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PACKARD 1940

DATA BOOK

One-Ten: One-Twenty... One-Sixty... One-Eighty

PACKARD Data Book 1940

PACKARD

One-Ten
One-Twenty
Super-8 One-Sixty
Custom Super-8 One-Eighty

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Packard Motor Car Company

Detroit, Michigan

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Don Yocum

Institutional

Packard 110 & 120

Packard One Sixty

Packard One Eighty

Auto Accessories

INTRODUCTION

THIS NEW DATA BOOK covers the complete line of Packard cars for 1940—One-Ten, One-Twenty, Super-8 One-Sixty and Custom Super-8 One-Eighty—and has been prepared to give you complete technical information in an understandable way. Cold, hard facts have been translated into sales language that can be used directly in talking with a prospect. Illustrations are used profusely and all specifications and dimensions are here made available for those buyers who are mechanically minded.

So as to make it practical to give you all the information about each feature of all the new 1940 Packard cars in full detail and yet keep the book in a usable, easily carried size, a new arrangement is introduced this year. Instead of devoting a separate section to each model with necessarily brief copy and few illustrations, we have first described the exterior and interior of each model individually and then combined the descriptions of the body construction into one section, the descriptions of the engines into another and the descriptions of the chassis into still another. Of course, all differences between models are clearly shown and fully described. We are sure you will find this new arrangement far more convenient and readily useful than those of previous Packard Data Books.

We urge that you read and reread your Packard Data Book—that you master every detail and make yourself thoroughly familiar with every sales advantage of these new automobiles. Then you will be perfectly equipped to talk informatively with every prospect whether he be interested in appearance, comfort, economy, long life or—likes to talk mechanical features.

Know your car from stem to stern—use your information in every sales presentation and—always carry your Data Book for ready reference.

DATA BOOK

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THE FOUR-YEAR PLAN AND THE RESULTS

In its forty years of history Packard has had many memorable announcements of new cars. The first, in 1899 when J. W. Packard introduced the first Packard car. Again, in 1907 when the first of the famous Packard "Thirties" made its appearance. Nineteen hundred and twelve was noted for the first Packard Six. Then came the famous "Twin-Six" in 1915. Nineteen hundred and twenty-two was another outstanding year with the appearance of the Packard One-Twenty Six. But perhaps the most notable—prior to the present—was the introduction of the Packard One-Twenty in 1935, a car so enthusiastically received that it greatly enlarged the scope of Packard activity.

Now, however, with the introduction of the new Packard cars for 1940, an even more important milestone in Packard progress is reached. They are the first new cars to result from Packard's four-year plan—a plan that will be far-reaching in its lasting effects. It is a plan that now results in the finest engineered, finest manufactured, and finest merchandised cars that Packard has ever been able to offer the public.

This is all possible because of a complete evolution in factory operations and facilities. Because of the expenditure of millions of dollars in greatly increasing engineering and production efficiency, Packard offers for 1940 not only the best cars in its history but cars at the lowest prices ever quoted by Packard.

The Plan now completed took root four years ago, with the introduction and growth of the Packard One-Twenty.

The wide acceptance of that car and the immediate success of its subsequent companion, the Packard Six, proved that ever-widening production facilities were necessary.

To those familiar with the previous layout of the Packard factory it will be recalled that the One-Twenty and Six were produced in a separate factory south of the boulevard. As demand increased and production rose, the plant was taxed to the utmost. Concurrently with this condition—even though Packard was getting the lion's share of the market—the demand for the larger Senior Packards, built in the big part of the factory, decreased in common with all makes of large expensive cars. The situation that presented itself was a factory steadily becoming too small for the One-Twenty and Six, and remaining too large for the Senior Packards.



In the Planning Department, plant layout engineers worked month after month designing the most efficient system of plant arrangement. Each machine was definitely located in its new position and each foot of the miles of conveyor was plotted for maximum production with the minimum of handling.

took place before any direct moves were made. Then little by little, small changes were made that would not interfere with production, and each of these changes cut costs.

The momentous decision was made to completely rearrange the entire plant so that the entire 89 acres of floor space would represent the utmost in manufacturing efficiency. Experts were put to work on the job of long-range planning to lay out the entire factory just as if it were entirely empty and space could be utilized with no consideration given to the then existing set-up. Long, long months of research, checking, and rechecking

However, the point was reached when the major transformation must be made, so early in 1939 the big changeover activity began. More than thirty large contractors, each a specialist in his line, began operations. Wreckers, excavators, builders, electricians, steam fitters, bridge builders, conveyor track workers, painters, machine movers and many others with hundreds of men started in to work an Aladdin-like change.



Upheavals followed when the start was made. New pits under the giant new main assembly line were excavated. Chaos seemed to rule in every department but all was according to a well-laid, perfectly timed plan.

The former One-Twenty and Six plant was converted into a plant devoted exclusively to body building and the production of stampings. Where a wide boulevard with fast moving city traffic formerly divided the mile long plant



This new bridge which spans Grand Boulevard, one of Detroit's main arteries of traffic, joins the north and south plants—literally makes one gigantic factory out of two. On the left is the body plant, on the right the engine, chassis and final assembly plant. Now the two are one.

into two parts and caused endless delays by impeding trucking, an artistically beautiful covered bridge now spans the highway. Over it come bodies to the new main plant from the body plant on a new and modern conveyor system which is over a mile and a half in length.

New chassis conveyor lines were erected in the new main plant to care for a greatly increased production. These, added to the body conveyor system, total a length of two and one-quarter miles. Production lines for conveying rear axles, differentials, motors, wheels, fenders, and other parts, add more than another mile and three-quarters, giving a grand total of some four miles of major conveyor systems—one of the most efficient in the entire industry. In addition the new paint mixing department delivers lacquer to the spray booths through pipes totaling over eleven miles in length.



Huge machines, weighing ten, fifteen, twenty tons, were moved from one plant to the other. Each fitted precisely in its own particular niche in the tremendous changeover plan. Here is a big crankshaft lathe passing under the famous "Quality-First" sign on Packard Avenue within the plant, and on its way to its new location.

Machine departments were moved in entirety. Since this presented an ideal time for replacement of machines, much money was spent to replace many machines purchased only a few short years ago with new equipment subsequently developed to increase manufacturing efficiency and provide still greater precision.

Needless to say in the completion of the 4-year Plan millions of dollars

have been expended, but it has been well worth while. By the concentration of all body operations into one main body plant, all machining operations into one machine division, and all assembly operations into one assembly plant, costly duplication is eliminated. Under the new arrangement many operations can be performed on one machine or group of machines that were formerly split operations and, therefore, costly. It is now possible to have one group for supervision and one for inspection which supplants the duplications under the previous arrangement.

Floor space required and equipment necessary are held to a minimum because of this combination of operations. The new arrangement makes possible the use of the most modern type of conveyor and shop equipment, securing lowest cost per operation. Trucking of materials is practically eliminated through the combination and location of all departments. Damage to parts which must be repaired is held to a minimum because all parts and assemblies proceed to assembly lines by modern conveyor systems. With new and uncrowded departments working conditions are of the best and the greatly enlarged production capacity promises work for many additional hundreds of men.



New machines arrived each day by the railroad and by truck and trailer. The unloading and placing of these giants was no small task even for riggers skilled and experienced in the business.



The huge Packard factory covering 89 acres of floor space stretches more than a mile from end to end.

The new results of this complete transformation in factory arrangement are, of course, to the advantage of every Packard salesman. The combining of two plants into one makes possible still better quality in car manufacturing through greater precision from newer and more compactly arranged plant equipment. Further, the change produces a decided lowering of production costs which in turn is reflected in lower prices to the consumer.



Electric arc welders climbed ladders and perched on ceiling girders, lighting whole buildings with their fountains of sparks as they constructed conveyors and assembly lines.

This revolutionary change in manufacturing facilities, plus the outstanding excellence in design of the new 1940 cars, provides every Packard salesman with the two things that are all important in his motor car selling—the best cars ever produced by Packard, and the lowest prices in Packard history.

PACKARD IMPROVEMENTS FOR 1940

THIS LONG list of Packard improvements for 1940 will serve to give a quick summary of the changes incorporated in the new series models. It may be used conveniently as a reminder or for quick reference but the complete descriptions of these features, as well as the others that combine to make the new cars more than ever satisfactory, are given on the following pages of this Data Book:

- New front bumpers and bumper guards**
- New narrow radiator grille**
- New auxiliary fender grilles**
- New deeper radiator shell**

- New longer bonnet line**
- New long torpedo type head lamps**
- New Sealed-Beam head lamps**
- New louvers with enamel medallion**
- New embossed outside window reveals (One-Ten and One-Twenty)**
- New chromium outside window reveals (Super-8 One-Sixty and Custom Super-8 One-Eighty)**
- New exterior hardware**
- New fender parking lights**
- New hub caps**
- New chrome wheel rings (Custom Super-8 One-Eighty)**
- New chrome wheel discs (Custom Super-8 One-Eighty)**
- New chrome body belt moulding**
- New larger rear quarter windows**
- New better vision rear windows**
- New trunk handle and license light (One-Ten and One-Twenty)**
- New increased trunk capacity (One-Ten and One-Twenty)**
- New inside trunk light (Custom Super-8 One-Eighty)**
- New carpet trunk floor lining (Custom Super-8 One-Eighty)**
- New trunk lid medallion**
- New upholstery schemes**
- New upholstery materials**
- New crushed pile mohair carpet (Custom Super-8 One-Eighty)**
- New front seat design**
- New foam rubber seat pads (Super-8 One-Sixty and Custom Super-8 One-Eighty)**
- New increased rear entrance space**
- New beautiful instrument panels**
- New de luxe steering wheel (Custom Super-8 One-Eighty)**
- New speed-range speedometer with lucent pointer**
- New grained window garnish mouldings (One-Twenty, Super-8 One-Sixty, Custom Super-8 One-Eighty)**
- New dome light in rear**
- New dual dome light controls (Custom Super-8 One-Eighty)**
- New rear compartment ash receivers**

- New plastic trimmed interior hardware
- New electrical windshield wipers (One-Ten and One-Twenty)
- New wheelbases (Super-8 One Sixty and Custom Super-8 One-Eighty)
- New lower ratios car weight per horse power
- New rear axle gear ratios
- New powerful Super-8 engine (Super-8 One Sixty and Custom Super-8 One-Eighty)
- New high turbulence cylinder heads
- New three-point engine mountings (Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New hydraulic valve tappets (Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New larger capacity generator
- New greater gasoline economy
- New longer engine life
- New brilliant performance
- New improved riding qualities
- New front shock absorbers (One-Ten, One-Twenty and 127" wheelbase models of Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New airplane type direct acting shock absorbers (One-Ten, One-Twenty, and short wheelbase models of Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New rear shock absorber mounting (One-Ten, One-Twenty and short wheelbase models of Super-8 One-Sixty and Super-8 One-Eighty)
- New front roll control bar mounting (One-Ten, One-Twenty, and short wheelbase mountings of Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New front and rear roll control bars (Long wheelbase models of Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New rear spring inserts
- New "gooseneck" rear spring mounting (One-Ten, One-Twenty and 127" wheelbase models of Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New front Safe-T-flex torque arm (One-Ten, One-Twenty and 127" wheelbase models of Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New steel clutch and brake pedals
- New air vent in gas tank filler neck

- New improved Econo-Drive
- New Econo-Drive signal light
- New floor location for car heater
- New chrome frames around rear windows (Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New electric clock (Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New water thermostat in cylinder head
- New chrome-plated striker plate and dovetail on doors (Super-8 One-Sixty and Custom Super-8 One-Eighty)
- New power-operated top on convertible coupes

THE NEW PACKARDS FOR 1940

For more than thirty-five years the exclusive styling which has distinguished Packard as the best known car on road or boulevard has been based on the pure beauty of its lines and contours. Each succeeding year has seen refinements of design, improvements and constant modernizing of these well known lines. But never before in Packard history has the genius and skill of Packard designers achieved such full expression as is now portrayed in the beautiful Packard cars for 1940. Here in perfect measure are combined the beauty that is ultra modern with a beauty that is classic and time-proved. Smartness, individuality, and true beauty are skillfully blended in this modern motor car.

THE PACKARD OWNER HAS ALWAYS BEEN PROTECTED

Through the years since 1904 when the Packard lines were first created, Packard owners have watched the coming and going of styling whims and fanciful, short lived

ideas. Obviously, such trials and experimentation have cost the owners of these cars money in unnecessary style depreciation. Packard styling has always been modern and attractive, as nationwide beauty polls among thousands of car owners have definitely proved, but at the same time it has been consistent and logical.

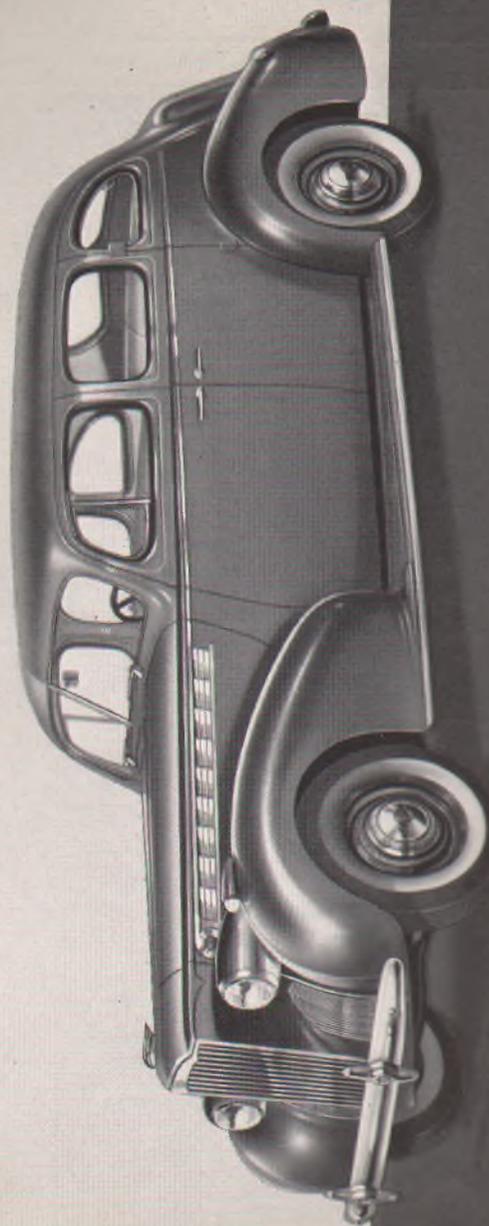
In general appearance all Packard models for 1940—the Packard One-Ten, the One-Twenty, the Super-8 One-Sixty and the Custom Super-8 One-Eighty are similar. In size, exterior and interior trim, equipment and details of appointments, they quite naturally differ. Important improvements in the radiator shell, the sweeping streamlined rear panels and the gracefully moulded trunk lines, combine to give the effect of impressive length which definitely lifts them above their modest price classes.



The identifying Packard radiator lines known in every civilized country on the globe had their beginning in this 1904 model.

PACKARD ONE-TEN AND
ONE-TWENTY

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A new and beautiful interpretation of Packard styling—the Packard One-Ten. Wheelbase 122 inches.

Packard

DATA BOOK One-Ten & One-Twenty

THE PACKARD ONE-TEN AND ONE-TWENTY

AS EITHER the new Packard One-Ten or One-Twenty approaches head on, one gets a momentary glance of a fascinating new interpretation of the well-known Packard radiator lines. True to tradition, these lines are still distinctly Packard but this year a narrowing of the grille, a gleaming new chrome frame and flanking grilles at each side add striking new beauty. The radiator shell now rounds gracefully downward at the front to meet the chrome-plated frame of the radiator grille, thus eliminating all straight lines and sharp angles. The shell itself is five inches longer than that of previous models which not only gives greater over-all length to the bonnet line but also makes possible the new narrow and graceful radiator grille.



The most beautiful and distinctive front end on the highway.

Head lamps nestle down without brackets in the shallow valleys between the fenders and the radiator shell, and flashing wind-splits of chrome lead down from the head



The Packard One-Twenty—harmoniously styled from radiator to streamlined rear end. Wheelbase 127 inches.

Packard

DATA BOOK One-Ten & One-Twenty

lamps giving a pleasingly decorative note to the front end appearance and effectively concealing the joint between fenders and radiator shell. Parking lights, chrome trimmed, are mounted on the crown of each front fender.

Fenders are massive, deeply crowned and extend below the line of the newly designed rounded front bumper. New bumper guards of attractive design carry the familiar Packard red hexagon.

The bonnet itself features a fixed panel down the center which lends a custom-car touch to the front end styling and also reduces materially the area of hood to be raised in order to give access to the engine. The easy accessibility of the engine with this type of hood opening, as contrasted with that of the so-called "alligator" type is important from a service viewpoint. The well-known Packard radiator cap with its wire bail is continued as an additional distinguishing mark at the front end. It is supplied as standard equipment instead of costing extra as do the constantly changing radiator ornaments of many cars.

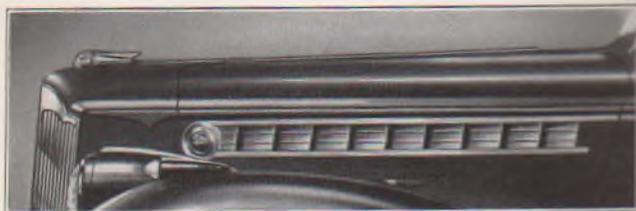
The sloping divided windshields of the Packard One-Ten and One-Twenty are wide and deep—corner posts are narrow so that full vision ahead is afforded. The divider strip in the windshield is chrome-plated giving a touch of sparkle at this location. Twin windshield wipers, electrically operated, are mounted in ornamental chrome brackets.

Side View—Coming into broadside view, the new



The actual thickness of the chrome plating on Packard bright parts is accurately measured by this powerful microscope.

Packard presents a most impressive picture. Its lines are long and low, conveying the idea of fleetness and smoothness. The bonnet lines of each model are long and tapered—five inches longer than those of previous models—and head lamps and louvers are designed to enhance the impres-



Glittering louvers in chrome are set off by a colorful enamel medallion.

sion of length. Fenders blend gracefully into the sweeping lines and curves of the bonnet and body, and rear panels and trunk complete the picture with their beautiful wind-stream styling.

Head lamps are new and much longer—torpedo type—and are finished on the top with a wind-split of bright chrome. Sparkling new chrome bonnet louvers, cellular in type and neatly ridged are bordered above and below with fluted chrome bars. A brilliant medallion in red enamel heads the louver and carries the Packard name in silver script. The louvers of the two cars differ only in length. The upper chrome bar of the louver continues backwards to the rear of the car just below the belt line, further accenting car length and adding a new flash of chrome to the side view. Directly below along the edge of the front fender and running board, another trim strip of chrome contributes to exterior attractiveness.

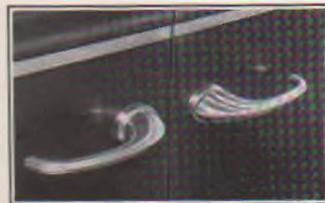
Fenders are deeply crowned and the wheel openings both front and rear on the One-Ten and in the rear on the One-Twenty, have been made smaller giving the impression of

even great fender massiveness. Running boards of thick moulded rubber over heavy steel join front and rear fenders solidly and hold the whole assembly rigidly to prevent vibration. New, large hub caps of simplified design, feature the Packard red hexagon with the name Packard deeply embossed in black script across the face of the hub cap. Slots in the disc wheels permit the easy installation of individual tire chains when required.



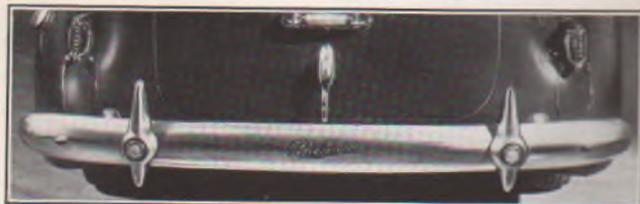
Hub caps are large and feature the name Packard across the well-known red hexagon.

In the bodies themselves new window reveals, striped in harmonizing color, smarten the side appearance and a new larger rear quarter window opening adds materially to the vision and pleasure of rear seat passengers. New attractive exterior hardware has been designed and the right-hand door is secured from the outside by means of a lock located in the door handle. Before leaving the front door we direct your attention again to a special feature—not new but really important—in the front door design which Packard alone provides. Because of the special upper front door hinge, the door swings away from the body at the belt when opened. This makes it possible to slant the lower front line of the door and adds several inches to the foot room provided for entering and leaving the front compartment. The lower front door line on other cars is practically perpendicular.



Graceful new exterior hardware adds another flash of chrome.

Rear View—In the rear, the lines of the body flow in smooth curves from the all-steel top over the trunk to the curving rear bumper. There are no decided lines or sharp



The new rear bumper carries the Packard name in embossed black script.

angles. The trunk is designed to blend into and seem part of the body proper—not to look as if attached as an after-thought. Combination tail and stoplights are built into each fender and special lenses act as reflectors when the lights are not turned on. A neat new chrome-plated trunk door handle also houses the light for illuminating the rear license plate and concealed hinges at the top give a smooth unbroken surface at the rear.



Speedstream lines flow gracefully over rear quarters and trunk.

Trunk capacity has been materially increased for 1940 by eliminating the full width



The new vertical trunk handle houses the license plate light. cannot become loose and sag, and is durable in service. The trunk floor is finished with long wearing leather-like material.

The rear windows of all new Packard models for 1940 have been enlarged to provide better rear vision for the driver. The divider strip has been narrowed and the center corners of the windows made more square.

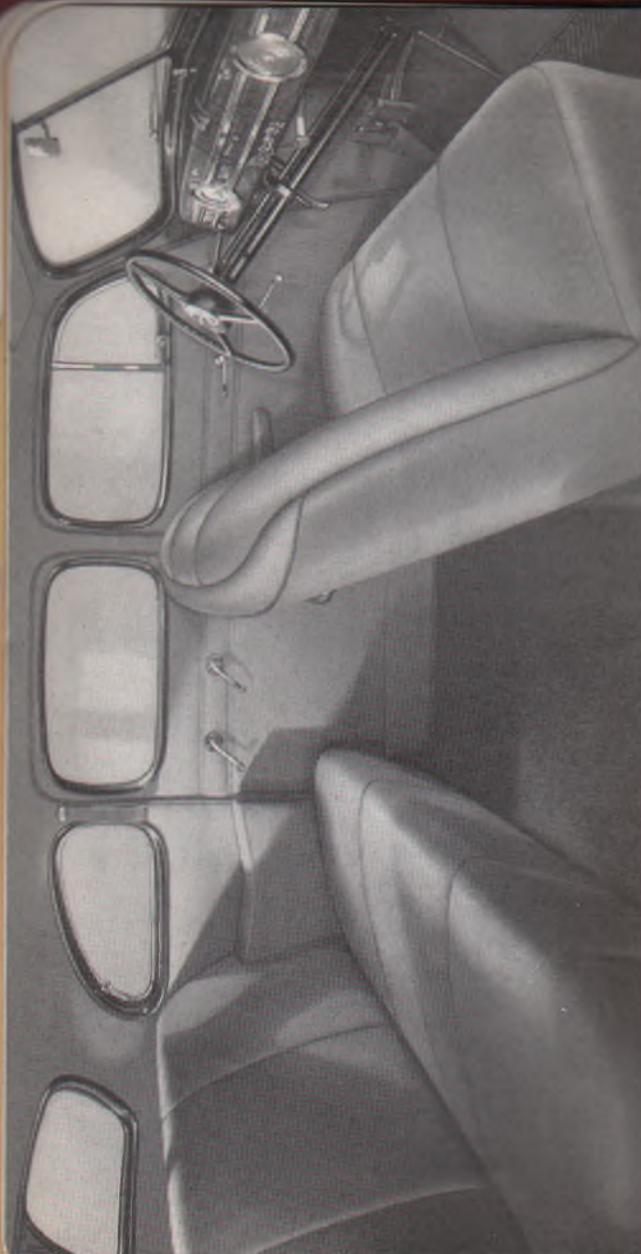
shelf which wasted several cubic feet of usable space around the spare tire. A total of 18 cubic feet of actual luggage space is now provided. A small shelf fitting snugly over the spare wheel provides a flat platform for luggage on top of the spare wheel. The whole interior of the trunk is heavily coated with a sprayed-on rayon material which gives the appearance of suede-leather and is very attractive. It



A huge space for luggage in the new trunk, 18 full cubic feet.



Rear windows are larger affording improved rear vision.



Attractive pillow style trim distinguishes the Packard One-Ten interior.

All coupes have immense luggage space under the rear deck in addition to the large space within the body behind the front seat.

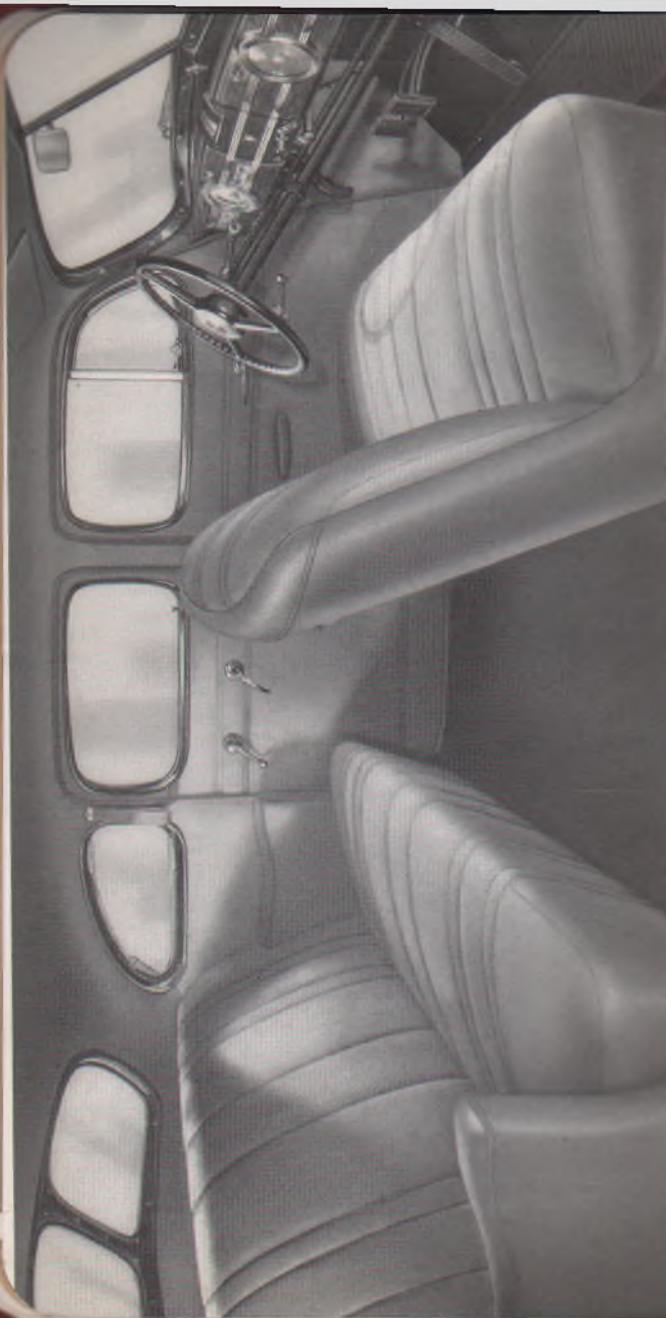
INTERIOR BODY FEATURES

PACKARD ONE-TEN AND ONE-TWENTY

Probably the predominating impression as one opens the doors of the new Packard One-Ten or One-Twenty for 1940 is that of spaciousness—of room to move or relax in at will—to ride in luxurious comfort. And next comes a sense of refinement—of restrained good taste befitting a car bearing the name of Packard. There is plenty of sparkle and plenty of youthful, modern styling. Upholstery materials and trim bespeak their fine quality, fittings and appointments are designed and styled to appeal to motorists of discriminating tastes.

Both bodies afford the same roominess but naturally, that of the One-Twenty is more luxurious in upholstery, trim, and fittings. However, when compared with other cars in the same price range, the new Packard One-Ten offers obviously superior quality and those refinements expected in a Packard.

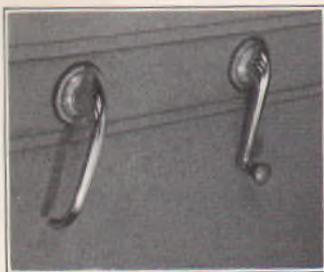
The upholstery reflects Packard quality both in the materials employed and in the fine tailoring displayed. In the new Packard One-Ten there are two upholstery fabrics from which to choose, both fine quality broadcloths—a neutral tan and an attractive blue grey. The interior trim is two-tone in effect with patterned material in the seat cushions and plain fabric on the side walls, ceiling and back of the front seat. A three pillow type of upholstery is designed for the seat cushions and backs—very neat and tailored in appearance. This type of pleating in conjunction with canvas-encased springs and fine quality, heavy cotton padding makes a seat that is not only soft and comfortable on the longest drive but long lived as well.



Wide and narrow pleating adds a tailored touch to the new Packard One-Ten and One-Twenty interior.

The new Packard One-Twenty also offers a choice of two broadcloths in similar colors—neutral tan and blue grey but in pin stripe patterns. The side wall trim is of the same patterned material as the cushions while the ceiling is of plain fabric. An upholstery trim in neatly tailored pleats, wide and narrow, gives a handsome effect and pleats are so designed that dust does not lodge permanently in the stitching. Springs are of the luxury type and are covered with a thick layer of fine cotton padding. Windlacings around the inside of the doors of both models are of figured fabric over a soft sponge rubber filler. These lacings together with the outside door seal also of soft sponge rubber, provide a wind and moisture tight door seal.

Garnish mouldings around the windows of the Packard One-Ten are smoothly lacquered in a color tone to harmonize with the color of the instrument panel and interior plastic trim. In the Packard One-Twenty the window mouldings are grained in silver-toned aspen and match the instrument panel exactly. The rear compartment ash receiver, of generous size, has been conveniently located in the back of the front seat within easy reach of rear seat passengers. Both front and rear compartments have softly padded arm rests and in the rear, strap-type toggle grips contribute to passenger comfort and convenience. Again the practical and convenient system of inside door locks previously used is retained. Rear door locks are operated from the inside by small rubber tipped plungers projecting through the door window mouldings. Front door locks are of the remote control type, easily and positively operated from the inside only. To lock the car from the outside, the door key must be used, therefore, it is impossible for the driver to lock himself out of the car with his keys inside.



Interior hardware is attractively trimmed with colored plastic handles and escutcheons.

vidier strip of the rear window. Here it not only illuminates the rear compartment but serves much more effectively as a reading light for rear seat passengers.

The back of the front seat has been entirely redesigned with very important advantages resulting. By curving the back line from the center toward the door posts, over two inches more entrance space to the rear compartment is added, yet the comfort of the front seat is in no wise impaired. Thus Packard adds more inches to a dimension in which it already held an advantage over all competition.

A wide shelf—very convenient for stowing smaller sized parcels and wraps is

Gracefully moulded new interior door fittings have been designed for both the Packard One-Ten and One-Twenty and a pleasing modern note is added by beautiful plastic knobs and escutcheons in harmonizing tint with which they are trimmed. The dome light has been moved from the center of the top to a new location just above the di-



The dome light is located so that it serves admirably as a reading light.



The newly designed front seat adds inches to the entrance space.

provided at the back of the rear seat just in front of the rear windows. It is nicely and durably finished with headlining material. Floor coverings in front and rear compartments (heavy, corrugated rubber mat and handsome durable carpet respectively) are neatly fastened to the floor across each doorway by etched scuff plates of aluminum. There are no tacks, no snaps and no glue. At the base of the back of the front seat a wide sloping foot rest is built in at just the correct angle for greatest comfort. And because it is recessed into the front seat, several inches of extra leg room are provided. Just above, a robe cord is mounted for carrying steamer rugs or wraps.

Instrument Panel—No part of the interior of a motor car is more important from an appearance point of view—utility and convenience as well—than the instrument panel. For 1940 the pleasing lines and general arrangement of the instruments have been retained but the appearance has been entirely changed. Simple and unostentatious, it is strikingly beautiful and typifies perfectly the refinement expected in a fine car like Packard. The panels of the Packard One-Ten and One-Twenty are similar in all respects.



The instrument panel is beautiful in silvery grey aspen graining and chrome.

This year the instrument panel is beautifully and richly finished in grey-toned aspen graining. This lovely silvery color in combination with judiciously used chrome and plastic gives a most pleasing and artistic effect. Parallel, die cast bars of chromium divide the panel horizontally and

frames in the same design outline the speedometer and medallion or clock on the glove compartment door. Speedometer and gauges—temperature, oil pressure, gasoline and ammeter—are indirectly lighted and the degree of illumination is regulated by a rheostat switch to the right of the speedometer. When an electric clock is ordered (extra equipment) it also is indirectly lighted and the interior of the glove compartment is illuminated by a special bulb.

The speedometer is new this year. The pointer is made of lucent plastic, the new material which conducts light. An electric bulb in the hub of the pointer throws light

along the pointer arm causing the plastic to glow. In the traffic range—from zero to thirty miles per hour the pointer glows green—from thirty to fifty miles per hour—normal cruising range—the pointer is amber, and from fifty to top speed the pointer is red. Thus in night driving, when most attention on the road is required, a momentary glance at the speedometer will immediately tell the approximate speed.



The new speedometer indicates speed by three colored lights.

In the center of the instrument panel where it rounds over from the flat portion directly behind the windshield divider bar, is recessed a generous size ash receiver. It is finished in aspen graining with a smart modernistic chrome handle and is located conveniently for both driver and front seat passengers. Directly below the ash receiver is a removable panel for the accommodation of push-button type radio controls. Below this, recessed and lighted when desired is a narrow panel where controls are conveniently grouped—

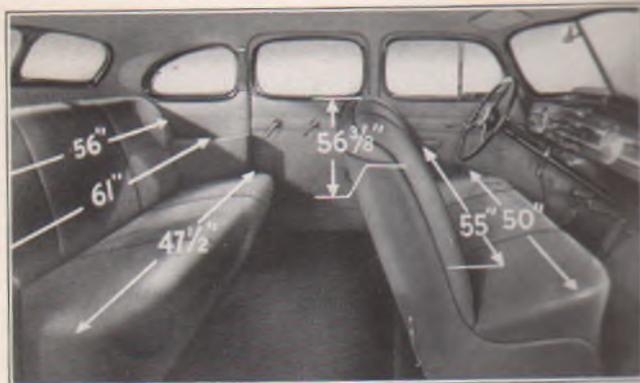
lights, starter button, automatic cigar lighter (extra equipment), ignition lock and throttle.

Twin windshield wipers operated by an electric motor below the cowl, are controlled by a handy knob on the instrument panel just behind the windshield divider bar. Defroster slots are built into the windshield mouldings.

At the right of the instrument panel and considerably more than a third of its width, is the spacious glove compartment with locking door. This compartment is exceptionally large and is really useful for storing larger parcels in safety. The steering wheel is large—18 inches—and is made of hard rubber moulded around a steel frame. It is graceful in appearance and formed to fit the driver's hands comfortably. The Handishift gear shift lever below the steering wheel is mounted on top of the steering column where it is well out of the way of the driver's knees in operating the pedals. It is nicely finished in keeping with other interior appointments and carries a decorative plastic handle in matching color. Two extra long, fully adjustable sun visors are standard equipment as well as an adjustable rear view mirror.

COMFORT FOR ALL

Not only do the bodies of the new 1940 Packard One-Ten and One-Twenty give a decided impression of spaciousness when the doors are opened but actual steel tape measurements prove their generous dimensions. Sedan models are really six-passenger cars with abundant room for relaxed comfort for three full-sized adults in both front and rear seats. The front seat cushion measures 50 inches from edge to edge at the hips. Elbow width, at the top of the arm rest is 55 inches and shoulder room is 56 $\frac{3}{8}$ inches. In the rear, measuring between the arm rests at the cushion, we find 47 $\frac{1}{2}$ inches of width; at the top of the arm rest (elbow room) there are full 61 inches, and at the shoulders 56 inches. Compare these measurements with



Every dimension of the capacious body is more than ample for a full car of passengers.

those of any other car in or near the same price class and you will find how spacious Packard bodies really are. Bear in mind that elbow room and shoulder room are very important because extra inches at the cushion are useless without corresponding body width to accommodate the elbows and shoulders.

Head room also is generous—front compartment 36 3/8 inches and rear 36 3/4 inches. Ample leg room is provided for rear seat passengers even with the front seat in the rear position and the recessed foot rest adds materially to an already generous leg room dimension. As implied, the front seat is adjustable backward and forward and at the same time it also adjusts itself upward as the seat moves



Ample room to enter or leave is provided at the front door.

forward. A choice of nine seat adjustments is provided, which in conjunction with the upward movement of the cushion, assures maximum comfort for all drivers.

The two-door sedans and all coupes of both the Packard One-Ten and One-Twenty lines have straight across front seats with divided backs. These backs tilt forward, giving easy access through unusually wide doors to the rear compartments.

Coupe Auxiliary Seats

—The 2-4 passenger coupe is equipped with folding occasional seats in the large rear compartment back of the seat. These auxiliary seats provide ample accommodation for two extra passengers inside the body of the car where they ride in comfort protected from the weather



In the rear, entrance space is more than enough—compare with other cars.

and agreeably close to the other occupants of the car. When not in use these extra seats may be folded away into the rear of the body, leaving a huge space for extra luggage. The rear luggage space of all coupes is exceptionally large and an immense space within the body is also available in the business coupes on both chassis.



Club coupes have inside accommodations for two extra passengers.

In spite of the fact that the new Packard cars are very low and the floors close

to the road, there are still no tunnels in either the front or rear compartments. The floors are practically flat as Packard floors have always been.

Convertible Coupe Power Top—For 1940 all convertible coupe models of the Packard line—One-Ten, One-Twenty and 127-inch wheelbase Super-8 One-Sixty are standard equipped with a power operated top. Here is the last word in smartness—the ultimate in convenience. At the touch of a button, the top folds back gently and positively or rises out of its container and moves into its closed position. A single handle just above the divider strip of the windshield unlocks or locks it in position. That is all there is to operating it—nothing more.

The mechanism that actuates the top is simplicity itself—two cylinders with pistons, one on each side transform vacuum from the engine into power for raising and lowering the top. There is nothing complicated to get out of order easily—nothing to require frequent attention.

The advantages of this new top are obvious. It is neat—no mechanism can be seen because the actuating cylinders are installed in the walls of the body. It is convenient—only a single handle to turn and a button to push or pull. It is easy—so little effort is required that a woman or even a child can operate it. It is quick—only a fraction of the usual time necessary to put up the top is required and as you know minutes are often precious.

Ventilation—Adequate, draft-free ventilation in a closed motor car body is just as important to the passengers as soft cushions and ample roominess. Stale air and tobacco smoke must be removed quickly and fresh, cool air introduced gently without drafts. The Packard system of ventilation accomplishes these results and brings individually controlled ventilation to each passenger.

The front compartment is ventilated, first, by a large screened ventilator in the cowl which may be opened to any degree desired. Second, the pivoting front window may be



Complete, draft-free ventilation is provided each passenger by the Packard system.

opened to any angle and will remain where set. The front ventilating wings act as baffles when the car is in motion forcing fresh air into the body and across the windshield and exhausting stale air or smoke from that part of the front compartment adjacent to the ventilator. On warm days when more cool fresh air is required, the rear portion of the front window may be lowered into the door panel. Rain guards are built in over the front ventilating window to prevent the entry of rain.

In the rear compartment when full ventilation is desired the windows in the rear doors may be opened to admit a rush of cool breeze. For controlled back seat ventilation, the large rear quarter window may be pivoted like the front ventilating wing providing fresh air and ventilation for rear seat passengers individually. The following advantages of Packard controlled ventilation contribute importantly to passenger comfort and well-being:

- (1) *Each passenger regulates ventilation individually to suit his own requirements.*
- (2) *Direct drafts on passengers eliminated.*
- (3) *Removes warm, stale air and smoke and introduces cool, fresh air effectively.*
- (4) *Gives maximum driving comfort in both hot and cold weather.*
- (5) *Keeps windshield free of steam in bad weather.*
- (6) *Promotes health and well-being by removing stale air and circulating fresh air without drafts.*

PACKARD ONE-TEN AND ONE-TWENTY BODY DIMENSIONS

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	5-Pass. 2-Door Touring Sedan	2-4-Pass. Club Coupe	2-4-Pass. Convert. Coupe	5-Pass. Convert. Sedan	2-Pass. Business Coupe
Wheel Base	"110" 122 "120" 127	— 127	122 127	122 127	122 127	— 127	122 127
Seat Width							
Front—Shoulders	56 $\frac{3}{8}$	56 $\frac{3}{8}$	57 $\frac{1}{2}$	57 $\frac{1}{4}$	57 $\frac{1}{4}$	56 $\frac{3}{8}$	57 $\frac{1}{4}$
Hips	50	50	48 $\frac{1}{4}$	48 $\frac{1}{4}$	48 $\frac{1}{4}$	50	48 $\frac{1}{4}$
Elbow	55	55	55	55	55	55	55
Rear—Shoulders	56	56	56	—	—	53	—
Hips	47 $\frac{1}{2}$	47 $\frac{1}{2}$	47 $\frac{1}{2}$	—	—	46 $\frac{3}{8}$	—
Elbow	61	61	58	—	—	56 $\frac{1}{2}$	—
Folding Seat	—	—	—	2 Seats 15 $\frac{1}{4}$ Wide	2 Seats 15 $\frac{1}{4}$ Wide	—	—
Seat Height (Floor to top of cushion)							
Front Seat	13 $\frac{3}{8}$	13 $\frac{3}{8}$	13 $\frac{3}{8}$	13 $\frac{3}{8}$	13 $\frac{3}{8}$	13 $\frac{3}{8}$	13 $\frac{3}{8}$
Rear Seat	15 $\frac{1}{4}$	15 $\frac{1}{4}$	15 $\frac{1}{4}$	—	—	15 $\frac{1}{4}$	—
Folding Seat	—	—	—	10 $\frac{3}{8}$	10 $\frac{3}{8}$	—	—
Seat Depth (Front to back of cushion)							
Front Seat	18	18	18	18	18	18	18
Rear Seat	18 $\frac{1}{2}$	18 $\frac{1}{2}$	18 $\frac{1}{2}$	—	—	18 $\frac{1}{2}$	—
Folding Seat	—	—	—	16 $\frac{1}{2}$	16 $\frac{1}{2}$	—	—
Seat Back Height (From top of cushion)							
Front Seat	20 $\frac{3}{8}$	20 $\frac{3}{8}$	20 $\frac{3}{8}$	20 $\frac{3}{8}$	20 $\frac{3}{8}$	20 $\frac{3}{8}$	20 $\frac{3}{8}$

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Packard

DATA BOOK

One-Ten & One-Twenty

August, 1939

PACKARD ONE-TEN AND ONE-TWENTY BODY DIMENSIONS—Continued

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	5-Pass. 2-Door Touring Sedan	2-4-Pass. Club Coupe	2-4-Pass. Convert. Coupe	5-Pass. Convert. Sedan	2-Pass. Business Coupe
Seat Back Height							
Rear Seat	22 $\frac{3}{8}$	22 $\frac{3}{8}$	22 $\frac{3}{8}$	—	—	22 $\frac{3}{8}$	—
Folding Seat	—	—	—	17	17	—	—
Head Room							
Front Seat to Roof	36 $\frac{3}{8}$	36 $\frac{3}{8}$	36 $\frac{3}{8}$	36 $\frac{3}{8}$	35 $\frac{7}{8}$	35 $\frac{3}{4}$	36 $\frac{3}{8}$
Rear Seat to Roof	36 $\frac{3}{4}$	36 $\frac{3}{4}$	36 $\frac{3}{4}$	—	—	36 $\frac{3}{4}$	—
Folding Seat to Roof	—	—	—	34 $\frac{1}{2}$	34 $\frac{3}{8}$	—	—
Floor to Roof (Center)	49 $\frac{1}{4}$	49 $\frac{1}{4}$	49 $\frac{1}{4}$	—	—	48	—
Leg Room—Rear Seat							
Front of Rear Cushion to Back of Front Seat (intermediate position)	23 $\frac{1}{4}$	23 $\frac{1}{4}$	23 $\frac{1}{4}$	—	—	23 $\frac{1}{4}$	—
Front of Folding Seat to Back of Front Seat	—	—	—	15 $\frac{7}{8}$	15 $\frac{7}{8}$	—	—
Front of Rear Seat Back to Folding Seat at 20" Height from floor (intermediate position)	—	—	—	—	—	—	—
Leg Room—Front Seat							
Front of Seat Cushion to Dash Pad	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$
Front of Seat Cushion to Toe Board	21 $\frac{1}{2}$	21 $\frac{1}{2}$	21 $\frac{1}{2}$	21 $\frac{1}{2}$	21 $\frac{1}{2}$	21 $\frac{1}{2}$	21 $\frac{1}{2}$
Back of Seat Cushion to Dash Pad	43 $\frac{1}{2}$	43 $\frac{1}{2}$	43 $\frac{1}{2}$	43 $\frac{1}{2}$	43 $\frac{1}{2}$	43 $\frac{1}{2}$	43 $\frac{1}{2}$

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Packard

DATA BOOK

One-Ten & One-Twenty

PACKARD ONE-TEN AND ONE-TWENTY BODY DIMENSIONS—Continued

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	5-Pass. 2-Door Touring Sedan	2-4-Pass. Club Coupe	2-4-Pass. Convert. Coupe	5-Pass. Convert. Sedan	2-Pass. Business Coupe
Leg Room—Front Seat Steering Wheel to Top of Cushion (intermediate position)	5½	5½	5½	5½	5½	5½	5½
Back of Rear Seat Cushion to Dash Pad	88¾	88¾	88¾	80⅞	80⅞	88¾	82¼
Over-all Dimensions							
Car Height Loaded	67½ "110" 67½ "120"	— 67½	67½ 67½	67¾ 67¾	65¾ 66	— 66¾	67¾ 67¾
Fender to Fender—Front	73½	73½	73½	73½	73½	73½	73½
Fender to Fender—Rear	73	73	73	73	73	73	73
Body Width (to panels)	66¾	66¾	66¾	66¼	66¼	66¾	66¼
Car Length Bumper to Bumper with Trunk Rack	200⅞ 205⅞ "110" "120"	— 205⅞	200⅞ 205⅞	200⅞ 205⅞	200⅞ 205⅞	— 205⅞	200⅞ 205⅞
Without Trunk Rack	196¼ 200¾ "110" "120"	— 200¾	196¼ 200¾	196¼ 200¾	196¼ 200¾	— 200¾	196¼ 200¾
Body Length Over-all	132⅜ ₃₂	132⅜ ₃₂	132⅜ ₃₂	132⅜ ₃₂	132⅜ ₃₂	132⅜ ₃₂	132⅜ ₃₂
Trunk Dimensions							
Inside Height—5-Wheel Car	18½	18½	18½	17¾	17¾	13⅞	17¾
Inside Width—5-Wheel Car	47	47	47	47	47	47	47
Inside Height—6-Wheel Car (120 only)	25½	25½	25½	25½	25½	20¾	25½
Inside Width—6-Wheel Car (120 only)	47	47	47	47	47	47	47

PACKARD ONE-TEN AND ONE-TWENTY BODY DIMENSIONS—Continued

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	5-Pass. 2-Door Touring Sedan	2-4-Pass. Club Coupe	2-4-Pass. Convert. Coupe	5-Pass. Convert. Sedan	2-Pass. Business Coupe
Trunk Dimensions							
Cu. Ft. Capacity (Usable) 5 Wheels	18	18	18	15.50	13.50	11	18
Cu. Ft. Capacity (Usable) 6 Wheels for "120" Only	21.35	21.35	21.35	21	19	17.60	23.50
Size of Trunk Door Opening Width	39	39	39	39	39	39	39
Size of Trunk Door Opening Height	33⅞	33⅞	33⅞	41 ²⁵ / ₃₂	41 ²⁵ / ₃₂	33⅞	41 ²⁵ / ₃₂
General							
Front Door Width	35	35	45¾	39¾	39¾	35	39¾
Rear Door Width	28¾	28¾	—	—	—	28¾	—
Windshield—Width	44½	44½	44½	44½	44½	44½	44½
Windshield—Height	13¾	13¾	13¾	13¾	13¾	13¾	13¾
Rear Windows—Width	37¼	37¼	37¼	37¼	23½	23½	37¼
Rear Windows—Height	11¾	11¾	11¾	11¾	5¾	5¾	11¾
Hood Length	45 ¹⁵ / ₃₂ "110"	45 ¹⁵ / ₃₂ "120"	45 ¹⁵ / ₃₂	45 ¹⁵ / ₃₂	45 ¹⁵ / ₃₂	45 ¹⁵ / ₃₂	45 ¹⁵ / ₃₂
Hood Length	50 ¹⁵ / ₃₂ "110"	50 ¹⁵ / ₃₂ "120"	50 ¹⁵ / ₃₂	50 ¹⁵ / ₃₂	50 ¹⁵ / ₃₂	50 ¹⁵ / ₃₂	50 ¹⁵ / ₃₂

Engliss

110 & 120

Packard One-Sixty

Packard One-Eighty

Body Construction

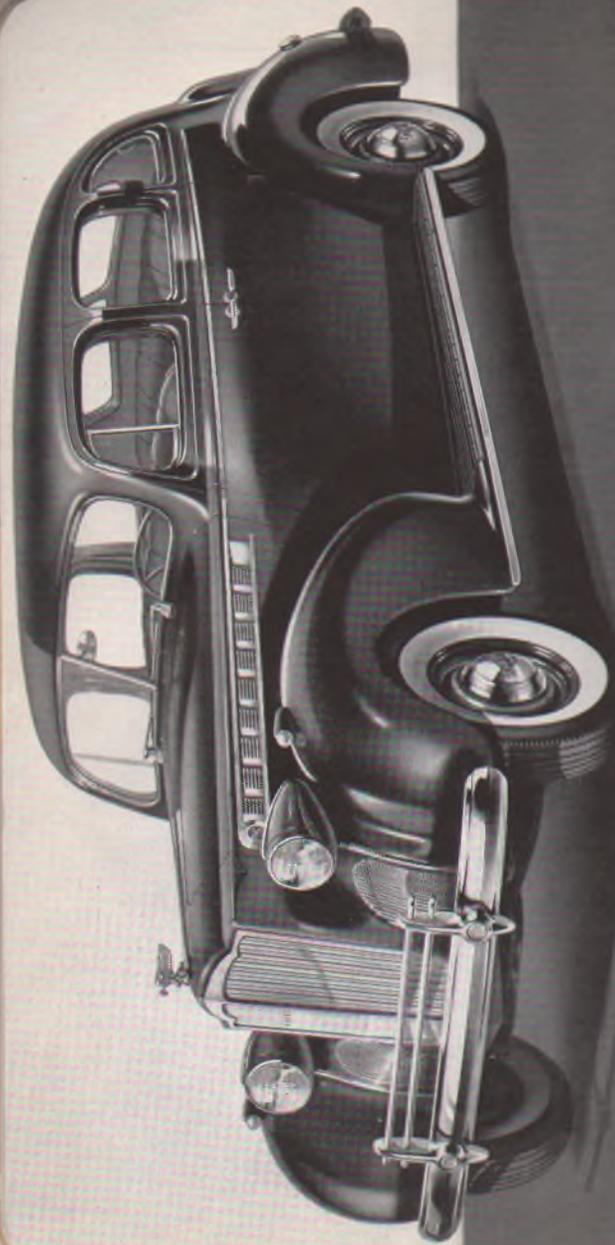


Instructional

Packard 110 & 120

PACKARD SUPER-8 ONE-SIXTY

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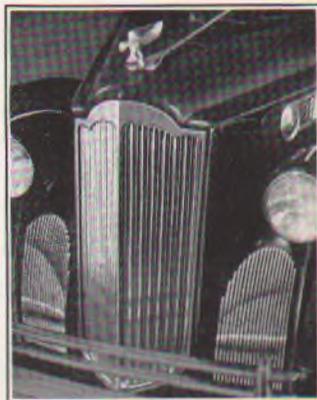
The new Packard Super-8 One-Sixty—a masterpiece of designing.

PACKARD SUPER-8 ONE-SIXTY

YEAR BY YEAR Packard designers have skillfully blended the old with the new—time-tested beauty has been modernized with each model change. And the new model One-Sixty for 1940 is no exception. Here in this newest of new motor cars are seen the well-known lines of classic Packard beauty newly interpreted into the most refreshing and youthful of modern styling. In this masterpiece of design is found the perfect admixture of sparkling beauty and simple dignity—grace and symmetry—distinction and poise.

Frontal Appearance—Long, narrow and flanked on either side by die cast auxiliary grilles of gleaming chrome, the radiator of the new Packard Super-8 One-Sixty is a strikingly beautiful, ultra-modern version of traditional Packard styling. The long, slim radiator shutters are carried in a gracefully moulded chrome frame and are automatically operated by a thermostat in the upper radiator core.

The front lines of the new deep radiator shell curve downward to meet the new grille, thus bringing new graceful beauty to the front end and eliminating all straight lines and sharp angles. Long torpedo type head lamps with chrome wind-splits appear embedded into the fenders and bright metal strips extend downward from each to lend additional sparkle and to



The deep radiator shell curves down gracefully to meet the new grille.

cover the joints between radiator shell and fenders. Neat parking lights, chrome trimmed to match the head lamps, are mounted on the crown of each fender. The de luxe radiator ornament emblematic of Packard quality and Packard prestige is standard equipment.

Just a glint of chrome and a flash of red enamel in the louvers is seen from the front, and below a newly designed rounded bumper is equipped with double bumper guards and chromed steel bars—very massive and very handsome in appearance.

A fixed panel down the center of the bonnet gives a distinctive, custom car touch and leads backward to the sloping, chrome-bordered divided windshield. The windshield itself is exceptionally wide and gives generous vision upwards as well as sidewise. Twin windshield wipers, hinged at the bottom and mounted on ornamental brackets, are driven at constant speed by a special vacuum pump.

Side View—The broadside view of the new Packard One-Sixty reveals the full beauty and grace of the planes and contours which are skillfully blended in Packard streamline styling. Lines sweep in easy flowing curves from stem to stern—no harsh lines or sharp angles break their smoothness.

The impression of long, sleek, speed lines is accentuated by the new longer bonnet (five inches have been added to the depth of the radiator shell), by the pleasing low curves of the fenders and by the smart chrome belt moulding extending from the front of the louver to the rear panels of the car. Entirely new and refreshingly different in design, the new One-Sixty louvers add a lively note—a sparkle and modern smartness to the long, trim bonnet. Suitably set off with chrome trim, they are given a note of distinction by a medallion of radiant red enamel set into the forward end of the louver. It bears the Packard name in silver script lettering.

Head lamps are long, and streamlined into their mount-



Long, slim louvers of sparkling chrome accentuate the bonnet line.

ings in the valleys between radiator shell and fenders. Parking lights on the crown of the fenders are similarly styled and chrome trimmed. Hub caps are new and decidedly different in design, yet the well-known Packard symbol—the red hexagon, has been retained. It adds a touch of bright color to the chrome background and the black embossed script of the Packard name which crosses the hub cap.

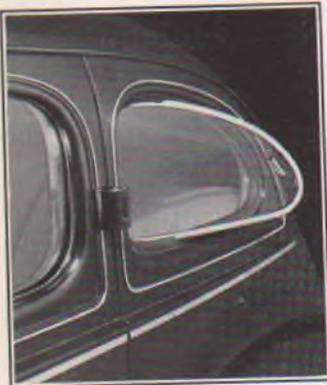
Running boards are comfortably wide to provide a safe footing in entering and leaving the car—a feature much appreciated by many motorists after even a brief experience with cars minus running boards. These running boards feature a treatment of chrome-plated metal strips embedded between raised pads of moulded rubber. The bright chrome strips and the unusual design of the rubber, notably enliven the appearance as one enters or leaves the car. A wide chrome beaded strip trims the outer edge of the



Exterior door handles curve in toward the body to prevent catching on passenger's clothes, etc.

running board of all Super-8 One-Sixty models and is carried across the front fender apron. Wheel rings of bright chrome are standard on the two longer wheelbase models.

On the body proper new embossed chrome window reveals smarten the whole exterior—add a touch of distinction—and an ultra-modern note. The opening of the rear quarter window has been enlarged to provide better vision for rear seat passengers and new outside hardware is of gracefully moulded design.



A touch of exterior smartness is added by chrome window reveals.

The slope of the wide V-type windshields blends into the sweeping planes of the big steel roof and the flowing lines of the rear panels and trunk join harmoniously.

Rear View—In the rear, the lines of the body flow in smooth pleasing curves from the steel roof over the rear quarter panels, fenders and trunk. Tail lights are chrome trimmed and have deep moulded lenses which are visible at night from the side of the car. A reflector button beneath the lens is effective in the light of an approaching car after dark. A new vertical trunk door handle of chrome also houses the light which illuminates the rear license plate on the 127" wheelbase model. A separate light in the center of the trunk lid is used on the 138" and 148" wheelbase models.

The rear bumper is massive in appearance, is equipped with bumper guards and carries the name Packard in embossed script across the center.

The divider strip in the rear window has been narrowed

and the corners made more square to provide better rear vision for the driver. Trunks are large, with ample capacity for baggage. The trunk compartments of all models of the Packard One-Sixty are equipped with a shelf over the spare tire which presents a smooth, level platform for luggage.

The trunk has a usable capacity of 14.75 cubic feet. The trunk lid operates on concealed hinges, leaving the outer surface free from obstructions, better looking and easier to keep clean. The 138" and 148" wheelbase models are equipped with a light to illuminate the interior of the trunk after dark.

INTERIOR BODY FEATURES

The unmistakable evidence of good taste and appreciation of the finer things are seen on every hand within the smart interiors of the new Packard Super-8 One-Sixty. Upholstery and trim are of fine quality and rich in appearance, tailoring is that of master craftsmen, and appointments are both handsome and convenient.



The interior of the 127" wheelbase model Super-8 One-Sixty displays luxury and refinement.

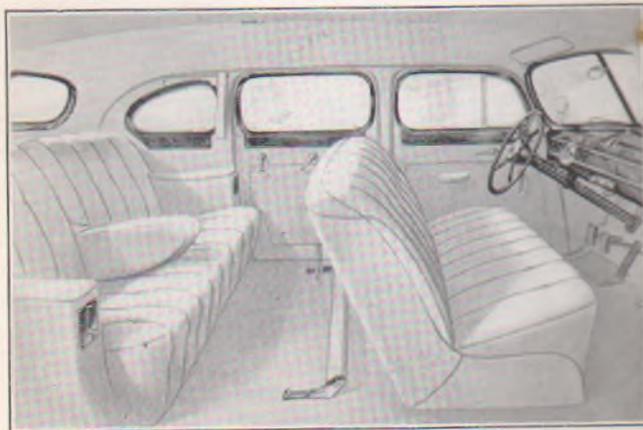
Spaciousness is the keynote of these new Packard bodies. Seats are exceptionally wide and ample leg room is provided for the tallest adult in every model. The front seat of all



Generous roominess in every dimension.

sedans is 50 inches from cushion edge to cushion edge and the rear seat measures 47½" from arm rest to arm rest. Head room is also generous, both front and rear, so that top hats may be worn with comfort when occasion demands.

The upholstery fabrics of the new Packard One-Sixty reflect quality, dignity and luxury the moment the door is opened.



The 138" wheelbase model of the One-Sixty presents new spaciousness in a five passenger car.

A selection of luxurious all-wool, luster finish broadcloths is offered. The first comprises a beautiful soft tan shadow stripe material used on the seat backs and seat cushions, with side walls and headlining in a plain toned fabric of the same superfine quality and texture. The second selection is a distinctive blue grey broadcloth with a faint and pleasing pattern. Side walls and headlining are in a harmonizing shade of plain material. All convertible models of the Packard One-Sixty are presented in luxurious hand-buffed leather. The black leather is finished in colonial grain and the other colors—green, tan, blue and red in antique grain.

The seat cushions of the new Packard One-Sixty have a foundation of luxury springs and over these is placed a deep pad of soft foam sponge rubber 1½" thick. These rubber pads are moulded to shape for each cushion and replace the hair or cotton ordinarily used over the coil springs. This new development in upholstery not only provides a soft, luxurious cushion but also a cushion that will retain its shape, without sag or wrinkle, far beyond the normal life of an ordinary cushion. The upholstery of the new Packard One-Sixty in the 127" wheelbase model is smartly tailored in wide pleating, while that of the longer wheelbase models—138" and 148"—has evenly spaced pleats with buttons forming bolsters at the knees and shoulders. A folding arm rest in the center of the rear seat is particularly restful for two



Nine reasons why Packard seats are most comfortable: 1, heavy fabric; 2, foam-rubber; 3, layers of cotton; 4, cotton pad; 5, wrapped coil springs; 6, frame; 7, long wearing broadcloth; 8, spring braces; 9, support wires.



The folding center arm rest—a comfort feature.

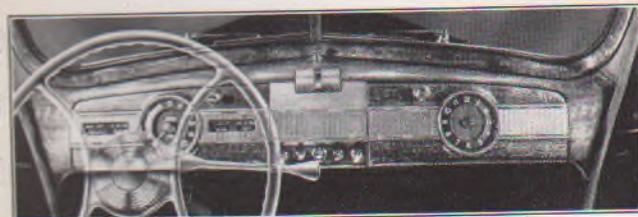
passengers. It disappears and becomes part of the rear seat back when three rear passengers are carried.

Comfortable toggle grips on the rear door pillars are provided on the 127" One-Sixty and long sliding arm slings softly padded with sponge rubber are used in the two long wheelbase models. Robe cords are supplied on all models—those on the two long wheelbase One-Sixties have additional assist cords at either end. A convenient large size ash tray is located in the back of the front seat of the short wheelbase model while the other models have smaller ash receivers in the end of each arm rest with an automatic cigarette lighter in the right hand receiver. A comfortable foot rest is recessed into the back of the front seat on the 127" model, while a separate folding foot rest is used in the longer models.

Window garnish mouldings with wainscoting below are handsomely finished in silver grey aspen graining to match the instrument panel. Even the little rubber plungers in the rear window mouldings which control the door locks are in harmonizing color. Front door locks are of the remote control type—safe and positive always.

Interior hardware is graceful in design. In the 127" wheelbase models it is tastefully trimmed with colorful plastic handles and escutcheons, in the other models it is richly done in satin finish. Floors in both front and rear compartments of all One-Sixty models are covered with soft wool velvet carpets backed with a thick pad of insulating jute.

Instrument Panel—In the new instrument panel of the new Packard Super-8 One-Sixty, Packard designers have achieved a masterpiece. Beautiful in its silvery colors, artistic in its design and convenient in its arrangement, the new instrument panel imparts distinction and sparkle to



The instrument panel is finished in aspen graining with colored plastic insert and chrome trim.

the whole interior. The background of this handsome panel is finished in soft, grey aspen graining and tastefully trimmed with gleaming chrome. Across the width is a wide fluted band of lustrous plastic, blending in tone with the silver aspen and adding a touch of distinctive beauty.

On the left the speedometer, framed in chrome, is flanked on either side with the standard gauges—gasoline, oil, engine temperature and ammeter. Just to the right a knob controls the degrees of illumination of the gauges. The speedometer pointer is made of lucent plastic and glows green, amber and red through the respective speed ranges—zero to thirty, thirty to fifty and from fifty miles per hour to top speed.

In the center panel is located a generous size ash receiver for front seat passengers and directly below is a removable panel for the installation of radio controls. Car control knobs and automatic cigar lighter are located on a recessed

panel in the lower center of the instrument panel. The right hand section forms the door of the exceptionally large glove compartment. An electric clock in the same styling as the speedometer balances the instrument panel. All instrument panel gauges and the electric clock are indirectly but clearly lighted.

The steering wheel in matching color is gracefully designed with two curving spokes connecting the rim with the hub at four points. All drivers find this special design very comfortable in the hands as well as good looking. Just below the steering wheel and located on top of the steering column is the Handishift remote control lever — unobtrusive, out of the way of the knees and conveniently close to the finger tips.

Comfortable Roominess—Not only are the interiors of the new Packard One-Sixty models as perfectly and as tastefully finished and appointed as a beautiful living room but they are just as roomy and luxuriously comfortable as they are beautiful. The first impression of spaciousness is confirmed by actual steel tape measurements. There is ample room for three full sized adults in both front and rear seats of the "so-called" five passenger models and in the "seven passenger," eight adults can be accommodated comfortably. Head room is generous and leg room is com-



Samples of plate glass are tested by this ultra-violet light. Forty-eight hours produces more effect than a year of Florida sunshine. This test assures glass that will not change color.



Entrance and exit from the front is easy and dignified.

The front seat is, of course, adjustable and as it is moved forward, it also moves upward automatically. Straight across front seats with divided backs are used in coupes, and the club coupe has two inside occasional seats which fold back into the rear of the body when not in use.

Ventilation—Individually controlled ventilation is provided in both front and rear compartments to permit driving in all kinds of weather without drafts and to maintain temperatures

modious for all in both five passenger and seven passenger models. Complete body dimensions are given in full detail in the Body Dimensions Section.

A power actuated top is standard in the convertible coupe. In mechanical design it is similar to the power tops of the new Packard One-Ten and One-Twenty. Therefore, we direct your attention to the complete description given in the One-Ten and One-Twenty section of this Data Book.



Like entering a spacious living room because rear doors are extra wide.

within the body suitable to the comfort and enjoyment of each passenger.

Beginning at the front of the body we find first a large screened cowl ventilator to sweep hot air from the floor of the front compartment. Front door ventilators with rain shields over the top pivot outward by means of a crank to exhaust stale air or tobacco smoke and to bring in fresh cool air without annoying drafts. On warm days the rear section of the front door window may be lowered.

Individual ventilation is supplied in the rear compartment by using the rear quarter windows. These operate in the same manner as the ventilators in the front door window, that is, they pivot and swing outward supplying just the amount of air intake and exhaust desired. Many other cars use a sliding window at the rear but the resulting ventilation is not at all comparable. Additional rear compartment ventilation may be obtained by lowering the full windows in the rear doors.

PACKARD SUPER-8 ONE-SIXTY BODY DIMENSIONS

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Door, 4-Door Touring Sedan	5-Door, 4-Door Touring Sedan	5-Door, Club Sedan	7-Door, Touring Sedan	7-Door, Touring Limo.	2-4-Door, Club Coupe	2-4-Door, Convert. Coupe	5-Door, Convert. Sedan	2-Door, Business Coupe
Wheel Base	127	138	127	148	148	127	127	127	127
Seat Width									
Front—Shoulders	56%	57½	56%	57¼	57¼	57¼	57¼	56%	57¼
Hips	50	50	50	50	50	48¼	48¼	50	48¼
Elbow	55	55	55	55	55	55	55	55	55
Rear—Shoulders	56	56	56	56	56	—	—	53	—
Hips	47½	47½	47½	49	49	—	—	46%	—
Elbow	61	61	61	63	63	—	—	56½	—
Folding Seat	—	—	—	2 Seats 24 Wide	2 Seats 24 Wide	2 Seats 15½ Wide	2 Seats 15½ Wide	—	—
Seat Height (Floor to top of cushion)									
Front Seat	13½	13½	13½	13½	12½	13½	13½	13½	13½
Rear Seat	15¼	15¼	15¼	15¼	15¼	—	—	15¼	—
Folding Seat	—	—	—	12%	12%	10%	10%	—	—
Seat Depth (Front to back of cushion)									
Front Seat	18	18	18	18	19¼	18	18	18	18
Rear Seat	18½	18½	18½	18½	18½	—	—	18½	—
Folding Seat	—	—	—	16½	16½	16½	16½	—	—
Seat Back Height (from top of cushion)									
Front Seat	20%	20%	20%	20%	22	20%	20%	20%	20%

PACKARD SUPER-8 ONE-SIXTY BODY DIMENSIONS—Continued

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	7-Pass. Touring Sedan	7-Pass. Touring Limo.	2-4-Pass. Club Coupe	2-4-Pass. Convert. Coupe	5-Pass. Convert. Sedan	2-Pass. Business Coupe
Seat Back Height									
Rear Seat	22 $\frac{3}{4}$	22 $\frac{3}{4}$	22 $\frac{3}{4}$	22 $\frac{3}{4}$	22 $\frac{3}{4}$	—	—	22 $\frac{3}{4}$	—
Folding Seat	—	—	—	18 $\frac{3}{4}$	18 $\frac{3}{4}$	17	17	—	—
Head Room									
Front Seat to Roof	36 $\frac{1}{8}$	36 $\frac{1}{8}$	36 $\frac{1}{8}$	36 $\frac{1}{8}$	37	36 $\frac{1}{8}$	35 $\frac{1}{8}$	35 $\frac{1}{4}$	36 $\frac{1}{8}$
Rear Seat to Roof	36 $\frac{3}{4}$	36 $\frac{3}{4}$	36 $\frac{3}{4}$	36 $\frac{3}{4}$	36 $\frac{3}{4}$	—	—	36 $\frac{3}{4}$	—
Folding Seat to Roof	—	—	—	37 $\frac{1}{2}$	37 $\frac{1}{2}$	34 $\frac{1}{4}$	34 $\frac{1}{8}$	—	—
Floor to Roof (Center)	49 $\frac{1}{4}$	49 $\frac{1}{4}$	49 $\frac{1}{4}$	50 $\frac{1}{4}$	50 $\frac{1}{4}$	—	—	48	—
Leg Room—Rear Seat									
Front of Rear Cushion to Back of Front Seat (Intermediate Position)	23 $\frac{1}{4}$	35	23 $\frac{1}{4}$	37 $\frac{1}{2}$	34 $\frac{3}{4}$	—	—	23 $\frac{1}{4}$	—
Front of Folding Seat to Back of Front Seat	—	—	—	9 $\frac{3}{4}$	6 $\frac{1}{2}$	15 $\frac{1}{8}$	15 $\frac{1}{8}$	—	—
Front of Rear Seat Back to Folding Seat at 20" height from floor (Intermediate Position)	—	—	—	26 $\frac{1}{2}$	26 $\frac{1}{2}$	—	—	—	—
Leg Room—Front Seat									
Front of Seat Cushion to Dash Pad	25 $\frac{1}{2}$	26 $\frac{1}{2}$	25 $\frac{1}{2}$	24 $\frac{1}{2}$	24 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$
Front of Seat Cushion to Toe Board	21 $\frac{1}{2}$	22 $\frac{1}{2}$	21 $\frac{1}{2}$	20 $\frac{1}{2}$	20 $\frac{1}{2}$	21 $\frac{1}{2}$	21 $\frac{1}{2}$	21 $\frac{1}{2}$	21 $\frac{1}{2}$
Back of Seat Cushion to Dash Pad	43 $\frac{1}{2}$	44 $\frac{1}{2}$	43 $\frac{1}{2}$	42 $\frac{1}{2}$	43 $\frac{1}{2}$	43 $\frac{1}{2}$	43 $\frac{1}{2}$	43 $\frac{1}{2}$	43 $\frac{1}{2}$

PACKARD SUPER-8 ONE-SIXTY BODY DIMENSIONS—Continued

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	7-Pass. Touring Sedan	7-Pass. Touring Limo.	2-4-Pass. Club Coupe	2-4-Pass. Convert. Coupe	5-Pass. Convert. Sedan	2-Pass. Business Coupe
Leg Room—Front Seat									
Steering Wheel to Top of Cushion (Intermediate Position)	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	6 $\frac{1}{4}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$
Back of Rear Seat Cushion to Dash Pad	88 $\frac{3}{4}$	99 $\frac{3}{4}$	88 $\frac{3}{4}$	109 $\frac{3}{4}$	109 $\frac{3}{4}$	80 $\frac{1}{2}$	80 $\frac{1}{2}$	88 $\frac{3}{4}$	82 $\frac{1}{4}$
Over-all Dimensions									
Car Height Loaded	68 $\frac{1}{8}$	68 $\frac{1}{8}$	68 $\frac{1}{8}$	68 $\frac{3}{4}$	68 $\frac{3}{4}$	68 $\frac{1}{8}$	66 $\frac{1}{2}$	67 $\frac{1}{4}$	68 $\frac{1}{8}$
Fender to Fender—Front	73 $\frac{1}{2}$	73 $\frac{1}{2}$	73 $\frac{1}{2}$	73 $\frac{1}{2}$	73 $\frac{1}{2}$	73 $\frac{1}{2}$	73 $\frac{1}{2}$	73 $\frac{1}{2}$	73 $\frac{1}{2}$
Fender to Fender—Rear	73	73	73	75	75	73	73	73	73
Body Width (to panels)	66 $\frac{3}{4}$	66 $\frac{3}{4}$	66 $\frac{3}{4}$	66 $\frac{3}{4}$	66 $\frac{3}{4}$	66 $\frac{1}{4}$	66 $\frac{1}{4}$	66 $\frac{3}{4}$	66 $\frac{1}{4}$
Car Length Bumper to Bumper with Trunk Rack	205 $\frac{1}{8}$	217 $\frac{1}{32}$	205 $\frac{1}{8}$	226 $\frac{3}{4}$	226 $\frac{3}{4}$	205 $\frac{1}{8}$	205 $\frac{1}{8}$	205 $\frac{1}{8}$	205 $\frac{1}{8}$
Without Trunk Rack	200 $\frac{3}{4}$	212 $\frac{1}{32}$	200 $\frac{3}{4}$	222 $\frac{1}{4}$	222 $\frac{1}{4}$	200 $\frac{3}{4}$	200 $\frac{3}{4}$	200 $\frac{3}{4}$	200 $\frac{3}{4}$
Body Length Over-all	132 $\frac{31}{32}$	143 $\frac{31}{32}$	132 $\frac{31}{32}$	153 $\frac{31}{32}$	153 $\frac{31}{32}$	132 $\frac{31}{32}$	132 $\frac{31}{32}$	132 $\frac{31}{32}$	132 $\frac{31}{32}$
Trunk Dimensions									
Inside Height—5-Wheel Car	18 $\frac{1}{2}$	17 $\frac{3}{4}$	18 $\frac{1}{2}$	17 $\frac{3}{4}$	17 $\frac{3}{4}$	17 $\frac{3}{4}$	17 $\frac{3}{4}$	13 $\frac{1}{8}$	17 $\frac{3}{4}$
Inside Width—5-Wheel Car	47	47	47	47	47	47	47	47	47
Inside Height—6-Wheel Car	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	20 $\frac{1}{4}$	25 $\frac{1}{2}$
Inside Width—6-Wheel Car	47	47	47	47	47	47	47	47	47
Cu. Ft. Capacity (Usable) 5 Wheels	18	18	18	18	18	15.50	13.50	11	18

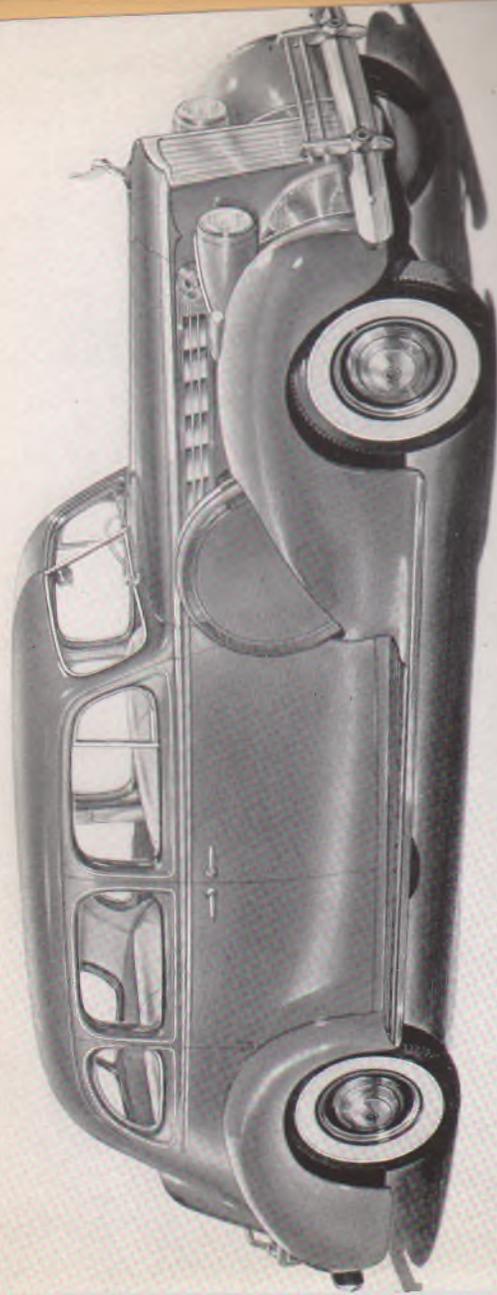
PACKARD SUPER-8 ONE-SIXTY BODY DIMENSIONS—Continued

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	7-Pass. Touring Sedan	7-Pass. Touring Limo.	2-4-Pass. Club Coupe	2-4-Pass. Convert. Coupe	5-Pass. Convert. Sedan	2-Pass. Business Coupe
Trunk Dimensions									
Cu. Ft. Capacity (Usable) 6 Wheels	21.35	21.35	21.35	21.35	21.35	21	19	17.60	23.50
Size of Trunk Door Opening Width	39	39	39	39	39	39	39	39	39
Size of Trunk Door Opening Height	33 $\frac{3}{4}$	33 $\frac{3}{4}$	33 $\frac{3}{4}$	33 $\frac{3}{4}$	33 $\frac{3}{4}$	41 $\frac{25}{32}$	41 $\frac{25}{32}$	33 $\frac{3}{4}$	41 $\frac{25}{32}$
General									
Front Door Width	35	39 $\frac{5}{8}$	35	39 $\frac{5}{8}$	39 $\frac{5}{8}$	39 $\frac{5}{8}$	39 $\frac{5}{8}$	35	39 $\frac{5}{8}$
Rear Door Width	28 $\frac{3}{8}$	34 $\frac{3}{8}$	28 $\frac{3}{8}$	34 $\frac{3}{8}$	34 $\frac{3}{8}$	—	—	28 $\frac{3}{8}$	—
Windshield—Width	44 $\frac{1}{4}$	44 $\frac{1}{4}$	44 $\frac{1}{4}$	44 $\frac{1}{4}$	44 $\frac{1}{4}$	44 $\frac{1}{4}$	44 $\frac{1}{4}$	44 $\frac{1}{4}$	44 $\frac{1}{4}$
Windshield—Height	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$
Rear Windows—Width	37 $\frac{1}{4}$	37 $\frac{1}{4}$	37 $\frac{1}{4}$	37 $\frac{1}{4}$	37 $\frac{1}{4}$	37 $\frac{1}{4}$	23 $\frac{1}{2}$	23 $\frac{1}{2}$	37 $\frac{1}{4}$
Rear Windows—Height	11 $\frac{3}{4}$	11 $\frac{3}{4}$	11 $\frac{3}{4}$	11 $\frac{3}{4}$	11 $\frac{3}{4}$	11 $\frac{3}{4}$	5 $\frac{5}{8}$	5 $\frac{5}{8}$	11 $\frac{3}{4}$
Hood Length—	50 $\frac{15}{32}$	50 $\frac{15}{32}$	50 $\frac{15}{32}$	50 $\frac{15}{32}$	50 $\frac{15}{32}$	50 $\frac{15}{32}$	50 $\frac{15}{32}$	50 $\frac{15}{32}$	50 $\frac{15}{32}$

PACKARD CUSTOM SUPER-8
ONE-EIGHTY

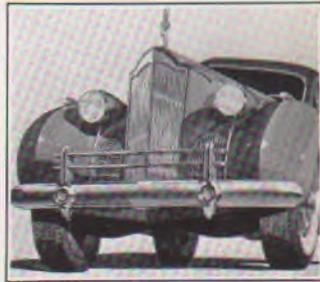
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The luxurious new Packard Custom Super-8 One-Eighty.

PACKARD CUSTOM SUPER-8 ONE-EIGHTY

THE RESPLENDENT new Packard Custom Super-8 One-Eighty—prestige car of the whole Packard line for 1940—was conceived and is built for people who are interested in a motor car as something more than mere transportation—more even than first class transportation. Motorists who have long been accustomed to distinctive and luxurious motor cars will find in the new Packard One-Eighty, a magnificent successor to all the fine cars that have borne the Packard name. Here is a car that not only expresses the discriminating taste of its owner but one that affords the same standards of style, comfort and quality which he meets daily in his home and social life.



In the Packard Custom Super-8 One-Eighty is found a car with character, a car that identifies one with the ownership of fine things. Packard cars have for years been the favored choice of first families both at home and abroad, not simply for the fine quality of its mechanism but because of the chaste beauty of its world-known lines. The new 1940 Packard One-Eighty is unquestionably the most beautiful car ever conceived by Packard designers but

From the front, the Packard Custom Super-8 One-Eighty is imposing.

it is above all—a Packard, and looks like no other car. The prestige and social standing accorded the owner of a Packard will be carried on in this superb new Packard One-Eighty.

Exterior Appearance—In appearance the new Packard One-Eighty is impressive. Long, low and styled from stem to stern in sweeping speed-stream lines, this new luxury Packard is modern and modish from every angle, yet possesses that dignity and poise expected of a truly fine car. The long tapering hood is accentuated by a glinting



A glittering louver of chrome cells carries a bright enamel medallion.

louver of chrome cells with a dash of color added by a brilliant medallion of red enamel at the forward end. The well-known Packard "Cormorant" radiator emblem stands attractively on the new deeper radiator shell. Flashing radiator shutters in a new chrome frame operate automatically to maintain engine temperature.



Twin bar front bumpers enhance appearance as well as afford protection.

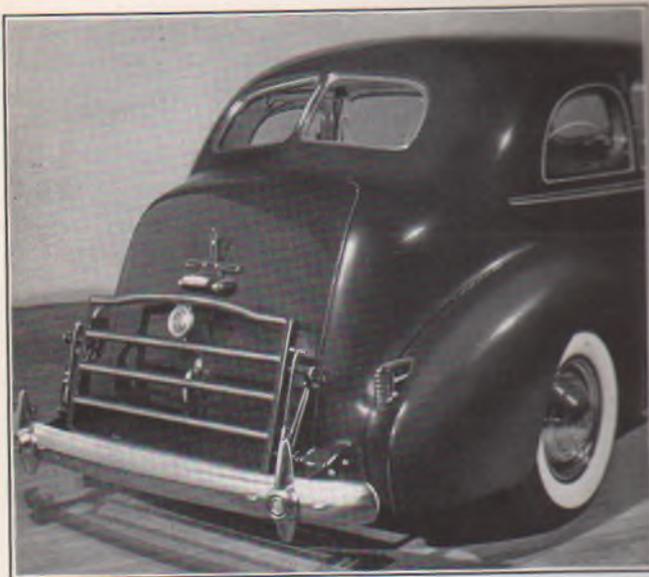
Massive front bumpers are equipped with a twin bar bumper guard—eminently practical as a protector as well as ornamental—and wheels are embellished with smart chrome wheel rings and discs. Spare tires and wheels of



Chrome wheel rims and discs add sparkle to the side view.

six wheel models are carried in deep wells in the full crowned streamline fenders. A graceful body belt molding of fluted chrome emphasizes over-all length and a corresponding trim strip along the running board and front fender apron smartens the side view.

In the rear, the sweeping lines and contours of the smooth steel top flow in easy curves down the rear panels and over the capacious trunk. There is no sharp and unattractive line where the trunk begins. Rear vision has been materially improved by narrowing the divider strip between the rear windows. Trunk hinges are of the concealed type and an attractive identification light is located in the center of the trunk cover displaying the Packard name and lighting the rear

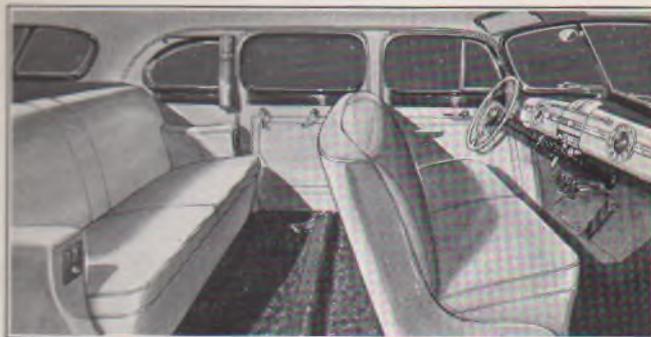


Fenders, trunk and tail lights add distinction to the rear.

license plate. Inside, a special bulb illuminates the interior of the trunk. Trunk walls are trimmed with a decorative printed insulating material, while the floor is neatly and attractively covered with long-wearing wool carpet. When the spare wheel and tire are carried in the trunk a carpet covered shelf is built-in over the wheel providing a flat platform for stowing luggage.

Interior Body Features — The modish and impressive outward appearance of the new Packard Custom Super-8 One-Eighty hall-marks it as the prestige car of 1940, and a glance through the open doors at once establishes it as the luxury offering of the year. Spacious cushions, sumptuous fabrics, and softly glowing fittings combine to

produce an atmosphere of refinement—an immediate impression of artistry and exquisite taste.



The luxurious interior of the new Packard One-Eighty.

Generous dimensions throughout both compartments add a feeling of spaciousness to the impression of luxury and beauty. And one settles down into the cushions with a sensation of complete relaxation and restful comfort. There is plenty of room to stretch one's legs and a convenient foot rest is either recessed into the front seat on the 127" model or hinged to the floor on the 138" and 148" models.

Head room, too, is abundant and on those occasions when top hats are called for, they can be worn with comfort—an unusual feature of the modern car. Seats are exceptionally wide and another equally important measurement—elbow room—is proportionately generous. In some cars this latter dimension is perforce skimped because of a radical narrowing of the body at the rear. A further study of interior dimensions may be made with the figures given in the Body Dimensions Section of this Data Book and it will be found that Packard far exceeds what is actually required in every instance.



The distinctive interior of the seven passenger sedan.

In the upholstery and trim only the choicest of all-wool broadcloth is used. Woven from fleece noted for its fine, soft texture, these lustrous fabrics are the finest that can be obtained. A selection of three different de luxe quality materials is available. First, a beautiful soft plain color brown broadcloth is used in one tone throughout the body, for seat cushions, side walls and headlining. The second



choice, a soft shade of grey with a pin stripe, is used in the seat cushions while side walls and headlining are in a matching plain material. The third selection features a beautiful luster finish olive pin stripe broadcloth also with side walls and headlining in plain matching color.

Upholstery fabrics and leather are exposed to the rays of the powerful sunlight lamp of the Fadeometer to determine their resistance to fading. Temperature and humidity are regulated.

Packard Custom Super-8 One-Eighty seat cushions and backs have a foundation of Marshall type, small diameter coil springs. Each is enclosed in a separate cloth

container to distribute weight evenly, prevent spring noises and provide utmost comfort. Over this resilient foundation is placed a thick pad of foam sponge rubber moulded to the contours of the seat, and on top of this, soft luxurious cushions of down. Because of this very modern and fine quality construction, Packard One-Eighty cushions are delightfully comfortable, yet at the same time they retain their shape without sag or stretch through long years of service.

The upholstery of the beautiful Packard Custom One-Eighty is sumptuously tailored in a wide pillow type design which even to the eye is at once indicative of the luxurious comfort it affords. Typical of the extreme care taken to provide perfect body ease in the Packard One-Eighty is the scientific method used to determine the correct lines of the seat cushions. A master template representing the composite measurements of 40,000 people is used, and thus seat contours that are orthopedically correct are assured—a major reason for an almost complete absence of fatigue when riding in a new Packard One-Eighty.



Luxuriously soft cushions of foam rubber and down invite relaxation.

In the rear compartment a comfortable folding center arm rest is supplemented by two side arm rests and in addition softly padded arm slings slide on steel rods to the exact position for maximum passenger ease. Additional assist cords, to assist in entering the car, are located at the point where the robe rail is attached to the front seat.

Ash receivers are conveniently recessed into the front ends of each seat arm rest and both are equipped with an automatic electric cigar lighter.

Window garnish mouldings and wainscoting are attractively finished in Carpathian elm graining to match the background of the instrument panel. Interior hardware is beautifully styled in satin finish and tastefully decorated with plastic knobs and escutcheons to blend with the Carpathian elm graining.

Floors in both compartments are carpeted, in the front a fine mohair carpet with sponge rubber backing. Soft and yielding to step on, this carpet also serves as an insulator against sound, heat and cold. Side panels of the cowl are also trimmed with this beautifully fine carpet. In the rear compartment a rich carpeting of silky crushed pile mohair gives a finishing note of beauty and luxury. It also is backed with an insulator of sponge rubber.



A silky, crushed pile mohair carpet covers the rear compartment floor.

Instrument Panel—Smartly modern to the least detail and blending pleasingly the silvery sheen of chrome and the satiny smoothness of moulded plastics with the rich mellow tones of Carpathian elm graining, the new instrument panel of the Packard Custom Super-8 One-Eighty enhances the beauty and emphasizes the modern styling of the whole interior.

Curving forward from the divided windshield the panel forms a background of Carpathian elm graining to set forth the lustrous harmonizing plastic panels which form the face of the panel itself. Defroster vents are inconspicuously designed into the windshield moulding on both sides and the windshield wiper control is located just behind the divider bar.

The three panels which carry the instruments and gauges are moulded of colored plastic in a tone which harmonizes



The beautiful instrument panel is finished in Carpathian elm graining, colored plastic and chrome.

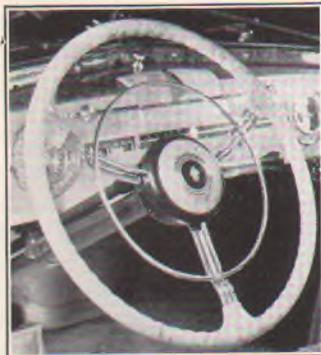
perfectly with the hue of the elm graining. Across the face of these panels, horizontally, a band of lustrous chrome is inset, forming a foundation for the speedometer, gauges and electric clock. The top of the central panel is carried slightly over the panel toward the windshield and in this curved portion is recessed an unusually large and very convenient ash receiver. A modernistic handle of chrome adds a touch of sparkle.

The left hand plastic panel carries a new and most attractive speedometer as well as the regular gauges. The speedometer is unusual. It consists of a central, sunken portion outlined with a double beading of chrome and surrounded with a row of inserts of contrasting color which carry the speed figures. These inserts are illuminated with a diffused light when the headlights are turned on. The central, sunken portion of the dial houses the mileage pointer. This is designed with the end of translucent plastic. When driving with the lights turned on the translucent end of the pointer glows green at all speeds up to thirty miles per hour, then it changes and glows amber up to fifty, and at speeds above fifty miles per hour the pointer shows red.

Thus after dark it is possible to know at a glance the approximate speed of the car. As a matter of fact, all the instrument panel lighting can be turned off and the speedometer pointer will still glow in the different colors and indicate speed.

In the central portion, the horizontal chrome band carries an attractive Packard crest in dull silver and colored enamel. When a radio is installed this chrome band and crest is replaced by the radio control panel. Immediately below, in a recessed portion which can be brightly illuminated, are the car controls—ignition switch, throttle, lights, starter button, and automatic electric cigar lighter.

An electric clock of the same appearance as the speedometer is mounted in the plastic panel on the right side of the instrument panel which forms the door to the spacious parcel compartment. This door is equipped with a lock and separate key which also locks the trunk.



The rim and center of the deluxe steering wheel match the plastic of the instrument panel.

light. It has dual controls—that is, it is operated by opening and closing the rear door and also by a switch on the right hand door post.

Ventilation—Comfortable controlled ventilation to suit the individual needs and wishes of each passenger is provided by the Packard ventilation system. In principle and design the ventilation system used on the Packard Super-8 One-Eighty is the same as that used on the Packard

One-Ten and One-Twenty which has been described in the One-Ten and One-Twenty section of this Data Book. The only difference is in the manner of controlling the pivoting ventilator windows.

This is accomplished in the One-Eighty by turning a convenient crank instead of pushing a handle. Rain guards are fitted over each front door ventilator to prevent rain drip when the ventilators are open and the car traveling in a rain storm.

The whole interior of this superb new Packard Custom Super-8 One-Eighty displays a charm and luxury which represents the best efforts and the outstanding achievement of Packard designers and stylists. All is beautiful—all in good taste and refinement is more apparent than ever before.

PACKARD CUSTOM SUPER-8 ONE-EIGHTY BODY DIMENSIONS

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	5-Pass. 4-Door Formal Sedan	7-Pass. Touring Sedan	7-Pass. Touring Limousine
Wheel Base	138	127	138	148	148
Seat Width					
Front—Shoulders	57½	56¾	57½	57¼	57¼
Hips	50	50	50	50	50
Elbow	55	55	55	55	55
Rear—Shoulders	56	56	56	56	56
Hips	47½	47½	47½	49	49
Elbow	61	61	61	63	63
Folding Seat	—	—	16 ⅞	2 Seats 24 wide	2 Seats 24 wide
Seat Height (Floor to top of cushion)					
Front Seat	13 ⅞	13 ⅞	12¾	13 ⅞	12¾
Rear Seat	15¼	15¼	15¼	15¼	15¼
Folding Seat	—	—	12¾	12¾	12¾
Seat Depth (Front to back of cushion)					
Front Seat	18	18	19¼	18	19¼
Rear Seat	18½	18½	18½	18½	18½
Folding Seat	—	—	15	16½	16½
Seat Back Height (From top of cushion)					
Front Seat	20¾	20¾	22	20¾	22
Rear Seat	22¾	22¾	22¾	22¾	22¾

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Packard

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One-Eighty

PACKARD CUSTOM SUPER-8 ONE-EIGHTY BODY DIMENSIONS—Cont.

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	5-Pass. 4-Door Formal Sedan	7-Pass. Touring Sedan	7-Pass. Touring Limousine
Seat Back Height					
Folding Seat	—	—	13	13¾	13¾
Head Room					
Front Seat to Roof	36 ⅞	36 ⅞	37	36 ⅞	37
Rear Seat to Roof	36¾	36¾	36¾	36¾	36¾
Folding Seat to Roof	—	—	37 ⅞	37 ⅞	37 ⅞
Floor to Roof (Center)	49¼	49¼	49¼	50¼	50¼
Leg Room—Rear Seat					
Front of Rear Cushion to Back of Front Seat (Intermediate position)	35	23¼	25	37 ⅞	34½
Front of Folding Seat to Back of Front Seat	—	—	—	9¾	6 ⅞
Front of Rear Seat Back to Folding Seat at 20" height from floor (intermediate position)	—	—	26½	26 ⅞	26 ⅞
Leg Room—Front Seat					
Front of Seat Cushion to Dash Pad	26½	25½	24 ⅞	24½	24 ⅞
Front of Seat Cushion to Toe Board	22½	21½	20½	20½	20½
Back of Seat Cushion to Dash Pad	41½	43½	43 ⅞	42½	43 ⅞
Steering Wheel to Top of Cushion (intermediate position)	5½	5½	6¼	5½	6¼
Back of Rear Seat Cushion to Dash Pad	99¾	88¾	99¾	109¾	109¾

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PACKARD CUSTOM SUPER-8 ONE-EIGHTY BODY DIMENSIONS—Cont.

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	5-Pass. 4-Door Formal Sedan	7-Pass. Touring Sedan	7-Pass. Touring Limousine
Over-all Dimensions					
Car Height Loaded	68 $\frac{7}{16}$	68 $\frac{7}{16}$	68 $\frac{7}{16}$	68 $\frac{9}{16}$	68 $\frac{9}{16}$
Fender to Fender—Front	73 $\frac{1}{8}$	73 $\frac{1}{8}$	73 $\frac{1}{8}$	73 $\frac{1}{8}$	73 $\frac{1}{8}$
Fender to Fender—Rear	73	73	73	75	75
Body Width (to panels)	66 $\frac{5}{8}$	66 $\frac{5}{8}$	66 $\frac{5}{8}$	66 $\frac{5}{8}$	66 $\frac{5}{8}$
Car Length Bumper to Bumper with Trunk Rack	217 $\frac{1}{32}$	205 $\frac{7}{8}$	217 $\frac{1}{32}$	226 $\frac{7}{8}$	226 $\frac{7}{8}$
Without Trunk Rack	—	200 $\frac{1}{4}$	—	—	—
Body Length Over-all	143 $\frac{31}{32}$	132 $\frac{31}{32}$	143 $\frac{31}{32}$	153 $\frac{31}{32}$	153 $\frac{31}{32}$
Trunk Dimensions					
Inside Height, 5-Wheel Car	17 $\frac{3}{4}$	17 $\frac{3}{4}$	17 $\frac{3}{4}$	17 $\frac{3}{4}$	17 $\frac{3}{4}$
Inside Width, 5-Wheel Car	47	47	47	47	47
Inside Height, 6-Wheel Car	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$	25 $\frac{1}{2}$
Inside Width, 6-Wheel Car	47	47	47	47	47
Cu. Ft. Capacity (Usable), 5 Wheels	14.75	14.75	14.75	14.75	14.75
Cu. Ft. Capacity (Usable), 6 Wheels	21.35	21.35	21.35	21.35	21.35
Size of Trunk Door Opening Width	39	39	39	39	39
Size of Trunk Door Opening Height	33 $\frac{5}{8}$	33 $\frac{5}{8}$	33 $\frac{5}{8}$	33 $\frac{5}{8}$	33 $\frac{5}{8}$

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DATA BOOK

One-Eighty

PACKARD CUSTOM SUPER-8 ONE-EIGHTY BODY DIMENSIONS—Cont.

ALL MEASUREMENTS ARE IN INCHES

Body Models	5-Pass. 4-Door Touring Sedan	5-Pass. 4-Door Club Sedan	5-Pass. 4-Door Formal Sedan	7-Pass. Touring Sedan	7-Pass. Touring Limousine
General					
Front Door Width	39 $\frac{5}{8}$	35	39 $\frac{5}{8}$	39 $\frac{5}{8}$	39 $\frac{5}{8}$
Rear Door Width	34 $\frac{3}{8}$	28 $\frac{3}{8}$	34 $\frac{3}{8}$	34 $\frac{3}{8}$	34 $\frac{3}{8}$
Windshield—Width	44 $\frac{1}{8}$	44 $\frac{1}{8}$	44 $\frac{1}{8}$	44 $\frac{1}{8}$	44 $\frac{1}{8}$
Windshield—Height	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$
Rear Windows—Width	37 $\frac{3}{8}$	37 $\frac{3}{8}$	27 $\frac{5}{8}$	37 $\frac{3}{8}$	37 $\frac{3}{8}$
Rear Windows—Height	11 $\frac{3}{8}$	11 $\frac{3}{8}$	9 $\frac{1}{8}$	11 $\frac{3}{8}$	11 $\frac{3}{8}$
Hood Length—	50 $\frac{15}{32}$	50 $\frac{15}{32}$	50 $\frac{15}{32}$	50 $\frac{15}{32}$	50 $\frac{15}{32}$

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One-Eighty



PACKARD BODY CONSTRUCTION

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PACKARD BODY CONSTRUCTION

WHILE IT IS TRUE that practically all American-built automobiles are now equipped with bodies fabricated entirely from steel, there are still important features of design and construction in which they differ one from another.

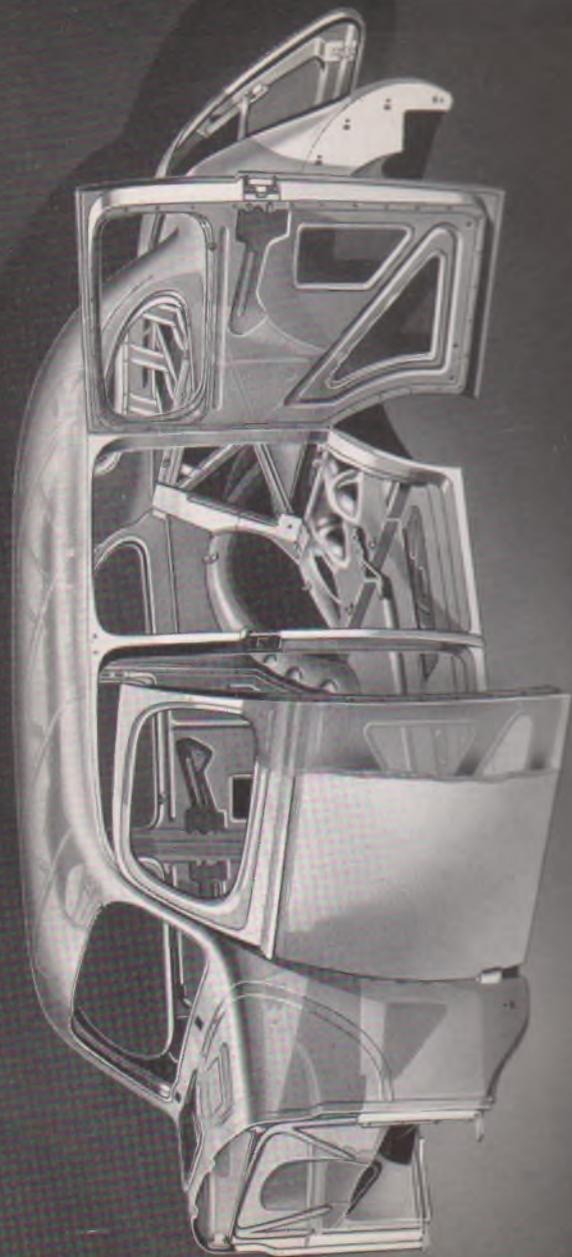
More than thirty years of actual body building experience has guided Packard engineers in designing the staunch and beautiful Packard steel bodies for 1940. The same years of experience enable Packard craftsmen to build exactly to engineering specifications and continue to uphold the highest standard of quality.

The Packard engineers' work is not ended when drawings and specifications are completed, for the results of his efforts must be checked and double-checked by the careful construction of sample cars that are put through the non-too-gentle paces on the track at Packard's world-renowned proving grounds. In addition to this method of proving out the correctness of design, the Packard mechanical laboratory, in charge of technical experts specializing in various branches of mechanics, plays a highly important part in the perfection of materials and methods of processing that is so essential in producing the ultimate in the design and manufacture of better automobiles.

Moreover, because Packard builds its own bodies in its own modern body shop, quality through every stage of construction is under one control. Variances from standard which might otherwise creep in, are avoided.

Built entirely of steel, reinforced and braced at every point of stress with heavy steel, these Packard bodies afford in maximum degree the rugged strength and rigidity which assure full safety for every occupant—durability and long life beyond expectations. At the same time, flowing air-stream lines, graceful sweeps and contours lend zestful, satisfying beauty.

All Steel Roof—Not only beautiful in the curves and gleaming surfaces it presents, the all-steel top of the Pack-



Packard all-steel body—thoroughly braced and reinforced at every point of stress.

Body Construction

Packard One-Eighty

Packard One-Sixty

Packard 118 & 119

Packard 110

Engines

1939

Body Construction

ard body is also tremendously rigid, affording maximum protection to the passengers. It is formed from a single sheet of seamless steel pressed into curves which produce unusual ruggedness. Solidly welded at the windshield, side panels, and rear panel, it binds the whole body structure into one rigid unit in the same way the cover stiffens a box. A heavy cross bow at the center pillar further strengthens the roof structure.



Great structural strength is provided in this big steel top.

All Steel Floor—Underfoot in Packard bodies is another heavy steel stamping—the steel floor. In this photograph you see it before any insulating material has been applied, and the bracing, ribbing and extra flanges are clearly shown. Every reinforcement has been carefully designed into it and each serves to give even greater rigidity and stamina. Notice the absence of any so-called tunnels in either front or rear compartment—just a slight arching of the metal to prevent flexing and give greater rigidity.



The steel floor is heavily ribbed and braced for greater rigidity.

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Body Panels—Body panels are formed over huge dies from heavy steel thus acquiring a smoothly moulded surface which is ideal for finishing. Special steel braces are used at strategic points and the latest developments in automatic welding equipment are used to electrically bind them solidly to floor and roof.

Pillar Posts—In this sectional view through the center pillar post, the box section design can be clearly seen. Two pieces of steel pressed into shape under tons of pressure and firmly welded together form a rigid steel pillar of great strength. It is solidly welded—top and bottom—to the roof and floor rail and additional strength is supplied by anchor bolts which pass through the bases of the posts, body-floor, and chassis frame. Full advantage is thus taken of the rigidity of the rugged Packard chassis frame in reinforcing the body structure.



Sectional view of top rail and pillar post showing special construction.

Drip Moulding—Sweeping upward from the belt moulding at the windshield, passing over the doors and rear quarter windows and ending in a graceful curve in the rear, is a deep drip moulding. As can be seen in this cut-away section of the top rail, it is built into the body structure thus serving not only its primary purpose of carrying away water from the roof but also strengthening and stiffening the top rail. At the



Two heavy braces on each side of the cowl provide tremendous strength at this vital point.

reinforced with heavy steel braces. Most manufacturers omit the strong steel cross member directly back of the instrument panel but Packard spares no expense to provide full protection at this vital location. As a result the whole front structure provides extra strength and greater durability and freedom from possible squeaks and rattles. The noticeable freedom from cowl shake in every Packard is due to the exceptionally strong front end construction. The solidity and freedom from road harshness exhibited by Packard cars is partially due to this front end construction.

Rear Panels and Trunk—The rear panels and trunk are welded firmly together and reinforcements of steel under the rear window stiffen the rear end. An X-bracing across the back of the rear seat is welded to the rear quarter panels at each side and to the floor. This prevents any twisting or weaving of the rear body structure and contributes to riding comfort by preventing harshness and road vibrations on rough surfaces.

The trunk cover, carried on concealed hinges, is strongly reinforced to stiffen the whole unit. A water seal of

same time it adds another graceful line to the exterior of the body.

Windshield and Cowl—The windshield housing and cowl become one piece with the steel top by welding, thus forming a sturdy frontal unit to withstand stresses at this important point. The upper portion—windshield pillars and header rail—forms virtually a box section, while the cowl as is evident in this photograph, is sturdily



A sturdy X-brace of steel reinforces the rear of sedan bodies.

hollow rubber effectively seals the trunk compartment against the entry of water and dust.

Doors—Packard doors, both front and rear, are of two-piece construction, that is, the whole outside panel is formed from one sheet of steel and the whole inside panel of the door from another. Obviously, this design is superior—stronger in every way than that in which the doors are made from a number of pieces welded together. Heavy diagonal ribs, formed in the inside panel, assure against any sagging of the doors, and ribs and flanges pressed into the metal at other points further strengthen and stiffen the whole unit.

The concealed upper hinges of the front door are so designed that the door swings away from the body at the belt moulding thus permitting a forward slant to the lower front of the door and adding several inches of extra foot room. In other steel bodies the lower front edge of the front door is practically vertical from the belt moulding.

INSULATION

In the study of body noises and their prevention and in the insulation of body interiors against outside heat and cold, it is safe to say that none have gone further than

Packard in study and research or contributed more to the solution of these problems. Aided by university experts on acoustics, years of investigation, trial and test have finally produced a variety of combinations of insulating materials—each material or combination of materials specifically suited to a particular location in the body. As a matter of fact, thirteen different insulating materials are used at strategic points throughout the body. As a result of this scientific insulation, all Packard bodies as used on all new



Thirteen special insulating materials are used throughout the body to stifle noise and keep out heat and cold.

1940 Packard models, are not only models of quietness but also protected from extremes of heat and cold.

Roof—Beneath the smooth steel roof (a common source of drumming with many cars) is a dense sound-deadening layer of special insulating material cemented securely in place. It effectively deadens roof noise and as well insulates the interior from the heat of the summer sun. Vice versa it protects from winter's cold.

Spring steel roof bows are sprung into place against this insulating material in such a way as to provide tension throughout the central area of the roof and further allay any drumming tendency in much the same way as the vibrating head of a drum is stilled by placing the hand on the surface at or near the center.

Panels—The same padding as used on the roof is also cemented to the interior of the rear quarter panels. The panel above the wheelhousing is effectively silenced from any vibratory noise by a plastic insulating compound heavily sprayed on the steel. At each and every point throughout the body a special material or materials in combination is employed to absorb or stifle rumble and noise.

Doors—The doors, whose wide semi-flat planes might well be a place for noise to occur, are sprayed with a thick viscous asphaltic compound. It effectively deadens drumming and never hardens or deteriorates. It is a curious fact that much of the insulation used in Packard all-steel bodies actually improves with time.

Cowl—The top and sides of the cowl are lined with heavy jute blanket attached in place with a permanent cement. The dash is insulated from the engine compartment with a full inch of special material before being trimmed with long wearing, scuff-proof leatherette insulating board. Toe boards are covered with two thick layers of different insulating materials to keep engine noise and heat out of the front compartment. Special attention is given to closing all openings between motor and passenger compartments for the exclusion of noise, heat and motor fumes. (Noise and heat leak through tiny holes like water.)

Floor—Like the roof, the floors of the bodies of all the new 1940 Packard cars present a large surface of steel where noise might originate or through which undercar road noise might enter the passenger compartments. To eliminate such a possibility and also to insulate from cold and heat, the floors of both compartments are double insulated. First, a thick layer of special sound-deadening asphalt impregnated felt is placed on the floor. Second, a heavy layer of jute padding is cemented to the under side of the carpet in the rear compartment and to the rubber mat in the front.

Trunk—The trunk is heavily insulated against vibration and noise and also against extremes of temperature and entry of moisture. The trunk lid is sprayed with a thick, viscous asphalt compound to deaden any sound developing in the metal panels. The sides also are heavily coated with a sprayed-on layer of special compound. The whole interior of the trunk is sprayed with a liquid foundation binder and while it is still wet, a dry fibrous finishing material called flock, is sprayed on under air pressure to the whole interior surface. Flock is a combination rayon and cotton material and the fibres are about $\frac{1}{8}$ of an inch long. These fibres possess a peculiar and unexplained property of standing upright when they come in contact with the special liquid cement. Thus, a finish is given the interior of the trunk which closely resembles suede. This gives an attractive, soft textured but durable lining for the protection of traveling bags or other luggage—permanently integral with the metal surfaces. The floor is covered with a durable leatherette surfaced insulating mat which makes for an attractively finished trunk interior.

BODY MOUNTINGS

With the Packard all-steel bodies scientifically insulated against sound from within themselves and from road or other exterior noise sources, the next logical step was to insure against any possible transmission of noise emanating from the chassis.

This, Packard has accomplished, through the use of twenty special rubber impregnated body insulators having very high noise deadening properties.

These insulators separate steel from steel throughout the entire length of the body, give all the insulating qualities of rubber yet are sufficiently solid to insure the frame and body being one single structured whole. Packard insulated body mountings form the third line of noise defense between the road and body. First, the big, low-pressure tires;

second, the rubber cores and bearings of Packard front and rear suspensions, and third, the rubber insulated body mountings. Here is a combination of three sound barriers acting successively and in unison to prevent road noises being transmitted to the body. A combination found in Packard only of all American made cars.

SAFETY GLASS

All doors, windows and windshields of the new 1940 Packard models—One-Ten, One-Twenty, One-Sixty and One-Eighty—are equipped with safety glass. Packard safety glass does not change color with time because of the special adhesives used to adhere the two sheets of glass together nor is the crystal clearness of the glass in any way effected.

Safety glass is everywhere recognized as a definite safety measure and many states have made its use compulsory by law.

Pre-Painting Operations—In the building of Packard cars no feature of design—no process of manufacture receives greater attention or reflects Packard quality more perfectly than the paint job. The first step of Packard finishing—the metal cleaning process—is all-important not only to producing a smooth, gleaming paint surface but also to assure long life and protection against rust. Such cleansing thoroughness makes certain a permanent bond between metal and paint—an enduring coating over the steel. And when the surface is sealed the whole body is protected.

Packard bodies "in the white" are first given a thorough wash in petroleum solvent to remove every trace of oil and grease and provide a clean surface for the following processes. Next, the body is given a bath in Deoxidine solution—a phosphoric acid compound—which removes rust from the body steel and insures a rust resistant sur-

face. They are then rubbed with steel wool and again flushed with Deoxidine solution to remove the last vestige of rust.

After this unusual Deoxidine treatment the body passes through a drier and is then given its final rub down with alcohol. Every square inch—each corner is washed until not a speck of oil or grease or any kind of foreign matter remains. The whole surface of the body is then in the best possible condition to receive its paint.

Painting and Finishing—Immediately after the complete cleaning process—petroleum solvent scrub, Deoxidine bath and alcohol rub—the perfectly clean body receives two coats of prime or surfacer. The whole body is thus heavily coated with a protective film of rust-resistant paint. Next a coat of black is sprayed on to bring out and emphasize any possible imperfections and to provide an opportunity to correct them before the finishing lacquer coats are applied.



The actual paint thickness on the finished car is measured by this electrical device. Too thin a paint film shortens life—too thick tends to crack and check.



Every inch of body metal is thoroughly scrubbed with Deoxidine solution to remove all traces of rust.

Next the body passes a whole corps of painters in the lacquer spray booths where it receives coat after coat of colored lacquer until a total of five have been

sprayed on. These added to the primer and inspection coats make a total of eight coats in all.

After baking, sanding and polishing to a mirror-like finish the body moves on to the finishers. Here all the exposed edges such as the doors, the trunk lid, and the trunk opening, etc., are given an exceptionally heavy coat of lacquer with a paint gun specially developed by Packard for this purpose.



Finally, at the end of the last assembly line, when the body has been mounted on the chassis and the car is complete, the paint is given the most searching inspection of all, and the smallest defects or marks are corrected by specially skilled workmen before the Packard final OK is affixed.

An additional extra heavy coat of lacquer is applied to all door edges, trunk openings and trunk lid edges.

1940 PACKARD WHEELBASES AND BODY MODELS

Number of Passengers	Body Style	PACKARD "ONE-TEN"			PACKARD "ONE-TWENTY"			PACKARD "ONE-SIXTY"			PACKARD "ONE-EIGHTY"		
		Series	Wheel-Base	Body Model No.	Series	Wheel-Base	Body Model No.	Series	Wheel-Base	Body Model No.	Series	Wheel-Base	Body Model No.
5	Touring Sedan (4-Door)	1800	122"	1382	1801	127"	1392	1803	127"	1372	1807	138"	1342
								1804	138"	1362			
5	Club Sedan (4-Door)				1801	127"	1396	1803	127"	1376	1806	127"	1356
5	Formal Sedan (4-Door)										1807	138"	1332
5	Touring Sedan (2-Door)	1800	122"	1384	1801	127"	1394						
7	Touring Sedan							1805	148"	1371	1808	148"	1351
7	Touring Limousine							1805	148"	1370	1808	148"	1350
2-4	Club Coupe	1800	122"	1385	1801	127"	1395	1803	127"	1375			
2-4	Convertible Coupe	1800	122"	1389	1801	127"	1399	1803	127"	1379			
5	Convertible Sedan				1801	127"	1397	1803	127"	1377			
2	Business Coupe	1800	122"	1388	1801	127"	1398	1803	127"	1378			

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PACKARD MOTORS

FOR MORE THAN forty years—since 1899 to be exact—Packard has been designing and building internal combustion engines—has produced more noteworthy achievements than any other organization in the world and acquired a wider and more intensive knowledge and experience.

Engines of one, two, four, six, eight, twelve and twenty-four cylinders have been designed and built. In cylinder arrangement they have been "vee," parallel, "X," in line, inverted, radial, "W," single and opposed—Packard has built overhead valve and L-head valve types. And down through the years to the present Packard motors have won renown on land and sea and in the air.

Such is the background of achievement and experience behind the line of motors which power the superb new Packard cars for 1940. Each is 100 per cent Packard in design and construction—each embodies the well-known Packard standards of fine quality materials and precision workmanship—each provides brilliant performance, flexibility, unexpected economy and long life.

The full power developed by each of the new Packard engines is far in excess of normal driving requirements and leaves a wide margin beyond the most extreme demands of the hardest kind of driving. This surplus of power in relation to car size and weight assures not only the power and stamina for prolonged high speed driving—not only



This delicate device—the light ray machine—checks Johansson blocks for accuracy.

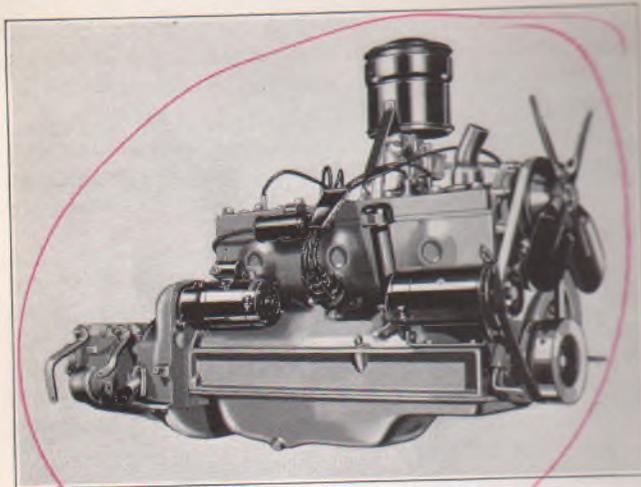
the power for steep climbs and heavy going, but also abundant power for exceptional performance and flashing acceleration on the open road and in congested traffic.

In addition to their excellent performance, Packard engines provide unusual economy of operation. Both gasoline and oil economy compare very favorably with cars even smaller in size.

All Packard engines develop their maximum power at medium low engine speeds which means less wear and longer life. In addition, this year lowered axle ratios are practical because of reduced car weight. Therefore, the new engines operate more slowly—make fewer revolutions per mile and normal wear is materially reduced. It is a fact that exhaustive tests at the Packard Proving Grounds indicate that these new 1940 engines are the longest-lived engines Packard has ever built.

THE PACKARD "ONE-TEN" ENGINE

All the engineering skill and manufacturing ability gained by Packard in more than forty years of manufacture find expression in the big six-cylinder engine which powers the new Packard One-Ten. With a piston displacement of 245 cubic inches and a compression ratio of 6.39 to 1 the engine develops its full 100 horsepower with maximum economy. For 1940 a new high standard of performance has been achieved by a lower ratio of car weight per horsepower developed. In the new One-Ten each horsepower has only 33.2 pounds of car weight (4-door touring sedan) to drive. The remarkable success of this splendid motor in the hands of scores of thousands of motorists is a tribute to its designers and builders and an assurance of outstanding motoring satisfaction to prospective buyers. In its basic specifications and equipment it remains the same for 1940.



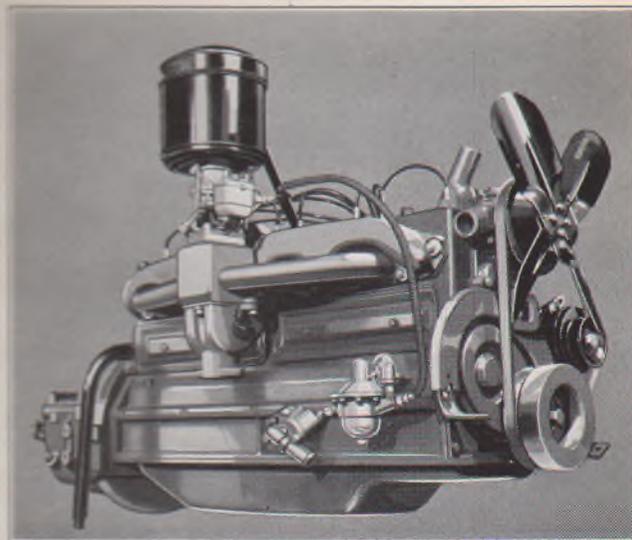
The Packard One-Ten Engine—100 Horsepower.

Major Specifications:

Bore and Stroke	..... 3 1/2" x 4 1/4"
Displacement	..... 245 Cubic Inches
Type	..... L-Head, 6 Cylinders
Rated Horsepower	..... 29.4
Brake Horsepower	..... 100 @ 3200 R.P.M.
Compression Ratio	..... 6.39 to 1 (Standard)
Compression Ratio	..... 6.71 to 1 (Optional)

THE PACKARD "ONE-TWENTY" ENGINE

Silky smooth in performance at any speed—quiet and powerful, the Packard One-Twenty eight-cylinder motor has won unstinted praise from tens of thousands of enthusiastic owners. This year Packard engineering has achieved a new exceptionally low ratio of car weight to



The Packard One-Twenty Engine—120 Horsepower.

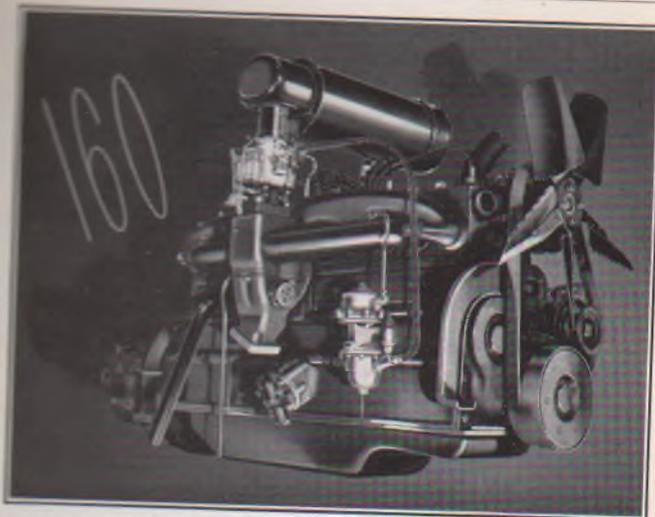
brake horsepower assuring spirited performance for all traffic and highway demands. The big engine of the new Packard One-Twenty has only 29.3 pounds of car weight (5-passenger touring sedan) to drive for each horsepower developed. For travel on the open highway where sustained high speed brings a thrill and takes you places or in congested city traffic where flexibility and acceleration are essential, this big powerful engine gives an amazing account of itself. And paralleling this superb performance is an economy of operation altogether unusual and unexpected in an engine of this size and power. The Packard One-Twenty eight-cylinder engine is the result of years of motor designing and building—of constant improvement and refinement.

Major Specifications:

Bore and Stroke	3 1/4" x 4 1/4"
Displacement	282 Cubic Inches
Type	L-Head, 8 Cylinders
Rated Horsepower	33.8
Brake Horsepower	120 @ 3600 R.P.M.
Compression Ratio	6.41 to 1
(Standard)	
Compression Ratio	6.85 to 1
(Optional)	

THE PACKARD "ONE-SIXTY" ENGINE

A brand new Packard motor—big, powerful, unbelievably smooth and quiet, here is the latest achievement of Packard motor builders. With its 160 horsepower it is the most powerful eight-cylinder engine built for passenger car use in America today. Backed by the vast fund of Packard experience in engine designing and built to the same principles which have proved themselves in millions of miles of preeminently satisfactory service, this brilliant new engine is destined to win instant approval and acceptance by the most particular of American motorists. Even the cold specifications below will reveal the superb performance of this new Packard masterpiece and the shortest ride will bring a new thrill to the most blasé driver. And, this mighty power plant has less car weight to drive per brake horsepower than any other engine ever built by Packard. In the five-passenger touring sedan 127" wheelbase, it has only 24.1 pounds per brake horsepower developed. We believe this is the lowest in the industry. Whether it be acceleration, speed, or flexibility, they are all here in a thrilling new measure. Miles of distance or miles an hour mean nothing to this silky-smooth new power plant. Yet such is its design and simplicity that operating and maintenance expense are astonishingly low. This powerful new engine also powers the luxurious new Packard Custom Super-8 One-Eighty models.



The Packard Super-8 One-Sixty Engine—160 Horsepower.

Major Specifications:

Bore and Stroke	3 1/2" x 4 5/8"
Displacement	356 Cubic Inches
Type	L-Head, 8 Cylinders
Rated Horsepower	39.2
Developed Horsepower	160 @ 3500
Compression Ratio	6.45 to 1
(Standard)	
Compression Ratio	6.85 to 1
(Optional)	

L-Head Design—All Packard engines are L-head in design. They are simple and free from any complicated valve mechanism. There are no long push rods, extra springs or rocker arms such as are necessary in the valve-in-head design—so much less opportunity for noise to develop—so much less need of adjustment. Predominating the passenger car field, the L-head engine is obviously the choice of experienced motorists. L-head design and Angle-set valves permit the use of a high turbulence, high

efficiency combustion chamber without the necessity of changing proved piston design.

Advantages:

1. Higher compression.
2. Minimum complications.
3. Quiet operation.

Neutro-Poised Motor Mountings—Because all Packard engines are so perfectly designed and built to such precision standards, there is but a minimum of the natural vibration which is inherent in every internal combustion engine. In all Packard engines even these small power tremors are absorbed in large blocks of soft live rubber. These engine mountings — Neutro-Poised three-point suspension, consist of a single mounting at the front and center of the engine and two inclined mountings at the rear, one on each side of the transmission. These mountings are so placed that they cushion power impulses which might otherwise be transmitted to the frame and vice versa they also protect the engine from severe road shocks.

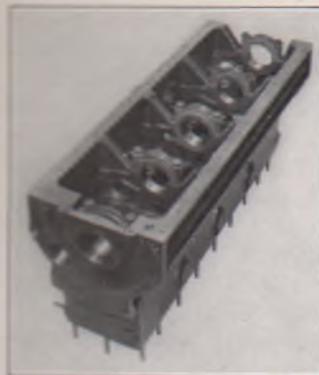


Live rubber mountings cushion the engine at three points.

Advantages:

1. Engine tremors absorbed in soft rubber.
2. Correct engine balance by location of mountings.
3. Road shocks absorbed by rubber.

Cylinder Block and Crankcase—A well-designed cylinder block cast of suitable materials and properly machined is the foundation around which the whole engine is built. The power, smoothness, economy and long life of the engine all are dependent upon the skill of the engineers who design the block and the craftsmen who construct it.



The cylinder blocks of all Packard engines are heavily ribbed and reinforced.

and rigidly trussed by multiple ribs. The lower edge of the crankcase extends well below the center line of the crankshaft thus increasing vertical rigidity. This sturdy construction prevents deflection and assures permanence of bearing alignment and long life.

Built-In Oil Manifold—A drilled oil manifold in the right side of the crankcase conducts oil under pressure from the pump and delivers it through individual drilled passages to all main bearings. From there it passes through drilled holes in the crankshaft to the connecting rod bearings.

Precision Honed Cylinders—Cylinder bores are reamed, honed and polished to a mirror-like finish to insure silky-smooth movement of the pistons in the bores. The most modern of honing equipment assures cylinder bores that are vertically straight and horizontally round within the narrow limits of one ten-thousandths of an inch.

An extremely accurate method of fitting Packard pistons in these precision honed cylinders is used in production. An electrical measuring gauge (see accompanying photo-

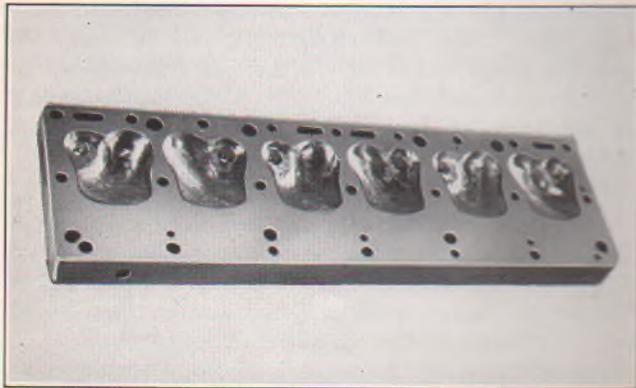
graph) is used to check the diameter of each cylinder. The scale is marked with graduations, each of which represents one-quarter of one-thousandth of an inch. The gauge reads A, AA, B, BB, etc. If the gauge determines the size of the cylinder to be "A" it is so marked—if "BB" it is so marked.

In another part of the factory, pistons are being similarly measured and marked for size in a precise electrical amplifying device. With both pistons and cylinders measured and marked it is simple to assemble the proper piston in the correct cylinder. Obviously the possibility of human error is practically eliminated by this scientific measuring operation.

Advantages:

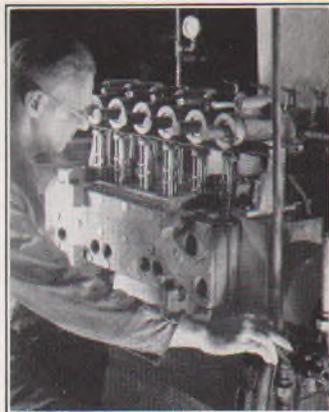
1. Long wear, heat-resisting cylinder block.
2. Valve seat inserts unnecessary complication.
3. Main bearings retain correct alignment.
4. Correct fit of pistons in cylinders.

Cylinder Head—The new cast iron cylinder heads of all Packard engines were designed after intensive study and



High turbulence cylinder heads of new design assure complete combustion and full power.

research to produce unusually high compression of the fuel mixture in the cylinder. The special design of the combustion chamber produces great turbulence of the fuel and results in maximum fuel economy. The Packard One-Ten engine has a standard compression ratio of 6.39 to 1, the Packard One-Twenty 6.41 to 1 and the Packard One-Sixty engine 6.45 to 1. Spark plugs are located near the exhaust valves at the hottest part of the combustion chamber to assure complete combustion with leaner fuel mixtures.



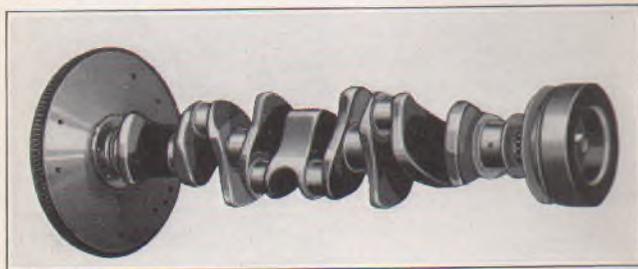
All domes in each cylinder head used on Packard engines are checked for cubic content. The cylinder head domes are filled with water and a reading is taken in glass tubes. Domes must be identical within 2 cubic centimeters.

Advantages:

1. High compression — more power from a given quantity of fuel.
2. More power and greater economy without using expensive premium fuel.
3. Spark plug location assures better combustion with leaner mixture.

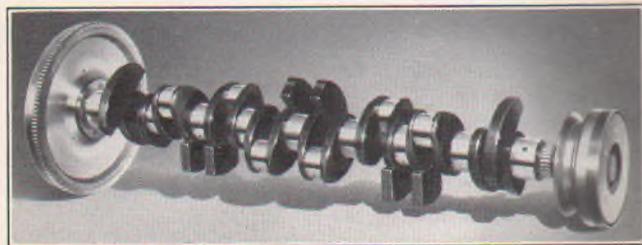
Crankshaft—One of the most vital parts of an engine and one that has a direct effect both on smoothness of operation and long life, is the crankshaft. The crankshafts of the One-Ten and One-Twenty Packard engines are heavy drop forgings of carbon steel with integral counterweights—the counterweights on the Super-8 One-Sixty are attached. Painstaking care is taken in the balancing of Packard crankshafts. They must balance statically (at

rest) and dynamically (in rotation) before passing inspection. The importance of these balancing operations will be realized from the fact that an out-of-balance equivalent to weight of one copper cent would increase to a weight at the bearings of 8.89 pounds at 3800 R.P.M. Such a condition would, of course, cause vibration and wear of the bearing surfaces.



The Packard One-Ten crankshaft.

The Packard One-Ten crankshaft is supported on four large main bearings (2 3/4" diameter, 45.1 square inches total area) and weighs 81 1/2 pounds without flywheel or vibration damper. The Packard One-Twenty crankshaft is, of course, heavier (95 pounds) and is rigidly held in place by five main bearings 2 3/4 inches in diameter and having a total area of 56.6 square inches. The new Packard



The Packard Super-8 One-Sixty crankshaft.

One-Sixty crankshaft weighs 104 pounds stripped and rotates on nine main bearings; that is, there is a main bearing on each side of each crank. These bearings are 2 3/4 inches in diameter and have a total area of 85.9 square inches. All Packard crankshafts—One-Ten, One-Twenty and One-Sixty—are drilled for the passage of oil under pressure from main bearings to connecting rod bearings.

Advantages:

1. Smooth performance because of 100% balancing.
2. Prevention of bearing wear.
3. Greater driving comfort and enjoyment.



The many different kinds of steel used in building a Packard car are all analyzed. In the picture the chemist is burning the steel at 2000° Fahrenheit to determine its carbon content.

Overlapping Bearings

—The large diameter of Packard main crankshaft and connecting rod bearings plus the short stroke of the pistons, produce an overlapping of the main and crank pin bearings. This important fine car feature very materially stiffens the crankshaft and reduces vibration.

Advantages:

1. Stiffer more rigid crankshaft reduces vibration and increases engine smoothness.

Removable Precision Type Main Bearings—All crankshaft bearings—both main and connecting rod in all Packard engines are of the removable precision type. These modern bearings consist of a thin steel shell lined with babbitt. They are so perfectly constructed and machined to such close limits that not only is unusually long life assured, but should replacement ever become necessary,

they are readily removable and the service operation is economically performed without the use of special tools or costly fittings.

Advantages:

1. Longer life because of precision fit of bearings.
2. Lower service cost because of easy replacement.

Vibration Damper—A further precaution to insure utmost engine smoothness is found in the vibration damper designed to neutralize the torsional (twisting) vibration which results from the power strokes of the pistons and is inherent in any engine.

This damper consists of a small cast iron fly-wheel mounted on a steel hub, the two parts being bonded together with rubber. The rubber is of the proper resiliency to permit a slight oscillation of the fly-wheel under any torsion of the crankshaft. This controlled movement combined with the correct mass in the fly-wheel effectively neutralizes any vibration that would ordinarily occur. The Packard damper operates efficiently at all speeds providing maximum smoothness and quietness, the adjustment is permanent and there is no possibility of water or dirt affecting the damper action.



The efficiency of the Packard vibration damper in absorbing engine torsional tremors is checked in this special machine.

Advantages:

1. Smooth engine operation because torsional vibration is absorbed.
2. No adjustments required.
3. Wear negligible because the unit is sealed against water and dirt.

Connecting Rods—

Connecting rods for all Packard engines are drop forged from special alloy steel and are machined to closely held precision limits. They are of the I-beam type. Bearings are of the removable precision type, similar to those used in the main crankshaft bearings.

Each Packard connecting rod is rifle-drilled from crank pin to piston pin to provide a passage for oil under pressure to the piston pin bearing. Many engines are still manufactured without this provision for positive piston pin lubrication and depend entirely upon oil splashed and sprayed on the inside of the piston. A small hole located in the upper half of the lower bearing registers with the oil passage in the crank pin and spurts oil constantly on the cylinder walls as the crankshaft revolves.

Each connecting rod is balanced for total weight and center of gravity. Then they are sorted into groups for assembly so that there is never a variation of more



Connecting rods are rifle-drilled to conduct oil under pressure to piston pins.

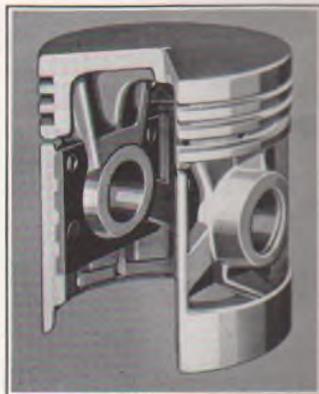
than a fraction of an ounce between any two rods in the same motor.

Advantages:

1. Longer life because of precision manufacture.
2. Smoother operation because of balancing.
3. Adequate lubrication of piston pins assured.

Thermo-Strut Pistons—Each of the three engines which power the new 1940 Packard cars is equipped with special Thermo-Strut aluminum alloy pistons. These pistons combine all the advantages of light aluminum alloy pistons—reduction of bearing loads, better acceleration, greater smoothness—with other important advantages. They differ from other types of aluminum pistons in that the clearance between cylinder wall and piston is thermostatically controlled to insure the same fit at all temperatures. In other words, a more perfect balance of piston fit is attained in the engine when cold and also when warm. This means that pistons can be fitted closer and piston slap in a cold engine is eliminated. At the same time wear in a warmed-up motor is reduced and greater gasoline economy effected.

These special characteristics of Packard Thermo-Strut pistons are achieved by wide steel struts embedded in the aluminum skirt of the piston and a special method of cam grinding the piston diameter. The arrangement of the strut is such that Packard pistons attain perfect roundness from heat alone during the warm-up period. There



This cut-away Thermo-Strut piston shows the steel strut embedded in the aluminum alloy.

is no high spot pressure and clearance remains constant.

Aluminum pistons lacking struts attain their perfect roundness during the warm-up period through pressure of the high sides against the cylinder walls. Certainly this high spot contact tends to produce very high bearing pressure, scuffing and undue wear. Such expedients as anodizing, electro-treatments and other means of hardening the surface have been only partially successful in preventing this excessive wear and giving longer life.

Tin Plated Pistons—Packard Thermo-Strut pistons are not only double heat treated to remove internal strains and harden the metal, but are tin plated as well. Thus they literally slide up and down the smooth cylinder bore on a coating of bearing metal instead of having a direct aluminum to iron contact. This reduces friction materially and not only shortens the breaking-in period, but also assures long life to the cylinder, walls, rings and pistons.

Packard pistons are held to very close limits in weight and are assembled in sets for each motor with never more than 14/100 of an ounce variation.

Advantages:

1. Closer fitting pistons mean a quieter engine when cold.
2. No undue wear on the pistons at any temperature assures long life.
3. Tin plating shortens the break-in period and prevents wall scoring.
4. Aluminum alloy pistons reduce bearing loads, give better acceleration and greater smoothness.

Piston Rings—The Thermo-Strut pistons of each Packard engine are equipped with three rings—two special oil control compression rings and one expander type oil control ring. The special oil control ring is equipped with an inside spring member which insures a constant and uniform contact of the ring with the cylinder wall even at high speeds. Thus it is practical to provide co-

pious quantities of oil to the cylinder walls for lubrication and with this special combination of rings remove all surplus oil at each stroke—insuring long life and unusually low oil consumption.

Advantages:

1. More effective oil control.
2. Unusual oil economy.

Camshaft—Not only are Packard camshafts of the modern type with quick opening cams for maximum engine power and efficiency but the cams themselves are hardened by the special induction hardening process. This is an electrical process—more expensive than the ordinary hardening methods—and imparts an exceptionally hard case to the surface of the cams and bearings where wear would naturally occur, while the rest of the shaft and the core retain their ductility and strength.

There are four camshaft bearings on the Packard One-Ten and five on the Packard One-Twenty and eight on the One-Sixty. All camshaft bearings are pressure lubricated and are of the removable precision type.



This spring expanded oil damper ring controls the amount of oil on cylinder walls.



After being hardened by the electrical induction process both sides of each cam and all bearings of every Packard camshaft are tested for hardness.

Advantages:

1. Extra long life from induction hardening.
2. Quiet operation.
3. Pressure lubricated bearings for long life.

Chain Driven Camshaft—In all Packard engines the camshafts are driven by a short and exceptionally wide silent chain instead of gears. Obviously, the Packard chain drive gives a much larger area of contact than gears and more contact than the narrow chains of many other cars. Therefore, wear is more widely distributed and the camshaft drive remains quiet in operation much longer.

Advantages:

1. Less wear because of large contact area.
2. Quiet operation and long life.



Angle-Set valves of Packard One-Ten and One-Twenty engines contribute to combustion efficiency.

Valve stems are lubricated by oil mist from the crankcase and operate in guides that are counterbored at the top to shield the stems from hot gases.

Angle-Set Valves—Because they are set at an angle which brings the head of the valve closer to the cylinder bore, Angle-Set valves as designed into all Packard engines contribute materially to combustion and the free flow of intake and exhaust gases. Intake valves are of chrome nickel steel and exhaust valves are made from Austenitic steel. This latter material was especially developed to resist warping and distortion under the extreme heat of the exhaust gases. As a result the gas tight fit of the valve and valve seat is maintained for long periods.

Advantages:

1. More efficient combustion.
2. Rapid movement of gases.
3. Valve fit retained longer.
4. Valve sticking minimized.

Valve Tappets—Packard One-Ten and One-Twenty—Packard One-Ten and One-Twenty valve tappets are of the wide mushroom type and are pressure lubricated.



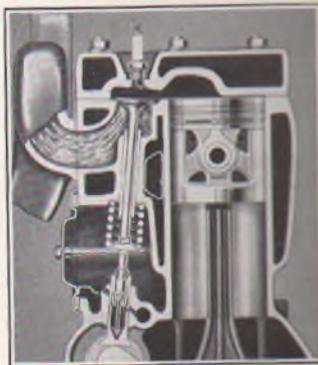
Oil under pressure is delivered directly to Packard valve tappets.

Valve Tappets—Packard One-Sixty Engine—The valve tappets used in the new Packard One-Sixty engine are of the silent hydraulic type. They are expensive and are manufactured with the finest precision. They are hydraulic in operation, utilizing oil from the oil distributing hole. The accompanying cutaway photograph shows their construction. All lost motion is

They are literally floated in oil delivered directly from the oil distributing hole in the crankcase under full engine pressure. As a result, tappets operate quietly and last longer.

Advantages:

1. Quiet valve operation.
2. Longer tappet life.



Packard One-Sixty valve mechanism showing hydraulic valve tappet.

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eliminated and the complete valve mechanism operates at zero clearance under all conditions. Thus valves remain permanently quiet in operation and because both intake and exhaust valves are always in accurate adjustment full engine efficiency is maintained and valve life prolonged. Packard hydraulic valve tappets are entirely automatic in operation and never require adjustment.

Advantages:

1. Automatic in operation — no adjustments.
2. Valve seal maintained.
3. Zero valve clearance means quiet operation.
4. Valve life prolonged.

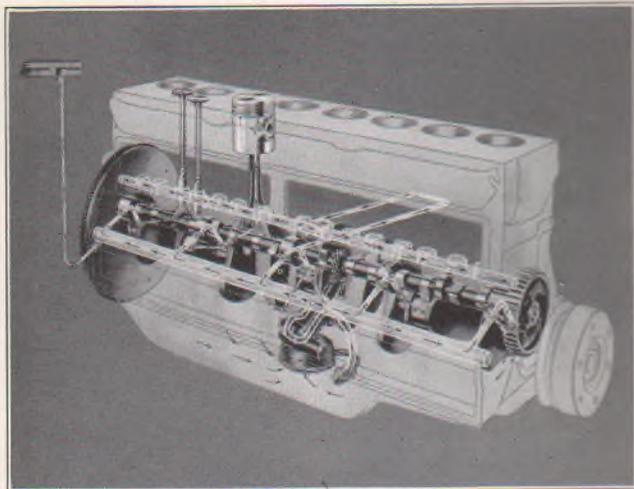
HIGH PRESSURE LUBRICATION

The high pressure lubrication system of each Packard engine—One-Ten, One-Twenty, One-Sixty—is 100% complete—every

Cutaway hydraulic valve tappet used in Packard Super-8 One-Eighty. The ball acts as a valve maintaining pressure and holding the tappet firmly against the valve stem. Clearance is zero always and the valve is kept in permanent adjustment.

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vital part is bathed in oil delivered under pressure from the gear type oil pump. Some manufacturers still lay claim to complete pressure lubrication yet omit vital parts, but Packard goes the whole way. Main bearings, connecting rod and camshaft bearings, tappets and timing chain all receive a metered flow of oil direct from the pump. And through rifle-drilled holes in the connecting rods each



Pressure lubrication is complete—even to piston pins and valve tappets.

piston pin is pressure lubricated. Pistons, cylinder walls and distributor are lubricated by oil sprayed under pressure from bleed holes in the connecting rods.

Advantages:

1. **Positive and constant lubrication of all vital parts.**
2. **Less wear of moving parts and longer engine life.**

Packard One-Sixty Oil Filter—The big engine which powers the Packard One-Sixty and One-Eighty is standard equipped with an oil filter (also available at extra cost for the One-Ten and One-Twenty) which cleans and filters the oil as it is circulated through the engine. This filter is of the two-stage type and removes fine—almost microscopic particles from the oil. On entering the filter the oil first passes through a cotton filtering element which traps large particles, then through a series of wood or cellulose elements which catches tiny particles and thus restores the oil to very near its original color. Finally the oil passes through a screen and felt pad.



The Packard One-Sixty engine is equipped with a two-stage oil filter.

Advantages:

1. **Clean oil to all bearing surfaces.**
2. **Bearings last longer.**
3. **Filtered oil retains its quality longer.**

Floating Oil Screen—A floating type of oil screen is used in the crankcase of all Packard engines. Hinged to the oil pump, this screen floats near the surface of the oil and, therefore, draws oil from the top surface. With the crankcase filled to the proper level, the screen rests against an upper stop and even though the oil level lowers, the screen always floats near the surface of the oil. The intake

pipe is, of course, always submerged under all conditions. Thus only the cleanest oil is used because sediment and impurities sink below the screen to the bottom of the pan of their own weight.



The oil pumps of all Packard engines have high pumping ability—7.1 gallons per minute at 2800 R.P.M.—and as speed increases the rate of oil distribution also increase proportionately. The oil pump is located outside the crankcase where it may be easily serviced and the pressure relief valve is also readily accessible without the removal of the pump from the motor.

The floating oil screen assures a supply of clean oil taken from the top surface.

Advantages:

1. Only cleanest oil circulated through engine.
2. Bearings last longer.
3. Oil pump and relief valve readily accessible.

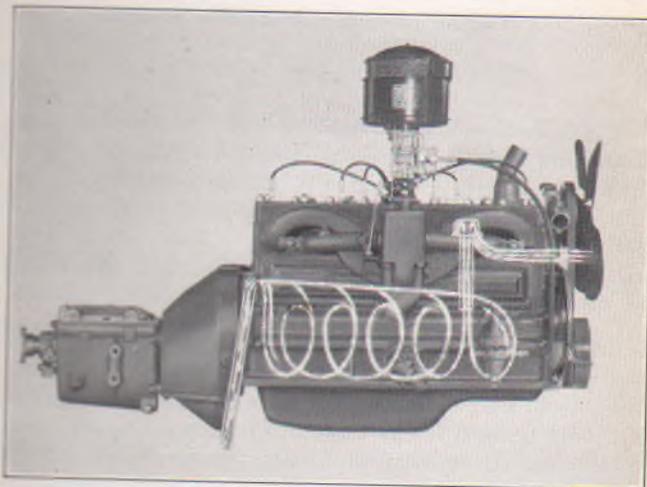
Oil Pan—In the crankcase oil pan of Packard engines a system of baffle plates is arranged to prevent splash and insure an adequate supply of oil at the intake pipe under all driving conditions. The center of the oil pan is depressed so that oil is circulated through the engine so long as any oil remains in the pan. The drain plug also is located at this lowest point.

Metered Oil Flow—In order that each bearing and moving part of the motor may receive just the correct amount of oil at all engine speeds—none starved, none flooded—the amount of flow is scientifically controlled by varying sizes of oil passages. Certainly proper lubrication prolongs engine life and assures trouble-free operation.

Advantages:

1. Measured lubrication at all speeds.
2. Trouble-free operation.
3. Longer engine life.

Crankcase Ventilator—Certain elements in some of the fuel now being marketed will produce a corrosive agent in combustion. This gas, if allowed to combine with water vapor and condense, will produce an acid in the crankcase oil. It is, therefore, essential to expel these vapors from the crankcase promptly to prevent injury to finely finished surfaces.



Crankcase ventilator—white lines show movement of air and fumes in and out of the crankcase.

The Packard Crankcase Ventilator, used on all Packard engines, was designed to perform this service efficiently. Gases and water vapor are withdrawn from the crankcase through an outlet pipe at the rear of the engine by a vacuum produced in this pipe by the forward movement of

the car. At the same time clean air is drawn into the crankcase through a copper mesh air cleaner on the oil filler pipe. The rotating crankshaft also acts as a fan to help expel the injurious gases. There are no moving parts in the crankcase ventilator and it is efficient and silent in operation.

Advantages:

1. Injurious gases and water vapor removed from the crankcase.
2. Bearings, cylinder walls and pistons protected.
3. Clean air only introduced into the crankcase.
4. Simple, positive and silent in operation.

FUEL SYSTEM

Fuel Tank—The gasoline tanks in the Packard One-Ten, One-Twenty, One-Sixty and One-Eighty differ only in size. There is a sump at the bottom to accumulate any dirt or water in the fuel before it can reach the pump and carburetor. A vent pipe built into the filler neck releases air from the tank while it is being filled thus preventing air pockets and avoiding the danger of overflowing the tank.

Fuel Lines—The fuel line from gasoline tank to fuel pump is of rolled steel tubing and is mounted on the outside of the frame farthest from the exhaust. This location not only protects it from flying stones, but also provides continuous air cooling, thus reducing the possibility of vapor lock. Flexible tubing between the frame and pump prevents breakage from engine movement.

Fuel Pump—The Packard fuel pump used on all Packard engines for 1940 is mounted low down on the engine block where it is removed from the hot exhaust manifold and exposed to the cooling windstream from the fan. It has a built-in filter and is directly driven by an arm actuated by the camshaft. It is, therefore, in oper-

ation as soon as the engine turns over and at all speeds supplies fuel to the carburetor at constant pressure.

Advantages:

1. Pump assures positive supply of fuel to carburetor.
2. Integral filter traps water and sediment from gasoline.
3. Location of pump tends to prevent "vapor lock."
4. Location of fuel line reduces danger of "vapor lock."

Packard One-Sixty Vacuum Pump—On the Packard One-Sixty engine, a vacuum pump mounted integral with the fuel pump supplies extra vacuum to that taken from the intake manifold to operate the windshield wipers. This is an important safety factor, for it assures constant windshield wiper speed in spite of varying engine speeds and loads. (See electrical system for description of windshield wipers on the Packard One-Ten and One-Twenty.)

Advantages:

1. Uniform windshield wiper speed an important safety factor.

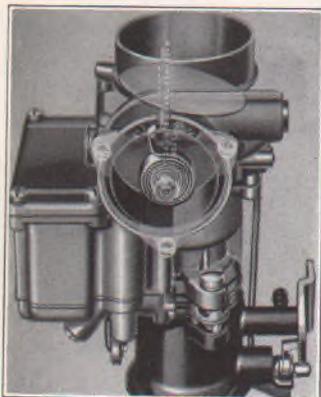
Carburetor—The new Packard One-Ten, One-Twenty and One-Sixty are all equipped with down-draft plain tube carburetors. That of the Packard One-Ten is a single barrel carburetor while the Packard One-Twenty and One-Sixty are equipped with duplex carburetors. All Packard carburetors have a fixed main metering orifice and mechanically controlled economizer valve.

Advantages:

1. Easy starting and fast acceleration.
2. Equalized distribution of fuel to all cylinders.
3. Only one manual adjustment.

Automatic Choke—The automatic choke with which each of the three Packard engines is equipped, performs

with much greater efficiency than the manual type which must be operated by the driver. All the uncertainty, nuisance and inefficiency of manual choking is eliminated. Being built as part of the carburetor itself, the automatic



Automatic choke assures quick, easy starts and more efficient operation.

choke operates in exact and instantaneous accordance with manifold temperatures. The choke valve in the carburetor is controlled by manifold vacuum and a bi-metal thermostat in the carburetor. When the engine is started cold, the valve is closed, reducing the air supply and thus enriching the fuel mixture. As the motor warms up the thermostat gradually opens the valve until the engine temperature reaches normal for best operation.

Advantages:

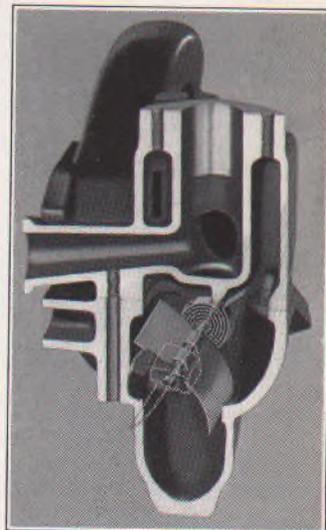
1. Provides correct fuel mixture for all engine operating temperatures.
2. Prevents waste of gasoline and dilution of oil from over choking.
3. Eliminates bother and uncertainty of manual choking.

Automatic Fast Idle—Operating in conjunction with the automatic choke, a special low temperature idling mechanism linked with the throttle increases the idling speed when the motor is cold, thus preventing stalling. When the engine reaches the proper operating temperature, the throttle is closed and the engine runs at normal idling speed.

Advantages:

1. Prevents stalling.
2. Simplifies driving.

Thermostatic Heat Control—Still another feature is incorporated in the engines of the Packard One-Ten, One-Twenty and One-Sixty to provide *immediate* satisfactory performance in cold weather. Automatic Manifold Heat control—thermostatically operated—diverts the hot exhaust gases and causes them to pass around the central portion of the intake manifold when the engine is cold. Thus the fuel mixture is vaporized more completely before it enters the combustion chambers and more efficient combustion results. As the engine warms up the thermostat gradually releases the tension and the exhaust passes out directly to the muffler. Thus a quick warm-up is effected under all weather conditions.



Automatic manifold heat control provides a quick warm-up and efficient operation when the engine is cold.

Advantages:

1. Smooth performance from a cold motor.
2. Less choking required.
3. Possibility of crankcase dilution minimized.

Air Cleaner and Silencer—A combination intake silencer, air cleaner and flame arrester is provided. This air cleaner traps harmful road dust or other foreign matter by

passing it through an oil wetted copper mesh before it reaches the carburetor. It also neutralizes the sound of the inrush of air and at the same time serves as a flame arrester in case of backfire. There are no moving parts in the whole device to wear and no service required other than cleaning at 5,000-mile intervals (oftener in dust areas).

Advantages:

1. Large capacity of air cleaner assures abundant supply of clean air.
2. Silencer enhances quiet operation of the motor.

Exhaust Muffler—Packard exhaust mufflers are of single unit construction scientifically designed to conduct the burned gases and heat from the motor as rapidly as possible. Exhaust gases pass through a single perforated



The long, single unit muffler effectively silences exhaust noise with a minimum of back pressure.

tube surrounded by a series of resonators or sound neutralizing chambers. Back pressure is reduced yet exhaust noise effectively silenced. Flexible mounting brackets on the frame insulate the passage of noise from the muffler to the frame.

Advantages:

1. Exhaust noise absorbed.
2. Free passage of exhaust gases—back pressure reduced.
3. Muffler noise insulated from frame and body.

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COOLING SYSTEM

The Packard cooling system is simple and efficient. It embodies a combination of features which provides cooling efficiency under all circumstances—low as well as high speed driving—without loss of power. Engine heat is dissipated rapidly, the effectiveness of the lubricating oil is maintained and the life of all engine parts definitely prolonged. In cold weather driving the thermostatically controlled recirculating feature of all models quickly brings the engine to normal operating temperature for most efficient operation. Auxiliary grilled openings on each side of the radiator apron provide additional frontal area for the admittance of cooling air to the radiator core.

Radiator—The radiator core for each Packard model is of high efficiency design and is fabricated from copper and brass. Oversize connections provide free flow of the cooling water and the drain valve is conveniently located at the forward lower side of the lower tank.

Radiator Mounting—The radiator core and front fenders of all Packard models are mounted independently of the frame in a metal cradle which in turn is mounted on a cushioned support on the front cross member of the frame. Thus movement of the frame has no effect on these parts because frame movement rotates about the center point rubber mounting of the cradle. Annoying front end vibration is minimized and the radiator core is relieved of all stresses tending to produce leaks.

Advantages:

1. Radiator core protected from twisting strains.
2. Front end vibration minimized.

Radiator Grille—The radiator grilles of the Packard One-Ten, One-Twenty, One-Sixty and One-Eighty are all characteristically Packard in design. In the Packard One-Ten and One-Twenty the main grille is fixed with

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heavy chrome plated stamped steel bars set into a bright frame. In case of partial damage to the grille it is not necessary to buy an entire new unit as is compulsory with the die cast grilles generally used which cannot be repaired. As already stated, auxiliary openings with matching grilles are located in the radiator aprons on each side of the main grille.

Thermostatic Water Temperature Control—

Water temperature in both the Packard One-Ten and One-Twenty is thermostatically controlled to maintain balanced operating conditions regardless of weather temperatures and to assist in a quick engine warm-up in cold weather. With the engine quickly brought to an efficient operating temperature, fuel is saved and maximum car heater efficiency provided.



This cylinder head water thermostatic valve assures a quicker warm-up and greater efficiency in a cold engine.

Advantages:

1. Balanced engine operating conditions in spite of weather temperature.
2. Quick warm-up in cold weather.

A thermostatic valve in the cylinder head water outlet automatically closes when the engine is cold and prevents circulation of the water to the radiator core. A passage in this valve allows recirculation of the water within the engine itself until the heat quickly raises the water temperature to normal. Then the valve gradually opens and permits the water to circulate through the radiator for normal distribution by the water pump.

Thermostatically Controlled Radiator Shutters—

On the new Packard One-Sixty and One-Eighty thermostatically controlled radiator shutters are used. A thermostat built into the top of the radiator operates these shutters in accordance with engine temperature. When the engine is cold the shutters remain closed. As the engine begins to warm up they are gradually opened so as to permit just the right amount of cool air to pass through the radiator core to maintain an efficient engine temperature. The cold engine warms up quickly because cold air is excluded from the radiator, yet the radiator functions perfectly when the engine is warm because the shutters offer practically no resistance to the free entry of air.



The Packard One-Sixty and One-Eighty are also equipped with a thermostatic water temperature control in the cylinder head water outlet. Super-8 One-Sixty and One-Eighty radiator shutters are operated by this thermostat.

Advantages:

1. Efficient engine temperature provided accurately and automatically.
2. Quick warm-up of cold engine.
3. Correct cooling at all temperatures.

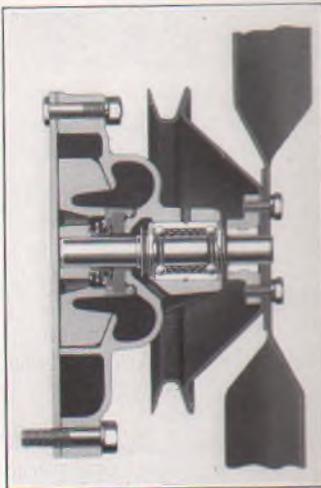
Neutro-Tuned Fan—The big, four-bladed 18-inch (One-Sixty—18½") fans used in the Packard line of engines are driven by a V-belt from a pulley on the crankshaft. Belt tension is regulated by adjusting the generator. Because of their large size Packard fans operate at slow

speeds yet with full efficiency. Blades are unequally spaced so that fan and engine sounds blend and are neutralized.

Advantages:

1. Large fan operating at lower speed provides adequate cooling.
2. Unequal spacing of fan blades neutralizes fan and motor noise.

Water Pump—The water pump carrying the fan is unusual and exceptionally efficient. It has a large capacity—36 gallons per minute at 40 miles per hour. The pump shaft is short and is carried on double row ball bearings. It is self-adjusting and requires no attention for packing. The design makes it possible to seal in lubricant at the factory.



The ball bearing water pump is permanently packed and lubricated.

Advantages:

1. Ball bearings assure long water pump life.
2. Water pump requires no attention for packing or greasing.

Fan-Blast Cooling Tunnels—Special cooling tunnels built into the side walls of the engine compartment under the fenders permit a much more rapid discharge of air from the ends of the fan blades. Thus the

capacity of the fan is increased and a greater inrush of cool air through the radiator core effects better cooling results.

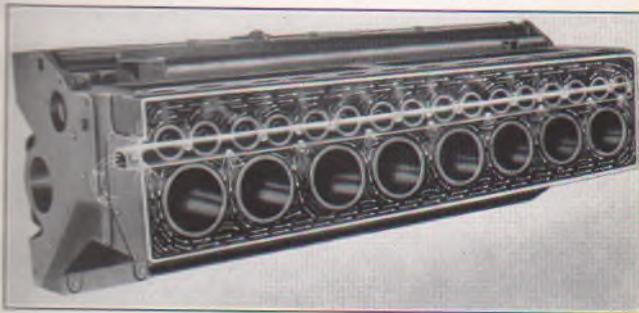
Advantages:

1. Increased fan capacity.
2. Better, more efficient cooling.



Separated Cylinder Barrels—Unlike many motor car engines now manufactured, Packard engines—One-Ten, One-Twenty and One-Sixty—have separated cylinder barrels, that is, each cylinder is completely surrounded by cooling water. Some motor builders still cast cylinders

Fan-Blast cooling tunnels under the fenders increase cooling efficiency.



All cylinders are completely separated and surrounded by cooling water. A built-in tube carries water to each valve chamber.

in pairs with a wall of cast iron joining them. This extra thickness of metal at one point in the cylinder wall not only affects expansion of the wall as the engine warms up but makes it practically impossible to maintain bores that

are truly round. In Packard engines the long water jackets completely surrounding each cylinder assure round cylinders, close fitting pistons and a low temperature of the engine oil.

Advantages:

1. Efficient uniform cooling.
2. Less distortion from uneven cooling.
3. Better cooling of engine oil.

Water Distributing Tube—In combination with the long water jackets which completely surround each cylinder of the Packard engines, a special water distributing tube in the cylinder block carries cooling water directly from the pump to the extreme rear of the engine and sprays it equally through orifices in the tube to all valve seats and around each cylinder. Thus all cylinders and valves are effectively cooled, insuring long valve life and infrequent service attention.

Advantages:

1. All cylinders cooled uniformly.
2. Long valve life.

ELECTRICAL SYSTEM

Ample capacity is designed and built into the electrical system of each Packard motor to successfully meet the four major demands: 1. Dependability of operation. 2. Safety in night driving. 3. Quick, positive starting. 4. Ample current for all electrical accessories.

Battery—Big batteries providing ample capacity for all these electrical demands are provided for the Packard One-Ten, One-Twenty and One-Sixty. In all cars the battery is conveniently located under the front seat where ample cooling is provided and where it may be kept safe by locking the car doors. The Packard One-Ten battery has 15 plates and 95 ampere hour capacity—the Packard One-Twenty

and One-Sixty each has a battery with 17 plates and 114 ampere hour capacity.

Advantages:

1. Ample capacity for all electrical equipment.
2. Conveniently located for service.
3. Can be kept safe under lock and key.

Generator—To meet today's conditions and supply ample power for all electrical demands, Packard supplies new larger generators for all engine models with greater



A new larger generator develops extra power.

output capacity. All Packard generators have a current output of 35 amperes at 8 volts and are air cooled by means of an inbuilt suction fan. Naturally, the volume of air passing through the generator varies directly with engine speed so that cooling is always correctly proportioned.

All Packard generators are shunt wound with externally controlled voltage and amperage control. When power has been used from the battery in starting the engine, the generator delivers current at a high rate until the battery is fully charged. Then the output is cut down automatically. However, at all times full voltage is maintained for ignition, lights and accessories. Thus with output controlled in direct relation to current requirements, over-charging of the battery is prevented.

Advantages:

1. Ample power output for all electrical requirements.
2. Air cooling permits higher charging rate.
3. Electrical output of generator automatically controlled.
4. Overcharging of battery prevented.

Starter Motor—Big, powerful starter motors with ample ability to turn the motor over lively even in the coldest weather assure quick, easy starting of each Packard engine. All three use the Bendix automatic engagement between starter and flywheel. The starter button is conveniently located on the instrument panel.

Advantages:

1. Quick dependable starting in any weather.
2. Convenient button control simplifies starting.

Distributor—The distributors of all Packard engines are specially designed with a rigid type of drive which reduces "hunting" or fluctuations of the spark. Thus any tendency to detonation is reduced and accurate timing assured at all times.

On the new One-Sixty engine vacuum spark control as well as a mechanical governor is used. Under normal conditions the spark is advanced mechanically as speed increases. The operation of the vacuum spark control, on the other hand, is entirely dependent on engine load. During sudden acceleration or on a heavy pull the vacuum in an engine decreases. This decrease in vacuum is used to retard the spark by means of a diaphragm and carefully calibrated spring. When the load on the engine becomes lighter the vacuum in the engine again operates the diaphragm and spring and advances the spark to the point of greatest efficiency.

Advantages:

1. Spark knock tendency reduced.

Fuel Compensator—Because of the differing octane ratings of the various grades of gasoline now on the market, Packard engines—all three—are equipped with manually operated fuel compensators. These devices, built in combination with the distributor, permit the owner to advance or retard the spark to suit the octane rating of the

fuel and so enable the engine to develop maximum power without knocking.

Advantages:

1. Ignition may be advanced or retarded to suit fuel.
2. Engine operates efficiently without knock.

Windshield Wipers—The new Packard One-Ten and One-Twenty are equipped with electrically-operated, constant-speed windshield wipers. The linkage mechanism of these new wipers is similar to that used with the conventional vacuum type but power for their operation is supplied by an electric motor. Many cars depend on the vacuum in the intake manifold for power and this, of course, varies with the speed and load of the engine. Consequently, wiper speed decreases very often at times when wipers are most needed. Engine speed has no effect whatever on the new Packard electrical windshield wipers. Windshield wipers on the Packard One-Sixty and One-Eighty are operated at constant speed



Electrical windshield wipers on the new One-Ten and One-Twenty operate at uniform speed under all conditions.

operated at constant speed by a special vacuum pump. See Packard One-Sixty vacuum pump on page 115.

Advantages:

1. Uniform windshield wiper speed.

Headlighting—The Packard headlighting system is entirely new this year. It is much simpler for the driver to operate—there are fewer positions on the headlight switch yet lighting flexibility is retained in full measure.

As a matter of fact, the whole headlighting system has

been revolutionized. Light bulbs are different, manual operation is different, headlight aiming is different.

In this new Packard headlighting system, known as "Sealed Beam," the reflector, the filaments and the lens are all assembled in one securely sealed unit. Two types of "Sealed Beam" headlamp units are used. One is a composite unit consisting of a metal reflector and a glass lens and is used in the new Packard One-Ten. The other type, used in the new Packard One-Twenty, Super-8 One-Sixty and Custom Super-8 One-Eighty is made entirely of glass. Both types are interchangeable from the standpoint of electrical connections, beam patterns and physical dimensions.

No dust or moisture can get inside of the "Sealed Beam" headlamp unit because the reflector and lens are sealed together permanently. This feature eliminates cleaning except for wiping the outside of the lens and provides proper focusing and maximum light efficiency throughout the life of the lamp.

When a filament finally burns out or a lens breaks, the entire unit is discarded and a new one installed, thereby assuring maximum lighting efficiency throughout the entire life of the car. The cost of these replacements is balanced by providing them with a longer filament service life than has been possible in previous headlamp bulbs. In general the cost per mile should not be any greater than that of past equipment properly maintained.

The driver has only two positions on his headlight switch. When pulled out to the first notch, parking lights and tail light are lighted. Pulled out to the second notch, he has the full power of the brilliant, far reaching headlights. When he steps on the light control button on the floor to the left of the clutch pedal, the beams of both headlights are depressed and moved to the right. Thus a long range, high speed driving beam of 60,000 maximum beam candle-power is provided and at the touch of the toe a perfect passing beam, courteous to the approaching driver

is available. And, remember this passing beam is practically as brilliant on the road surface as the full driving light. For city driving the passing beam is also used providing perfect and brilliant illumination.

Permanently bright headlighting is provided by these new headlights because reflectors can not grow dim from exposure to air and moisture. They are as easily replaced as a conventional bulb and will maintain their maximum efficiency very much longer.

A red tell-tale signal light in the speedometer dial tells the driver whether full driving beam or passing beam is being used. Instruments are illuminated at night by indirect lighting of the dials and the degree of illumination is controlled by a rheostat switch in the panel. In addition two reading or map lights illuminate the ignition key switch and the whole front compartment.

Advantages:

1. Simple to operate.
2. Permanently brilliant.
3. Perfect flexibility of headlighting.
4. Longer life.

Light Bulbs—Headlight bulbs are of the Sealed Beam type rated at 60,000 beam candle-power. Tail light and stoplight bulbs are double filament type of 3 and 21 candle-power, respectively. Instrument panel bulbs are 1½ candle-power. Parking light bulbs are 1½ candle-power and dome light bulbs are 6 candle-power. Trunk light on the Packard One-Sixty and One-Eighty are 1½ candle-power.

Horns—All new Packard cars are equipped with dual horns at the factory as standard equipment. They have blended tones which make them a pleasing but at the same time an effective signal. They are mounted on top of the engine at the rear.

Dual Protected Electrical Circuits—The electrical systems of all Packards for 1940 have dual protection from

overloads. Instead of using fuses to protect the headlighting system, Packard equips its cars with a circuit breaker or automatic switch. The tail lights also are protected by this circuit breaker for they operate in conjunction with the front lights. In case of current overload, the heat generated opens the circuit. Then, when the temperature returns to normal the breaker automatically closes again. In cars where fuses are used in the headlight system and the fuse is blown, all lights are out until a new fuse is installed.

However, as already stated, dual protection is afforded because Packard uses fuses as well as circuit breakers. The tail light and instrument panel lights are protected by an instantaneous acting fuse. Thus if anything should happen to the tail light the instrument panel lights go out immediately and the driver has positive warning. The cigar lighter has a separate fuse.

Advantages:

1. Automatic protection.
2. Greater safety for night driving.
3. Dual protection of tail lights.

Ignition Coil—The ignition coil is located at the top of the motor and is connected to the ignition switch by an armored cable. When the switch is in the "off" position, the circuit is broken through the coils, grounding them, and making it impossible to wire around the switch and start the motor. Because the coil is mounted on the engine, a close coupled wiring arrangement is provided assuring high efficiency for the ignition system.

Advantages:

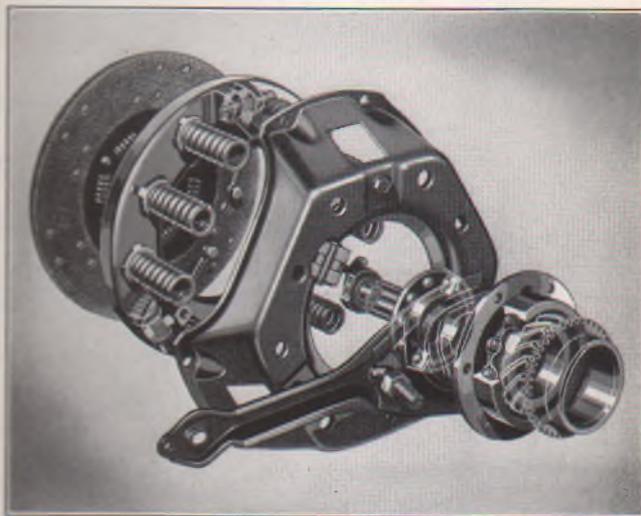
1. Impossible to start motor by wiring around ignition switch.
2. Close coupled arrangement assures efficient ignition system.

SEMI-CENTRIFUGAL CLUTCH

The design of the clutch is important. It is one of the

car units most frequently used by the driver and must be soft and light in pedal action as well as strong and sturdy to transmit power from the big Packard engine to the drive line.

The clutches with which the Packard One-Ten, One-Twenty and One-Sixty are equipped are all similar in design though each differs from the other in size, due to the difference in torque of the engines. All clutches are of the semi-centrifugal single dry plate type and are well ventilated to reduce operating temperature. The semi-centrifugal design increases pressure on the friction discs of the clutch as speed increases. Thus lighter springs can be used which



Bearings, pressure springs and centrifugal levers are shown in this cutaway clutch.

in turn mean lighter pedal pressure—an important consideration to all drivers—especially women.

Pressure springs cushion the engagement of the plates

giving smooth soft engagement and the ball release bearing is packed with lubricant for life, requiring no service attention. The Packard One-Ten clutch is 9½ inches in diameter with 6 pressure springs, the One-Twenty is 10 inches in diameter with 9 pressure springs and the One-Sixty is 11 inches in diameter with 9 pressure springs.

To assure utmost ease of operation, the Packard One-Sixty clutch is equipped with three extra roller bearings in the pedal and throw-out lever which reduces pedal effort to a minimum.

Clutch pedals on all 1940 Packard models (brake pedals also) are stamped from very heavy steel instead of being forged. So strong are these new pedals that any hazard of breakage is practically eliminated.

Advantages:

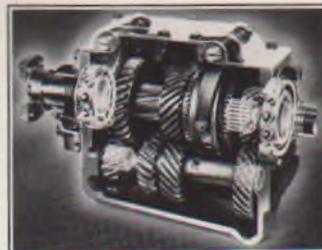
1. Centrifugal force utilized to increase pressure on discs.
2. Lighter springs reduce pedal effort.
3. Ventilation contributes to long life.
4. Pressure springs cushion clutch engagement.
5. New, stronger steel clutch pedal.
6. Three extra roller bearings in Packard One-Sixty pedal linkage.

TRANSMISSION

The transmissions of the new Packards for 1940 (all models) are all of the synchronizing type. They are smooth and quiet in operation, easy to shift without clashing and more durable than ever.

Helical gears are used in all forward speeds not only for quietness but for long gear life as well. Helical gears, as you know, have a greater tooth area in contact all the time than the less expensive spur gears. Therefore, they mesh more quietly and natural wear is distributed over a larger portion of the gear tooth.

Gear shifting is smooth, quick and easy for any driver because a synchronizing cone clutch inside the transmission brings the rotating gears to the same rate of rotation before the shift is made. The driver may shift from second to high or from high to second at any speed without clashing the gears—a real safety factor on steep grades, ice and snow.



The transmission features silent helical gears in all forward speeds.

All Packard transmission gears are hardened by the carburizing process—a process which imparts a glass-hard surface to the gears while the center portion retains its ductility for full strength. Ordinary hardening processes make the whole gear the same hardness all the way through. Consequently gears cannot be brought to the same degree of hardness because the center would be too brittle to stand the inevitable shocks and impact loads to which transmission gears are constantly subjected. Therefore, such gears are made softer for necessary strength and long life is sacrificed.

After being carburized all Packard gears are lapped to precision limits in special machines developed by Packard. They are then matched in sets before passing to the quiet room for inspection.

Advantages:

1. Helical gears assure smooth, quiet operation.
2. Helical gears have large contact area and last longer than spur gears.
3. All gears are carburized for long life.
4. Smooth, quiet gear shifting at any speed because of synchronizing clutch.

HANDISHIFT

This remote control gearshift lever—Handishift—located in a convenient position under the steering wheel is continued as standard for 1940 on all Packard models. No change in driving habits is required with Handishift, the driver has complete control of the shift at all times and he selects any gear wanted at will.



Handishift makes gear shifting easier and clears the front compartment floor of all levers.

It provides perfect control at all times as the driver can shift gears more easily and quickly and just as positively with the control lever at his finger tips just below the steering wheel.

Advantages:

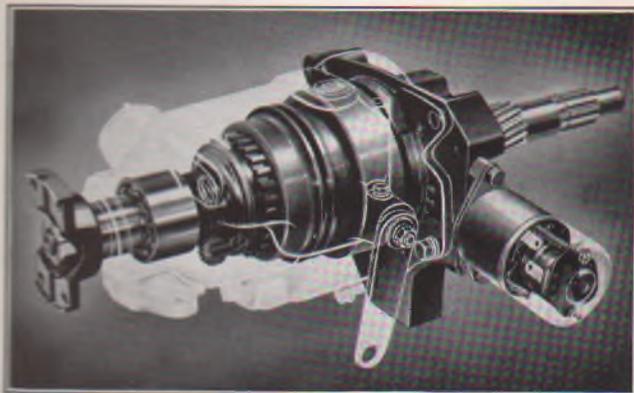
1. Clears the front compartment of levers and obstructions.
2. No new driving habits to learn.
3. Driver and passengers may enter and leave the front compartment from either side.
4. Greater convenience in gear shifting with lever right at the driver's finger tips.

ECONO-DRIVE

A new standard of operating economy—of smoothness—of cruising comfort and pleasure has been established

with the new improved Packard Econo-Drive Transmission available this year on the new 1940 Packard cars, at moderate extra cost. In a single step this modern feature makes possible a new measure of comfort, long life and economical operation.

Mounted at the rear of the standard transmission, the new Econo-Drive automatically provides a fourth speed or cruising ratio whenever desired—at car speeds over twenty-one miles per hour.



Packard Econo-Drive "cruising gear" transmission.

With the Econo-Drive transmission in operation there is a new smoothness and quietness. The engine speed is reduced 27.8% with real reductions in fuel and oil consumption and a corresponding increase in engine life. Through its use new standards of motor car comfort and economy are set—there are six important advantages:

1. Important improvement in gasoline economy when Econo-Drive is being used.
2. Material savings in oil consumption at higher driving speeds.
3. Longer engine life because R.P.M. reduced 27.8%.

4. Better acceleration and hill climbing because Econo-Drive permits the use of a higher gear ratio.
5. Greater engine smoothness, quietness and comfort for passengers.
6. Reduced gear shifting—low speed gear used less frequently—less gear shifting in traffic.

Automatic in Operation—The new Packard Econo-Drive is automatic in its operation, requiring no additional physical effort on the part of the driver other than the regular functions of car operation with which he is familiar.

When the car has been started and gear changes made so that it is running in high gear, it remains in this gear until a speed of approximately twenty-one miles an hour has been attained. At this speed, if the driver wishes to cruise in Econo-Drive, releasing the accelerator brings Econo-Drive into operation and immediately engine speed is reduced 27.8% while car speed remains unchanged.

A new feature of the 1940 Packard Econo-Drive and one of marked convenience to the driver is a small red signal light located in the rheostat light control switch on the instrument panel. When a car speed of twenty-one miles per hour has been reached this signal lights up and remains lit until the change into Econo-Drive gear has been made. Thus the driver is reminded to use Econo-Drive whenever practical and so enjoy the smoothness, quietness and economy it provides.



A conspicuous red light signals the driver when Econo-Drive should be used.

An added feature of the new Packard Econo-Drive is the ability to shift from Econo-Drive back to 3rd speed automatically and in-

stantaneously when extra power for quick acceleration is required for passing cars, climbing hills, etc. This operation is just as simple as when Econo-Drive is engaged. The accelerator pedal is depressed slightly beyond the full throttle position to make this shift. The car is then in conventional drive and extra power and acceleration are available. The full range of accelerator control may be had without returning to Econo-Drive. When Econo-Drive again is desired it is only necessary to fully release the accelerator.

An important advantage of this design is that Econo-Drive is released with automatic return to third gear in slowing down when speeds below 17 M.P.H. are reached. In coasting down with the accelerator released Econo-Drive remains engaged to a speed of approximately 17 M.P.H. If the accelerator is depressed at speeds below 17 M.P.H. the conventional 3rd gear is automatically brought into action. This always insures satisfactory acceleration at these lower driving speeds.

Econo-Drive may be locked in or out of operation by moving a control knob located just below the instrument panel. The knob should be in the "in" position for general driving conditions. This makes Econo-Drive operative when desired.



Econo-Drive control knob is located under the instrument panel.

The only directions necessary for locking Econo-Drive "in" or "out" of operation are as follows:

1. Push knob in for Econo-Drive operation.
2. Pull knob fully out for direct drive operation.
3. Depress clutch pedal before operating the lock-out knob.

WHAT PACKARD ECONO-DRIVE ACCOMPLISHES

Gasoline Economy—Because the Packard Econo-Drive Transmission reduces engine revolutions 27.8% whenever it is in operation, the first and most important result is greater fuel economy. Gas economy is increased up to 20% depending upon driving conditions. This proves logical when a comparison of the number of engine revolutions per mile with and without Econo-Drive is made. For example, the engine in a car with a 4.55 rear axle ratio would revolve 3331 times in traveling a mile, whereas with the Econo-Drive the engine revolves only 2405 times in traveling the same distance. It will be obvious that this reduced number of engine revolutions will result in a substantial saving in fuel required.

Oil Economy—The 27.8% reduction in engine speed accomplished by Packard Econo-Drive not only effects material savings in gasoline but reduces oil consumption as well. It is a well-known fact in automobile circles that oil consumption increases very rapidly in any engine as car speed increases. The Econo-Drive transmission by reducing engine revolutions at high car speeds reduces this oil waste as well as carbon deposits.

Engine Life—Engine speed has a very important bearing on engine life. At high speed the wear and stress on engine parts is many times greater than at the lower speeds because the internal friction, bearing loads and heat developed in every engine increase rapidly as engine speed increases. For example, doubling the car speed quadruples engine bearing loads. Naturally, then, an engine run at low speeds will last much longer than a similar engine operated at high speed.

Performance—The Packard Econo-Drive automatically provides an additional ratio that can be used to advantage for rapid acceleration or hill climbing. When

accelerating from low speeds in 3rd gear, the car can be kept in conventional drive so long as the accelerator is not completely released. Thus car speed can be increased rapidly and when the desired speed is attained a momentary release of the accelerator automatically shifts to Econo-Drive. The change down from Econo-Drive to third speed when desired can be made just as quickly by depressing the accelerator momentarily slightly beyond the full throttle position.

Smoother Operation—There's a new thrill to driving a 1940 Packard car with new automatic Econo-Drive transmission. At all speeds over twenty-one miles an hour there is a new smoothness—a new quietness. The nervous tension usually associated with high speed driving disappears because the engine operates so much more slowly and quietly. Even long trips at sustained high speed are not fatiguing.

Chassis

Mech. Specifications

Packard Custom Cars

Service & Accessories

Engines

Transmission

Body and Paint

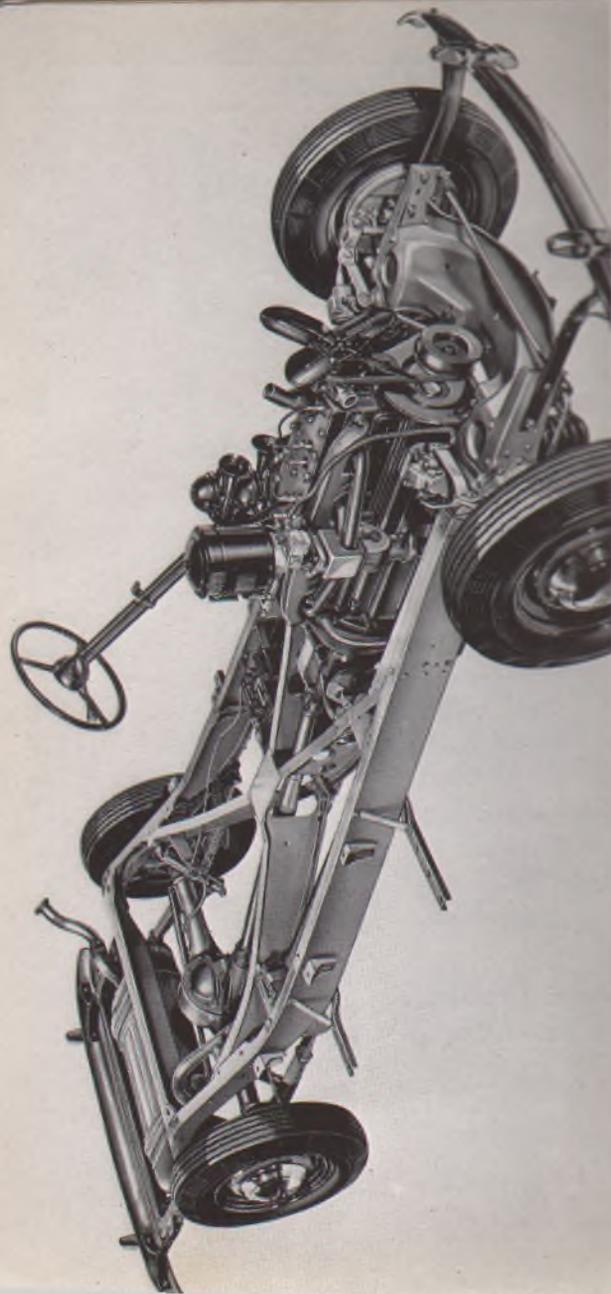
Electrical System

Other Components

PACKARD CHASSIS

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Chassis



The 1940 Packard One-Twenty chassis—127 inch wheelbase.

CHASSIS

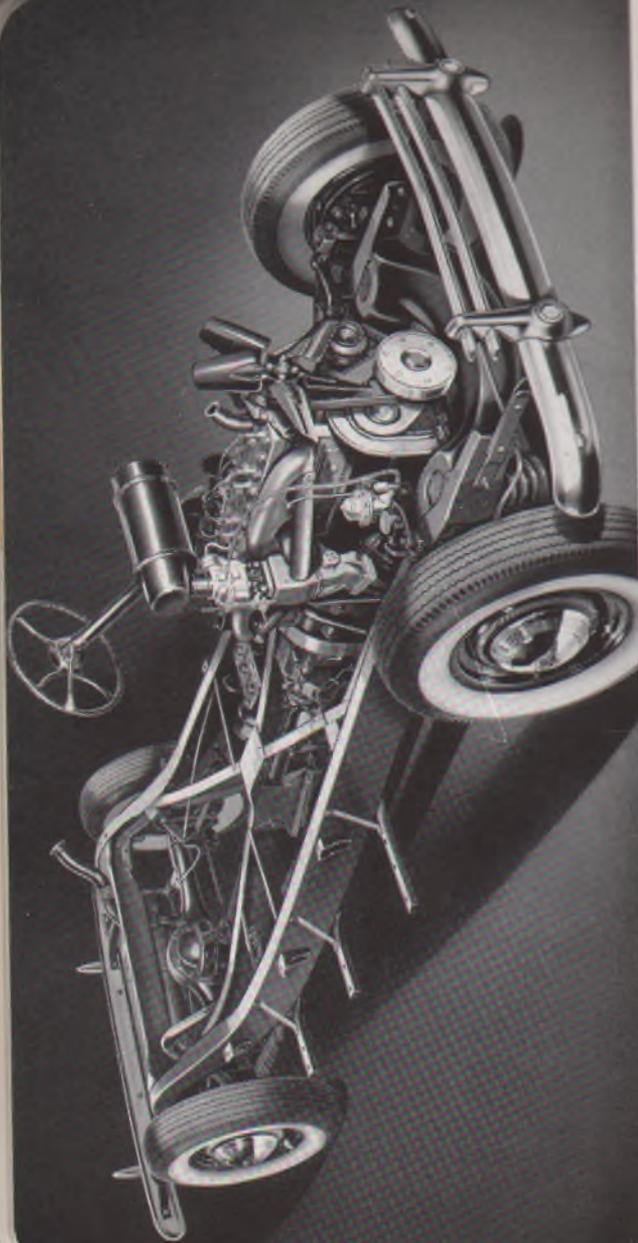
WHEN WE TURN to the chassis of the new Packard cars for 1940, we find a remarkable combination of advanced engineering features. All that was designed into previous Packard cars which made them outstanding in every wanted feature of an automobile has been retained, and improved new developments and new refinements have been incorporated which raise to a new higher standard, the safety, the strength, the durability, and riding comfort of these splendid chassis.

From bumper to bumper each new Packard chassis is a balanced unit featuring not simply one or two advanced engineering developments but a combination of many special features—each of which contributes its individual part to the perfectly balanced whole. Special attention has been given to designing every part so that each co-ordinates to obtain the maximum in durability, long life, easy handling, comfort, quietness, and safety.

Some of the features of these new Packard chassis will be difficult to describe in words and pictures, yet their contribution to the satisfaction of the owner and his pleasure in Packard ownership is extremely important. The soft, level Packard ride is an example. No words or pictures can adequately describe this ride sensation—it must be experienced. Of course, we tell you about the unusual and advanced engineering features developed by Packard engineering to effect this marvelous ride—and we tell you just how they operate to produce it. But only when you have actually driven over a road in your own community which you know to be really rough will you realize what Packard has done in producing riding comfort.

And, so with performance, smoothness and quietness—only a ride—not just a short one for a few blocks or a couple of miles, but a real test ride, will convince you of

Mech. Specifications
Packard Custom Car
Series & Features



The new Packard Super-8 One-Eighty chassis—127-inch wheelbase.

the real motoring satisfaction and enjoyment these new Packard cars offer. A demonstration is better than a thousand words.

Wheelbase and Over-all Length—The new chassis of the Packard One-Ten, One-Twenty, Super-8 One-Sixty and Custom Super-8 One-Eighty are similar in many points and incorporate many of the same engineering features. Naturally, they differ in size, in wheelbase and over-all length. In each model and wheelbase as shown in the following table, note particularly the long wheelbase in comparison to over-all length. This means, of course, less overhang in the front and rear, and this is directly reflected in superior riding qualities, better maneuverability and fine appearance.

Model	Wheelbase	Over-all Length	
		With Trunk	Rack Without
One-Ten	122"	200- ⁹ / ₁₆ "	196- ³ / ₈ "
One-Twenty	127"	205- ⁷ / ₁₆ "	200- ⁵ / ₈ "
One-Sixty	127"	205- ⁷ / ₁₆ "	200- ⁵ / ₈ "
	138"	217- ³ / ₃₂ "	212- ¹³ / ₃₂ "
One-Eighty	148"	226- ⁷ / ₈ "	222- ¹ / ₄ "
	127"	205- ⁷ / ₁₆ "	200- ⁵ / ₈ "
	138"	217- ³ / ₃₂ "	226- ⁷ / ₈ "

Frame—The rugged frames of all 1940 Packard chassis are noted not only for their strength but also for the rigidity which makes them solid foundations for the car construction. As you know, the structural rigidity of a frame is one of the most important characteristics of a passenger car and the Packard frame with its greater side rail depth and its I-beam X-member has been tested and proved in millions of miles of satisfactory service in the hands of owners.

The frames of all models—One-Ten, One-Twenty, One-Sixty and One-Eighty—are both welded and riveted into one rigid unit of tremendous torsional strength. Tapered I-beams are used in fabricating the central X-member instead of the usual channel-steel, because engineering tests



The Packard tapered I-beam frame—insert, front side rail box section.

have definitely proved greater structural rigidity. Packard was one of the first to use tapered I-beam X-member construction and it is used in all Packard frames.

In the Packard type of frame the beams of the X-member taper in depth from nine inches at the deepest point where they cross in the center to six inches at the side rail. This advanced type of construction distributes strains and twists more evenly, providing an extremely rigid frame and reducing to a minimum any tendency of the body to weave.

In addition to being stronger and more rigid because the legs of the X-member are tapered I-beam construction, the whole frame is further strengthened because the legs extend in practically straight lines and intersect at the point where road shocks are centralized.

Advantages:

1. Tapered I-beam girders in the X-member give greater strength and rigidity.
2. Because X-member legs are in practically straight lines, twisting strains are reduced and frame is stronger.

Front Cross Member—The front cross member of each Packard frame is a massive pressed steel plate 12 3/8 inches wide and 3 3/8 inches deep. It is welded and riveted to the frame side members and provides a sturdy foundation for both the front engine mounting and for the Packard Safe-T-flex front suspension.

Box-Section Side Members—Extending backward from the heavy front cross member along each side member to the forward ends of the X-member, are welded and riveted box section side rails. This modern type of frame construction provides maximum rigidity at the zone of greatest stress—forward of the body.

At the rear of the frame, angle braces at the top and bottom of both side rails reinforce the joints between side rails and intermediate rear cross member. These angle braces materially stiffen this vital part of the frame and prevent twisting strains in the body.

Still greater strength and stiffness are added to the frame by four special braces which connect the arms of the X-member with the side rails. Two cross members at the rear further strengthen the frame and afford solid support for the gasoline tank.

Advantages:

1. Extra strong front cross member gives secure foundation for engine and front wheel suspension.
2. Box section side members provide stronger section at points of greatest stress.
3. Reinforcing members stiffen X-member.

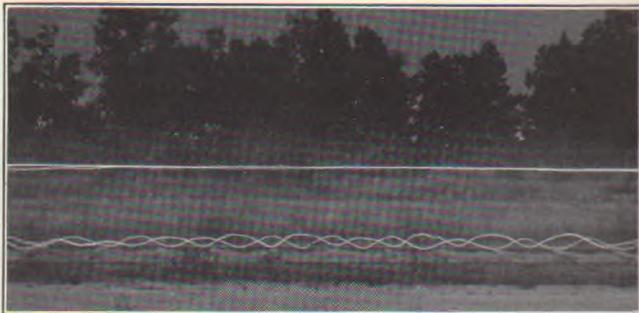
PACKARD SAFE-T-FLEX FRONT AND REAR WHEEL SUSPENSION

Again for 1940 the ride is one of the outstanding features with Packard. There never has been anything like it before. Smooth, soft, and level even over inferior roads it is a surprise to the most experienced driver. On the

boulevard these superb cars glide along with scarcely a tremor and even on poor macadam or broken concrete the ride is a revelation. Drive them over the roughest road you know of in your community and don't spare the speed.



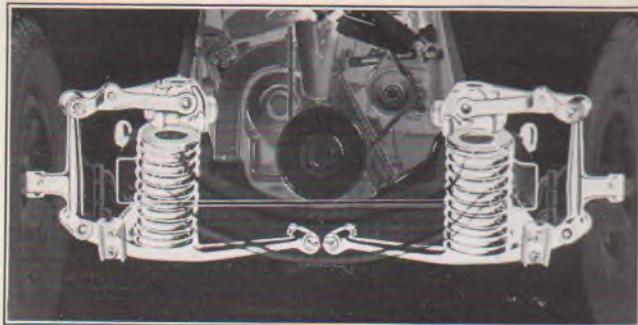
A Packard Super-8 One-Sixty five passenger sedan was equipped with four special lights—one on the front pillar post, one on the rear door post, one on the front wheel hub and one on the rear. The car was then driven at varying speeds over a roadway of widely spaced railroad ties. The test was extremely severe. A photographer was posted and as the car passed by he opened and held open his lens. The actual, unretouched photograph below was taken with the car traveling between twenty-five and thirty miles per hour. Notice the violent motion of the wheels as recorded by the camera and at the same time the level ride of the body. Similar tests with equally satisfactory results were made with One-Ten and One-Twenty.



Drive them, if you will, up the railroad track over the ties. We have, and, the railroad tie road we used was much worse than any you'll be able to find. Here are actual unretouched photographs of the test. Read the story. Next to an actual ride, it's the most convincing proof of the marvelous new Packard Safe-T-fleX ride.

The Packard ride is unique—exclusively Packard—the envy of the industry for no other car built embodies the same combination of wheel suspension features found in these brilliant new cars. The complete Packard Safe-T-fleX front and rear wheel suspension, first introduced in the 1938 models, astounded the industry. It was absolutely new, entirely different. It was improved in 1939 and again was exclusively Packard. Now for 1940 important new developments and new refinements co-operate with proven features to produce this new and even better ride sensation. We will describe and explain the mechanisms that produce it but we urge above all that you get behind the wheel of any 1940 Packard, whether it be the smart new One-Ten, the luxurious One-Twenty, the brilliant new Packard Super-8 One-Sixty or the superb Custom Super-8 One-Eighty, and actually experience the wonderful new ride sensation of 1940.

Safe-T-fleX Front Wheel Suspension—Presented to the motoring public some five years ago and proved in many millions of miles of highly satisfactory service in the hands of tens of thousands of owners, Packard famous Safe-T-fleX front wheel suspension has never been equalled on any count. It's similar to other designs on the market and yet it is radically different. Packard uses coil front springs and the front wheels are independently mounted but there the similarity ceases. And the differences are vital to riding comfort, to car control and to safety.



Packard Safe-T-fleX front wheel suspension—coil springs, upper lever, lower lever and vertical wheel supports are shown.

Packard Safe-T-fleX front suspension is practically free from the need for service attention and adjustment is unnecessary because wear on all parts is reduced to the absolute minimum.

Safe-T-fleX Construction—Each side of the Packard Safe-T-fleX front wheel suspension consists of five parts or assemblies.

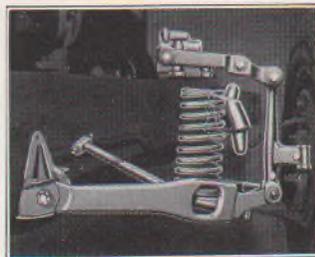
1. The lower lever and torque arm assembly.
2. The upper lever and shock absorber assembly.
3. The vertical wheel support.
4. The coil spring.
5. The rubber insulated bearings.

The Lower Lever and Torque Arm—This assembly consists of two parts—the support lever, hinged to the front frame cross member at the center and the torque arm, solidly attached to the support lever near its outer end and extending backwards almost parallel with the frame to a rubber cored mounting far back on the side member.

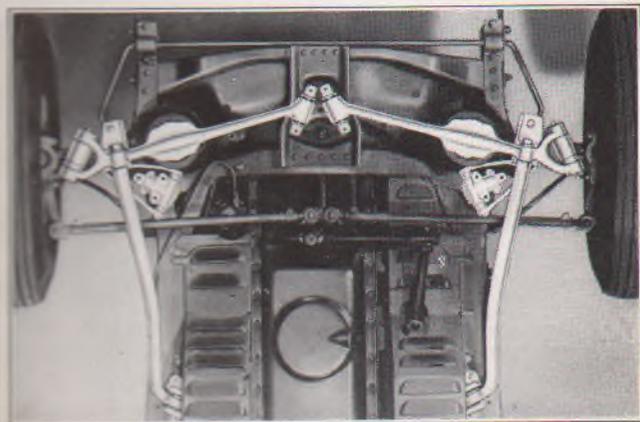
The support arm is a sturdy steel forging with an integral pad or platform which carries the lower end of the coil spring. A silent, oilless live rubber bearing is used at the end where it is hinged to the front frame cross member. At the opposite or outside end it is yoked by a ball and

two roller bearings to the vertical support which carries the front wheel.

The long, rugged torque arm used on the new Packard One-Ten, One-Twenty and the short wheelbase models (127") of the One-Sixty and One-Eighty is formed from heavy U section steel and is attached to the frame with a newly designed live rubber bearing which insulates from all metal-to-metal contact. In the longer wheelbase models (138" and 148") of the One-Sixty and Custom Super-8 One-Eighty the torque arm is of electrically welded steel and tubular in design. It is attached to the frame by a spherical bearing of live



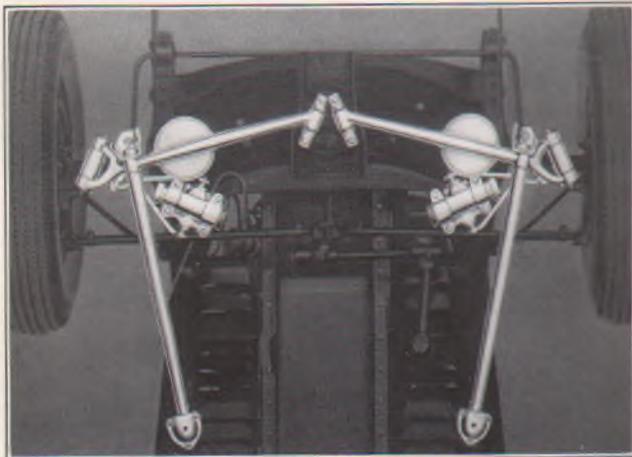
Long torque arm Packard Safe-T-fleX front wheel suspension One-Ten, One-Twenty and 127" One-Sixty and One-Eighty.



Worm's eye Packard One-Ten and One-Twenty front Safe-T-fleX.

rubber. Both types of torque arms are solidly bolted at practically right angles to the lower support lever.

Note the unusual length of the torque arm and the wide angle where the torque arm joins the support lever. Note, too, the wide distance which separates the rubber inner bearing of the front support lever and the rubber rear bearing of the torque arm. With such wide centers of



Packard front Safe-T-flex suspension—138" and 148" wheelbase models One-Sixty and One-Eighty.

support, variations in wheel alignment are eliminated. Unusual provision is also made for braking loads and for proper caster angle. This lower assembly then, takes the spring load, the driving load, the braking load and the major part of all other reactions.

The Upper Lever and Shock Absorber—The upper lever consists of double steel arms held together by a heavy bolt but slightly separated by a disc of friction material. This special design allows a controlled amount of movement between the two arms and serves to dampen

out vibration or harshness caused by certain road irregularities which otherwise would be observed in the ride.

At the outer end, these arms are attached to the vertical wheel support where movement is provided for by a rubber bushing. At the inner end the two arms are connected to the shock absorber. Substantial rubber bumpers limit vertical wheel travel in both directions.

Front Shock Absorbers—On all Packard models for 1940 front shock absorbers are of the latest double-acting type. On the One-Ten, One-Twenty and the 127" wheelbase of the One-Sixty and One-Eighty they are of the parallel cylinder type, while on the long wheelbase models of the One-Sixty and One-Eighty they are of the end-to-end discharge type. Both are quiet in operation and function efficiently under various weather conditions. Each is securely attached to the main frame by widely spaced bolts at a point where it is heavily reinforced.

Vertical Wheel Support—The rugged steel forging called the vertical wheel support carries the front wheel spindle and to it are yoked the upper and lower support assemblies. Because the major portion of the load is carried by the lower suspension lever, it is hinged to the vertical wheel support by a horizontal king pin mounted on two roller bearings and a ball thrust bearing which takes all braking and driving reactions. As already stated, the upper lever is connected through a rubber bushing which practically eliminates the transmission of shocks and noise.

Coil Springs and Rubber Bumpers—The large coil springs used in Packard Safe-T-flex front wheel suspension are exceptionally long and large in diameter. The upper end of each spring is seated in the front cross member of the frame in a pad of soft rubber and the lower end is carried on the integral pad designed into the lower support lever. A rubber bumper supplements the spring under extreme road conditions.

Rubber Bearings—Besides acting as bearings for Packard Safe-T-fleX front wheel suspension, the rubber bearings used in the upper and lower levers provide other important advantages. They are:

1. **Oilless**—never require lubrication.
2. **Wear-resisting**—There is no movement on the surface of the rubber to cause friction.
3. **Shock cushioning**—assist the springs to absorb shocks in direct proportion to the severity of the shocks.
4. **Silencing**—perfect noise insulation—no metal-to-metal contact.

When a wheel passes over a small road irregularity these rubber bearings offer practically no resistance to the movement of the front suspension. But for greater wheel movements their resistance builds up very rapidly. In other words these rubber bearings assist the springs in absorbing road shocks in direct proportion to the severity of the shocks. Therefore, more resilient springs can be used with Packard Safe-T-fleX than in other types of independent front wheel suspension which use metal bushings.

Advantages of Front Safe-T-fleX:

1. **Unexcelled riding comfort.**
2. **Greater safety with long, rugged torque arms.**
3. **Longer tire life.**
4. **Better steering because wheel alignment maintained.**
5. **Better braking—more brake load on front wheels.**
6. **Longer life and less service because of rubber bearings.**

Packard Safe-T-fleX front wheel suspension accomplishes more of those things desired by every motor car owner and it does them better, more safely and more economically. Not only is it simpler and more rugged in construction than other types but it gives a better ride on either good or bad roads and on curves it makes the car easier and safer to handle.

Packard Safe-T-fleX Rear Suspension—With the introduction of the 1938 Packard models, motorists experienced a new ride sensation. Never before had they known such smoothness—such luxurious comfort in any motor car. The new Packard Safe-T-fleX rear suspension operating in conjunction with the well-known Packard Safe-T-fleX front suspension was a revelation—an achievement of outstanding importance to the motoring public. In 1939 came improvements and refinements that set an even higher standard of riding ease.

With such a record in ride improvement already achieved it would seem to many that the ultimate in comfort had been reached. But Packard engineers continued to study, to test and try out new ideas. Now for 1940 come still other developments, still further refinements.

The changes and advantages designed into the Safe-T-fleX front suspension have already been described. In the rear, equally important progress has been made. Variations in shock absorber type and in suspension design to correspond with varying wheelbase length and car weights have been introduced. And the result? The gentlest, most comfortable ride that any Packard has ever given. More than ever before the soft, level Packard ride will be the joy of Packard owners and the envy of all others.

The rear suspensions of all Packard models are the same in principal and in most features as well. Therefore, we will describe those features which are used on all models first and follow with separate descriptions where differences occur.

Self-Controlling Rear Springs—The revolutionary and exclusive rear spring design which was instrumental in producing the now-famous Packard gentle ride, is again continued in 1940 but with improvements. Soft, flexible, and resilient these special springs incorporate all the advantages of leaf spring design without any of the disadvantages—all the advantages of coil springs with none of

their disadvantages. And equally important these exclusive Packard rear springs give just the correct degree of controlled resiliency to provide an ideal balance with the coil springs used in the Safe-T-fleX front suspension.



Left—frictionless rubber insert as used in two upper leaves. Right—low friction composition insert used between lower leaves.

For normal road conditions, all spring friction is eliminated except that provided by special low friction composition inserts which are necessary to take care of certain road and load conditions. Frictionless inserts of live rubber, retained in depressions at the spring leaf tips remove all spring friction. These are used at each end of the two longer leaves. In the remaining shorter leaves inserts of a special composition material are used which have a low static friction. These allow smooth movement of the spring leaves as the spring flexes and at the same time exert a damping effect which prevents excessive flexing and so relieves the shock absorbers of overwork. The number of rubber and composition inserts has been worked out scientifically to give the proper degree of controlled flexibility or softness to the spring. Another feature of this spring design brings the damping effect of the middle portion of the spring into action on extremely rough roads.

These Packard rear springs accomplish results never before attained in any type of spring—coil or leaf.

1. Permanent flexibility—

- No break-in period—unaffected by dirt—
- No change throughout their life.

2. No temperature effects—
No grease to freeze or become too thin.
3. Controlled ride flatness—
The composition inserts control slow spring movements and assure flatness of the ride.
4. Compensate for various loads—
The composition inserts compensate for increases in passenger loads carried by increased spring control as spring tip pressure increases.
5. Unaffected by water and dirt—
Because there is no metal to metal contact at the tips of the leaves, dirt, mud and water have no effect. Leaves are specially treated throughout their entire length to give a hard graphite surface.
6. Safe axle mounting—
Being securely anchored to the frame at both ends they afford complete safety. The axle is anchored to the frame at four points.
7. Noise reduction—
These rubber floated rear springs supplement the rubber cored spring brackets and shackles in suppressing high frequency vibrations originating at the tire and road.
8. Self-adjusting control—
Although static friction is very low under normal road conditions, a large measure of damping is brought into action in the center portion of the spring by extreme road conditions.

Actual experience in tens of thousands of miles of testing at the Packard Proving Grounds and millions of miles of travel in the hands of Packard owners, has proved that the rubber inserts will last the life of the car. There is no rubbing on the surface of the rubber, no friction—only movement of the molecules within the rubber itself. Naturally this movement keeps the rubber alive and makes it wear longer. There is nothing to cause it to harden or depreciate and grease and oil are never required.

Spring Brackets—The front ends of Packard springs have for many years been mounted in rubber held under tension in the brackets by which they are attached to the frame. This design permits perfect freedom of movement of the spring eye as the spring flexes in smoothing out road irregularities. At the same time it helps control the resili-

iciency of the spring and insulates the spring from the frame thus preventing the transfer of road noise to the frame and body. Of course, lubrication is never required and squeaks are prevented.

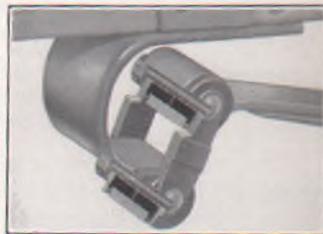
Advantages:

1. Perfect freedom of spring movement.
2. Road noises insulated from frame and body.
3. No lubrication—no squeaks—reduced wear.

Spring Shackles—In the design of the Packard rear spring shackle there is absolutely no metal-to-metal contact at any point between the spring and the gooseneck spring horn.

At both top and bottom of the shackle, rubber cores are used to insulate the spring eye and the eye of the gooseneck spring horn from the shackle bolt.

These rubber cores are so designed that when assembled and the side plates drawn up tight, flanges of rubber prevent any sidewise contact of metal-to-metal. Perfect freedom of movement of the spring is provided in the flow of the rubber itself. There is no surface friction.



Gooseneck mounting and rubber cored spring shackle.

The action of these rubber cores in both the spring brackets and spring shackles can be quickly understood if one simply grasps the index finger of the right hand with the whole left hand. It will be found that no matter how tightly the finger is held it is still possible to twist the bone inside. There is no surface friction on the skin. The movement takes place in the flesh. In other words, there is free movement without any surface friction.

Advantages:

1. No metal-to-metal contact between springs and frame.
2. No friction—reduced wear—no noise.
3. No need for lubrication.

Shock Absorbers—For 1940 Packard introduces in the new One-Ten, One-Twenty and the 127" wheelbase of the Super-8 One-Sixty and One-Eighty, a new type of rear shock absorbers. They are of the direct-acting or "airplane" type. Perfectly suited to the load carried and wheelbases of these models, these new "airplane" type shock absorbers provide smooth yet positive and quick acting control of spring movements that is most effective in producing a smooth level ride.

Packard One-Ten Shock Absorbers—In the Packard One-Ten these new shock absorbers are mounted in



Packard One-Ten rear suspension showing inverted V mounting of new direct-acting, airplane type shock absorbers.

what is known as an inverted "V," that is, the lower ends are attached to the axle just inside the brake drums while the upper ends are mounted nearer the center of the frame cross member. This style of mounting is often referred to as a "sea-leg" mounting and it effectively checks sidewise movement of the frame and body as well as controlling up and down axle movement.

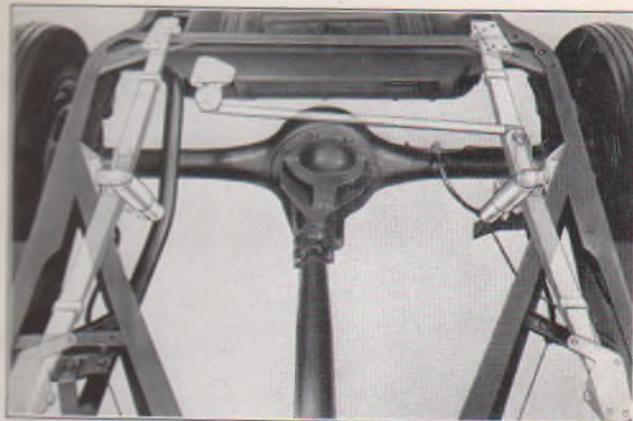
Because of this special shock absorber mounting and complete control of sidewise body movement, no lateral stabilizer or fifth shock absorber is necessary on the Packard One-Ten with its shorter wheelbase and lighter weight and it is practical to move the roll control bar to the front of the chassis where it can be useful in keeping the car on an even keel.

Advantages:

1. Full control of up and down movement of springs.
2. Controls sidewise movement of frame and body.

Packard One-Twenty, One-Sixty and One-Eighty Shock Absorbers—While the new Packard One-Twenty and 127" wheelbase models of the Packard Super-8 One-Sixty and Custom Super-8 One-Eighty are also equipped with the new direct-acting, airplane type shock absorbers in the rear, the method of mounting is different. Because of their longer wheelbase and greater car weight the shock absorbers on these new models are mounted parallel and slope forward from the axle to the frame. This mounting assures full control of the up and down movements of the springs and axle and provision for control of sidewise shocks is made in the lateral stabilizer and fifth shock absorber.

These new shock absorbers used on the new Packard One-Ten, One-Twenty and short wheelbase models of the One-Sixty and One-Eighty contribute importantly to the new soft, level ride provided. They control perfectly the



Packard One-Twenty and 127" wheelbase models of One-Sixty and One-Eighty rear suspension. Note inclined mounting of the direct-acting rear shock absorbers.

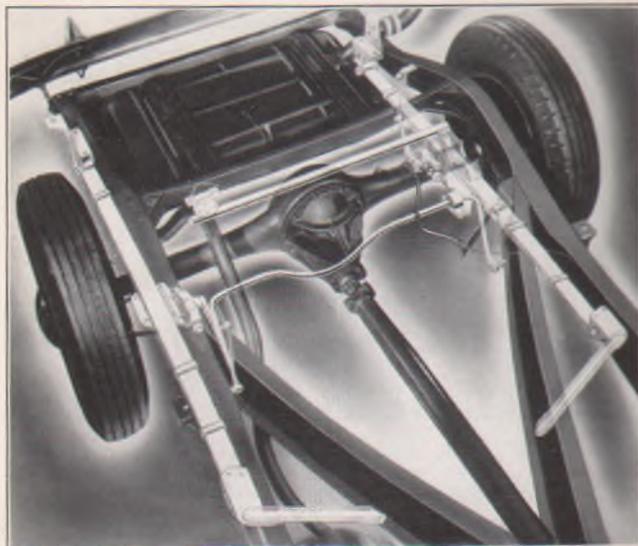
velvety action of the rubber floated springs and rubber insulated shackles and also assist in controlling the movement of the front end of the car.

Advantages:

1. Improved two-way control of rear springs.
2. Assist in controlling front wheel movement.

Packard One-Sixty and Custom Super-8 One-Eighty Shock Absorbers—The longer wheelbase models—138" and 148"—of the new 1940 Packard Super-8 One-Sixty and Custom Super-8 One-Eighty are equipped with piston type, double-acting shock absorbers. This type of shock absorber is used because of the much longer wheelbase and still greater weight of these models.

These shock absorbers are mounted on the axle so that the arm of one shock absorber points forward and the other to the rear of the car. This mounting does not in any way effect the functioning of the shock absorbers but it



Rear suspension of 138" and 148" wheelbase models of Packard One-Sixty and One-Eighty. Here are shown opposed mounting of piston type shock absorbers and rear roll control bar.

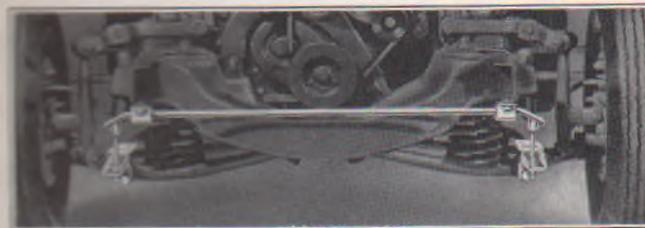
does enable them to act as hydraulic torque arms and supplement the resistance of the springs in keeping the axle in normal position in spite of the forces set up by starting and stopping which tend to roll the axle.

These rear shock absorbers and their opposed mounting are important for they not only control rear spring movement but also make clutch action smoother, reduce engine sensation and make acceleration softer.

Advantages:

1. Perfect two-way control of springs.
2. Help prevent tendency to axle roll.
3. Reduce clutch chatter.
4. Produce smoother engine result due to damping of torque reaction in the drive line.

Roll Control Bar—When a car changes direction in rounding a curve or turning out of line to pass, there is a decided tendency for the body to sway or lean in the opposite direction—a sensation quite disagreeable to all occupants.



Front roll control bar standard on all 1940 Packard cars.

To overcome this body sway and also to prevent lurching on rough or rutted roads, Packard provides a roll control bar. This is a bar of spring steel located at the front of the chassis on the Packard One-Ten, One-Twenty and the short (127") wheelbase models of the One-Sixty and One-Eighty. A second, rear roll control bar is used just in front of the rear axle on the long wheelbase (138" and 148") models of the One-Sixty and One-Eighty.

These bars are securely fastened to the lower lever of the front Safe-T-fleX in one case and to the arms of the shock absorber when used at the rear. When one side of the car tends to rise in rounding a curve, a twisting action is set up in the bar which reacts to keep the car on an even keel. It is just like trying to twist the ends of a steel bar in opposite directions with the hands.

Advantages:

1. Prevents body sway on curves and rough roads.

Fifth Shock Absorber—The fifth shock absorber is used on all models of the new Packard One-Twenty, Super-

8 One-Sixty and Custom Super-8 One-Eighty. It is not necessary on the new Packard One-Ten because its shorter wheelbase and lighter weight make practical the special "V" type mounting of the new direct-acting shock absorbers.

The fifth shock absorber serves to suppress lateral or sidewise vibration of the frame with relation to the rear



Fifth shock absorber and lateral stabilizer standard on Packard One-Twenty, One-Sixty and One-Eighty.

axle. It is attached to the rear axle at the spring mounting on one side of the chassis and to a hydraulic shock absorber mounted on the frame cross member on the other side. Thus lateral movement of the frame is checked and through the action of this shock absorber any lateral road vibration or harshness is absorbed. This device serves to suppress horizontal road vibrations in much the same manner as the four standard shock absorbers control vertical car movements. It also improves car handling and steering and gives a new sense of stability and security.

Advantages:

1. Reduces tendency to lateral vibration.
2. Improves car handling and steering.
3. Gives a sense of stability.

ADVANTAGES OF COMPLETE SAFE-T-FLEX FRONT AND REAR SUSPENSIONS

(1) **Riding Comfort**—The exclusive Packard Safe-T-fleX front and rear suspensions produce a soft, level ride that might best be described as "mellow." There is ample spring control to allow passengers to relax comfortably and so prevent fatigue even on long trips. The rear seat ride equals the front—no jolts or harshness. In fact complete Safe-T-fleX makes rough roads seem smooth and good roads smoother than they are.

(2) **Safety**—An unusual margin of safety is assured by the long rugged torque arm of Safe-T-fleX front suspension. Permanent front wheel alignment is attained, giving a new safety of handling—a new sense of steering security and sure footedness under all road conditions. There is freedom from excessive side roll and the full safety of the four point rear axle mounting. Wheel bounces are minimized and better traction assured.

(3) **Longer Tire Life**—Tires—both front and rear—last longer because tire bounce is controlled. Excessive front tire wear is eliminated by permanent front wheel alignment.

(4) **Better Steering and Handling**—The inherent stability of the complete Safe-T-fleX front and rear suspension system produces positive, vibrationless steering and easy handling under all conditions.

(5) **Better Braking**—Because of the greater strength and solidity provided by the long rugged steel torque arms in the front Safe-T-fleX suspension, a greater proportion of braking effort can be taken by the front wheels. This materially improves car control.

(6) **Silencing**—No other suspension built today—either front or rear—uses a full complement of rubber bearings or accomplishes complete insulation of the frame

from road noises. No other car offers the silencing of live rubber to anything near the same extent as the new Packard models for 1940. The whole front suspension is completely insulated—no metal-to-metal contact with the frame except in the steering system, and the rear suspension is likewise completely insulated except for the parking brake cables. Obviously road noises are effectively insulated from the frame and body.

(7) Long Life—Exceptionally long life is assured to both front and rear Safe-T-fleX wheel suspensions by this exceptional use of rubber bearings. At the same time the whole car chassis and body are protected from road shocks by the cushioning of live rubber.

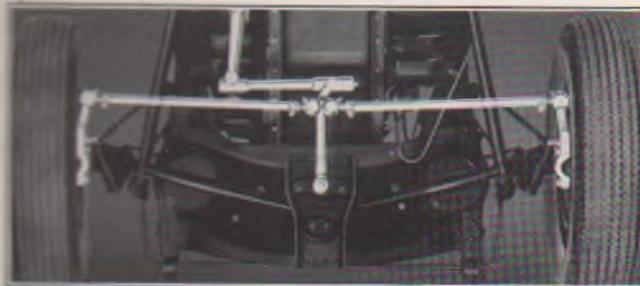
HARMONIZED STEERING

Packard steering is light—even the largest models can be guided easily through traffic or on the highway with the pressure of two fingers. Women especially appreciate this advantage and those who drive hundreds of miles a day claim less fatigue from driving a Packard than other much more expensive cars.

The whole Packard steering mechanism is designed so that each part functions with such complete coordination that a minimum of physical effort is required. It is of the cross steering type and is engineered to harmonize with Safe-T-fleX front suspension.

The steering gear itself is of the worm and double tooth roller design. In the One-Ten and One-Twenty the roller is mounted on needle bearings and all models of the Super-8 One-Sixty and Custom Super-8 One-Eighty have double-row ball bearings at this point. The worm on all models is carried on two tapered roller bearings. A short drag link connects the steering arm and center steering lever.

Connected to the center steering lever by spring loaded ball joints and extending to right and left, are two cross



In Packard Harmonized Steering each front wheel is free to follow road irregularities independently.

tubes attached at the outside end to the steering knuckles at the wheels. Thus each wheel can follow road irregularities independently of the other and without transmitting road shocks to the steering wheel.

This Packard system gives excellent straight line steering and also an unusually short turning radius—a real advantage in parking. After a turn, the wheels return to the straight ahead position of their own accord.

The steering wheels of the new Packard One-Ten and One-Twenty are 18 inches in diameter and of the three spoke, clear vision type—that of the Super-8 One-Sixty has curved spokes attached to the rim at four points, and the de luxe wheel of the Custom Super-8 One-Eighty has three spring steel spokes. These also are 18 inches in diameter. All Packard steering wheels are gracefully moulded and the rims are notched to fit the hands comfortably.

Advantages:

1. Packard harmonized steering is easy and lessens driver fatigue.
2. Anti-friction bearings assure easy steering in either direction.
3. Center point steering is safe, positive and requires less effort to operate.

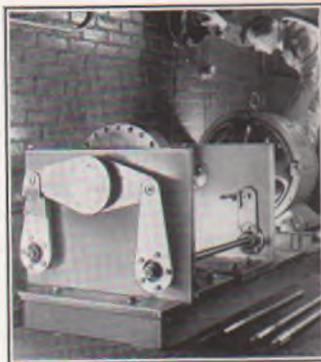
4. Front wheels follow road irregularities without transmitting shocks directly to the steering wheel.
5. Better straight line steering.
6. Front wheels straighten up automatically after a turn.
7. Short turning radius—easy parking.
8. Large, attractive and comfortable steering wheels.

PACKARD HYPOID REAR AXLE

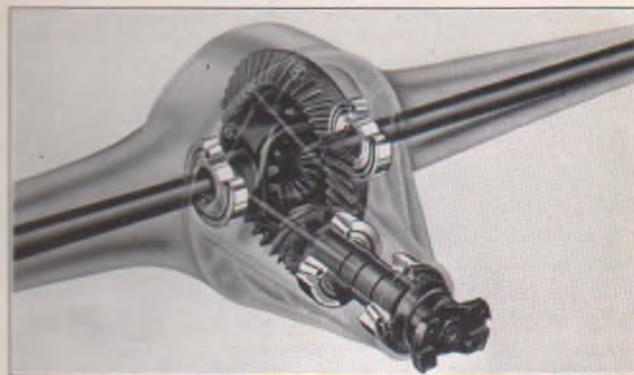
The rear axles of the new 1940 Packard models are designed to provide a margin of surplus strength that assures satisfactory operation and long life even under adverse conditions.

All axles are of hypoid design. Fourteen years ago, in 1926, Packard pioneered the hypoid rear axle but it is only recently that other manufacturers have finally fallen in line and offered their owners the many and obvious advantages of this type of rear axle. During the years Packard engineers have done more research work and worked out more improvements in the hypoid rear axle than others who have just adopted it for the first time.

All Packard axles, One-Ten, One-Twenty, One-Sixty and One-Eighty are of the semi-floating type. Naturally the One-Twenty, One-Sixty and One-Eighty rear axles are of somewhat heavier construction than the One-Ten in order to handle efficiently their heavier chassis and greater

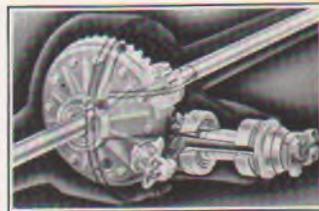


This special machine designed and built by Packard tests two axle shafts at one time. The big motor drives eccentrics which are linked to one end of the axle shafts. The other end of each shaft is held solidly to prevent movement. A violent torsional action is set-up in the metal of the shafts—1500 deflections a minute.



Packard hypoid rear axle—adjustable-tapered roller bearings used throughout.

horsepower. The driving shafts of all models are made of chrome molybdenum steel and the axle housing is fabricated from rolled steel with special reinforcements for extra strength. The driving pinion is mounted on two large tapered roller bearings and the differential and ring gear are also mounted on tapered roller bearings. On the new Packard Super-8 One-Sixty and Custom Super-8 One-Eighty a special roller bearing is built-in behind the ring gear directly opposite the driving pinion to hold the ring gear in perfect alignment under the driving power of the big one hundred and sixty horsepower engine. Special provision is made to insure continuous lubrication of gears, bearings and other operating parts.



Packard hypoid rear axle used on the One-Sixty and One-Seventy. Note extra roller bearing behind driving pinion.

Rear axle gear ratios are as follows:

Model	Standard	Optional	Overdrive
1800	4.3	4.55	4.55
1801	4.09	4.36	4.36
1803	3.92	4.09	4.36
1804	4.09	4.36	4.36
1805	4.36	4.54	4.54
1806	3.92	4.09	4.36
1807	4.09	4.36	4.36
1808	4.36	4.54	4.54

Hypoid Gears—Hypoid gears are cut in such a manner that the driving pinion contacts the ring gear considerably below center line. This, of course, lowers the propeller shaft materially and makes possible a car floor several inches lower without the use of awkward and unsightly tunnels or humps in either front or rear compartments.

In the hypoid rear axle the driving pinion is longer. The teeth are longer and more teeth are in contact at all times. Usually the hypoid gear has one more tooth in contact than the spiral bevel type. Therefore, it is easy to understand that hypoid gears are quieter in operation and longer lived than ordinary spiral gears. Moreover, hypoid gearing tends to improve in quietness with use.

Rear Wheel Bearings—The outer ends of the axle shafts to which the wheels are attached are carried on large tapered roller bearings and a special double seal—one on each side of the bearing—minimizes the possibility of leakage of lubricant.

All Packard rear axles are machined and finished with extreme care. They are held to such precision limits in manufacture that the pinion position is permanently fixed. Backlash of only three to five one-thousandths of an inch between pinion and ring gear assures maximum silence in operation.

Advantages:

1. Surplus strength provides a wide margin of safety for all occasions.
2. More experience—Packard pioneered hypoid design in 1926.
3. Hypoid gears permit lower floor without tunnels or humps.

4. Hypoid gears have more teeth in contact than spiral gears.
5. Hypoid gears are quieter and last longer.
6. Special roller bearing in rear axles of One-Sixty and One-Eighty prevents deflection of ring gear under power drive of the huge engine.

Hotchkiss Drive—With the Hotchkiss type of drive, as used on all Packard cars, the driving force is transmitted from the rear wheels to the frame of the car through the rear springs. This is a distinct advantage, for the springs are used to cushion the inevitable strains of stopping and starting the car before they reach the frame. As a result, starting and stopping are smooth and comfortable for the passengers. Hotchkiss drive allows smoother action and less wheel bounce on rough roads and also reduces unsprung weight which improves the ride.

Advantages:

1. Springs absorb driving strains before they reach the frame.
2. Starting and stopping are smooth and comfortable.
3. Smooth action of the rear axle on rough roads.
4. Better ride—less unsprung weight.

Propeller Shaft—Packard engineering is consistent. Because every care is taken to insure the correct balance of the power plant, clutch and transmission, the same care is exercised in balancing the drive shaft. The shaft itself is tubular in design and of extra large diameter—3 inches—to provide greater stiffness and to insure greater smoothness at all speeds. Roller bearing universal joints at each end connect with the transmission and rear axle pinion.

Advantages:

1. Statically and dynamically balanced to eliminate vibration.
2. Large diameter assures stiffness.

Universal Joints—Besides the fact that Packard universal joints each operate on four roller bearings thus

assuring long life and trouble-free service, there are two other interesting features of these important units. First, there is an effective seal which prevents loss of lubricant and protects them from dirt and water. Second, Packard universal joints transmit the driving strains through a tongue and groove in the flanges instead of through the bolts which hold the flanges together.

Advantages:

1. **Roller bearings assure long life.**
2. **Effective seals protect bearings and seal in lubricant.**
3. **Driving strains taken through tongue and grooves in the flanges.**

Packard Servo Hydraulic Brakes—A perfect balance to the power of the great engines which drive the splendid new Packard cars for 1940 is the Packard system of braking. It is designed to meet today's requirements—to cope with the safety demands of crowded city traffic and higher speeds on the highway. Reserve braking ability is provided so that frequent adjustments are not necessary. And combined with those features which spell safety and economy is a lightness of pedal action which calls for a minimum of physical effort. Safety and confidence go hand



Packard dual braking system—Servo Hydraulic service brakes. Independent mechanical handbrake.

in hand with effortless operation and service economy in driving the new Packards for 1940.

Of course, Packard service brakes are hydraulic. The hydraulic brake principle is soundly based on a well-known physical law which states that pressure applied to an enclosed fluid is transmitted equally and without loss in all directions. The foot pressure applied to the pedal of a Packard car is transmitted at an increased ratio to each wheel and all four brakes are applied with equal force. Braking pressure is always equalized when all four brake shoes contact the brake drums and as additional foot pressure is applied it is transmitted to all four wheels giving positive equalized brake energy and removing the cause of most skidding and swerving.

The Packard hydraulic braking system is operated by a rugged pedal of heavy steel which is connected to a master cylinder. Pressure in the pedal actuates a piston forcing the brake fluid through special tubing to each wheel where it operates pistons in smaller cylinders. The brake shoes are attached to these cylinders.



Front Hydraulic brake.

Because of Safe-T-flex front wheel suspension a greater proportion of braking effort is applied to the front wheels than to the rear, making Packard brakes more effective than those of many other cars. Stops in shorter distances are possible.

Servo or Self-Energizing Action—Although practically all cars are now equipped with hydraulic brakes,

there are different designs and different ways of using the equalized pressure at the wheels. Some cars depend entirely on pedal pressure to operate the brakes and entirely disregard the self-energizing principle which takes advantage of car momentum to help stop the car.

Packard brakes make full use of this Servo or self-energizing action. The two brake shoes in each drum are movably mounted and are connected at the bottom by a coupling. When foot pedal pressure is applied and the brake shoes are forced against the drums, the turning of the drum tends to set up a similar turning effort in the shoes giving the shoes a wrapping action. This wrapping action of the brake shoes in the drums uniformly increases pressure at every point around the braking surface. Thus, the movement of the car either forward or backward automatically builds up braking pressure, increases stopping ability and decreases the effort required of the driver.

At the same time, because braking pressure is applied equally over all the braking area, brake lining wear is more nearly equal and brake linings last longer.

In some cars which use a rigid mounting at the lower end of both front and rear shoes this self-energizing or Servo action is not developed. As a result the physical effort required is definitely greater, lining wear is unequal and more frequent adjustments are necessary to maintain proper shoe contact.

Advantages:

1. Equalized braking pressure at each wheel.
2. Increased braking pressure without increased pedal pressure.
3. More equal and longer lining wear.
4. Fewer brake shoe adjustments.

Mechanical Hand Brake—In addition to the hydraulic service brake system Packard cars are equipped with a mechanical hand brake system operating on both rear wheels. It operates separately and independently of the service brake system. A flexible cable linkage and a pendu-

lum equalizer bar mounted on the X-member of the frame, connect the brake shoe mechanism and the hand brake lever which is conveniently located under the instrument panel at the left hand side. This type of hand brake operating directly on the two rear wheels, is considered safer and more dependable than the propeller shaft type. First, it provides almost double the actual braking area and second, it enables the driver to park the car on a hill and jack up a rear wheel for tire repair without blocking the wheels. Some manufacturers using the propeller shaft type of hand brake actually supply a block of wood in the tool kit for blocking the wheels.

Advantages:

1. Larger braking area—safer, more dependable.
2. Rear wheel can be jacked up without blocking the wheels.

Centrifuse Brake Drums—Engineers, service men, and most drivers now realize that brake drums with cast iron linings are superior on nearly every count to those of pressed steel. Cast iron does not score as easily as steel and holds its shape under severe braking loads.

Packard centrifuse brake drums combine the lightness of steel with the very desirable qualities of cast iron. Centrifuse drums consist of a steel shell into which a cast iron braking surface is spun by centrifugal force. This process takes place while the iron is molten and the heat fuses it to the steel. At the same time this process gives an ideal grain and texture to the iron lining of the drum.

Not only do brake linings wear longer when operated against this iron surface but the drums themselves last longer and seldom if ever need resurfacing. Moreover, braking effectiveness on long grades is retained by the greater heat absorbing capacity of the heavier centrifuse drums, thus insuring against fade out.

Advantages:

1. Light weight combined with good braking surface qualities.
2. Less tendency to score.
3. Brake linings wear longer.
4. Drums retain their true shape.
5. Drums seldom need resurfacing.

Wheels—A touch of smartness and a new modern note are added to the sideview of the new 1940 Packards by sparkling new hub caps. They are of gleaming chrome 10 inches in diameter and coincide with the up-to-the minute styling of the new cars. The familiar red hexagon, for decades a hall mark of Packard, is retained and the name Packard is embossed across the hub in black script. The wheels, of the demountable disc type, are 16 inches in diameter and are slotted at the rim for mounting individual tire chains. Rims are drop center type and each wheel is balanced to prevent vibration and provide maximum smoothness.

On five wheel equipment cars, the spare wheel is carried inside the trunk. On all Packard One-Twenty, Super-8 One-Sixty and Custom Super-8 One-Eighty models six wheel and fender well equipment are available on order.

The Packard One-Ten is not available with six wheels and fender well equipment.

Advantages:

1. Disc wheels combine great strength with light weight.
2. Each wheel balanced to assure maximum smoothness.

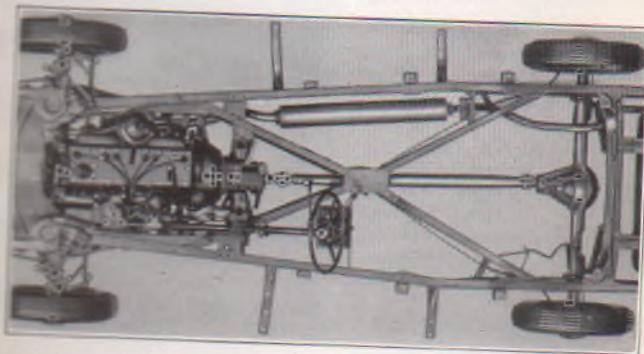
Tires—Combined with the other major features and developments which produce the marvelous new 1940 Packard ride are big low pressure tires which absorb much of the shock of road irregularities in their big cushions of air. On the new Packard One-Ten, 6.25 x 16 four ply tires are used, and the One-Twenty rolls smoothly on 6.50 x 16 four ply tires. The new Packard Super-8 One-Sixty—

127" wheelbase—is equipped with 7.00 x 16 four ply tires and the longer wheelbase models—138" and 148"—have 7.00 x 16 six ply tires. The same equipment is standard on the Custom Super-8 One-Eighty—7.00 x 16 four ply tires on the short wheelbase model and 7.00 x 16 six ply tires on the 138" and 148" wheelbase cars. The tires of 148" wheelbase Super-8 One-Eighty models are new rayon twist cords.

Advantages:

1. Large, low pressure tires give smoother, softer ride.
2. Large tire size means greater safety and longer tire life.

Anti-Friction Bearings—While it is an important achievement to build a truly fine car—to manufacture each part for smooth, quiet operation, it is equally important to build such a car so that it will continue to operate years on end with a minimum of service and expense.



44 ball and roller bearings on Packard One-Ten and One-Twenty indicate Packard quality. 50 used on the One-Sixty and One-Eighty.

Packard has always realized this obligation and every effort has been directed to building durability and long

trouble-free life into every car manufactured. An important example of Packard's adherence to this principle is seen in the exceptionally large number of ball and roller bearings used in each chassis. As a matter of fact, Packard easily outpoints competition on this important long life feature in every one of its 1940 models.

The new Packard One-Ten and One-Twenty each have a total of 44 ball and roller bearings used throughout the chassis. The bigger, heavier Packard Super-8 One-Sixty and Custom Super-8 One-Eighty have 50 such bearings each. And neither of these figures include the 24 oilless rubber anti-friction bearings used in the front and rear suspensions and in the rest of the chassis.

Advantages:

1. More ball and roller bearings assure less friction, longer life and a minimum of service.

Chassis Lubrication—

Always chassis lubrication has been a necessary but annoying duty that simply had to be attended to at all too frequent intervals. And in most cars very little has been done to alleviate this irksome task.

Packard, however, has done something about it and re-



Ball and roller bearings used on Packard chassis are tested on this machine. High radial and thrust loads, varying according to the actual load to be carried by the bearing being tested, are applied and the bearing runs for a long period of time. This is an exclusive Packard test and the machine was designed and built by Packard.

duced not only the number of points which must be serviced but has cut the frequency of the needed attention. Because there are 24 points on each Packard chassis—One-Ten, One-Twenty, One-Sixty and One-Eighty where rubber bearings are used instead of metal bushings and because so many of the other chassis anti-friction bearings are greased for life and sealed at the factory, the number of chassis lubrication points has been reduced to the minimum—far below competition. There are only 19 points on the Packard One-Ten and twenty points on each of all the other chassis that ever require lubrication attention. Four of these points on each chassis—at the lower end of the vertical wheel supports—need attention only every 10,000 miles—approximately a year's driving. The remaining 15 points on the One-Ten and 16 points on all other chassis need to be lubricated only at 2,000 mile intervals. The crankcase should, of course, be drained and filled every 1,000 to 2,000 miles, depending upon driving conditions.

Mech. Specifications

Packard Custom Cars

Service & Accessories

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PAINT

CHASSIS

WHEELS

EXTERIOR

INTERIOR

MECHANICAL SPECIFICATIONS AND ADJUSTMENTS

18TH SERIES

ENGINE

Make	Packard
Type	1800 L Head-Vertical En bloc
A.M.A. Horsepower	29.4
Maximum Brake Horsepower	100
Revolutions per Minute	3200
Suspension	Rubber Mounted
Firing Order	1-5-3-6-2-4
Bore	3 $\frac{1}{2}$ "
Stroke	4 $\frac{1}{4}$ "
Piston Displacement	245 cu. in.
Cylinders	6 in line
Compression Ratio—Standard	6.39 to 1
Compression Ratio—Optional	6.71 to 1
Weight with Clutch and Transmission	726 lbs. with overdrive
Cylinder Head Material	Cast Iron
Motor R.P.M. per Mile—Std. Ratio	3156

Packard One-Twenty

Make	Packard
Type	1801 L Head-Vertical En bloc
A.M.A. Horsepower	33.8
Maximum Brake Horsepower	120
Revolutions per Minute	3600
Suspension	Rubber Mounted
Firing Order	1-6-2-5-8-3-7-4
Bore	3 $\frac{1}{4}$ "
Stroke	4 $\frac{1}{4}$ "
Piston Displacement	282 cu. in.
Cylinders	8 in line
Compression Ratio—Standard	6.41 to 1
Compression Ratio—Optional	6.85 to 1
Weight with Clutch and Transmission	839 lbs. with overdrive
Cylinder Head Material	Cast Iron
Motor R.P.M. per Mile—Std. Ratio	2969-1801

Packard One-Sixty and One-Eighty

Make	Packard
Type	1803-4-5-6-7-8 L Head-Vertical En bloc
A.M.A. Horsepower	39.2
Maximum Brake Horsepower	160
Revolutions per Minute	3500
Suspension	Rubber Mounted
Firing Order	1-6-2-5-8-3-7-4
Bore	3 $\frac{1}{2}$ "
Stroke	4 $\frac{1}{2}$ "
Piston Displacement	356 cu. in.
Cylinders	8 in line
Compression Ratio—Standard	6.45 to 1
Compression Ratio—Optional	6.85 to 1
Weight with Clutch and Transmission	1009 lbs. with overdrive
Cylinder Head Material	Cast Iron
Motor R.P.M. per Mile—Std. Ratio	2703-1803-6 2834-1804-7 3021-1805-8

CRANKCASE

Type	Integral with cylinders
Upper Half Material	Cast Iron
Lower Half Material	Steel Stamping
Oil Capacity	5 qts.
Main Bearing Diameter	2 $\frac{3}{8}$ "
Main Bearing Length No. 1	1 $\frac{11}{16}$ "
Main Bearing Length No. 2	1 $\frac{1}{2}$ "
Main Bearing Length No. 3	1 $\frac{1}{2}$ "
Main Bearing Length No. 4	2 $\frac{3}{8}$ "
Main Bearing Length No. 5	None

Type	Integral with cylinders
Upper Half Material	Cast Iron
Lower Half Material	Steel Stamping
Oil Capacity	6 qts.
Main Bearing Diameter	2 $\frac{3}{8}$ "
Main Bearing Length No. 1	1 $\frac{11}{16}$ "
Main Bearing Length No. 2	1 $\frac{1}{2}$ "
Main Bearing Length No. 3	1 $\frac{1}{2}$ "
Main Bearing Length No. 4	2 $\frac{3}{8}$ "
Main Bearing Length No. 5	2 $\frac{3}{8}$ "

Type	Integral with cylinders
Upper Half Material	Cast Iron
Lower Half Material	Steel Stamping
Oil Capacity	7 $\frac{1}{2}$ qts.
Main Bearing Diameter	2 $\frac{3}{8}$ "
Main Bearing Length No. 1	1 $\frac{11}{16}$ "
Main Bearing Length No. 2	1 $\frac{1}{2}$ "
Main Bearing Length No. 3	1 $\frac{1}{2}$ "
Main Bearing Length No. 4	2 $\frac{3}{8}$ "
Main Bearing Length No. 5	2 $\frac{3}{8}$ "

CRANKCASE—Continued

Main Bearing Length No. 6	None
Main Bearing Length No. 7	None
Main Bearing Length No. 8	None
Main Bearing Length No. 9	None
Crankcase Oil Gauge	Dip Stick, Left Side
Total Main Bearing Area	45.1 sq. in.
Crankcase Drain Plug	5/8"-18

Packard One-Ten
1800Packard One-Twenty
1801Packard One-Sixty
and One-Eighty
1803-4-5-6-7-8

None	None	1 1/8"
None	None	1 1/8"
None	None	1 1/8"
None	None	2 3/32"
Dip Stick, Left Side	Dip Stick, Left Side	Dip Stick, Left Side
56.6 sq. in.	56.6 sq. in.	105.8 sq. in.
5/8"-18	5/8"-18	5/8"-18

VALVES

Valve Lift	Ex. .3175 Int. .318
Valve Arrangement	L Head
Valve Head Diameter—Inlet	1 1/32"
Valve Head Diameter—Exhaust	1 3/8"
Valve Stem Diameter—Inlet	.34025"
Valve Stem Diameter—Exhaust	.34025"
Valve Stem Length	5 5/8"
Valve Material—Inlet	Chrome Nickel
Valve Material—Exhaust	Austenitic Steel
Valve End (Type)	Slot and Key
Valve Stem Clearance—Inlet	.002"
Valve Stem Clearance—Exhaust	.004"
Valve Tappet Clearance Inlet—Warm	.007"
Valve Tappet Clearance Exhaust—Warm	.010"
Inlet Valve Opens	1° BTDC
Inlet Valve Closes	39° ALDC
Exhaust Valve Closes	5° ATDC
Exhaust Valve Opens	45° BLDC
Tappet Clearance for Timing Inlet	.0125"
Tappet Clearance for Timing Exhaust	.015"
Valve Seat Angle—Inlet	30°
Valve Seat Angle—Exhaust	45°
Valve Spring	Single
Valve Spring Load Valve Closed	50 lbs. (1 1/2")

Ex. .3175 Int. .318	Ex. .3175 Int. .318
L Head	L Head
1 1/32"	1 1/32"
1 3/8"	1 3/8"
.34025"	.34025"
.34025"	.34025"
5 5/8"	5 5/8"
Chrome Nickel	Chrome Nickel
Austenitic Steel	Austenitic Steel
Slot and Key	Slot and Key
.002"	.002"
.004"	.004"
.007"	.007"
.010"	.010"
1° BTDC	1° BTDC
39° ALDC	39° ALDC
5° ATDC	5° ATDC
45° BLDC	45° BLDC
.0125"	.0125"
.015"	.015"
30°	30°
45°	45°
Single	Single
50 lbs. (1 1/2")	50 lbs. (1 1/2")

.340	.340
L Head	L Head
1.670	1.670
1 1/8"	1 1/8"
.34025"	.34025"
.34025"	.34025"
6 7/8"	6 7/8"
Chrome Nickel	Chrome Nickel
Austenitic Steel	Austenitic Steel
Slot and Key	Slot and Key
.002"	.002"
.004"	.004"
Automatic take up	Automatic take up
Automatic take up	Automatic take up
4° BTDC	4° BTDC
51° ALDC	51° ALDC
10° ATDC	10° ATDC
49° BLDC	49° BLDC
	30°
	45°
	Single
	58 lbs. (1 1/2")

VALVES—Continued

Valve Spring Load Valve Open	120 lbs.
Exhaust Pipe Diameter	2"
Muffler Size—Front	5" x 38 1/2"

120 lbs.	120 lbs.
2 1/4"	2 1/4"
5 1/4" x 38 1/2"	5 1/4" x 38 1/2"

135 lbs.	135 lbs.
2 1/4"	2 1/4"
6" x 42"	6" x 42"

FRONT END

Gear Cover	Steel Stamping
Camshaft Drive	Silent Chain
Make of Chain	Morse 3682-R or Ramsey
Length, Width and Pitch of Chain	58 Links; 1 1/4"; .375"
No. of Camshaft Bearings	4
Clearance of Camshaft Bearings	.001"-.003"
Camshaft End Play	.002"-.004"
Camshaft Sprocket—Material and Size	Cast Iron—42 teeth

Steel Stamping	Steel Stamping
Silent Chain	Silent Chain
Morse 3682-R or Ramsey	Morse 3682-R or Ramsey
58 Links; 1 1/4"; .375"	58 Links; 1 1/4"; .375"
5	5
.001"-.003"	.001"-.003"
.002"-.004"	.002"-.004"
Cast Iron—42 teeth	Cast Iron—42 teeth

Steel Stamping	Steel Stamping
Silent Chain	Silent Chain
Morse 3682-R or Ramsey	Morse 3682-R or Ramsey
62 Links; 1 1/4"; .375"	62 Links; 1 1/4"; .375"
8	8
.001"-.003"	.001"-.003"
.002"-.004"	.002"-.004"
Cast Iron—42 teeth	Cast Iron—42 teeth
Hardened	Hardened

PISTON

Weight	20 3/4 oz.
Weight with Rings and Pin	26 1/2 oz.
Overall Height	3 7/8"
Height Centerline of Pin to Top	2 1/8"
Type and Material	Autothermic Aluminum alloy with strut
Skirt Clearance	.001"
Piston Pin—Size	3 1/16" x 7/8"
Type	Floating
Lubrication of Pin	Pressure
Piston Pin Hole—Ream	.87515"-.87485"
Piston Pin Fit in Piston	Finger Push at 160°
Piston Pin Fit in Rod	Size to Size
Piston Pin Oversizes	.003"-.006"
No. of Rings per Piston	3
No. of Oil Rings per Piston	1
Depth of Piston Ring Grooves No. 1	.1832"
Depth of Piston Ring Grooves No. 2	.1837"
Depth of Piston Ring Grooves No. 3	.181"
Type of Compression Rings	1 Per. Circle No. 200 1 Per. Circle No. 70
Type of Oil Rings	1 Per. Circ. No. X90-85

17 1/4 oz.	17 1/4 oz.
23 1/4 oz.	23 1/4 oz.
3 7/8"	3 7/8"
2 1/8"	2 1/8"
Autothermic Aluminum alloy with strut	Autothermic Aluminum alloy with strut
.001"	.001"
2 5/16" x 7/8"	2 5/16" x 7/8"
Floating	Floating
Pressure	Pressure
.87515"-.87485"	.87515"-.87485"
Finger Push at 160°	Finger Push at 160°
Size to Size	Size to Size
.003"-.006"	.003"-.006"
3	3
1	1
.174"	.174"
.1782"	.1782"
.1762"	.1762"
1 Per. Circle No. 200	1 Per. Circle No. 200
1 Per. Circle No. 70	1 Per. Circle No. 70
1 Per. Circ. No. X90-85	1 Per. Circ. No. X90-85

20 3/4 oz.	20 3/4 oz.
26 1/2 oz.	26 1/2 oz.
3 7/8"	3 7/8"
2 1/8"	2 1/8"
Autothermic Aluminum alloy with strut	Autothermic Aluminum alloy with strut
.001"	.001"
3 1/16" x 7/8"	3 1/16" x 7/8"
Floating	Floating
Pressure	Pressure
.87515"-.87485"	.87515"-.87485"
Finger Push at 160°	Finger Push at 160°
Size to Size	Size to Size
.003"-.006"	.003"-.006"
3	3
1	1
.1632"	.1632"
.1837"	.1837"
.1817"	.1817"
1 Per. Circle No. 200	1 Per. Circle No. 200
1 Per. Circle No. 70	1 Per. Circle No. 70
1 Per. Circ. No. X90-85	1 Per. Circ. No. X90-85

Packard One-Sixty
and One-Eighty
1803-4-5-6-7-8

PISTON—Continued

Width of Compression Rings	.1240"-.1235"	.1240"-.1235"	.1240"-.1235"
Width of Oil Rings	.1865"-.186"	.1865"-.186"	.1865"-.186"
Piston Ring Wall Thickness No. 1	.165"-.175"	.165"-.175"	.165"-.175"
Piston Ring Wall Thickness No. 2	.140"-.150"	.135"-.145"	.140"-.150"
Piston Ring Wall Thickness No. 3	.122"-.130"	.121"-.129"	.122"-.130"
Piston Ring Gap—Compression	.007"-.017"	.007"-.017"	.007"-.017"
Piston Ring Gap—Oil	.007"-.015"	.007"-.015"	.007"-.015"
Location of Rings	Above Pin	Above Pin	Above Pin
Piston Oil Drain Holes	12 ⁵ / ₃₂ "	12 ⁵ / ₃₂ "	12 ⁵ / ₃₂ "
Piston Oversizes	.005", .010", .020", .030", .040"	.005", .010", .020", .030", .040"	.005", .010", .020", .030", .040"

CONNECTING ROD

Weight	1 lb. 15.6 oz.	1 lb. 15.6 oz.	2 lbs. 10 oz.
Material	Steel Forging	Steel Forging	Steel Forging
Bearing Type	Detachable Shell	Detachable Shell	Detachable Shell
Center to Center Length	7 ¹ / ₄ "	7 ¹ / ₄ "	9 ¹ / ₄ "
Diameter of Crankpin Bearing	2 ¹ / ₃₂ "	2 ¹ / ₃₂ "	2 ¹ / ₃₂ "
Length of Crankpin	1 ¹ / ₄ "	1 ¹ / ₄ "	1 ¹ / ₄ "
Clearance Bearing to Crankpin	.0005"-.0015"	.0005"-.0015"	.0005"-.0015"
End Play on Crankshaft	.004"-.010"	.004"-.010"	.004"-.010"
Oil Lead to Piston Pin	Rifle Drilled	Rifle Drilled	Rifle Drilled
Bearing Material	Babbitt	Babbitt	Babbitt
Assembled in Motor	Oil Hole Toward Camshaft	Oil Hole Toward Camshaft	Oil Hole Toward Camshaft
Cap Attached	Bolts, Nuts and Lock Nuts	Bolts, Nuts and Lock Nuts	Bolts, Nuts and Cotters
Shims	Not Used	Not Used	Not Used

CRANKSHAFT

Type	Counterbalanced	Counterbalanced	Counterbalanced
Material	Steel Forging	Steel Forging	Steel Forging
No. of Counterweights	6 Forged Integral	8 Forged Integral	8 Bolted
No. of Main Bearings	4	5	9
Main Bearing Diameter	2 ³ / ₄ "	2 ³ / ₄ "	2 ³ / ₄ "
Thrust Taken On	No. 1	Center	Center

CRANKSHAFT—Continued

Vibration Damper	Rubber Friction Disc, Waterproof	Rubber Friction Disc, Waterproof	Rubber Friction Disc, Waterproof
Weight	81 ¹ / ₂ lbs.	95 lbs.	104 lbs.
End Play	.003"-.008"	.003"-.008"	.003"-.008"
Main Bearing Material	Babbitt Lined Steel Shell	Babbitt Lined Steel Shell	Babbitt Lined Steel Shell
Clearance—All Main Bearings	.001"-.003"	.001"-.003"	.001"-.003"
Crankshaft Sprocket—Material & Size	Steel—21 teeth	Steel—21 teeth	Steel—21 teeth
Shims	Not Used	Not Used	Not Used

MOTOR LUBRICATION

Type	Full Pressure	Full Pressure	Full Pressure
Oil Pump Type	Gear	Gear	Gear
Crankcase Capacity	5 Qts.	6 Qts.	7 ¹ / ₂ Qts.
Oil Filler Location	Left Side	Left Side	Left Side
Oil Filter Location	Spl. Eqpt.	Spl. Eqpt.	Left Side
Oil Measuring Stick	Left Crankcase	Left Crankcase	Left Crankcase
Oil Intake	Floating	Floating	Floating
Crankcase Ventilator	R.H. at rear of block	R.H. at rear of block	R.H. at rear of block
Oil Pressure—Normal Driving	45 lbs.	45 lbs.	50 lbs.
Oil Drain	Hex. Head Flange Plug 5/8"-18	Hex. Head Flange Plug 5/8"-18	Hex. Head Flange Plug 5/8"-18

CHASSIS LUBRICATION

Every 2,000 Miles			
Crankcase—S.A.E. 30*	Drain and Refill	Drain and Refill	Drain and Refill
*Below -10° F. -10W plus 10%	5 Qts.	6 Qts.	8 Qts.
Kerosene			
-10° F. -10W			
+10° F. -20W			
+32° F. -S.A.E. 30			
*Average Daylight Temperature			
90° F.—S.A.E. 40			
Knuckle Pins—Pressure Gun Grease	2 Lub. Connectors	2 Lub. Connectors	2 Lub. Connectors
Steering Connecting Rod— Pressure Gun Grease	2 Lub. Connectors	2 Lub. Connectors	2 Lub. Connectors
Steering Tie Rods— Pressure Gun Grease	4 Lub. Connectors	4 Lub. Connectors	4 Lub. Connectors

CHASSIS LUBRICATION—Continued		Packard One-Ten 1800
Universal Joint Spline—Gun Grease	1 Lub. Connector	1 Lub. Connector
Generator—S.A.E. 30	2 Oilers	2 Oilers
Starter Motor—S.A.E. 30	1 Oiler	1 Oiler
Distributor—No. 3 Cup Grease	1 Cup	1 Cup
Clutch and Brake Pedal— Pressure Gun Grease	1 Lub. Connector	1 Lub. Connector
Steering Crank—Pressure Gun Grease	1 Lub. Connector	1 Lub. Connector
<i>Every 10,000 Miles</i>		
Support Arm Pin—Outer, Gun Grease	4 Lub. Connectors	4 Lub. Connectors
Front Wheel Bearing No. 3 Fibre Grease	(4) Repack 4 oz. per wheel	(4) Repack 4 oz. per wheel
Transmission, S.A.E. 140 Summer	Drain and Refill	Drain and Refill
90 Winter	2 pts.	2 pts.
Transmission Overdrive Case, S.A.E. 140 Summer, 90 Winter	Drain and Refill	Drain and Refill
Steering Gear, S.A.E. 140 Summer	1½ pts.	1½ pts.
90 Winter	Drain and Refill	Drain and Refill
	(11 oz.)	(11 oz.)
Rear Axle—See Packard Dealer	Drain and Refill	Drain and Refill
	(4½ pts.)	(4½ pts.)
<i>Every 30,000 Miles</i>		
Rear Wheel Bearing No. 3 Fibre Grease	Repack 2 oz. per wheel	Repack 2 oz. per wheel
Universal Joints, Gun Grease	Repack	Repack

CLUTCH

Type	Single Dry Plate
Free Pedal	1½"-2"
Facing Material	U. S. Asbestos No. 1133-G Woven
Size Facing	6"x9½"x.125"
Throwout Bearing Lubrication	Packed
Clutch Spring Pressure	163 lbs. at 1⅞"
No. of Springs	6
Vibration Neutralizer	Springs

Packard One-Twenty 1801	Packard One-Sixty and One-Eighty 1803-4-5-6-7-8
1 Lub. Connector	1 Lub. Connector
2 Oilers	2 Oilers
2 Oilers	2 Oilers
1 Cup	1 Cup
1 Lub. Connector	1 Lub. Connector
1 Lub. Connector	1 Lub. Connector
4 Lub. Connectors	4 Lub. Connectors
(4) Repack 4 oz. per wheel	(4) Repack 4 oz. per wheel
Drain and Refill	Drain and Refill
2 pts.	2 pts.
Drain and Refill	Drain and Refill
1½ pts.	1½ pts.
Drain and Refill	Drain and Refill
(11 oz.)	(11 oz.)
Drain and Refill	Drain and Refill
(6 pts.)	(6 pts.)
Repack 2 oz. per wheel	Repack 2 oz. per wheel
Repack	Repack

Single Dry Plate	Single Dry Plate
1½"-2"	1½"-2¼"
U. S. Asbestos	Amco-8263M1
No. 1133-G Woven	6½"x11"x.125"
6"x10"x.125"	Packed
Packed	160 lbs. at 1.677"
125 lbs. at 1⅞"	9
9	Springs
Springs	

TRANSMISSION

Type	Selective-Silent Synchronized	Selective-Silent Synchronized	Selective-Silent Synchronized
No. of Forward Speeds	3	3	3
<i>1800</i>			
Overdrive	3.28 Std.	3.15 Std.	3.15 Std.
High	4.55 4.3	4.36 4.09	4.36 4.09
Second	6.96 6.57	6.67 6.25	6.67 6.25
First	11.05 10.44	10.59 9.93	10.59 9.93
Reverse	14.38 13.59	13.78 12.92	13.78 12.92
<i>1801</i>			
Overdrive	3.15 Std.	3.15 Std.	3.15 Std.
High	4.36 4.09	4.36 4.09	4.36 4.09
Second	6.67 6.25	6.67 6.25	6.67 6.25
First	10.59 9.93	10.59 9.93	10.59 9.93
Reverse	13.78 12.92	13.78 12.92	13.78 12.92
<i>1803-6</i>			
Overdrive	3.15 Std.	3.15 Std.	3.15 Std.
High	4.36 4.09	4.36 4.09	4.36 4.09
Second	6.67 6.25	6.67 6.25	6.67 6.25
First	10.59 9.93	10.59 9.93	10.59 9.93
Reverse	13.78 12.92	13.78 12.92	13.78 12.92
<i>1804-7</i>			
Overdrive	3.15 Std.	3.15 Std.	3.15 Std.
High	4.36 4.09	4.36 4.09	4.36 4.09
Second	6.67 6.25	6.67 6.25	6.67 6.25
First	10.59 9.93	10.59 9.93	10.59 9.93
Reverse	13.78 12.92	13.78 12.92	13.78 12.92
<i>1805-8</i>			
Overdrive	3.28 Std.	3.15 Std.	3.15 Std.
High	4.54 4.36	4.36 4.09	4.36 4.09
Second	6.94 6.67	6.67 6.25	6.67 6.25
First	11.03 10.59	10.59 9.93	10.59 9.93
Reverse	14.35 13.78	13.78 12.92	13.78 12.92

Oil Capacity	2 Pts.	2 Pts.	2 Pts.
Overdrive	1½ Pts.	1½ Pts.	1½ Pts.
Oil Level Plugs	½"-14 pipe	½"-14 pipe	½"-14 pipe
Gear Teeth	Helical	Helical	Helical
Steering Post Shift	Standard Equipment "Mechanical"	Standard Equipment "Mechanical"	Standard Equipment "Mechanical"

FRAME

Type	Taper Pressed Steel Double Drop, Box Section Side Rail in Front	Taper Pressed Steel Double Drop, Box Section Side Rail in Front	Taper Pressed Steel Double Drop, Box Section Side Rail in Front
Depth	61½"	61½"	61½"-1803-6 7"-1804 7½"-1805-8 7¼"-1803-6 9¼"-1804 9½"-1805-8
Thickness	⅝"	⅝"	⅝"-1803-6 ⅝"-1804 ⅝"-1805-8
No. of Cross Members	5 I-Beam, X Type Member in Center	5 I-Beam, X Type Member in Center	5 I-Beam, X Type Member in Center
Wheelbase	122"	127"	127"-1803-6 138"-1804-1807 148"-1805-8

STEERING GEAR

Make	Packard	Packard	Packard
Type	Worm and Double Tooth Roller	Worm and Double Tooth Roller	Worm and Double Tooth Roller

STEERING GEAR—Continued

	Packard One-Ten 1800
Steering Wheel	18"—3 spoke
Ratio	20.19 to 1
Type of Steering Wheel	Vulcanized Rubber Over Steel Frame
Minimum Turning Radius	21 ft. 0 in.

FRONT SUSPENSION

Make	Packard Safe-T-flex
Type	Independent Parallelogram Reverse Elliot
Axle End	Reverse Elliot
Steering Knuckle Pin Bushing Upper and Lower	Steel backed bronze .867 x 1.0548 x 1 $\frac{1}{8}$ " long
Caster	1 $\frac{1}{2}$ ° + -1 $\frac{1}{2}$ °
Front Wheel Toe-In	0 + $\frac{3}{8}$ " - 0
Knuckle Pin Angle	1°54'
Tread	59 $\frac{3}{8}$ "
Camber	$\frac{1}{2}$ ° + $\frac{3}{8}$ ° - 0
Wheel Bearing—Inner	Timken 14130 Cone 19276 Cup
Wheel Bearing—Outer	Timken 09074 Cone 09194 Cup
Wheel Bearing Adjustment	Tighten Nut and Back Off $\frac{1}{2}$ turn & lock

ELECTRICAL

Battery—Make	Prest-O-Lite 15 Plate
Battery—Capacity	95 Ampere Hours
Battery—Size	9" x 7" x 8 $\frac{1}{32}$ "

Packard One-Twenty

	1801
Steering Wheel	18"—3 spoke
Ratio	20.19 to 1
Type of Steering Wheel	Vulcanized Rubber Over Steel Frame
Minimum Turning Radius	21 ft. 6 in.

Make	Packard Safe-T-flex
Type	Independent Parallelogram Reverse Elliot
Axle End	Reverse Elliot

Steering Knuckle Pin Bushing Upper and Lower	Steel backed bronze .867 x 1.0548 x 1 $\frac{1}{8}$ " long
Caster	1 $\frac{1}{2}$ ° + -1 $\frac{1}{2}$ °

Front Wheel Toe-In	0 + $\frac{3}{8}$ " - 0
Knuckle Pin Angle	1°54'
Tread	59 $\frac{3}{8}$ "
Camber	$\frac{1}{2}$ ° + $\frac{3}{8}$ ° - 0

Wheel Bearing—Inner	Timken 2585 Cone 2523 Cup
Wheel Bearing—Outer	Timken 1380 Cone 1329 Cup
Wheel Bearing Adjustment	Tighten Nut and Back off $\frac{1}{2}$ turn and lock

Battery—Make	Willard 17 Plate
Battery—Capacity	114 Ampere Hours
Battery—Size	10 $\frac{1}{16}$ " x 7 $\frac{1}{16}$ " x 8 $\frac{1}{16}$ "

Packard One-Sixty
and One-Eighty

	1803-4-5-6-7-8
Steering Wheel	18"—3 spoke
Ratio	20.19 to 1
Type of Steering Wheel	Vulcanized Rubber Over Steel Frame
Minimum Turning Radius	21 ft. 6 in.—1803-6 24 ft. 1 in.—1804-7 26 ft. 6 in.—1805-8

Make	Packard Safe-T-flex
Type	Independent Parallelogram Reverse Elliot
Axle End	Reverse Elliot

Steering Knuckle Pin Bushing Upper and Lower	Steel backed bronze .867 x 1.0548 x 1 $\frac{1}{8}$ " long
Caster	1803-4-5-6-7-8— Neg. 1° + -1 $\frac{1}{2}$ °

Front Wheel Toe-In	0 + $\frac{3}{8}$ " - 0
Knuckle Pin Angle	1°54'
Tread	59 $\frac{3}{8}$ "
Camber	$\frac{1}{2}$ ° + $\frac{3}{8}$ ° - 0

Wheel Bearing—Inner	Timken 2585 Cone 2523 Cup
Wheel Bearing—Outer	Timken 1380 Cone 1329 Cup
Wheel Bearing Adjustment	Tighten Nut and Back off $\frac{1}{2}$ turn and lock

Battery—Make	Willard 17 Plate
Battery—Capacity	114 Ampere Hours
Battery—Size	10 $\frac{1}{16}$ " x 7 $\frac{1}{16}$ " x 8 $\frac{1}{16}$ "

ELECTRICAL—Continued

Ignition Timing	6° BTDC
Breaker Point Gap	.018"-.022"
Spark Control	Full Automatic
Spark Advance Begins at	600 r.p.m. Engine
Distributor	Auto-IGW 41-43
Spark Plug—Size	10 mm
Spark Plug—Make and Type (2)	104 AC or Champion Y4
Spark Plug Gap	.0255"-.0305"
Generator—Make and Type	Auto-Lite GEA—4801A
Generator Drive	Belt
Generator Cut-In Speed—Cold	700 r.p.m.
Generator Maximum Charging Rate (cold—8 volt)	35 Ampere
Generator Maximum Charging Rate (hot—8 volt)	35 Ampere
Generator Voltage Regulator	Auto-Lite VRP—4002A
Generator Voltage to Close Cut-Out	6 $\frac{1}{2}$ to 7 Volts
Generator Ventilated	Yes
Starter Motor—Make and Type	Auto-Lite MZ-4078
Starter Drive	Bendix Shift
No. of Flywheel Teeth	140
No. of Teeth in Bendix Pinion	9
Pinion Meshes	From Front
Light Control	On Instrument Board and Foot Switch
Headlamp Current Protection	Thermostat Relay
Auxiliary Fuse	25 Volt, 20 Ampere
Body Fuse	25 Volt, 20 Ampere
Tail Lamp Fuse	25 Volt, 20 Ampere
Stop Light Fuse	25 Volt, 20 Ampere
W.S. Wiper Fuse	25 Volt, 20 Ampere
Headlamp Lens—Dia. at Bezel	6 $\frac{1}{2}$ "
Headlamp Bulb—Sealed Beam	45-40 Watt
Export	6 Volt 50-21 C.P. 12 Volt 50-50 C.P.
Horn—Make and Type	C. M. Hall Sparton

8° BTDC	.0125"-.0175"
Full Automatic	600 r.p.m. Engine
Auto-Lite IGP-4501	10 mm
104 AC or Champion Y4	.0255"-.0305"
Auto-Lite GEA-4801A	Belt
700 r.p.m.	35 Ampere
Auto-Lite VRP-4002A	6 $\frac{1}{2}$ to 7 Volts
Yes	Yes
Auto-Lite MAW-4018	Bendix Shift

140	9
From Front	On Instrument Board and Foot Switch
Thermostat Relay	25 Volt, 20 Ampere
25 Volt, 20 Ampere	25 Volt, 20 Ampere
25 Volt, 20 Ampere	25 Volt, 20 Ampere
25 Volt, 20 Ampere	25 Volt, 20 Ampere
25 Volt, 14 Ampere	None
6 $\frac{1}{2}$ "	40-30 Watt
40-30 Watt	50-21 C.P.
50-21 C.P.	50-50 C.P.
50-50 C.P.	C. M. Hall
C. M. Hall	Sparton

5° BTDC	.0125"-.0175"
Full Automatic	500 r.p.m. Engine
Auto-Lite IGT-4102	10 mm
104 AC or Champion Y4	.0255"-.0305"
Auto-Lite GEA-4802A	Belt
700 r.p.m.	35 Ampere
Auto-Lite VRP-4003A	6 $\frac{1}{2}$ to 7 Volts
Yes	Yes
Auto-Lite MAX-4041	Solenoid actuated mechanical shift

140	9
From Front	On Instrument Board and Foot Switch
Thermostat Relay	25 Volt, 20 Ampere
25 Volt, 20 Ampere	25 Volt, 20 Ampere
25 Volt, 20 Ampere	25 Volt, 20 Ampere
25 Volt, 20 Ampere	25 Volt, 20 Ampere
25 Volt, 20 Ampere	None
None	40-30 Watt
40-30 Watt	50-21 C.P.
50-21 C.P.	50-50 C.P.
50-50 C.P.	C. M. Hall
C. M. Hall	Sparton

ELECTRICAL—Continued

Horn—Location	Mounted on Engine
Battery Terminal Grounded	Positive
Ampere Draw of Horns (2)	22-25 Ampere
Ampere Draw of Car Heater Motor	6½ Ampere at 7 Volts
Ampere Draw of W.S. Wiper	4½ Ampere at 6 Volts
Ampere Draw of Lights	30-40 Watts
Ampere Draw of Coil—Idling	½ Ampere
Ampere Draw of Coil—Stopped	2½ Ampere
Clock—Make and Type	Electric—Borg
Cigar Lighter—Type	Automatic
Starter Stall Torque	11.8 ft. lbs., 4 volt 550 Ampere
Ignition Coil	Auto-Lite CE-4632 on Cylinder Head
Spring Tension on Contacts— Distributor	19-23 oz.

COOLING SYSTEM

Water Pump	Centrifugal Self-adjusting
Water Pump Drive	Fan Belt
Radiator Core	Cellular
Radiator Shell	3-piece stamping
Capacity of System	3¾ gal.
Fan	4 blade 18"
Driving Pulley	On Crankshaft
Ratio	.97 to 1
Thermostat Starts to Open	145°
Radiator Shutter	No
Fan Belt	49¼" O.D. x ¾" x 42"
Radiator Hose—Inlet	7½" x 1¾" I.D.
Radiator Hose—Outlet	3" x 1¾" I.D.
Heat Indicator	On Instrument Board
Fan Belt Adjustment	At Generator
Gravity Flow of Radiator	27 gal. per min.

Packard One-Ten
1800

Mounted on Engine	Positive
22-25 Ampere	6½ Ampere at 7 Volts
4½ Ampere at 6 Volts	30-40 Watts
½ Ampere	2½ Ampere
Electric—Borg	Automatic
18 ft. lbs., 4 volt	670 Ampere
Auto-Lite CE-4632 on Cylinder Head	19-23 oz.

Centrifugal Self-adjusting	Fan Belt
Cellular	3-piece stamping
4 gal.	5 gal.
4 blade 18"	5 blade 18½"
On Crankshaft	On Crankshaft
.97 to 1	1.05 to 1
145°	145°
No—	Yes

49¼" O.D. x ¾" x 42"	7½" x 1¾" I.D.
3" x 1¾" I.D.	On Instrument Board
At Generator	35 gal. per min.

Packard One-Sixty
and One-Eighty
1803-4-5-6-7-8

Mounted on Engine	Positive
22-25 Ampere	6½ Ampere at 7 Volts
4½ Ampere at 6 Volts	30-40 Watts
½ Ampere	2½ Ampere
Electric—Borg	Automatic
45.9 ft. lbs., 4 Volt	906 Ampere
Auto-Lite CE-4639 on Cylinder Head	19-23 oz.

Centrifugal Self-adjusting	Fan Belt
Tubular	3-piece stamping
5 gal.	5 blade 18½"
On Crankshaft	On Crankshaft
1.05 to 1	1.05 to 1
145°	145°
Yes	Yes

52¼" O.D. x 1" x 42"	6¾" x 1¾" I.D.
3" x 1¾" I.D.	On Instrument Board
At Generator	42 gal. per min.

GASOLINE SYSTEM

Carburetor—Make and Size	Stromberg 1¾" Down-draft, Single Barrel
Gasoline Feed	Mechanical Pump A.C.
Pump Drive	Off Camshaft
Gasoline Filter	Incorporated in Fuel Pump
Gasoline Gauge	Electric
Gasoline Tank Capacity	17 gal.
Air Cleaner and Silencer	A.C. Standard—Oil bath type—spl. equip.
Carburetor Heat Control	Thermostat
Automatic Choke	Thermostatically Controlled
Carburetor Fuel Level	¾" below top of bowl

Stromberg 1" Duplex Down-draft	Mechanical Pump A.C.
-----------------------------------	----------------------

Off Camshaft	Incorporated in Fuel Pump
Electric	21 Gal.
A.C. Standard—oil bath type—spl. equip.	Thermostat
Thermostatically Controlled	1½" below top of bowl

Stromberg 1¼" Duplex Down-draft	Mechanical Pump A.C. in Combination with Vacuum Pump
Off Camshaft	Incorporated in Fuel Pump
Electric	21 Gal.
A.C. Standard—oil bath type—spl. equip.	Thermostat
Thermostatically Controlled	¾" below top of bowl

REAR AXLE

Type	Semi-floating
Make	Packard
Final Drive	Hypoid Gears
Propulsion	Through Springs
Axle Housing	Pressed Steel— Banjo Type
Universal Joints	"Mechanics" Roller Bearing Type
No. Required	2
Oil Capacity	4½ pts.
Wheel Bearings	Timken Cone 25877 Cup 25821

Semi-floating	Packard
Through Springs	Pressed Steel— Banjo Type
"Mechanics" Roller Bearing Type	2
6 pts.	Timken Cone 26878 Cup 26830

Semi-floating	Packard
Through Springs	Pressed Steel— Banjo Type
"Mechanics" Roller Bearing Type	2
6 pts.	1803-1804-1806-1807 Timken Cone 26878 Cup 26830
1805-1808 Timken Cone 3576 Cup 3525	62.5"

Tread	60.5"
-------	-------

60"

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	Packard One-Ten 1800	Packard One-Twenty 1801	Packard One-Sixty and One-Eighty 1803-4-5-6-7-8
REAR AXLE—Continued			
Standard Gear Ratio (without overdrive)	4.3 to 1	4.09 to 1	3.92 to 1—1803-1806 4.09 to 1—1804-1807 4.36 to 1—1805-1808 .003"-.005"
Pinion Back Lash .....	.003"-.005"	.003"-.005"	47-12—1803-1806 45-11—1804-1807 48-11—1805-1808
No. Teeth—Gear and Pinion.....	43-10	45-11	½"—14 pipe
Oil Drain Plugs	½"—14 pipe	½"—14 pipe	
SPRINGS			
Front—5 passenger Sedan— Standard	1500x69—coil	1575x74—Coil	1750x77 Rate Coil 1803-6 1965x95 Rate Coil 1804-7 2125x110 Rate Coil 1805-8
Rear—5 passenger Sedan—Standard.....	910x105—Leaf	970x110—Leaf	1040x115 Leaf—1803-6 1225x115 Leaf—1804-7 1350x127 Leaf—1805-8 5.81" O.D.—4½" I.D. 1803-6
Front—Size 7 passenger Sedan—Standard .	5.21" O.D.—4" I.D.	5.23" O.D.—4" I.D.	5.92" O.D.—4½" I.D. 1805-8 5.87" O.D.—4½" I.D. 1804-7
No. of Coils	9.4 Effective	9.22 Effective	8.41 Effective—1803-6 7.75 Effective—1805-8 7.96 Effective—1804-7 54¾"x2"—1803-6 54"x2"—1804-5-7-8
Rear Length and Width	54¾"x2"	54¾"x2"	Rubber Bushed No Delco Hydraulic Two-Way
Shackles	Rubber Bushed	Rubber Bushed	
Spring Covers	No	No	
Shock Absorbers—Front	Delco Hydraulic Two-way	Delco Hydraulic Two-Way	Delco Hydraulic Two-Way

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	Monroe, Delco— Direct Action	Delco Direct Action	Monroe Direct Acting— 1803-6 Delco Two-Way—Std.— 1804-5-7-8
SHOCK ABSORBERS—Continued			
Shock Absorbers—Rear	None	Houde Two-Way	Houde Two-Way
Shock Absorber (Lateral Stabilizer).....	None	Front only	Front Only—1803-1806 Front & Rear—1804-5-7-8
Shock Absorber Stabilizer	Front Only		7-8
Spring Material—Front and Rear.....	Silico Manganese	Silico Manganese	Silico Manganese
BRAKES			
Type	Internal Expanding on all 4 wheels	Internal Expanding on all 4 wheels	Internal Expanding on all 4 wheels
Operation	Hydraulic—2 shoe 158.5 sq. in.	Hydraulic—2 shoe 171.5 sq. in.	Hydraulic—2 shoe 196 sq. in.—1803-6 234 sq. in.—1804-5-7-8 98 sq. in.—1803-6 117 sq. in.—1804-5-7-8
Effective Area			
Hand Brake	79.25 sq. in.	85.7 sq. in.	
Lining Size and Material			
Primary	1¾" x ¾" x 10½" Marshall 2201	1¾" x ¾" x 11½" Marshall 2201	2" x ¾" x 11½"—1803-6 2¾" x ¾" x 13"—1804-5-7-8 2" x ¾" x 13"—1803-6 2¾" x ¾" x 13"—1804-5-7-8
Secondary	1¾" x ¾" x 12" Marshall 2201	1¾" x ¾" x 13" Marshall 2201	Material—Marshall 2201 12" centrifuse
Drum Diameter	11" centrifuse	12" centrifuse	

WHEELS

	Motor Wheel Demountable Disc (Steel Artillery Wheel Special Equipment)	Motor Wheel Demountable Disc (Steel Artillery Wheel Special Equipment)	Motor Wheel Demountable Disc (Steel Artillery Wheel Special Equipment)
Size of Tire	16x6.25—4 ply	16x6.50—4 ply	16x7.00—4 ply—1803-6 16x7.00—6 ply—1803-4-5-7-8

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Recommended Tire Pressure—Front..... 26
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Packard One-Ten
1800

Packard One-Twenty
1801

26
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Packard One-Sixty
and One-Eighty
1803-4-5-6-7-8

Fr.—1803-6—26
Rear—1803-6—28
Fr.—1804-7—27
Rear—1804-7—29
Fr.—1805-8—28
Rear—1805-8—32

BODY

Make Packard
Panel Material Steel
Upholstery Material:
Closed Cars Broadcloth
Convertible Cars Antique Grain
Leather
Glass Safety
Windshield Wiper Electric—Tandem
Radio Antenna Left Side cowl or
running board
Accessory
Built-in Trunk Yes
Spare Wheel Location Rear Compartment
Top Type Metal
Trunk Rack Special Equipment

Packard
Steel
Broadcloth
Antique Grain
Leather
Safety
Electric—Tandem
Left side cowl or
running board
Accessory
Yes
Rear Compartment
Metal
Special Equipment

Packard
Steel
Broadcloth
Antique
Leather
Safety
Vacuum, Tandem with
Booster
Left side cowl or
running board
Accessory
Yes
Rear Compartment
Metal
Special equipment
except 1806-7-8

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WEIGHTS

BODY TYPE	1800		1801		1803		1804		1805		1806		1807		1808	
	Type	No. Wt.	Type	No. Wt.	Type	No. Wt.	Type	No. Wt.	Type	No. Wt.						
4-door Touring Sedan		1382 3200		1392 3520		1372 3855		1362 4165								
2-door Touring Sedan		1384 3190		1394 3510												
2-4 Pass. Club Coupe		1385 3165		1395 3450		1375 3760										
2-4 Pass. Conv. Coupe		1389 3200		1399 3540		1379 3825										
2 Pass. Business Coupe		1388 3120		1398 3340		1378 3735										
4-door Club Sedan				1396 3520		1376 4165					1356 3900					
5 Pass. Conv. Sedan				1397 3710		1377 4000										
7 Pass. Touring Sedan									1371 4425							1351 4510
7 Pass. Touring Limousine									1370 4500							1350 4585
4-door Formal Sedan													1332 4210			
Chassis		2380		2590		2835		2950		3100		2885		3000		3150

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Packard Custom Cars

Service & Accessories

Mech. Specifications

Exhaust

Engine

PACKARD
CUSTOM CARS

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Rollson All-Weather Town Car	203

PACKARD CUSTOM CARS

With the announcement of the 1940 Packard models we will also introduce five new Custom body types available on the Custom Super-8 One-Eighty chassis.

For the more discriminating we will continue to offer All-Weather Cabriolets and All-Weather Town Cars by Rollson.

For the younger set who desire distinction and smartness in their motor cars we will offer Convertible Victorias, Convertible Sedans and Sport Sedans by Darrin.

The new Rollson A. W. Cabriolet has ample room in the rear compartment and will include two folding opera type seats as standard, one side-facing and one rear-facing. Both of these auxiliary seats are concealed in the center partition when not in use. By raising the front door windows and attaching the canopy which is easily installed, occupants of the front compartment are protected in case of inclement weather.

The new Rollson A. W. Town Car with ventilating windows in the rear quarter fills the demand for a larger and more conservative type of town car. The two forward-facing auxiliary seats are concealed in the center partition when not in use. As in the case of the A. W. Cabriolet, the windows in the front doors can be raised and the canopy quickly installed over the chauffeur's compartment when desired.

The Darrin Convertible Victoria, Convertible Sedan and Sport Sedan all have the low, long appearance which is so desirable and popular in sport cars today. Even though the overall height of these cars is considerably lower than standard models, the headroom and passenger comfort has not been overlooked. Running boards have been omitted on these three models. Due to the lowness of the radiator and bonnet these cars will not be delivered with fender-

well equipment as the wheels mounted in the front fenders would definitely detract from the appearance. The tops of the Convertible Victoria and Convertible Sedan are of simple construction and can be easily and quickly raised or lowered. A division glass can be installed in the Sport Sedan at a slight extra charge.

Special Designs

While these Custom models will generally meet the requirements for either the conservative or more extreme type of cars, we realize that there is a limited clientele who desire something entirely different. Special bodies ordered one at a time naturally cost more than those offered in our Custom line due to the fact that we order them in limited quantities. However, if you will inform us of your customer's desires we will have some of the leading custom body builders prepare sketches which can be submitted to your customer for approval.

DARRIN CONVERTIBLE VICTORIA

Style No. 700

Available only on the 1806 Packard Custom Super-8 One-Eighty with a wheelbase of 127 inches.

STANDARD EQUIPMENT

Slanting chrome Vee type windshield with stationary glass
 Upholstered in best grade top grain domestic leather
 Top is Dixie sports cloth, fast die facing, L. C. Chase #350112. Top bound in leather to match upholstery
 Five steel wheels
 Black sidewall tires
 One spare tire
 Safety glass throughout
 Insulation on body and panels

Carpet in front and rear passenger compartment
 Spacious luggage compartment
 Front fender flaps
 Chrome stone guards on rear fenders
 Trunk Rack

OPTIONAL EQUIPMENT

Any standard Packard color on body, bonnet, chassis and wheels
 White sidewall tires

SPECIAL EQUIPMENT AT EXTRA COST

Special imported or domestic leather or special upholstery for front or rear compartment
 Special top material

DARRIN CONVERTIBLE SEDAN

Style No. 710

Available only on the 1807 Packard Custom Super-8 One-Eighty with a wheelbase of 138 inches.

STANDARD EQUIPMENT

Slanting chrome Vee type windshield with stationary glass
 Upholstered in best grade top grain domestic leather
 Top is Dixie sports cloth, fast die facing, L. C. Chase #35-112. Top bound in leather to match upholstery
 Five steel wheels
 Black sidewall tires
 One spare tire
 Safety glass throughout
 Insulation on body and panels
 Carpet in front and rear passenger compartments
 Spacious luggage compartment
 Front fender flaps
 Chrome stone guards on rear fenders

Any standard Packard color on body, bonnet, chassis and wheels
 White sidewall tires

OPTIONAL EQUIPMENT

Any standard Packard color on body, bonnet, chassis and wheels
 White sidewall tires

SPECIAL EQUIPMENT AT EXTRA COST

Division glass raised and lowered by means of a regulator
 Special imported or domestic leather or special upholstery for front or rear compartment
 Special top material

DARRIN SPORT SEDAN

Style No. 720

Available only on the 1807 Packard Custom Super-8 One-Eighty with a wheelbase of 138 inches.

STANDARD EQUIPMENT

Slanting chrome Vee type windshield with stationary glass
 Laidlaw de luxe broadcloth with best top grain leather trim and piping
 Five steel wheels
 Black sidewall tires
 One spare tire
 Safety glass throughout
 Insulation on body and panels
 Carpet in front and rear passenger compartments
 Spacious luggage compartment
 Front fender flaps
 Chrome stone guards on rear fenders
 Trunk Rack

OPTIONAL EQUIPMENT

Any standard Packard color on body, bonnet, chassis and wheels

White sidewall tires

SPECIAL EQUIPMENT AT EXTRA COST

Division glass raised or lowered by means of a regulator
Special imported or domestic leather or special upholstery for front or rear compartment

ROLLSON ALL-WEATHER CABRIOLET

Style No. 694

Available only on the 1807 Packard Custom Super-8 One-Eighty with a wheelbase of 138 inches.

STANDARD EQUIPMENT

Slanting windshield with stationary glass
Painted stanchions with chromium frame around windshield glass

Black turtle grain leather for roof and rear quarters

Laidlaw broadcloth 2719 for rear compartment

Black leather for front compartment

Opera type occasional seats, one side-facing and one rear facing (concealed when not in use)

Glass in partition lowers

Two carpet-covered hassocks in rear compartment

Folding center arm rest in rear seat back

Equipped with radio antenna—lead on right hand side of cowl panel

Conventional drop-type windows

Safety glass used throughout

Fenderwell equipment

Trunk rack

Six steel wheels

Black sidewall tires

Two spare tires

Trunk built in rear of body

Entire car, including body, bonnet, chassis and wheels, painted black

OPTIONAL EQUIPMENT

Any Packard Super-8 upholstery cloth

Any Packard Super-8 color on body, bonnet, chassis and wheels

White sidewall tires

ROLLSON ALL-WEATHER TOWN CAR

Style No. 695

Available only on the 1808 Packard Custom Super-8 One-Eighty with a wheelbase of 148 inches

STANDARD EQUIPMENT

Slanting windshield with stationary glass

Painted stanchions with chromium frame around windshield glass

Black turtle grain leather for roof and rear quarters

Laidlaw broadcloth 2719 for rear compartment

Black leather for front compartment

Forward-facing occasional seats

Glass in partition lowers

Carpet-covered foot rest in rear compartment

Folding center arm rest in rear seat back

Equipped with radio antenna—lead on right hand side of cowl panel

Rear quarter windows of the ventilating type

Safety glass throughout

Fenderwell equipment

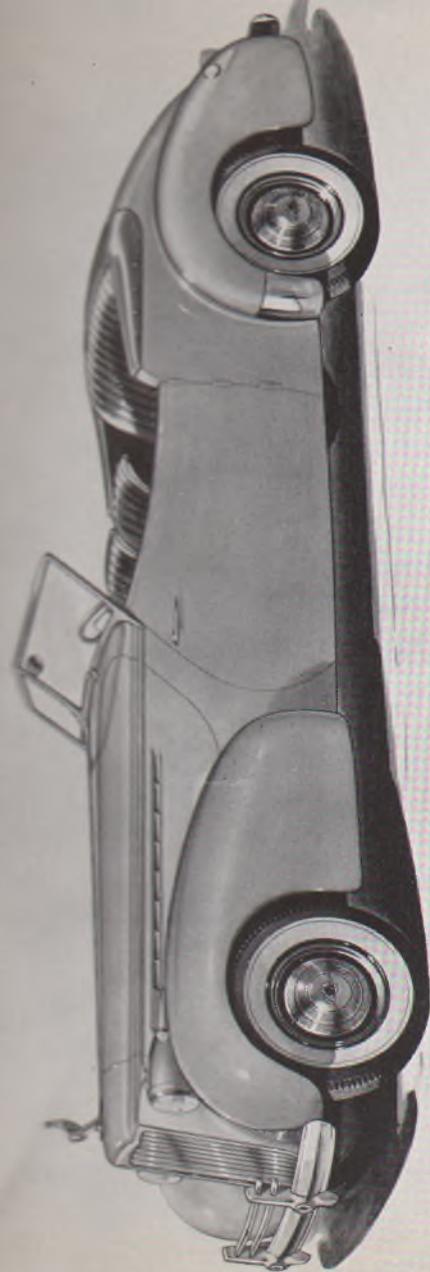
Trunk rack

Six steel wheels

Black sidewall tires
Two spare tires
Trunk built in rear of body
Entire car, including body, bonnet, chassis and wheels,
painted black

OPTIONAL EQUIPMENT

Any Packard Super Eight upholstery cloth
Any Packard Super-8 color on body, bonnet, chassis and
wheels
White sidewall tires



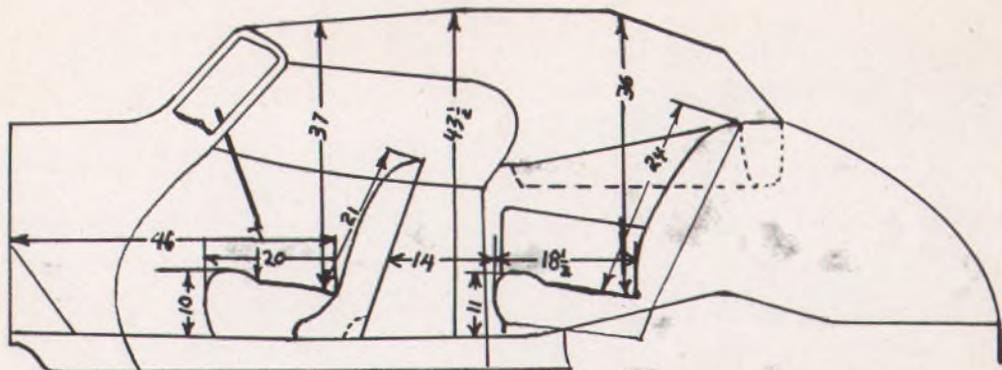
Darrin Convertible Victoria—Style 700



Darrin Convertible Sedan—Style 710



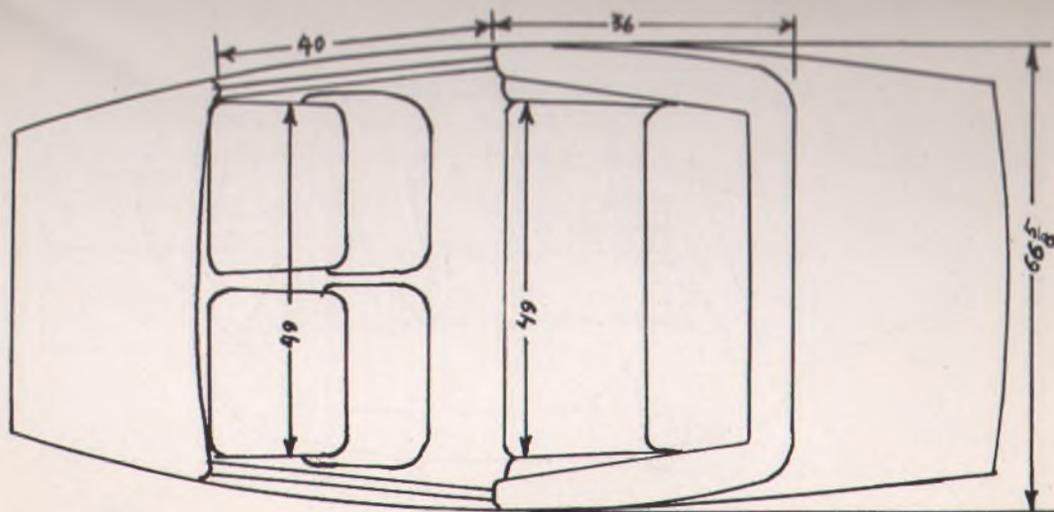
Darrin Sport Sedan—Style 720



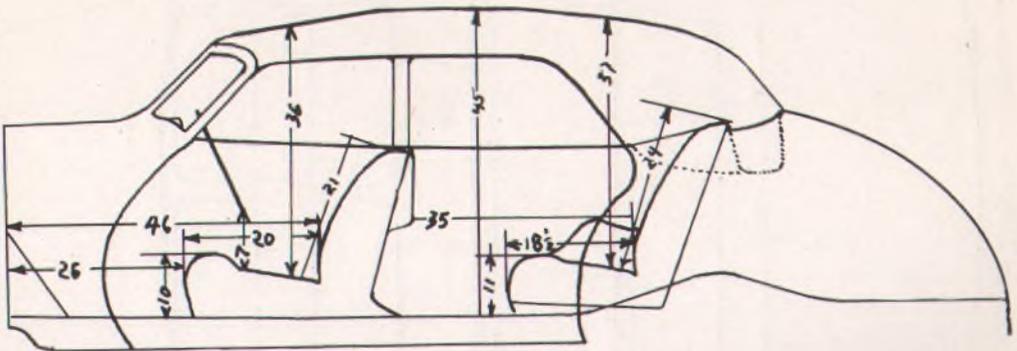
Darrin Convertible Victoria—Style 700

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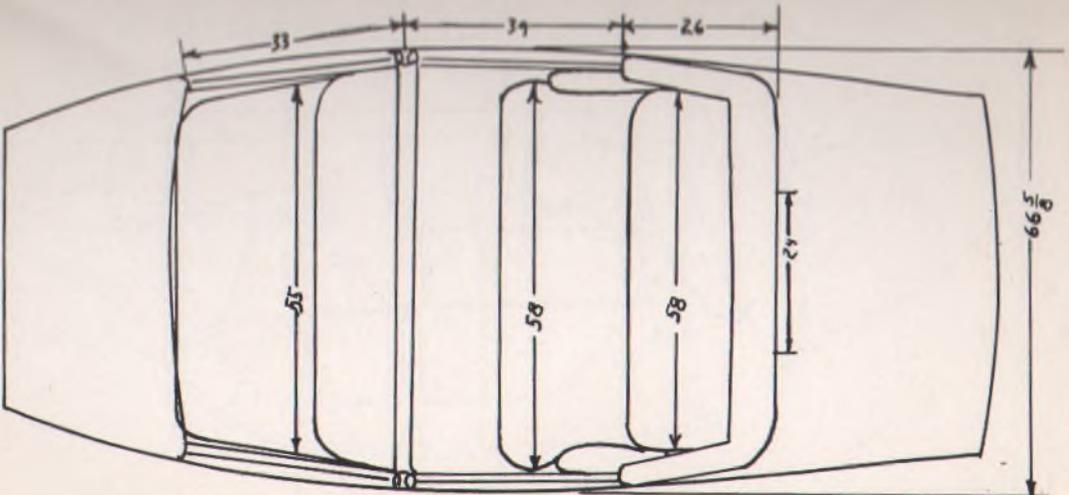


Darrin Convertible Victoria—Style 700

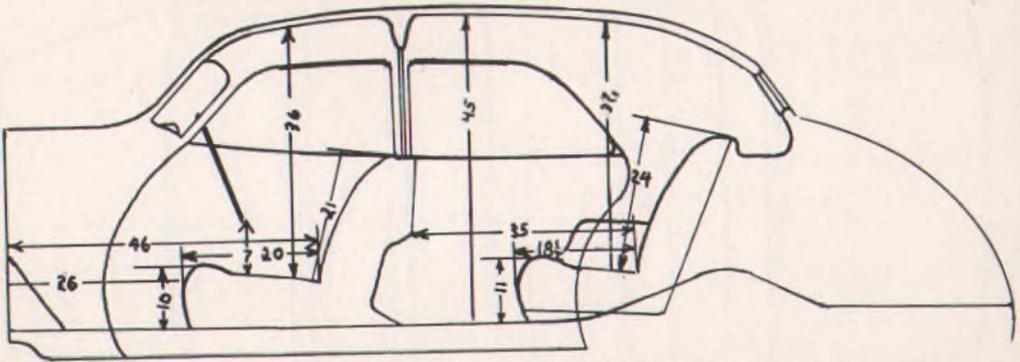


Darrin Convertible Sedan—Style 710

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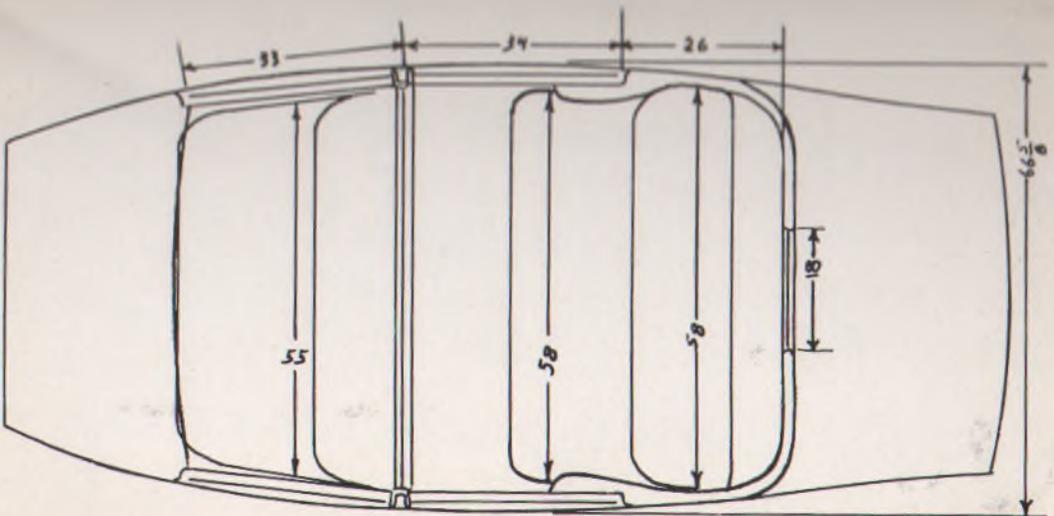
Darrin Convertible Sedan—Style 710



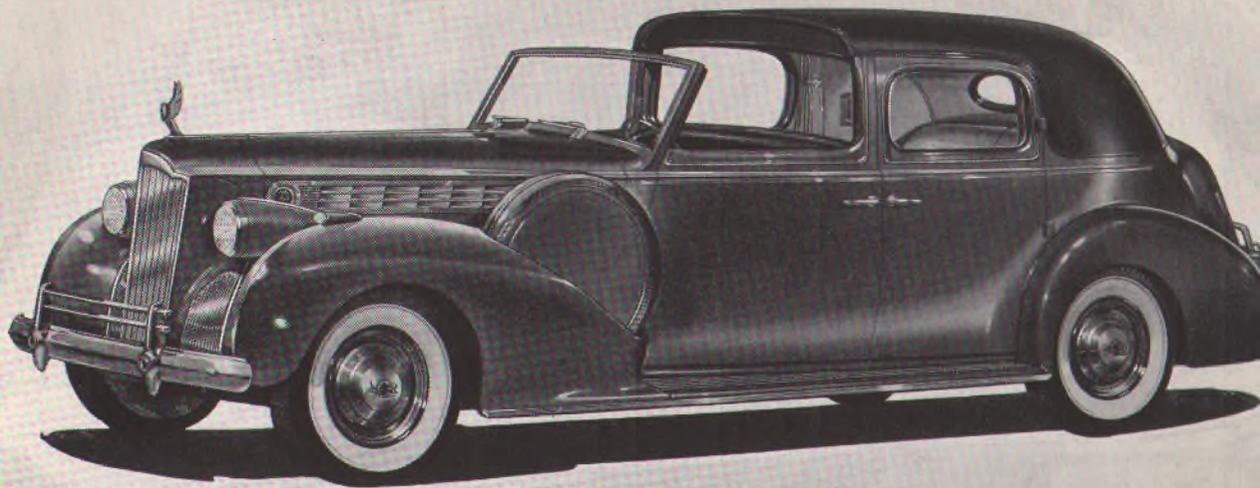
Darrin Sport Sedan—Style 720

Printed in U. S. A.

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Darrin Sport Sedan—Style 720



Rollson All-Weather Cabriolet—Style 694



Rollson All-Weather Town Car—Style 695



PACKARD WARRANTY

PACKARD MOTOR CAR COMPANY has warranted that for a period of ninety days from the date of original delivery to the purchaser of each new Packard car or before such car has been driven 4,000 miles; whichever event shall first occur, it will replace, free of charge, any part or parts thereof, including all equipment or trade accessories, except tires, supplied by it as standard equipment, claimed within that period to be defective and found by the Company upon examination to be so, provided such part or parts are returned to the Company within that period for credit or replacement. Such free replacement does not include transportation charges to or from the Packard factory.

PACKARD SERVICE POLICY BY DISTRIBUTERS AND DEALERS

The original purchaser of a new Packard car will be entitled to the following:

1. **Parts and Labor**—For 90 days after the original delivery of such motor car to the owner, provided the car has not been driven to exceed 4,000 miles, any parts, including all standard equipment, except tires, that may be adjudged by Packard Motor Car Company to be defective under its warranty will be replaced or repaired by any Packard dealer or distributor in the United States and Canada without charge to the owner for material or labor.
2. **Adjustment**—The owner is entitled during this period to receive inspections and adjustments of his new car (by the selling Packard dealer or distributor) as indicated on the coupons attached to the Owner's Service Card, provided such adjustments are not made necessary by accident, neglect or misuse.

3. **Inspections**—Throughout the life of the car the owner is entitled to have it tested and inspected without

charge every 30 days or 1,000 miles by an authorized Packard Service Station, provided such inspection requires no removal or dismantling of parts or units.

4. **Owner's Service Card**—At the time of delivery the owner is provided with an Owner's Service Card which will introduce him to any authorized Packard Service Station and entitle him to receive service in accordance with this policy. The owner should carry the card with him at all times so he can present it when necessary.

5. **Tourist Privileges**—When touring, the owner is entitled, upon presentation of the Owner's Service Card, to all of the benefits of this policy during the warranty period at any authorized Packard Service Station in the United States and Canada, provided the date of delivery and name of the dealer from whom the car was purchased are stamped on the plate provided for that purpose on the dash.

6. **Change of Residence**—In case the owner changes his residence from one location to another before the warranty period has expired, the Packard Service Station serving the locality into which the owner moves will, upon presentation of the Owner's Service Card, render any no-charge service to which the owner may be entitled.

7. **Service Charges**—Every authorized Packard Service Station is provided with a manual containing the correct charges for service work. In order that maintenance costs may be kept as low as possible, these rates are based on careful studies of the shortest times for doing the service operations consistent with proper workmanship. Guaranteed Packard Parts can be obtained from any authorized Packard Service Station and should be used for replacement purposes.

LUBRICATION-INSPECTION PLANS

PLAN NO. 1—The Blue Book—At a suggested price to the owner of \$6.50 the following Lubrication-Inspection Service is rendered.

1. Ten complete chassis lubrications with correct factory specified oil and greases required at the first 500-mile and thereafter at 1,000-mile intervals. 2. Ten complete inspection services which keep both the owner and our service department familiar with the condition of the car. This tends to prevent unexpected and expensive repair work and is a preventive service. The book should be given to the owner at the time of delivery. The blue book may be accepted at full face value in exchange for Plan No. 2 or Plan No. 3.

PLAN NO. 2—The Buff Book—This Lubrication-Inspection Service includes all operations of Plan No. 1 and in addition includes the lubricants for motor oil changes at the first 500 miles and every 2,000 miles thereafter for a 10,000-mile period. Lubricant is also supplied for front wheel bearing lubrication and for changes in the transmission, rear axle and steering at the proper season. Local prices for Plan No. 2: One-Ten \$.....; One-Twenty \$.....; One-Eighty \$.....

PLAN NO. 3—The Red Book—This Lubrication-Inspection Service includes all the operation of Plan No. 2, and in addition includes additional motor oil changes so that the oil is changed each 1,000 miles. It is a service that may be desirable for hard drivers and others preferring the 1,000-mile oil changes. Local prices for Plan No. 3: One-Ten \$.....; One-Twenty \$.....; One-Eighty \$.....

PACKARD APPROVED ACCESSORIES

It is impractical, from a manufacturing standpoint, to build into the cars every item that the ultimate owner may desire. For example, heaters, which are very desirable in the Northern part of the country, are not necessary in the States bordering on the Gulf. For this reason, the Packard Motor Car Company has designed and approved a number of accessories for the selection of Packard car owners. The use of these accessories will provide greater comfort and convenience, as well as permit Packard owners to add the various appearance items which individualize their cars. Do not hesitate to sell your owners Packard Approved Accessories, as they are guaranteed by the factory.

De Luxe Radio—The De Luxe radio for 1940 is a five-station automatic radio with a single button control.

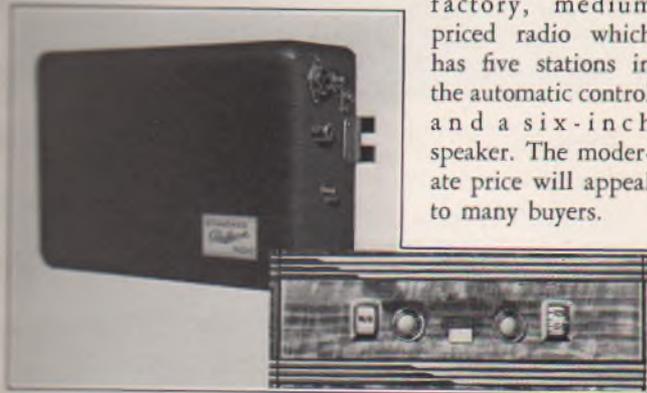


Due to a new design, it will be as easy and rapid to select the station with the single button as it was with the radio formerly used. A greater selectivity and more powerful reproduction has been built into this new set. The eight-inch speaker is a full third larger than the average speaker used in

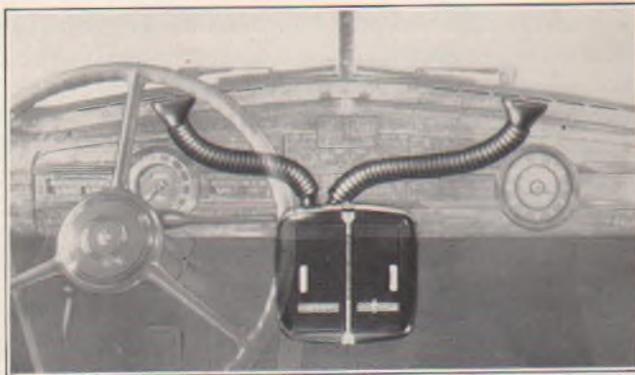
automobile radios, and provides a much truer reproduction of broadcast programs. A two-stage tone control is operated by a separate button on the instrument panel control and any additional stations may be selected as desired in the conventional manner.

Standard Radio—The Standard Radio replaces the Single Unit radio previously used, and will sell for \$48.50.

This is a very satisfactory, medium priced radio which has five stations in the automatic control and a six-inch speaker. The moderate price will appeal to many buyers.



Super De Luxe Heater—This heater is built on a new principal. The reversible fan will deliver direct heat to quickly warm the car and its occupants. By reversing the fan the heat is diffused indirectly and will keep the car comfortably warm without creating a direct draft. Built into this heater, as an integral part of it, is the defroster, so that when the motor is in the reversed position part of the heat is diverted against the windshield glass. This provides a more economical installation and still supplies the safety of a defroster. The switch, mounted in the conventional manner on the dash, permits two speed ranges for the fan

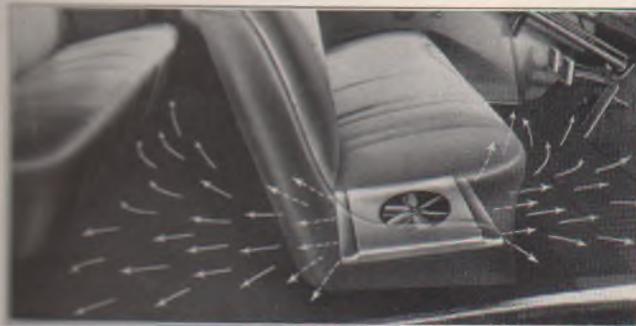


in either the direct or indirect position. This switch is illuminated at night for the owner's convenience.

Standard Heater with Defroster—A moderately priced heater with defroster attached, built to Packard specifications. This heater is ideal for coupes and use in milder climates. It is approximately 68% as efficient as the new Super De Luxe heater.



Dual Steam (Under-the-Seat-Heater)—This is a new type heater, designed to fit under the front seat and distribute the heat evenly between the front and rear compartments of the car, insuring uniform comfort for all passengers. A separate hot water windshield defroster is in-



cluded in this equipment. This equipment is designed to fit the 18th Series cars only.



Packard Fog Lights—These amber colored lights, mounted on the front bumper, throw a strong beam of fog-penetrating light and will be appreciated when driving through fog, dust or snow. They should be sold in pairs.

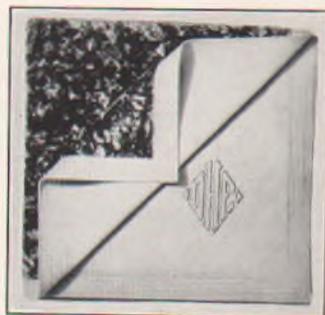
Packard Spotlight—This light is adjustable to any direction from inside the car. Doctors, salesmen and suburban owners will find it a time saver in finding road and street signs.



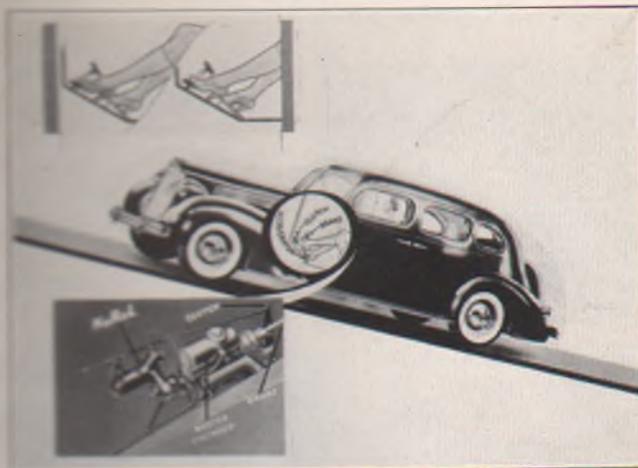


Backing Light—This new miniature flood light hooks on the rear bumper. The switch is automatic as it is attached to the reverse gear shifter rod and turns on the light whenever the car is shifted into reverse. It is ideal for illuminating dangerous obstacles behind the car which are hard to locate in the dark.

Packard Custom Robes—Packard robes are tailored in various upholstery materials to match the interior trim of the car. They are lined on one side with silk plush and carry the owner's monogram in any color or design as desired. This is a very distinctive, as well as useful accessory.



Packard NoRol—A safety device to hold a Packard car from rolling back down a hill or incline if you have to stop on a hill in the country or in traffic on a busy city street. There is nothing new for the driver to learn or worry about. When he brings the car to a stop on a hill he depresses the brake and clutch pedals. The NoRol unit



holds the car from rolling back. He can then remove his foot from the brake to operate the accelerator and drive on as soon as traffic permits. When the clutch is engaged the NoRol is automatically released, permitting the car to move ahead without risk of rolling back.

Auxiliary Front Bumper—This three-bar auxiliary bumper, of a new design to harmonize with the new front



end appearance of the cars, will protect the radiator and grille from damage when driving in heavy traffic or when parked on a busy street.

Radiator Grille Protectors—The new grille protector is of sturdier construction and taller design to harmonize with the new radiator design. It will prevent the rear bumpers of other cars from over-riding your front one and damaging the radiator or grille.



Trunk Lid Guard—This guard is mounted on a hinge and folds down out of the way when you wish to open the luggage compartment of the car. It is very strong and is designed to protect the trunk door from the front bumper of other cars.



Packard San-Tex Seat Covers—These covers are very desirable for year-around use. They are cool in summer and heavy clothing will not adhere to them in winter. Tailored to fit, they are very smart and cool in appearance.

ACCESSORY PRICE LIST

De Luxe Radiator Emblem	\$ 6.75
Crestmont Radiator Emblem	10.00
Foot Hassocks	5.50
Radiator Grille Guard	2.25
Trunk Lid Guard	2.95
Auxiliary Bumper	7.95
Standard Heater with Defroster	18.75
Super De Luxe Heater with Defroster	21.95
Dual Stream Heater with Defroster	27.50
Fresh Air Intake	10.95
Licence Plate Frames	2.25
Fog and Road Lights (pair)	12.75
Super Ray Driving Lights (pair)	18.75
Backing Light	4.95
Oil Filter Equipment	6.50
Seat Covers, Sedan	12.75
Seat Covers, Coupe	7.50
De Luxe Steering Wheel	11.95
De Luxe Radio	58.50
Standard Radio	48.50

This supersedes previous price lists.

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