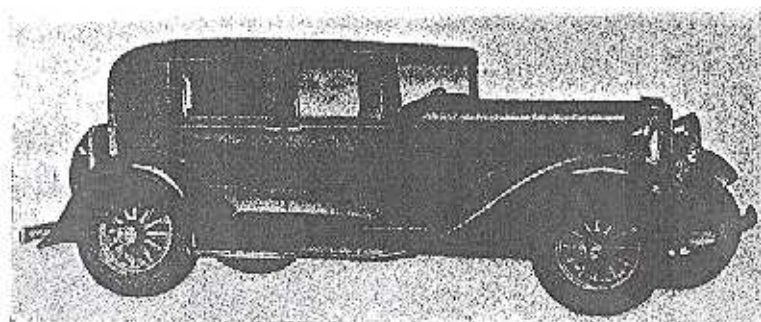
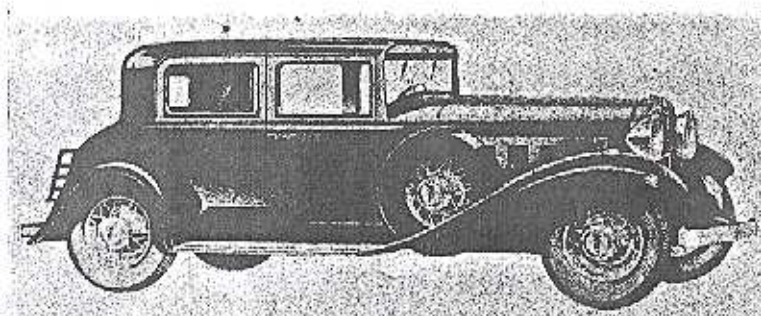


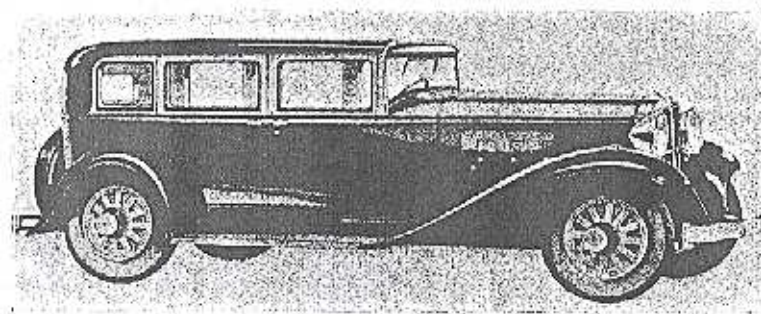
WILLYS LINE



The lowest priced five-passenger closed model offered by Willys-Overland is this 110-in. wheelbase club sedan on the Willys Six chassis, listing at \$625. Roof side panels and rear quarters are fabric covered



A new line of Willys Eights on a 121-in. wheelbase chassis is offered at low prices. This sedan lists at \$995



The large Willys-Knight Six engine is also found in the 121-in. wheelbase chassis, with the same bodies as used with the Willys Eight. This de luxe victoria lists at \$1,195 with the Knight engine

Mechanical: 97-98D six-cylinder poppet valve engine develops 65 hp. at 3400 r.p.m. Wheelbase 110 and 113 in.

66D six-cylinder Knight engine develops 87 hp. at 3200 r.p.m. Wheelbase 121 in.

8-80D eight-cylinder poppet valve engine develops 80 hp. at 3200 r.p.m.

Appearance: Bodies lower. New front end treatment.

Price: 97-98D, \$545 to \$795; 8-80D, \$995 to \$1,095; 66D \$1,095 to \$1,195.

AN entire realignment of the products of Willys-Overland characterizes the introduction of its 1931 lines of cars at the New York Show. While the chassis do not contain any untried units or extremely radical departures, the bodies are decidedly different in appearance, lower in overall height, due to the use of double drop-frames, with a new front end, and wider in back due to an increased tread.

Under the new arrangement there are two basic chassis models or lines, on three wheelbases. Two of these, 110 in. and 113 in., carry the Willys Six line at new low prices, while the longer 121 in. wheelbase, with some variations in chassis units, is offered both as a poppet valve Willys Eight and a six-cylinder Knight engined model, both even more sharply reduced in price than the Willys Six.

With this realignment of its products, Willys-Overland has dropped out of the four-cylinder field entirely, the prices of the 110 in. wheelbase Willys Six being comparable to those of the previous four-cylinder line. At the upper end of its price ranges, the Knight engined model does not run quite up to \$1,200 in list price, so that the \$1,200 to \$1,800 field has also been abandoned by Willys-Overland in favor of lower prices. This is due, however, mainly to the sharply reduced prices rather than the elimination of the higher priced models. This is evidenced by the fact that the \$1,100 price class Knight model carries the same engine that:

ENTIRELY NEW

SPECIFICATIONS

	Willys-Knight 66D	Willys Six 97 and 98D	Willys Eight 8-80D
Wheelbase	121 in.	110 and 113 in.	121 in.
Valves	Sleeves	Poppet	Poppet
No. of cylinders	6	6	8
Bore and stroke	3 1/8 x 4 1/4 in.	3 1/4 x 3 3/8 in.	3 1/2 x 4 in.
Displacement	255 cu. in.	193 cu. in.	245.4 cu. in.
Suspension	Four point	Four point	Four point
Taxable hp.	27.34	25.35	31.25
Brake hp.	87 at 3200 r.p.m.	85 at 3400 r.p.m.	80 at 3200 r.p.m.
Compression ratio	5.5 to 1	5.26 to 1	5.26 to 1
Pistons	Alum. alloy	Cast iron	Cast iron
No. piston rings	Four	Three	Four
No. main bearings	Seven	Four	Five
Camshaft drive	Chain	Chain	Chain
Engine lubrication	Pressure	Pressure	Pressure
Electrical units	Auto-Lite	Auto-Lite	Auto-Lite
Clutch	Rockford, 10LL	Borg and Beck 9AI	Borg and Beck 10R
Transmission	Own, 3 speed	Own, 3 speed	Own, 3 speed
Rear axle	Own, semi-floating	Own, semi-floating	Own, semi-floating
Steering	Ross cam and lever	Own	Ross cam and lever
Brakes	Bendix two shoe	Bendix two shoe	Bendix two shoe
Tire size	18x6.00	29x5.00	29x5.50

was formerly offered on the cars in the \$1,800 field.

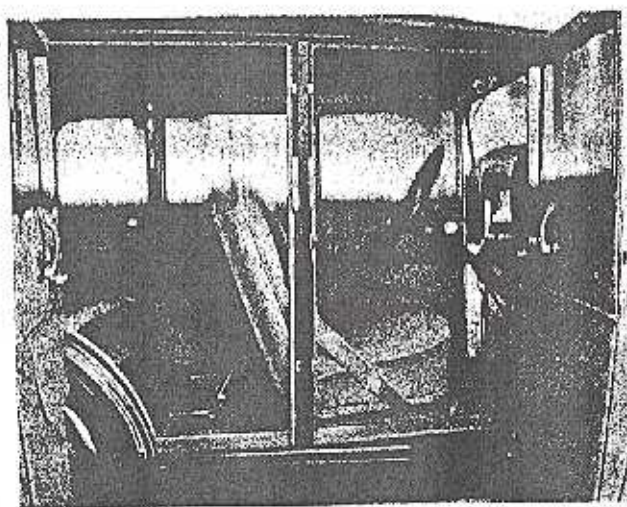
There is very little difference between the 110 in. and 113 in. wheelbase Willys Sixes, except for the longer bodies, frames, and propeller shafts on the 113 in. line, which might be designated as de luxe editions of the Willys Six. The bodies, both in appearance and in comfort, represent to the writer a very considerable advance over anything Willys-Overland has offered in these price classes. Perhaps the biggest feature of the low priced line might be said to be the complete adjustability of the cars to suit individual requirements. Not only are steering columns adjustable in four positions, but the angle

of the seat backs as well as the seats themselves are adjustable, the latter by the conventional screw arrangement, the former by means of supporting the back from the seat frame by two adjustable straps, one at each end.

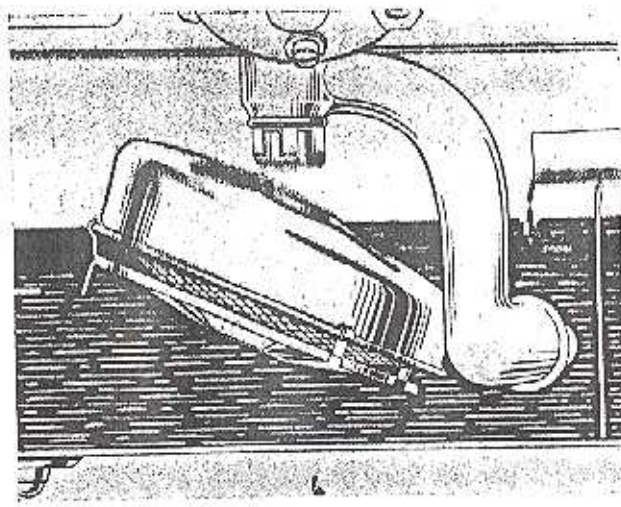
There is a recess in the bottom of the front seat back for additional leg room, inside of which recess a curved, upholstered sheet metal foot rest is hinged.

The instrument boards represent an innovation in appearance, paneling being obtained by the shape of the board rather than by beading or by the use of contrasting colors. On the 110 in. wheelbase the board as well as

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Both steering column and front seats of the Willys Six line are adjustable, the position of the seats being adjusted by a screw arrangement and the angle of the seat backs by means of a strap



A hinged oil pump intake bell, called "Float O," is used on the Willys Sixes and Eights. It takes oil from the top of the supply rather than the bottom, thereby eliminating dirt from the oil lines and bearings

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the window sashing is finished in black with white glazing striping on the board, while the 113 in. models have a walnut grain finish on these parts.

Other comfort features include a slanting non-glare swinging windshield provided with crank operating mechanism, top cowl ventilator on all models, and the mounting of the shift lever on the bell housing for additional front compartment clearance. Along with this goes the placing of the emergency brake lever at the left of the driver.

Externally the Willys Six is characterized by the horizontal hood louvers of unequal length, a new and deep radiator shell partly lacquered and partly chrome-plated, and the continuation of the body molding line over the cowl and hood in the form of an offset. Filler caps for the radiators are now located under the hood.

Mechanically, the Willys Six is improved in detail rather than by radical changes in particular units. In the engine the compression ratio has been decreased from 5.6 to 5.25 to 1 for smoother operation. It appears, however, that this drop in ratio has been offset by the adoption of an offset type of combustion chamber with a low clearance $\frac{1}{4}$ in. deep space over the piston, since the factory states that the engine develops the same horsepower as last year. Further engine improvements include the adoption of the new Perfect Circle oil control ring, elimination of the babbit from the thrust faces of the connecting rods, adoption of an AC fuel pump, and changes in the oilpan to accommodate the new "Float-O" hinged oil intake bell.

The design of this unit is based on two ideas: first, that maintaining the oil intake near the surface of the oil in the crankcase insures cleaner oil supply to the bearings, and second, that in starting in cold weather there will be greater assurance of maintenance of oil circulation during the warming-up period, since the warm oil in circulation will be found on top rather than at the bottom of the crankcase.

The device is hinged, of course, so that it can adjust itself automatically to variations in oil level. A change has also been made in the accelerating pump on the carburetor. The Willys Six carburetor incidentally is a new model, and said to be more economical in the 40 to 50 miles per hour range.

The clutches of the 1931 Willys Sixes are notably free from tendency to chatter. A. J. Baker, chief engineer of Willys-Overland, says that their investigations convinced them that clutch chatter was due to fore and aft rather than torsional motion of the engine. To overcome this, two tubular tension braces have been located diagonally to brace the engine at the rear from the frame side rails.

Rear axles are somewhat lighter than last year, the saving in weight having been accomplished by replacing the malleable brake backing plate and spring supports by steel stampings, welded to the housing. Wheels have a drop center type of rim.

The brake cross shaft in the Willys Six has been strengthened by adding a compression member at the center, bracing the shaft from the rear of the transmission. This brace tends to prevent buckling the shaft under pedal pressure.

Gas tanks have been increased in size to increase the cruising range. Double acting shock absorbers are now standard equipment, and safety glass is available on all models at only slight extra cost, ranging, it is understood, from about \$15 to \$40, on the various models. Longer rear springs are used on the 113 in. chassis. Frames are entirely new and of the double drop type.

The Willys Six commercial chassis is represented by the 118 in. wheelbase edition, except that springs are heavier. The commercial chassis lists at \$396. A panel body of large dimensions and double rear doors with oval windows is to be offered, as well as a cab and a pick-up body.

The same changes as in the Willys Six engine have also been carried out on the Willys eight, including the new combustion chamber, adoption of a fuel pump, the "Float-O" oil pump intake bell, the Perfect Circle oil rings, etc. In

the chassis the front springs are now shackled at the front end, said to reduce wheel-lift, steering wheels are larger and a lower steering gear ratio of $16\frac{1}{2}$ to 1 has been adopted. An intake silencer is supplied on the Willys Eight gas tanks have been increased in size, springs are longer, optional gear ratios of 4.4 and 4.9 to 1 are supplied on the rear axle, and double drop frames, steel running boards, etc., are to be found in this chassis on the sixes.

Bodies on the Willys Eight are also new. Body molding are of the double offset type, hoods, carry ventilating door instead of louvers, windshield pillars are gracefully curved, windshields are of the slanting, non-glare type, rear body panels are raised in the center for effective use of contrasting color schemes if desired, headlamp tie-rods are arched, seat cushions are deeper and have individually wrapped springs as on the sixes, dual wipers are standard equipment, rear axle treads have been increased to 58 in., as on the sixes, for increased seat width, while the double drop frame results in lower overall height, and parking lights are provided and streamlined into the fenders. Dash and toeboards of the 121 in. wheelbase bodies are insulated with jute and cardboard mats against heat and noise from the engine.

Virtually the same bodies and chassis as the Willys Eight, except for a heavier rear axle, and a number of minor variations, are used for the Knight engined model. The powerplant of this car is the large six-cylinder 87 hp. unit offered last year in the Willys Knight Great Six at around \$1,800. It is carried over virtually without change, although the sleeve timing has been altered.

TWO MARMON EIGHTS

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In addition, the car incorporates several improvements. The steering gear cam is now mounted on taper roller bearings for greater steering ease. All springs are mounted in rubber shock insulators, with the exception of the left front spring, where the chassis modulator is located. The modulator is similar to that used on former Marmon cars and reduces any tendency toward shimmy and wheel lift.

Considerable improvement has been effected in the braking system. Brakes are cable operated, with steel cables inclosed in sheaths, packed with lubricant. Brakes themselves are operated by double-acting cams.

Turning now to the other eight, the model 70 when compared with the Marmon Roosevelt is particularly to be noted for its higher horsepower, the larger engine developing 84 hp. at 3400 r.p.m. Bore and stroke is 2 13/16 in. by 4 1/4 in., or the same as the former Marmon 69 engine. In appearance the model 70 is distinguished by the new and higher radiator shell, new headlamps, new fender mounted parking lights and door type louvers on the hood. Single bar, chrome-plated bumpers are furnished as extra equipment on these cars.

Four body styles, including a five-passenger sedan, a four-passenger victoria coupe and a two-passenger standard coupe will be offered on the Marmon 70 chassis. Two-passenger models have rumble seats. Seats are generous in dimensions and the contour is designed for comfortable and restful seating posture. An adjustable interior sun visor has superseded the exterior type visor previously used.

The double dome combustion chamber has been improved in the same manner as on the model 88, in that there is a somewhat larger opening between the primary chamber and the main chamber of the pistons. Improved cooling results from the larger radiator and three-bladed 18-in. diameter fan.

In spite of the increased power available, the rear axle reduction of 4.9 to 1 remains the same as that used on the Marmon Roosevelt. This should result in a great improvement in acceleration and hill-climbing ability.

Standard equipment on these cars includes such items as shatter-proof glass throughout, cigar lighters in front and rear compartments, four ash receivers, two in front and two in back, double windshield wipers, two rear lights mounted on the fenders, one for the tail light and the other for a backing-up light, and new chrome-plated headlamps.