Plymouth History

With the worst of the Great Depression behind them by 1935, automakers could begin to look ahead to renewed sales strength. At Chrysler Corporation, volume leader Plymouth couldn't have picked a better time to offer completely new 1935 Plymouths.

Plymouth Image Gallery

The 1935 Plymouths boasted major design and engineering advances. See more pictures of Plymouth cars.

Chrysler Corporation turned 10 years old on June 6, 1935. That year, founder Walter Percy Chrysler turned over the president's chair to his handpicked successor, Kaufman Thuma Keller, and took a less-active role as chairman. It was a good time to change the guard. The Depression was easing, and Chrysler's company was doing well -- especially its Plymouth Division.

No wonder. New from the frame up, the '35 Plymouths offered major design and engineering advances over the 1934 models -- and rivals Ford and Chevrolet. Plymouth still had the only four-wheel hydraulic brakes among "The Low-Priced Three." Now came a stronger chassis with a revised suspension that improved both ride and handling, plus safer, more streamlined bodies without old-fashioned wooden substructures. New touring sedans arrived with built-in trunks, an increasingly popular feature.

With all this, Plymouth sales topped 350,000 units for calendar 1935 on some 26-percent-higher production. Model-year volume rose, too, reaching nearly 327,500 units.

Plymouth entered 1935 with an all new car from the ground up. In many respects the car was a giant leap forward in automotive design and technology, but in other respects the car was also a small step backward.

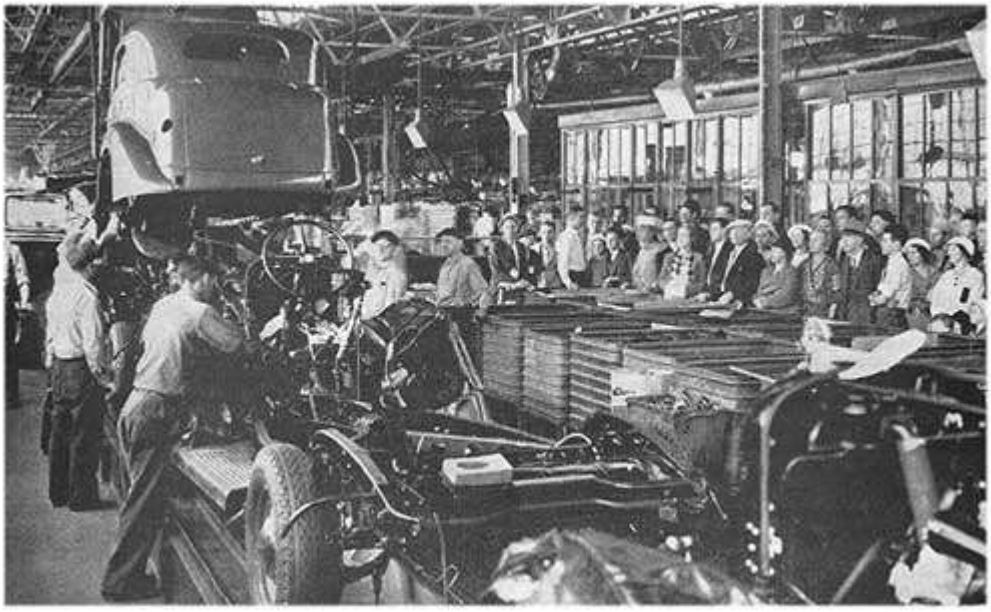
Both 1933 and 1934 had been good years for Plymouth. 1935 was to be no exception. Production was up 49 percent over 1934 but it would be another year before production would surpass the half million vehicle mark. 1933 had seen the introduction of Plymouth's "L" head 6-cylinder engine; 1934 had seen

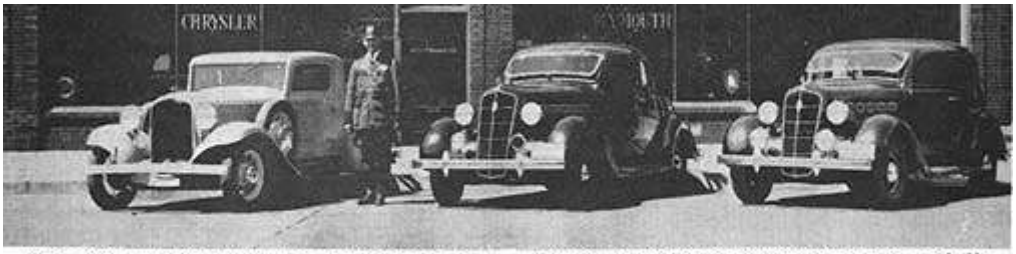
the introduction of independent front wheel suspension. For 1935 improvements were made on the powerplant, but the front wheel springing mysteriously disappeared.

The 1935 was a solid, good looking car, loosing much of the boxy look of years previous and starting to take on some degree of streamlining. The 1935 was offered in two series, both designated the model PJ series, the cheaper Business series and the more elegantly appointed Deluxe series.

1935 Plymouth body styles

The Business series included a four door and two door models, both of the fastback style without a trunk, a business coupe, a commercial sedan (panel delivery) which was based on a gutted two door sedan, and the Suburban Westchester station wagon.





Washington State Patrol Officer Roy Madden drove his 1932 PB patrol car a total of 132,000 miles at a total maintainence expense of $83. When the Patrol purchased Madden a new '35 coupe as a replacement for his PB he then purchased a '35 sedan for his personal use.

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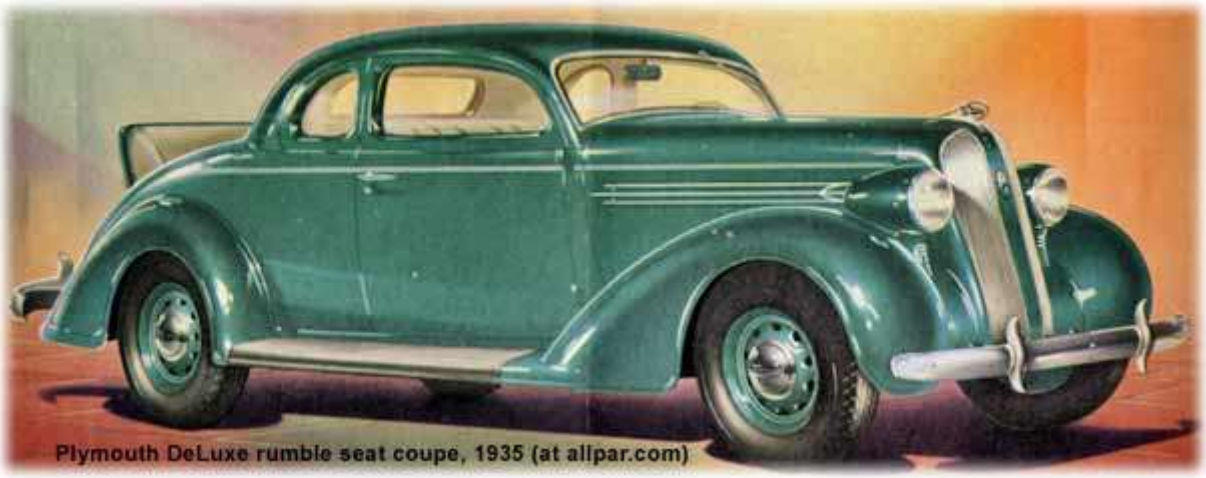
All color illustrations are **1936** Plymouths, not 1935 as marked.



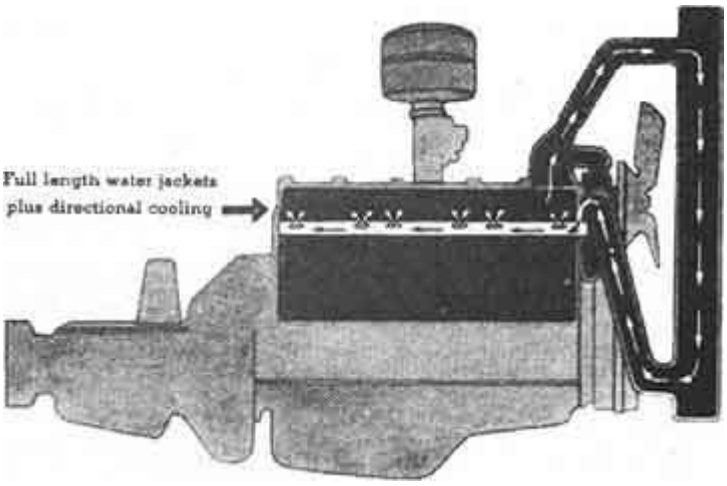
The Deluxe series included a fastback two door and four door model, a two door and four door "Touring Sedan" model, so called because of the built in trunk at the 10 rear, a business coupe, a rumble seat coupe, and a convertible coupe with rumble seat. Early in April two additions were added to the deluxe line, both built on an extended 128" wheelbase. The long wheelbase 5 passenger sedan was called the Traveler Sedan while a version of it equipped with auxiliary lump seats was called a 7 passenger sedan. Oddly enough, the two 128" versions were built on two different body styles. The Traveler Sedan was a stretched version of the Touring Sedan, sporting a built in trunk at the rear but the 7- passenger sedan was built on a stretch version of the fastback body style. Overall length of these cars was 200" in comparison to the normal sedans 188". Regular coupes and the convertible were another 2" longer.

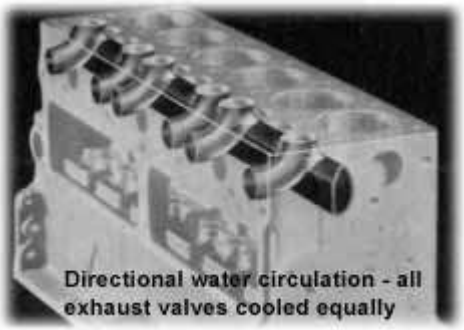
A third "mini-series" was offered briefly but it was soon discontinued after only 837 cars were produced. Called the PJ Six, it was a slightly upgraded version of the Business model. The only noticeable difference between it and the regular business line was that the hood received the deluxe chrome trim of 3 chromed bars with 5 circles behind it. Headlamps remained painted like the business line however. The majority of these cars were Canadian built (805 built at Windsor compared to only 32 at the Detroit plant).

Engineering the 1935 Plymouth cars

Plymouth engineers and designers literally started with a clean sheet of paper with the PJ. Starting with the frame the engineering group retained the X type frame used in years past but improved it. The frame was of the "double drop" type, so called because it had a kick-up at both the front and rear for the suspension to "travel" in. It also allowed the center section to be lower so the body could be mounted lower not only for better looks but for directional stability as well. The frame consisted of two pieces riveted together--the X-type center section was riveted to the outer walls. The forward ends of the center section formed a box section with the side walls and these were riveted both top and bottom. By making a box section in this manner the engineers achieved a stronger frame to withstand twist and torsional stress in use. In addition the body was now mounted using 46 mounting points, rather than the normal 16 or 18 mounts. Body bolts ran both horizontally and vertically on the outer frame walls and vertically on the center. It was referred to as "Unit Frame & Body" construction.

The now 3 year old 6-cylinder engine underwent some major changes as well although it retained its basic dimensions, both externally and internally. Tests in the engineering labs had shown that the rear cylinders of the engine were not cooling as much as the front cylinders so the block was redesigned to provide full length water jacketing the entire length of travel of the pistons. In addition a water distribution tube was installed in the block so the water pump would force cool water to the rearmost cylinders, and especially to the exhaust valve seat areas. This the engineers referred to as "directional cooling."





Despite these improvements to the cylinder block it retained the same exterior dimensions as the previous engines with one exception. Because of the new fully jacketed water system the started had to be moved outboard about a quarter inch on the bell housing. This change prevented the 1935 block with bell housing from being a bolt for bolt swap into an earlier car. In the same respect after 1935 there were no exterior dimensional changes and all engines produced until the flat head six was discontinued in late 1959 would swap bolt for bolt into cars back to the '35 model. Engine compression rose to 6.7 as a result of cylinder head changes and thermostatic control was provided all Plymouth engines, the Deluxe getting a bypass type thermostat while the Business series received a choke-type thermostat. Spark knock was eliminated by the addition of a vacuum controlled distributor, with vacuum supplied from the engine's intake manifold.

Its operation was entirely automatic. The crankshaft rotated in four main bearings and the connecting rods were of the removable type. Each piston contained 4 rings, two to seal compression and two to control consumption. In an effort to cut down on under hood noise the fan blade was redesigned and the blades were staggered in a manner to cut down on noise but to not reduce efficiency.

Fuel was fed the engine thru a down draft carburetor supplied by a fuel pump mounted low on the engines right side. The 15 gallon fuel tank was mounted at the rear of the frame and the fuel lines were mounted outside the frame so engine heat would not cause vapor lock. Most cars were equipped with a carburetor and manifold 11/.." in diameter, but an "economy" package could be had at no charge that had a special intake manifold and 1" diameter carburetor. When so equipped the engine developed only 65 horsepower and the car was equipped with a 3.7 to 1 differential. Normal PJ models had a rear end ratio of 4.125 to 1.

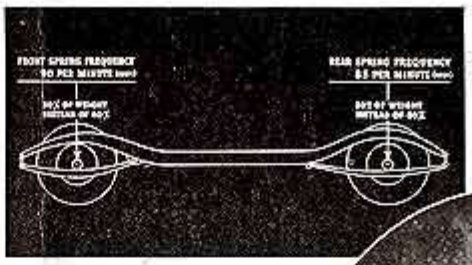
The entire engine received fuel pressure lubrication (at 35 lbs. psi) and deluxe models were standard equipped with an oil filter. In addition the crankcase was ventilated by drawing in fresh air thru the oil filler cap and existing harmful fumes thru the crankcase breather pipe located at the rear of the block. Exhaust valves also received removable seat inserts to cut down on wear and to eliminate the need for early valve regrinds. The engine was mounted in Plymouth's famous "Floating Power" engine mounts which allowed the engine to absorb its own vibrations by being mounted in rubber on the axis line of its own weight.

THE FLOATING RIDE
PIONEERED BY PLYMOUTH

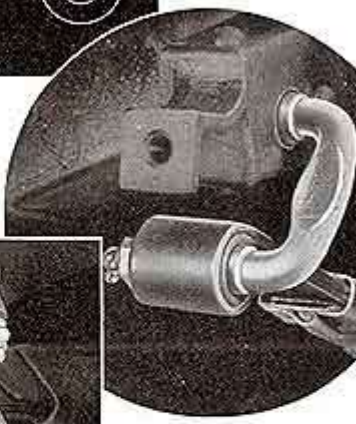
Perfected with New Solidity

With new weight distribution and new type springs, Plymouth startled the world. Produced an utterly new ride sensation—named it the "Floating Ride." Achieved a new "steadiness" with a Sway Eliminator on the front spring assembly. Now a new twice-as-rigid frame, a new Sway Eliminator, a change of front shackles and the miracle has been surpassed. The Perfected Floating Ride.

The Plymouth sway eliminator controls the action of the springs. Flexing of either spring is resisted by the bar, thus reinforcing the spring.



Left—Balanced weight and balanced spring action—the Floating Ride!



Finer Steering! The kickshackle on the left front spring—absorbs road shock, keeps it from being transmitted through the steering wheel to the driver.

The Plymouth front springs are exceptionally flexible. Note how thin the leaves are—they are made of a special steel "Amola."

The new twice-as-rigid f... Note its heavy box-s... construction. Extraord... stiffness of this frame gi... Floating Ride new so...

Next in line for the engineers was the clutch plate. Heat buildup was the major cause of clutch failure so Plymouth engineers devised a system of air inlet and exhaust ports in the clutch housing. Using the natural vacuum created by the whirling clutch plate, air was drawn in through a screen mounted on the side of the bell housing. After cooling the clutch plate, which was increased to a diameter of 91/...", the air was forced out at the top of the housing behind the block. approximately 600 cubic feet of air was circulated each minute. Clutch pedal pressure was also reduced by approximately 30 percent.

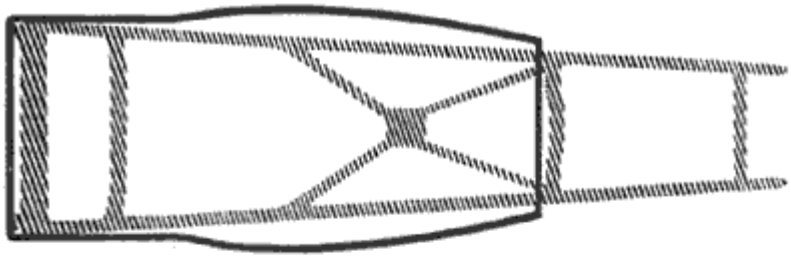
An entirely new transmission of the silent- synchro type was next. One of the main points of difference in this new transmission was the addition of a synchronizing device between third and second gears, which eliminated the clashing of gears while down shifting. All gears were of the helical (angle cut) type and ball or roller bearings were used extensively throughout. Power was transmitted entirely on these bearings with the exception of the reverse idler gear. The out put, too, was mounted n a large ball bearing. Inside the universal joints costly roller bearing were utilized for longer life and wear.

The differential did not get overlooked by the engineering department and two important changes were made there. The outer ends of the axle housing were made heavier and more rigid to insure positive alignment for quiet, durable operation. Bronze thrust washers also utilized in the differential case to eliminate wear which might cause play in the gears or back lash. The '35 Plymouth utilized a total of 28 roll or ball bearings in the drive train construction, eight of them alone in the rear axle assembly.

After pioneering independent front suspension in the low priced field in 1934, Plymouth mysteriously (and quietly) abandoned the system for 1935.

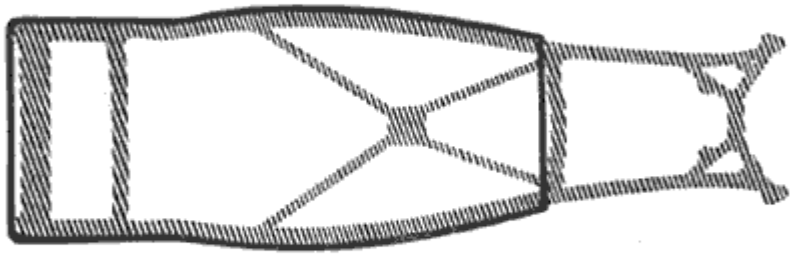
Equally mysteriously, Plymouth's sister car, the DeSoto, introduced its first independent front suspension system with the 1935 models. Plymouth and DeSoto shared the same production facilities at the Detroit Lynch Road assembly plant!

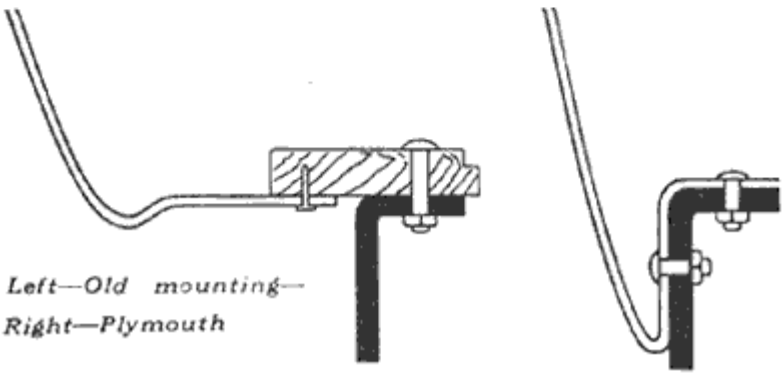
As a direct result of the Airflow research program, in which a vehicle's own weight was more evenly distributed, Plymouth engineers moved the engine forward about 8 inches and returned to a tube type front axle. Front and rear springs were both of the semi-elliptical type and spring rates were adjusted so a balanced weight was achieved with the center of gravity reaching a point near the center of the car. Engineering claimed these changes would improve the ride and stability of the car, eliminating the "tall wagging the dog" type of handling. Springs received major attention as a new design was implemented. Spring ends were tapered and each spring leave was made of narrower material (called 'Mola' steel) and more leaves were utilized. The Deluxe PJ received 10 leaves on the front springs, with 9 leaves on the rear. The Business series had only 7 leaves on both front and rear springs. A front stabilizer on the deluxe series aided in side sway control. As in the past the steering was of the cross-steering type, where the steering arm and drag link ran parallel to the front axel, rather than parallel to the frame. By this method vibrational movement of the front wheels was not transmitted through the steering column to the driver.



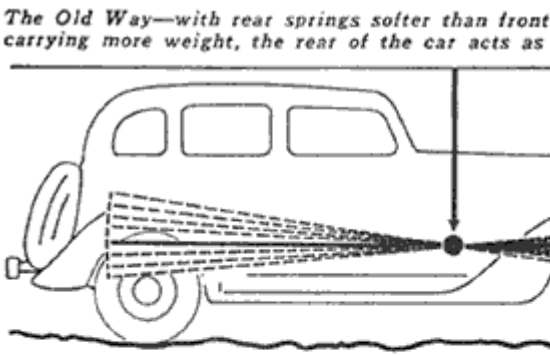
Above—Black line shows how body is mounted to frame in ordinary car. Note overhang.

Below—Black line shows how Plymouth all-steel body is fastened directly to frame.

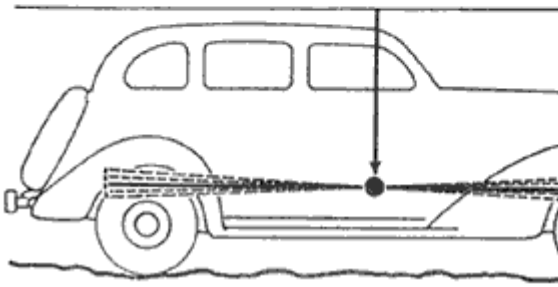




Left—Old mounting—
Right—Plymouth



The Old Way—with rear springs softer than front carrying more weight, the rear of the car acts as



New Plymouth—Balanced Weight plus Equal Springing gives a balanced, smooth rid

Satisfied that everything had been taken care of on the mechanical end a newly designed body was next in order. Briggs supplied the bodies again for 1935 and of course, they were of all steel construction with a partial exception in the commercial sedan.

Fenders took on a more "pontoon" look and curved gently downward rather than flowing towards the rear of the car as in years past. The radiator shell was more rounded and the windshield and header area was slanted rearward to achieve less wind resistance on the open road. The rear quarter panels were also rounded more and on fastback models the rear panel sloped gently toward the ground. Touring sedan models had a slightly shorter passenger compartment and the rear window was more vertical to make room for the bustle type trunk built in at the rear of the body. The deck lid on, these models had exposed chrome plated hinges and two chromed latches to keep the lid closed. Bumpers were rather massive and protruded through the front fenders from their own pods where the brackets bolted directly to the frame. Mounted to the radiator shell was a sailing ship ornament that matched the design of the '34 ship but the mounting was much longer and heavier. Like the'34 ship, it, too, was fragile and the forward sail and mast tops were easily broken off. The ornament was a $3.50 option installed at the factory on nearly all cars.

There was no body chrome other than bumpers, hubcaps, door handles, hood trim and the radiator ship. The new Plymouth bodies for 1935 were mounted lower and directly over the frame with the frame contours following the contours of the body with no overhang anywhere. The PJ was the first Plymouth not to be fitted with splash panels between the body and the running boards.

The spare tire rode in a metal cover at the rear on deluxe fastback models and in the trunk on touring sedan models in a compartment beneath the luggage compartment. When the cars were equipped with side mount fenders either right or left hand were available the luggage compartment space was increased on touring sedan models. Business series cars with externally mounted spares at the rear received a fabric cover.

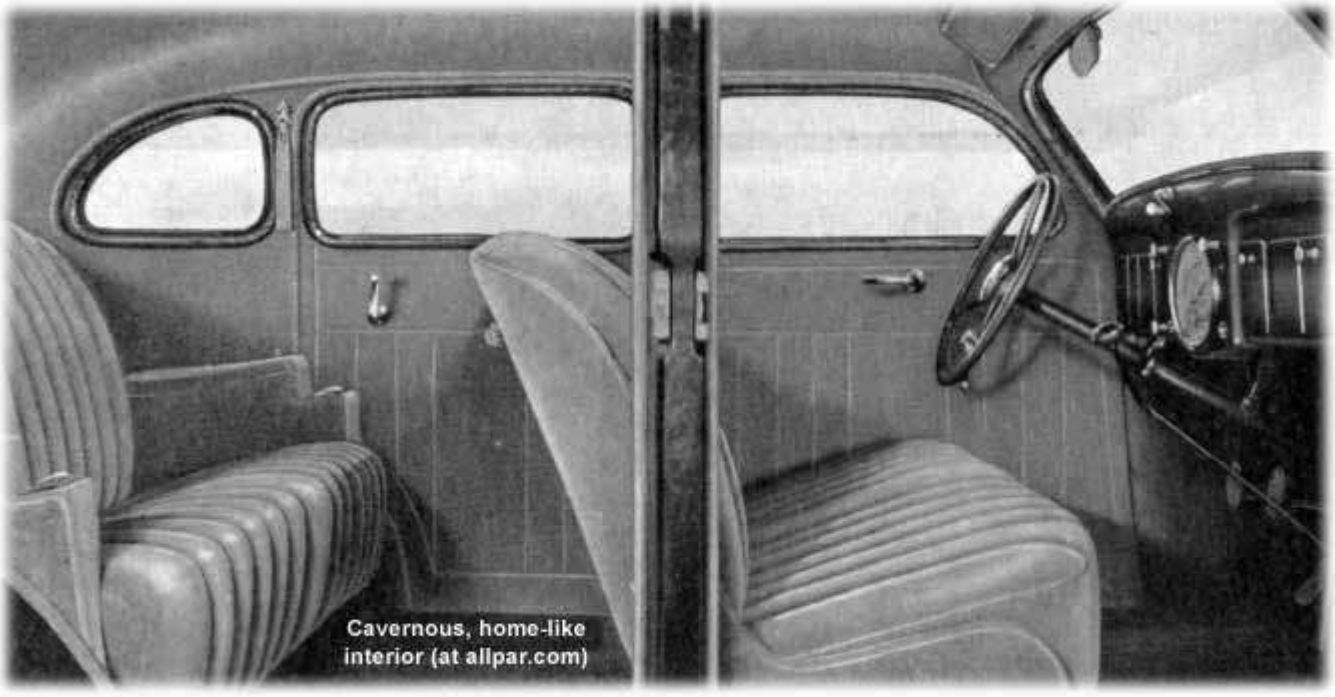
Bumpers, bumper guards, spare tire, tube and a tire cover were optional items in 1935. The entire package for a regular Deluxe sedan cost the 1935 buyer $33 over the base price of the car. Touring sedan models that didn't have a tire cover cost the buyer only $26.50.

The new bodies were thoroughly insulated for comfort and to prevent noise. A new ventilation system was also introduced, eliminating the complicated (but practical) disappearing vent window system used on the 1934 PE models. In addition to a screened ventilator on the cowl the front windows opened in two directions, much like the 1934 Ford system. Winding the window handle part way the front windows moved rearward several inches opening a slit in what would be the vent window area for limited ventilation. Continue winding on the handle and the window, after reaching it rear- wardmost point, would then lower into the door. Rear windows lowered completely but did not have the "venting" feature and rear quarter windows on sedan models lowered partially.

As was common practice in automobile design at the time, the front windshield cranked out for added summer ventilation. Duplate safety glass was used in the windshield of all models and was available at extra cost in all other windows. Only the convertible coupe came standard equipped with Duplate glass throughout.

Fenders and sheetmetal received a treatment called Bonderizing to prevent rust, while the body went through a process called Parcolite to achieve the same objectives. All nuts, bolts and washers used in the construction of the car also went though a slmiliar process called Parkerizing.

Interiors of both series were upholstered in Bedford Cord with Mohair optional on the Deluxe models. The convertible coupe was upholstered in hand buffed Colonial grain leather with the rumble seat was finished in a Moleskin leather. The Westchester Suburban was covered with heavy brown Spanish imitation leather.



Insturment panels were painted a tan enamel finish on all Business models while the Deluxe models were graced with a polished walnut finish. Insturments were described as the "airplane" type and consisted of a speedomeer in one dial, and the oil, amp, gas and temperature gauge in a second matching dial mounted directly in front of the driver. An ash tray occupied the center of the dash on all models and a large glove compartment was on the right side of the panel. The Deluxe models had the dimmer switch mounted on the floor board but the Business series dimmer switch was controlled by the switch on the dash panel.

Interior hardware of the Deluxe models was of bright nickle finish with the windshield knob, window handle knobs, and horn button in antique ivory. On the business series these were either nickel plated entirely and the horn button was black. Four door sedans all had an ash receiver in the center of the front seat back and Deluxe sedans had assist straps installed, as well as a rear window curtain (except on the business coupe, two door sedan and convertible bodies). All models had a rubber front floor mat with a carpet in the rear floor.

A common problem on many autos, even into the "modern" age, was that of the back seat passengers freezing to death in cold weather while those in the front sweltered in the direct blast of the heaters. For 1935 Plymouth engineers provided a passage under the front seat whereby air drawn in from the ventilator would be circulated thru this passage to the back. Cool air or warm air from the heaters would circulate into the back as well.

Allpar note: Brakes continued to be a point of pride with Plymouth; the equivalent Ford still had mechanical brakes. (We have a Ford brochure from 1936, and the only piece of information in it appears to be that Ford had a V-8. No horsepower or gas mileage ratings are given; the Ford V-8 actually put out about the same power as the much cheaper, less complicated, more economical Plymouth Six!)

U.S. Body & Forging of Buffalo, New York supplied the bodies for the Westchester Suburban station wagon. Only 119 were built at the USBF plant in Tell City, Indiana. The Plymouth factory shipped in bare chassis, fenders and hood to USBF and they assembled the car from there. The bare chassis sold for $415 while the body sold for $350. The completed Suburbans were delivered back to Plymouth who then distributed them to the selling dealer.

The Suburban was rated as a 7 or 8 passenger vehicle and came equipped with three sets of seats, the last two sets of which were removeable for the hauling of cargo. The Suburban came with glass in the windshield only while the rest of the openings were covered with storm curtains which could be removed and stored in a concealed pocket underneath the rear tonneau seat. The Suburban, as well as all the other PJ models, rode on a 113" wheelbase chassis one inch shorter than the previous years models (except for the 128" wheelbase Traveler 5 and 7-passenger sedans). Wheel and tire size was 5.25x17" on the PJ Business line while the Deluxe rode on 6.00x16's.

The commercial sedan was built using a derivative of the two door fastback sedan body. The car was designed to be an economically priced business car for the man who could not afford both a personal passenger car and a business car. A rear door was cut in back of the body and the interior consisted of only front seats and side panels. Two removeable wood floor boards covered the rear floor area and snap in "advertising" panels fit into the rear windows. The rear door was of composite con- struction, metal over a wooden frame. The idea behind the car was for it to be a two fold vehicle. The small businessman could buy it for his business and use it during the week as such. It was designed also so the owner could take out the window panels, remove the floor panels and install a regular back seat (which was available optionally) so he could use the car on Sunday or whenever as a family passenger

car! The spare tire was mounted in the right front fender as there was no other place for it with this body style. Either way, as a business vehicle or as a passenger vehicle, it was an attractive unit. It was Plymouth's first "panel delivery" but sales were not impressive, with only 1,142 units sold.

Accessory Group AD for the Deluxe series consisted of dual chrome exterior horns, an auxiliary talilamp, windshield wiper and interior sun visor as well as a cigar lighter. The price was $18.50. The same accessory group for the PJ Business series included the same items plus chrome headlamps and sold for $23. This was sold as accessory group AS.

An oil bath air cleaner commanded $2.50 while Duplate glass cost an additional $7.50 on coupe models and $10 on sedan models in both series. A factory installed Philco Transitone radio cost the buyer an additional $44.95, not much in todays money but adding nearly 9 percent to the cost of a Business series business coupe. All closed models were wired for a radio antennea, the wire mesh in the cloth roof serving this purpose. Metal spare tire covers for the business series catalogued for $6.50 (the fabric cover cost only $2) and a trunk rack cost the buyer $16.50. A single right sidemount fender only cost $5.75 while dual sidemount fenders sold for $39.50. By 1935, sidemount fenders were fast going out of style and few cars remain today that are so equipped. As they were sold as accessories there is no way of knowing how many cars were equipped with either single or dual sidemount fenders. A right sidemount was standard equipment on both the Westchester Suburban wagon and on the Commercial Sedan.