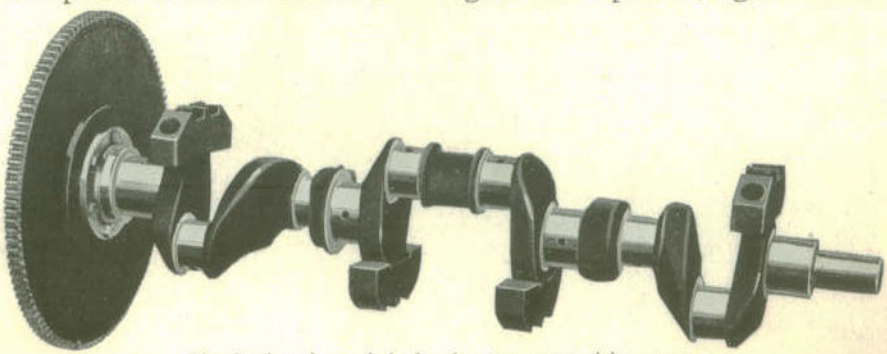
Marquette cylinder head

This engine is fitted with the famous cylinder head developed in the great General Motors Research Laboratories—a cylinder head which eliminates fuel knock and permits the spark to be carried at full advance and the compression to be raised to the maximum, thus wringing the utmost power out of the fuel mixture.

This cylinder head is an important factor in Marquette engine smoothness.

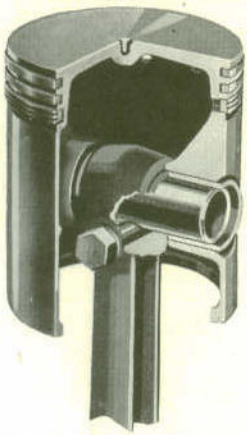
The pistons are cast iron of light construction and fully webbed, in conformity with Buick practice. They are closely fitted, wear indefinitely, and insure freedom from slaps and rattles.

Three piston rings are used, the lowest being an oil control ring. The piston is drilled behind this ring to aid in preventing excessive



Flywheel and crankshaft, showing stepped bearings

oil consumption. Piston pins are of extra size —$\frac{13}{16}$ inches in diameter—and are offset from the center to prevent the development of piston slaps after long use.



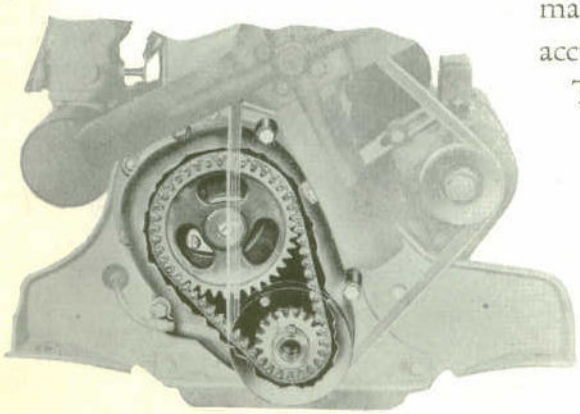
Section of piston and rings

The connecting rods are one-piece drop forgings, with babbitted bearings bonded direct to the rods.

The crankshaft is especially large, with four big main bearings stepped up in size from front to rear and four counterweights. All shafts are statically and dynamically balanced and are singularly free from vibration. The extra length of the bearings and the stiffness of the shaft insure long life and smoothness.

The main bearings are steel-backed, lined with the best babbitt, and have a generous factor of safety to stand continued high-speed driving. These bearings are "stepped" in size, giving the shaft a tapered effect, insuring the maximum rigidity with the least weight. The shaft is turned from a single large forging and weighs 75 pounds.

The camshaft is driven by a silent chain of large size, which remains quiet and maintains accurate valve timing.



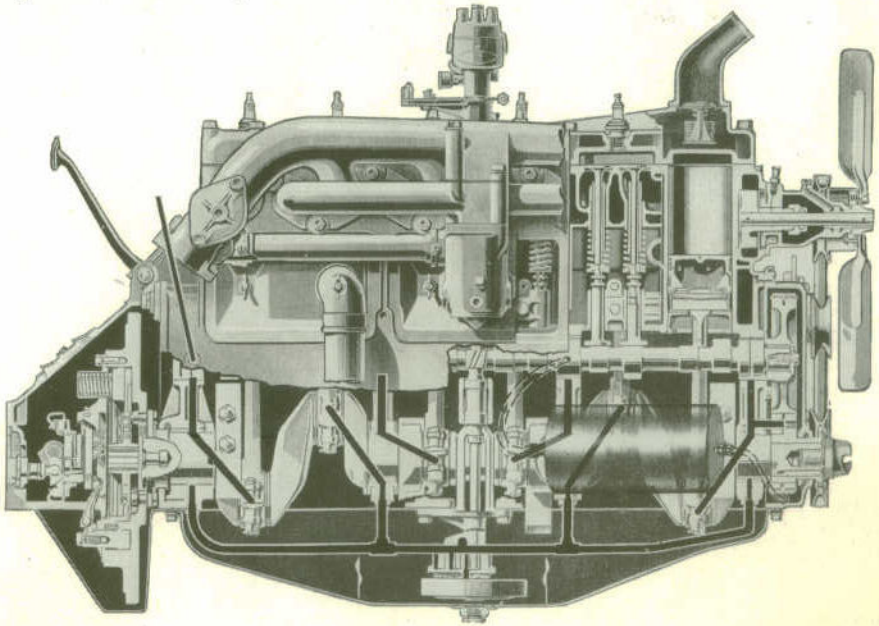
Silent chain camshaft drive

The crankcase and cylinders are cast en-bloc, with reinforcing ribs, giving tremendous strength and a rigid support for the crankshaft. Lubrication is full pressure feed to main connecting rod,

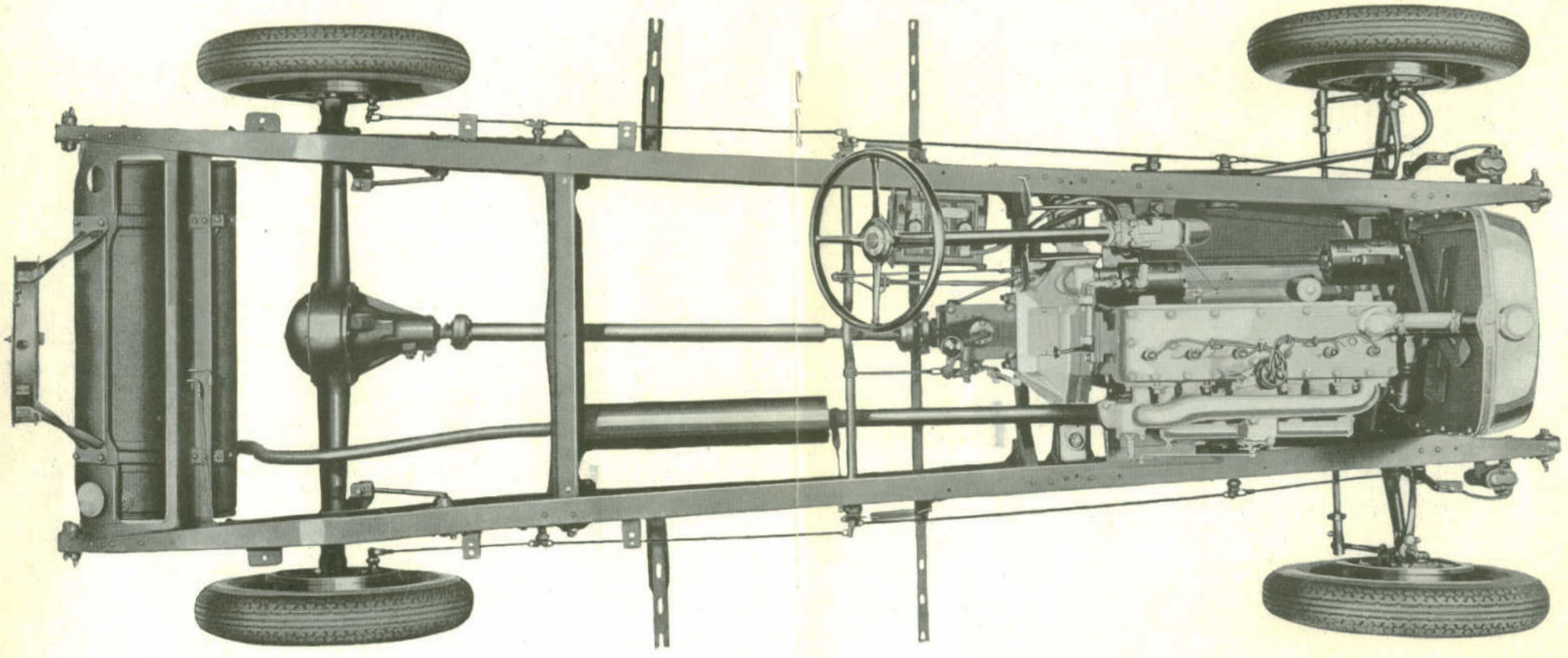
camshaft bearings, and timing chain. The crankcase is ventilated, drawing out combustion vapors which would otherwise condense and dilute the oil. The oil pump is located in a sump deep in the center of the oil pan and is positively driven from the camshaft. An oil filter keeps the oil free from grit.

The carburetor is notable for its ease of starting, quickness in warming up from exhaust heat, and for economy. Fuel is supplied to it by a gasoline pump, which eliminates the vacuum tank. An air cleaner removes dust and grit from the air that enters the carburetor, thus prolonging engine life.

The temperature of the cooling water is regulated by a thermostat, which keeps the water in the jackets until the engine reaches normal running temperature, when it automatically opens a valve and permits the water to flow through the radiator. This means efficient operation all the year and excellent cold weather performance.



Marquette engine lubrication system



The Marquette chassis

The Marquette chassis is built low to the ground, is well balanced and rugged. All chassis units, such as the frame, axles, wheels, steering mechanism, and springs are especially strong, and will give excellent service under the hardest use on all types of roads, and at all driving speeds. All chassis units are conveniently and neatly arranged, making it very accessible and clean-cut in appearance.

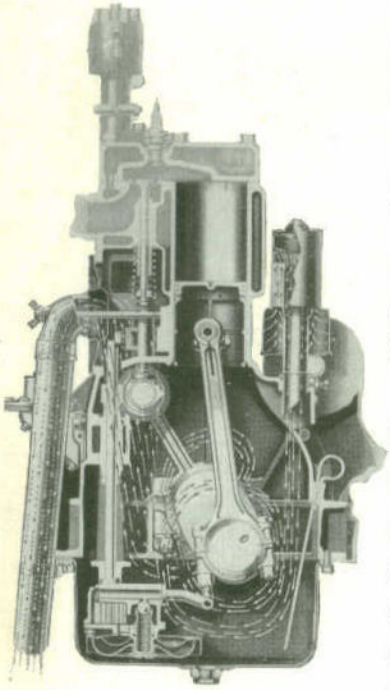


Diagram of crankcase ventilation

The fan, water pump, and generator are driven by a large V-belt with simple adjustment.

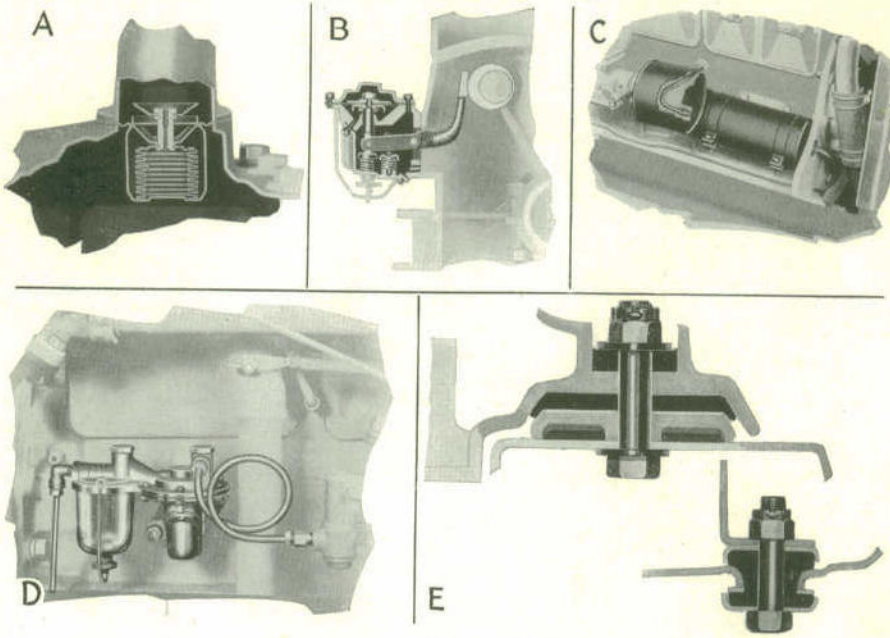
The large water pump is located at the forward end of the cylinder block. The radiator is of generous size and the system fully capable of cooling the engine properly at high speeds in very hot weather.

The electrical system is the famous Delco-Remy starting, lighting and ignition system, with separate generator and starting motor, distributor, and large storage battery. The starting motor is mechanically operated and a steel starting gear is attached to the flywheel. The generator has a thermostatic control to govern the charging rate, giving an extra supply of current in cold weather when more current is needed.

Great pains have been taken to insulate the ignition system properly against water, oil, and dust. Because of the high compression of the Marquette engine, spark plugs of the metric type are used, this type operating satisfactorily under all driving conditions.

The storage battery has 13 plates and ample capacity to crank the engine under all conditions.

The ignition coil is fitted with a theft-proof lock and is mounted in the instrument panel. This lock passes all insurance underwriters' requirements, and has the advantage of being very convenient for the driver.



A. Thermostat *B. Sectional view of fuel pump* *C. Oil filter*
D. Fuel pump and gasoline filter *E. Rubber engine mountings*

The distributor is mounted at the top and center of the cylinder head, easily reached for adjustment. It is driven by a shaft operated by the gear that drives the oil pump. The distributor is equipped with a tight-fitting rubber cover to protect it from dirt and moisture.

The engine is mounted at all four points on rubber mountings, which completely insulate it from the chassis.

The Marquette clutch

The Marquette clutch is the approved single plate type 9 inches in diameter, and is an important factor in the ease of Marquette gear shifting. It has ample power to hold the engine under all conditions.

The clutch plate is waved, so that the load is gradually and easily taken up, eliminating all tendency to jerk when the clutch is let in.

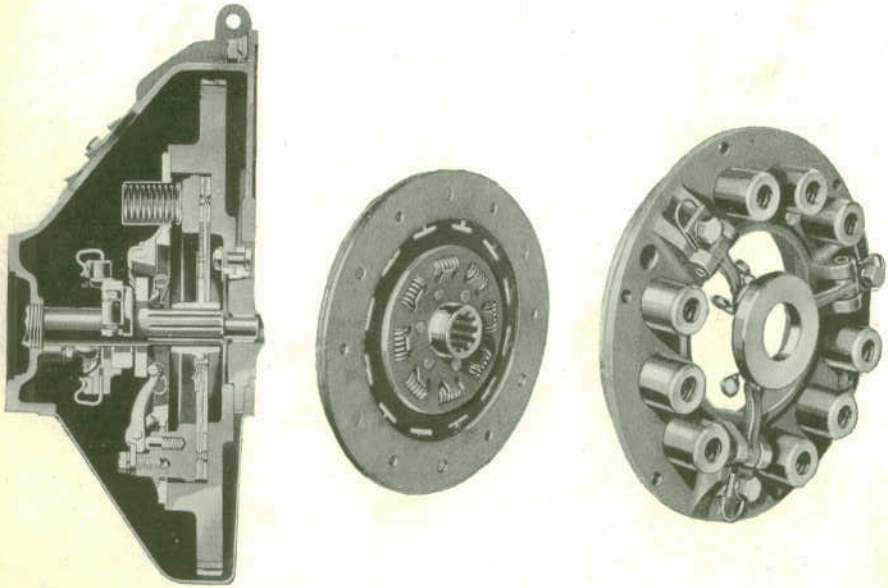
Between the inner facings shock-absorbing springs which absorb slight vibrations between engine and transmission entirely eliminate any tendency to rattle.

The simple adjustment is located at the pedal, so compensation for wear can be made by simply removing the floor board and making the necessary adjustment

The Marquette transmission

The transmission is the three-speed selective sliding gear type, with a generous factor of safety in gears, bearings, and shafts. It is extremely quiet in all speeds because of the accuracy with which it is made.

All gears are made from drop-forged chrome alloy steel, accurately machined and hardened. Ball bearings are used on the clutch shaft and rear end of the main shaft, because of their long life and quiet,



The Marquette single plate clutch

frictionless operation. The clutch pilot shaft has a Hyatt roller bearing and the countershaft is fitted with bronze bushings.

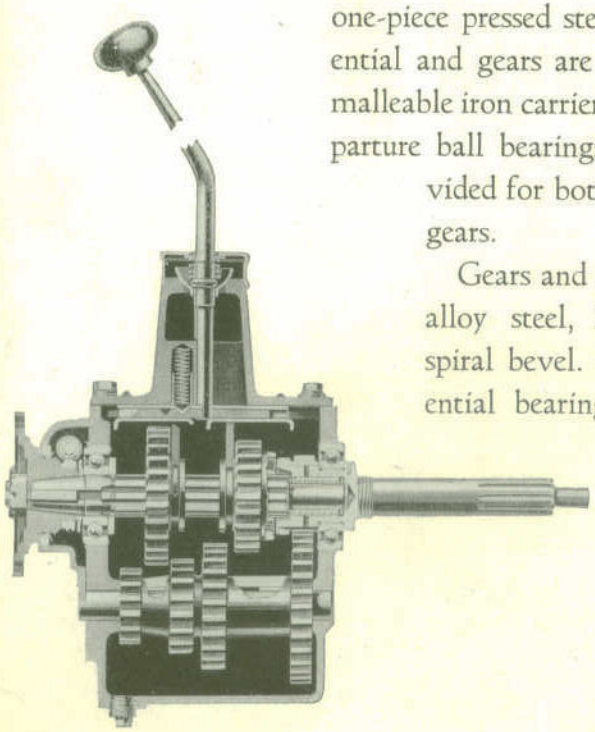
Because of smooth-acting clutch and correct alignment of gears and shafts, the gears shift very quietly and easily.

The transmission case is bolted to the engine through the strong flywheel housing, forming a unit power plant. The speedometer drive is a unit with the transmission mounted at the rear, and is automatically lubricated from the transmission. Being fully enclosed, it is fully protected from dirt and mud.

Rear axle

The rear axle is of the semi-floating type. The housing is a sturdy one-piece pressed steel stamping. The differential and gears are mounted in a one-piece malleable iron carrier supported on New Departure ball bearings. Adjustments are provided for both pinion and differential gears.

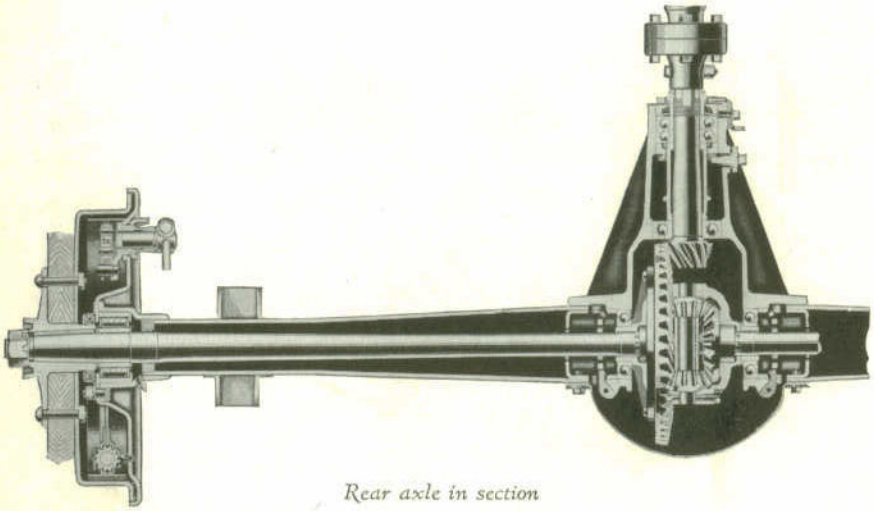
Gears and axle shafts are made of alloy steel, heat-treated. Gears are spiral bevel. Pinion shaft and differential bearings are New Departure ball bearings and wheel bearings are the Hyatt roller type.



Sectional view of transmission

Front axle

The front axle is the reverse-Elliott type, I-beam center section,

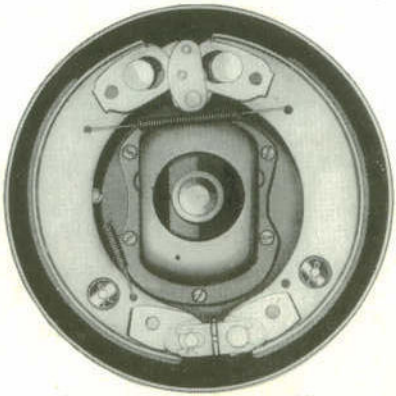


Rear axle in section

with steering tie-rod located behind the axle. The vertical thrust bearings are New Departure ball bearings to facilitate steering ease. Ball bearings are also used in the front wheels.

Chassis frame

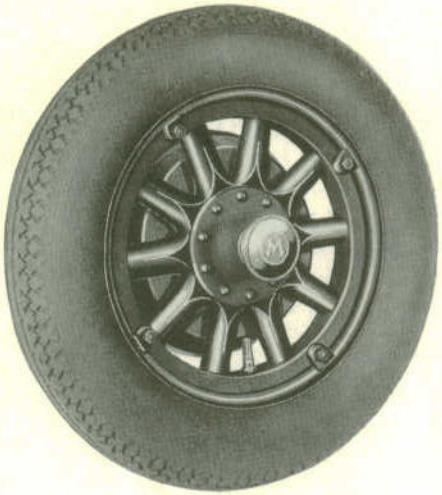
The Marquette frame is exceptionally strong and well designed, making a sturdy foundation for the body. The side channels are 5½ inches deep with extra wide flanges ⅛ inch thick. It has four large cross members and is exceptionally well reinforced. This great stiffness eliminates flop in fenders, lamps, and radiator and gives the car a feeling of steadiness and security on the road.



Four-wheel brake assembly

Four-wheel brakes

Marquette four-wheel brakes are the mechanical Duo-Servo in-



Wheel and tire assembly

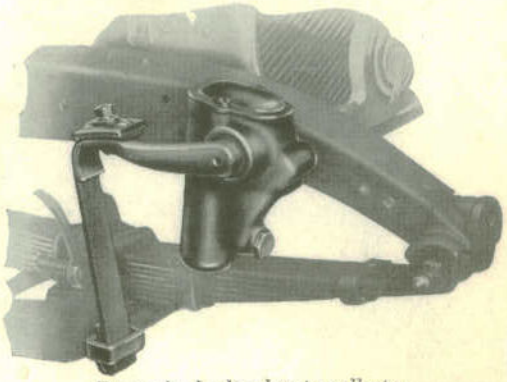
ternal expanding type, with 12-inch brake drums. They have ample capacity to hold the car under all conditions, operate with very light pedal pressure, and are fully enclosed and protected against mud, dirt, and water. This is especially advantageous in winter, as it prevents freezing and insures uniform operation. They are easily adjusted. The hook-up is simple, very effective, and dependable. The hand brake lever operates all four internal brakes.

Wheels and tires

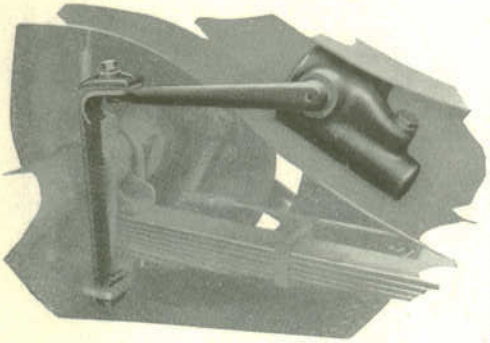
Eighteen-inch wheels with 10 spokes are used and these, with 28 x 5.25 tires give a very substantial, sturdy appearance. The spokes are short and very thick and are just as strong as they look.

Springs and shock absorbers

Springs are semi-elliptic, both front and rear. The length of the springs has been designed to give the car proper balance and, with the Lovejoy shock absorbers,



Front shock absorber installation



Rear shock absorber installation

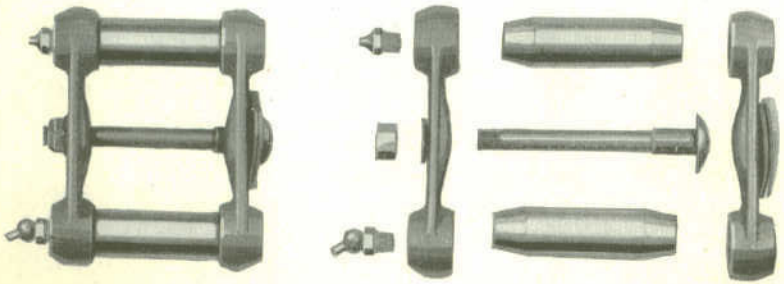
front and rear, make the car ride with remarkable ease over roads of any description.

Spring shackles are a special adjustable type. These shackles have hollow pins, tapered at the ends and held firmly under spring pressure, which automatically take up wear and prevent rattles. The hollow pins hold a large amount of lubricant and the shackles therefore require very little attention.

Steering gear

The steering gear is the worm and nut type, fully adjustable for wear. The worm is made from hardened steel and the half nuts are of bronze. The size, leverage, and free movement in the steering gear and connections are such that the car steers very easily under slow driving conditions in city traffic, and also handles beautifully on all kinds of roads at any speed.

The steering wheel is 17 inches in diameter, very simple in design, with throttle, light controls, and horn button mounted in the center.



Spring shackle disassembled

SPECIFICATIONS

ENGINE

Six cylinders, 67½ h.p., bore 3⅛", stroke 4⅝", piston displacement 212.8 cu. in., L-head type; 75 lb. counterbalanced crankshaft of special carbon steel, steel-backed bearings, silchrome exhaust valves, pressure lubrication system, thermostat-controlled cooling system, transmission standard sliding gear type in unit with engine, clutch—single plate type.

CHASSIS

114" wheelbase, 28 x 5.25 low pressure tires, turning circle 38.6 ft.

REAR AXLE

Semi-floating, pressed steel, ratio 4.5 to 1, semi-elliptic springs of silicon-manganese steel, Hotchkiss drive, self-adjusting spring shackles.

FRONT AXLE

Reverse-Elliott type. Semi-elliptic springs, self-adjusting spring shackles.

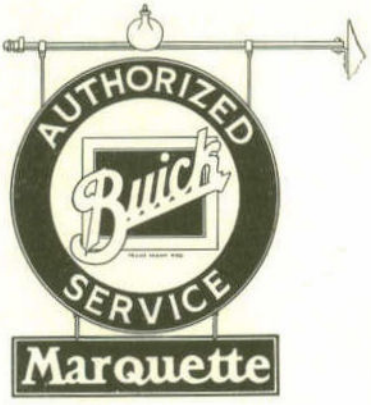
BRAKES

Mechanical Duo-Servo internal four-wheel type.

GENERAL

Capacity of gasoline tank, 16 gallons; capacity of cooling system, 3 gallons; AC gas pump and fuel strainer, AC air cleaner, AC oil filter, crankcase ventilation, automatic heat control to carburetor, Lovejoy hydraulic shock absorbers, front and rear; tilt-ray headlamps, combination tail light and stop light, 13-plate battery, dome lamp, hydrostatic gasoline gauge on dash, coincidental ignition and car lock, spark control on dash, automatic windshield wiper, rear view mirror, sheet metal cover for gas tank, Delco-Remy electrical system, pressure gun lubrication system, tire carrier.

Special equipment at slight additional cost—wire wheels, demountable wood wheels, fender wells, and trunk rack.



More than four thousand signs such as this hang over Buick-Marquette Authorized Service Stations in the United States alone. They are your guaranty that your Marquette car will receive the same intelligent, interested care enjoyed by Buick owners everywhere—service which has helped to uphold the Buick reputation all through the many years during which the service organization was being built.

Let us show you

Many of the statements made in this book concerning Marquette's performance and Marquette's quality may seem to you too good to be true or too much to expect in a car so modestly priced.

Yet the fact remains that no other car of equal or even somewhat higher cost can approach this spirited car in pulling power, in acceleration, in speed; none can compare with it, point by point in luxury and smartness.

The machinery employed in building the Marquette is the newest and best that money can buy. Much of it has been designed especially for this car. The vast resources and purchasing power of General Motors enable its builders to buy materials at the lowest cost. The long experience of the Buick organization insures that each operation is performed with skill and precision.

The result is a truly fine car, which we would like to have you drive. Just telephone or call and it will be a pleasure to give you the facts.

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