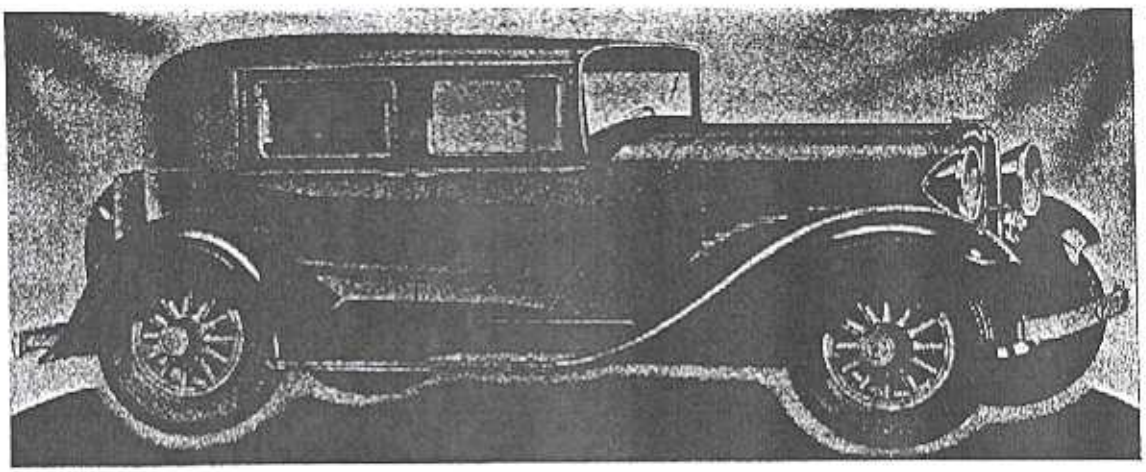
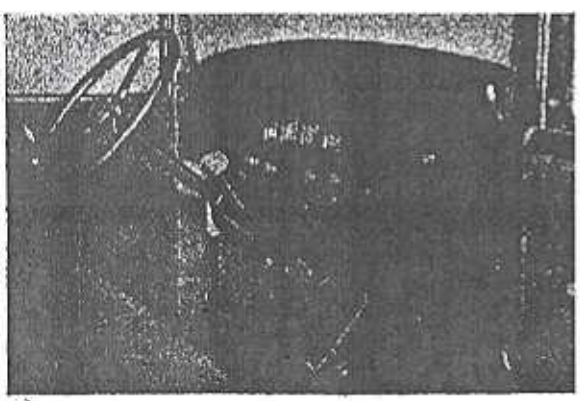
Material Price Reductions and New





This is the lowest-priced closed model offered by Willys, the Club Sedan on the Willys Six chassis with 110-in. wheelbase. It has fabric-covered roof-side panels and rear quarters and lists at $625 + + + + + + + + + + + +

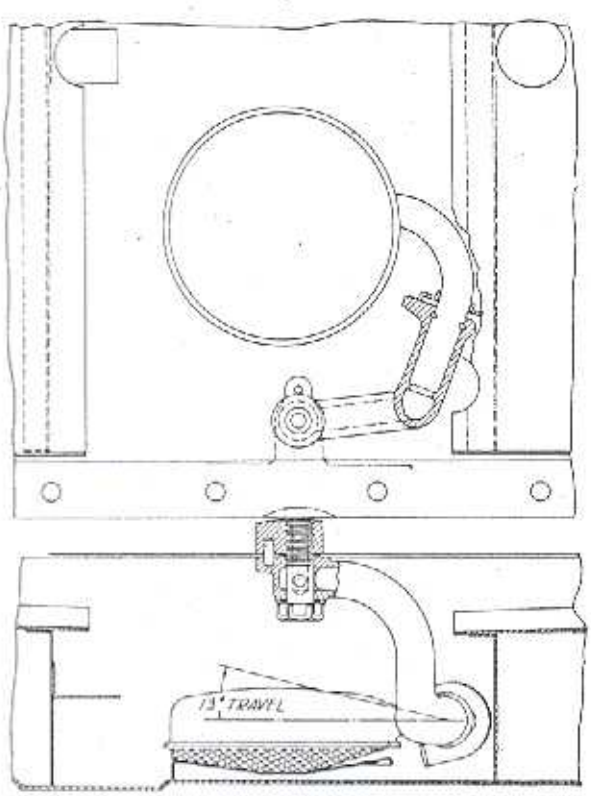
On left—This shows the new treatment of the instrument board on the Willys Six of 110-in. wheelbase. On cars with 113-in. wheelbase the entire board has a walnut-grain finish

Floating oil screen for pump intake by which the pump always draws oil from the top of the supply in the sump, thereby improving lubrication when engine is still cold + + + + + + + + +

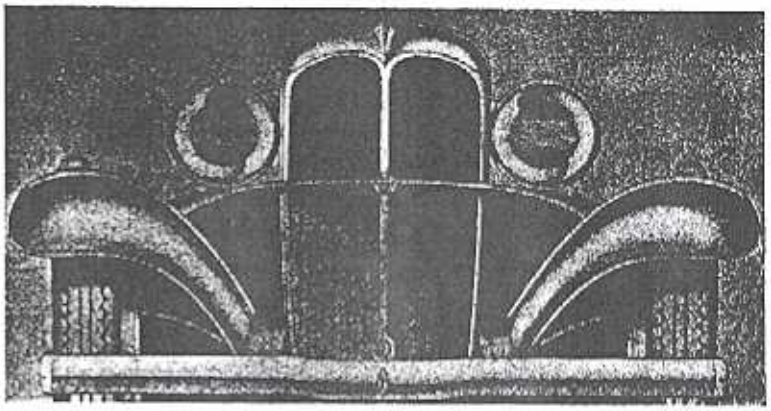
AN entire new alignment marks the 1931 announcement of Willys-Overland, timed for the New York Show. While the chassis do not show any departures of moment, the bodies are decidedly different in appearance, are lower in overall height (due to the use of double-drop frames), have a new front end, and are wider in the rear, this last change having been made possible by an increase in the tread.

There are now two basic chassis models, of which one is made in two lengths of wheelbase. The Willys Six, which sells at new low prices, is made with wheelbases of 110 and 113 in., while the larger chassis of 121-in. wheelbase is offered with either an eight-cylinder poppet-valve or a six-cylinder Knight sleeve-valve engine, the change in engines being accompanied by changes in a few other chassis units.

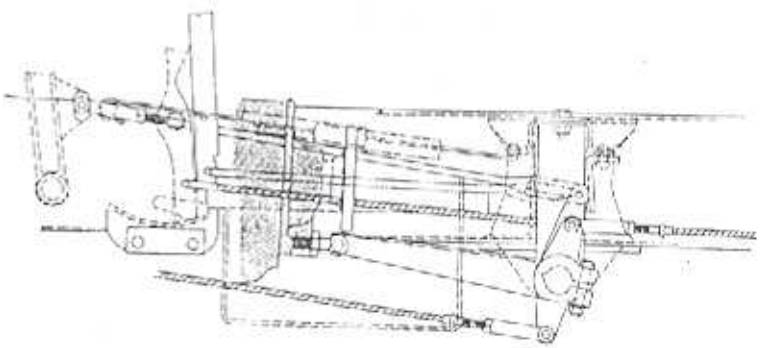
With this realignment of its products, Willys-Overland has dropped out of the four-cylinder field entirely, the prices of the 110-in. wheelbase Willys Six being comparable to those of the previous four-cylinder line. At the upper end of its price ranges, the Knight-engined model does not run quite up to $1,200 in list price, so that the $1,200 to $1,800 field also has been abandoned. This, however, is due more to drastic price reductions than to elimination of higher grade models.



Models Mark Willys 1931 Offerings



Front view of 1931 Willys Eight, showing the new radiator design + + + +



Details of brake-control mechanism, showing how cross-shaft is braced from transmission housing

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. An outstanding feature of the low-priced line is the complete adjustability of the cars to individual requirements. Thus the steering columns are adjustable to four different angles, and the seats can be adjusted in the fore and aft direction and the angles of their backs also can be varied. This latter adjustment is accomplished by means of two adjustable straps through which the back is supported from the seat frame. This method of supporting the seat back also gives it a certain amount of elasticity. There is a recess in the bottom of the front seat back for additional leg room, inside of which recess there is a curved, upholstered sheet metal foot rest, which is hinged to automatically adjust itself with changes in seat or back position.

The instrument boards represent an innovation. On the 110-in. wheelbase models the board as well as the window sashing is finished in black, with white pin striping on the board, while the 113-in. models have a walnut-grain finish on these parts. The instruments include a dash gasoline gage. Spark, choke, throttle and heat controls are also mounted on the dash, while the finger-tip control is retained on the steering column. The switch of this control is now better protected against oil than formerly. The accelerator pedal is of the treadle type and mounted at an angle to conform with the normal foot position. A pocket is provided in back of the front seat in the sedans. Door handles are of the locking type.

Other comfort features include a slanting, non-glare, swinging windshield provided with crank operating mechanism, a top cowl ventilator on all models, and the mounting of the shift lever on the bell housing and of the brake lever at the driver's left, for additional front compartment clearance. Arm rests and assist cords are provided on the 113-in. models.

An interesting method of roof construction is used on the lowest-priced five-passenger closed model, the 110-in. wheelbase club sedan. This has a fabric roof covering, with side and rear quarter panels below the top material formed in presses from wood fiber, rather than sheet metal. The 110-in. wheelbase coupe also has fabric covered rear quarters, the fixed top being covered with a light-colored material.

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. On the hood this offset helps to conceal the side hinge.

Windshield pillars are now formed integral with the cowl side stampings, and the flash welds are located in the large flat surface on top of the cowl, where there is less danger of filing the metal too thin after welding.

The radiator shell tends to accentuate the effect of car length, due to the use of lacquer on the flat side surfaces. The shell is first chrome-plated and then lacquered, leaving the raised portions in the chrome-plated condition in the form of moldings. Filler caps for the radiators are now located under the hood, a decorative low imitation cap forming part of the Willys Six emblem, occupying its usual position on top.

The shell is mounted in a "basket" formed in the front cross-member. Drilling of the shell for light wires is discontinued, the wires now being carried through the headlamp tie-bar to the fenders, and through the fender braces to the frame, etc. There is a junction box where the headlamp support attaches to the tie-bar. The longer models carry indicator lights which are chrome-plated and streamlined into the fenders.

Mechanically, the Willys Six is improved in various details. The compression ratio has been decreased from 5.6 to 5.26 to 1, for smoother operation, but the effect of this change on the power output appears to have been offset by the adoption of an offset type of combustion chamber with low clearance (⅛ in.) over the piston, since the same horsepower as last year is claimed. Further engine improvements include the adoption of the new Perfect Circle oil-control ring, elimination of babbitt 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. This oil intake is hinged so it can adjust itself automatically to variations in oil level.

Maintaining the oil intake near the surface of the oil in the crankcase is said to insure a cleaner oil supply to the bearings, and, besides, in starting in cold weather there will be greater assurance of maintenance of oil circulation during the warming-up period, since any oil that has been warmed up by circulation through the engine will collect on top of the supply in the crankcase.

A change has been made in the accelerating pump on the carburetor, the plunger of which is now in the form of a thin brass stamping, which is less likely to seize. The shank of the plunger has been rounded off and fits into a stuffing box, to seal the device more effectively against dirt. The carburetor, incidentally, is a new model, which is said to be more economical in the 40-50 mile range.

The clutches of the 1931 Willys Sixes are notably free from any 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 diagonal tubular braces are provided to brace the engine at the rear to the frame side rails. An Alemite connection for lubricating the clutch pilot bearing has been added.

In the transmissions, the second speed ratio has been reduced to 1.53 to 1 for higher top speed in second gear. Spicer universal joints have been adopted. In the rear axle the malleable iron brake-bracing plate and spring supports have been replaced by steel stampings welded to the housing, thereby reducing the unsprung weight. Wheels now carry a drop-center type of rim. In addition to the standard gear ratio of 4.6 to 1, an optional "mountain ratio" of 4.89 to 1 is available.

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

Fuel tanks have been increased in size. Double-acting shock absorbers are now standard equipment, and safety glass is available on all models, including the 121-in. wheelbase eight and Willys-Knight, at slight extra cost ($15 to $40). 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 corresponds to the 113-in. wheelbase edition, except that its springs are heavier. In connection with commercial use a change in the front engine plate is worth mentioning, which is intended to reduce the possibility of the dowel screws loosening. The commercial chassis lists at $395. A panel body of large dimensions, with 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 to reduce wheel-fight, steering wheels are larger and a lower steering gear ratio of 16½ to 1 has been adopted. An intake silencer is supplied on the Willys Eight. Fuel tanks have been increased in size, springs are longer, optional rear-axle ratios of 4.4 and 4.9 to 1 are offered, and double-drop frames, steel running boards, etc., are to be found in this chassis also.

Willys Prices for 1931

Model 97, Willys Six, 110-In. Wheelbase

Model	New Price	Old Price	(Whippet Four Former Price)
5-p. Touring	$545	$735	....
2-p. Roadster	495	695	....
2-p. Coupe	565	695	$525
5-p. Club Sedan	625	None	None
5-p. Standard Sedan	675	795	585

Model 98-D, 113-In. Wheelbase

Model	New Price	Old Price
Victoria Coupe	$795*	None
Sedan, 5-p.	795*	None
½-ton chassis	395	....

*wire wheels $55 extra.

Willys Eight

	New Price 121-In. Wheelbase	Old Price 120-In. Wheelbase
Victoria Coupe	$ 995	None
De Luxe Victoria Coupe	1,095†	None
5-p. Sedan	995	$1,295
De Luxe Sedan	1,095†	1,395

Willys-Knight 66-D

	New Price 121-In. Wheelbase	Old Price 120-In. Wheelbase
Victoria Coupe	$1,095	$1,795
De Luxe Victoria Coupe	1,195†	....
5-p. Sedan	1,095	1,795
De Luxe Sedan	1,195†	....

†With six wire wheels and fender wells.

Willys Eight Have New Bodies

Bodies on the Willys Eight are also new. Body moldings are of the double-offset type; hoods carry ventilating doors instead of louvers; windshield pillars are gracefully curved; windshields are of the slanting, non-glare type, and 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 and rear-axle treads have been increased to 58⅜ in. (as on the sixes) for increased seat width. The double-drop frame results in lower overall height. 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 compartment.

Virtually the same chassis and bodies as for the Willys Eight are used also for the Knight-engined model, except for a heavier rear axle and a number of minor deviations. The powerplant of this car is the same as that offered last year in the Willys-Knight Great Six. Its sleeve timing has been altered to give later intake opening which, though it reduces the compression somewhat, results in smoother operation.