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Complete Service

THE development of retail selling in this country is interesting, and a study of it is profitable.

Not many years ago stores handled one type of merchandise. We had drug stores that sold only drugs, clothing stores that sold only clothing and furniture stores that sold only furniture.

In the smaller communities the volume of business did not warrant these separate overhead expenses. The profits were not in keeping with the investment and efforts required. Therefore, the grocery store added a small line of clothing—of furniture—of farm implements and a few Ford parts. The drug store took on a line of stationery, clocks, light hardware, books and what have you. These small community stores were the forerunner of the city department stores. Today one overhead serves to a large extent the needs of the American home, and they are profitable enterprises too.

Dividing the automobile service business into two general classes of Repair Service and Maintenance Service and analyzing it on this basis results in a most interesting picture. The results would look something like this for a three year period.

The ratio of expense in the first year of use is about

MAINTENANCE		REPAIR
$5.00	*to*	$1.00

In the second year of use

MAINTENANCE		REPAIR
$2.00	*to*	$1.00

In the third year of use

MAINTENANCE		REPAIR
$1.50	*to*	$1.00

The Average of these would be

MAINTENANCE		REPAIR
$2.83	*to*	$1.00

In fact, about as much is spent each year for lubrication and washing as is spent for repairs.

The average Dealer doesn't figure it worth his time to go after this type of business, and if he doesn't get any of it he is receiving less than 50% of the income possible from each customer on his active list.

And that isn't the sad part of the story—because in these figures we are assuming that the average Dealer is getting 100% of the emergency work from each customer. For the time being, we have said enough about the importance of owner follow-up. These figures ought to emphasize its importance.

Next—how many Dealers and Distributers are organized to go after more than 50% of the owners service dollar?. Think it over. How many cars are sold as a complete unit—sold on the strength of "good service" and when the owner drives in you ask him to take his battery to the North end of town—his flat tire to the South end—his car washing to the East end—the top work to the West end and his paint job up some alley?

How many cars are sold on "appearance"? How many of these owners naturally wish to preserve this appearance? How many Packard Dealers are in a position to serve him on this one item? If a car can be sold on appearance, why can't wash jobs, polish jobs, plating jobs, fender work, touch up and others be sold on the same basis?

We know that the profit on new and used cars combined is a slim one and that a fair profit on service work, parts and accessories is possible with expert supervision. A good 85% of the income from all these must go to pay mechanics, service salesmen, clerks and overhead, and all to serve less than 50% of the work being done on cars today. We know that the average dealer can, without greatly increasing his overhead, serve a large share of the other 50% of his market. Not only can he have the profit from his whole market but he will have a list of owners satisfied to a degree that he never thought possible.

Mr. Average Dealer can well afford to give some thought to the fact that today every customer that drives into his station is leaving with him less than half of every dollar he spends on his car.

"Better Service Means More Car Sales"

Packard Model 726-733 Specifications

A SUMMARY OF THE PRINCIPAL CHANGES

BONNET:

The bonnet has been redesigned to fit the new cowl. It has been made one inch longer and three inches wider at the rear where it is shaped to fit the new cowl contour.

Stiffeners have been added along the lower edges and at each end of the bonnet sides to prevent rattles.

The bonnet handles have been located higher up on the bonnet sides to make them more accessible.

The stop buttons are omitted from the bonnet tops.

BUMPERS:

Both front and rear bumper bars have been changed to a half oval section and the bolts at the ends of the bars relocated to improve the appearance.

Bumperettes are now standard equipment. A full bumper is supplied with DeLuxe equipment.

Gravel deflector shields have been removed.

CLUTCH AND TRANSMISSION:

See separate articles.

BRAKES AND CONTROLS:

Front brake cables have been lengthened.

Brake shoes are 1¾ inches wide instead of 2 inches.

The hand brake lever has been offset to the left to provide more leg room.

COOLING:

The radiator shutter mounting has been changed to a more rigid construction.

The shutter thermostat mounting and linkage has been simplified and the thermostat is now assembled from the front of the radiator core.

A return spring has been fitted to the shutters to insure complete closing and eliminate rattles.

The radiator upper tank has been simplified and the inlet and outlet flanges redesigned.

The design of the radiator filler and cover has been changed to give a new appearance.

DASH, TOEBOARDS AND CONTROLS:

The instrument board has been redesigned to incorporate a compartment with a neat fitting door at each end of the board.

The instrument bezels are heavier.

A reading light has been added.

The choke rods, spark rods, reading light and instrument board doors have been fitted with Ivory Catalin pull knobs.

The steering gear instrument board bracket has been placed behind the instrument board and is adjustable.

The pull handle of the chassis lubricator has been moved one inch to the left to provide more clearance for easy operation, and the words "pull daily" have been added to the handle.

The aluminum toeboard has been changed to a plain instead of a serrated surface and a front compartment carpet specified.

The dash panel is lined with a hair felt paperboard.

The finish on the instrument is burled walnut.

The spark and choke controls on rear of dash have been redesigned to provide easier and smoother operation.

ELECTRICAL SYSTEMS:

The wiring harness has been changed to provide for the new concealed headlight wiring and the reading light.

FRAME:

The frame side members have been changed at the rear to provide for a deeper seat cushion and a larger gasoline tank. The wheelbase is lengthened one inch.

The front cross member has been changed to provide more clearance for the vibration damper and fan pulley.

The rear intermediate cross channel has been redesigned to obtain greater rigidity.

FRONT AXLE:

A single row ball bearing has been specified in place of the double row bearing previously used in the steering knuckle.

A new steering knuckle has been designed to accommodate the new ball bearing and also to use a smaller inner wheel bearing.

FENDERS:

The front and rear fenders have been redesigned to fit the new smaller tire on the 733 and a bead added to the lower edge.

A new fender bracket has been designed in connection with the concealed headlight wiring.

GASOLINE SYSTEM:

The capacity of the gasoline tank has been increased to twenty-five gallons. A new filler and cap similar to the 645 type have been designed.

LAMPS:

The headlamps have been changed to a more rounded bullet type and in the upper portion of the rim the top lines of the Packard radiator have been incorporated.

A new tail lamp has been designed with the central part resembling the top contour of the Packard radiator.

A new headlamp bracket has been designed in order to conceal the headlight wiring.

A new tail lamp bracket of a more rigid construction and which entirely conceals the wires has been designed.

LUBRICATION:

The two brake rear rocker levers have been added to the chassis lubricating system.

MOTOR:

The fan drive pulley on the crankshaft has been moved forward of the vibration damper.

Two narrow belts are employed to drive the fan which greatly increases the life of the belts.

The thermostat has been eliminated from the cylinder head and the water outlet cast integral with the head.

The crankshaft main bearing caps are made of cast iron and the front cap has been lengthened and is secured in place by four studs.

The front end of the oil manifold has been changed to agree with the new front main bearing construction.

The cheek thickness of the crankshaft has been increased $\frac{1}{16}$ inch and the width of the connecting rod lower end has been decreased $\frac{1}{16}$ inch.

The water pump shaft is made from non-corrosive steel and is mounted on a ball bearing in place of a roller

bearing and the fan thrust is now taken on the ball bearing instead of a plain washer and thrust button.

The cylinder block has been changed so that the valve cover now contacts with the cylinder block only, which provides an oil-tight joint.

The throttle shaft is now supported by a bracket attached to the intake manifold.

The main bearings are steel backed and babbitt lined.

The cylinder water jacket plate has been changed so that all the water from the pump goes to the rear of the motor and then circulates forward.

REAR AXLE:

The rear wheel bearings have been changed from ball to roller bearings and the axle shafts and mountings redesigned to employ two opposed Timken roller bearings for each rear wheel.

The shock absorber mountings on the rear axle case are now stamped into the case instead of being applied.

The differential carrier has been redesigned to provide a more rigid support of the pinion bearing. Adjustment of the pinion is now made by the use of shims.

The 4⅓ axle ratio has been made standard on the 733.

SHOCK ABSORBERS:

The front shock absorber lever has been redesigned to stop on the spring instead of the spring clip.

The rear shock absorber lever has been redesigned to provide more clearance with the exhaust tail pipe.

SPRINGS:

Metal spring covers are standard equipment.

The rate of action of all rear springs except the touring has been lowered to improve the riding qualities.

STEERING:

The steering gear has been redesigned and the worm mounted on two roller bearings instead of plain bearings.

The outside diameter of the steering wheel has been increased one half inch and the rim section has been decreased one-sixteenth inch.

The method of attaching the steering wheel to the hub has been simplified and the screws concealed.

The cork insert friction discs have been replaced by spring steel control levers.

The horn button and steering wheel hub cover plate have been redesigned to obtain better appearance.

TOOL EQUIPMENT:

The starting crank is interchangeable with the 740.

WHEELS:

The 6.00 x 20 tire has been specified for the 733 model.

The number of attaching bolts for each wheel has been reduced to seven.

SPECIAL EQUIPMENT:

Chromium plated fender lamps can be specified.

A 4⅔ to 1 and 5 to 1 rear axle ratio can be specified.

Transmission and Clutch

The motor unit includes the clutch and transmission assemblies enclosed in a housing attached to the rear end of the crankcase casting. The transmission case contains a selective gear set giving four speeds forward and one reverse. The driving torque is transmitted to the spiral bevel driving gears in the rear axle through a shaft with a universal joint at each end. The final drive is through the differential and live axle shafts to which the rear wheels are keyed.

Action of Speed Changing Gears:

A splined driving shaft carries the low speed, second speed and third speed driven gears. The low and second speed gears slide on the splined driving shaft to engage with the countershaft gears. The third speed gear runs free and is constantly in mesh with the countershaft gear, it is locked into the driving position by a shifting clutch collar which couples the splined shaft and gear together. For direct drive the clutch is shifted into mesh with the clutch gear thus coupling the clutch shaft and transmission driving shaft together.

In neutral with the motor running and the clutch engaged all gears are in motion with the exception of the low and second speed sliding gears, which are fitted by means of splines to the main transmission driving shaft. The forward end of the main shaft is mounted in a roller bearing located on the inside of the clutch shaft gear.

First speed is obtained by sliding the larger or first speed gear forward into mesh with the first speed countershaft gear. This permits the car to be driven forward at the lowest transmission gear ratio, through the constant mesh gears, at the front of the case, and the countershaft and first speed gears.

Second speed is obtained by sliding the intermediate or second speed gear forward into mesh with the second speed countershaft gear. Third speed is obtained by sliding the driving clutch back until the internal teeth in this gear engage with the teeth of the hub of the third speed gear. Direct drive is obtained by sliding the driving clutch forward until the internal teeth engage with the ends of the teeth on the clutch shaft thereby locking both shafts, together.

For reversing the drive, the intermediate transmission driving shaft gear is brought back into mesh with the reverse idler pinion, which is in constant mesh with the small gear at the rear end of the countershaft. The drive is then through the constant mesh gears at the forward end of the transmission case, the countershaft and the reverse idler pinion which is in mesh with both the countershaft gear and the driving shaft gear. This arrangement causes the main driving shaft to be revolved in the reverse direction.

While it is possible to shift from any one gear to another without going through an intermediate gear, it is necessary in each case to move the shifter lever through the neutral position. This brings the sliding gears out of engagement and in making the next shift the sliding gear that is not to be used is automatically locked in the neutral position.

The New Carburetor

The carburetor is of the expanding type and automatically provides the correct proportions of air and gasoline throughout the entire range of the motor speeds. All conditions are compensated for by a single adjustment (A).

To start a cold motor, pull out the dash control or choke to its extreme position, turn on ignition and step on starter. The throttle lever should be left closed or in the idling position. The operation of the dash control automatically opens the throttle-plate the required amount. If the engine is extremely cold a few quick strokes with the accelerator will pump raw fuel into the manifold to produce a more combustible mixture for starting.

The PRIMARY METERING FUNCTION consists of two identical air valves (B) hinged so as to open upward. These function to automatically adjust themselves to admit the proper air supply. The correct amount of fuel is proportioned with the air because the vane fingers (C) which engage the metering head (D) cause the metering assembly to lift and to meter the fuel as it passes the tapered pin (E). The metering assembly consists of an atomizing head (D) which is attached to a spring loaded hollow stem (F) and operating in a dash pot (G). A tapered pin projects into the stem orifice and meters the fuel supply.

Correct adjustment of metering pin (E) provides the only setting necessary to obtain proper motor operation for idle and higher speeds.

THE AUXILIARY FUEL UNIT combines the functions of a power jet (H) pump (J), priming device (K) and warming-up jet (L).

Fuel enters the carburetor in strainer (M) and a conventional float and needle maintain a constant level in float chamber (N). This fills the dash pot (G) and submerges the end of pump housing.

The dash control operates a lever (O) which rotates the pump housing. When choked in extreme position it closes all openings except primer passage (K) and permits direct suction of fuel into manifold above the throttle plate. In this position the throttle is opened mechanically to admit sufficient air.

As soon as the engine starts the dash control is to be returned about half way to a position determined by trial. In this position the pump housing closes the primer passage and positions warming-up jet (L) to supply more than the normal fuel supply for cold motor conditions. In proportion to the rate of increase of motor temperature the dash adjustment is to be gradually returned to its normal position. This latter operation gradually closes the warming-up jet, opens the power jet and air bleed (P).

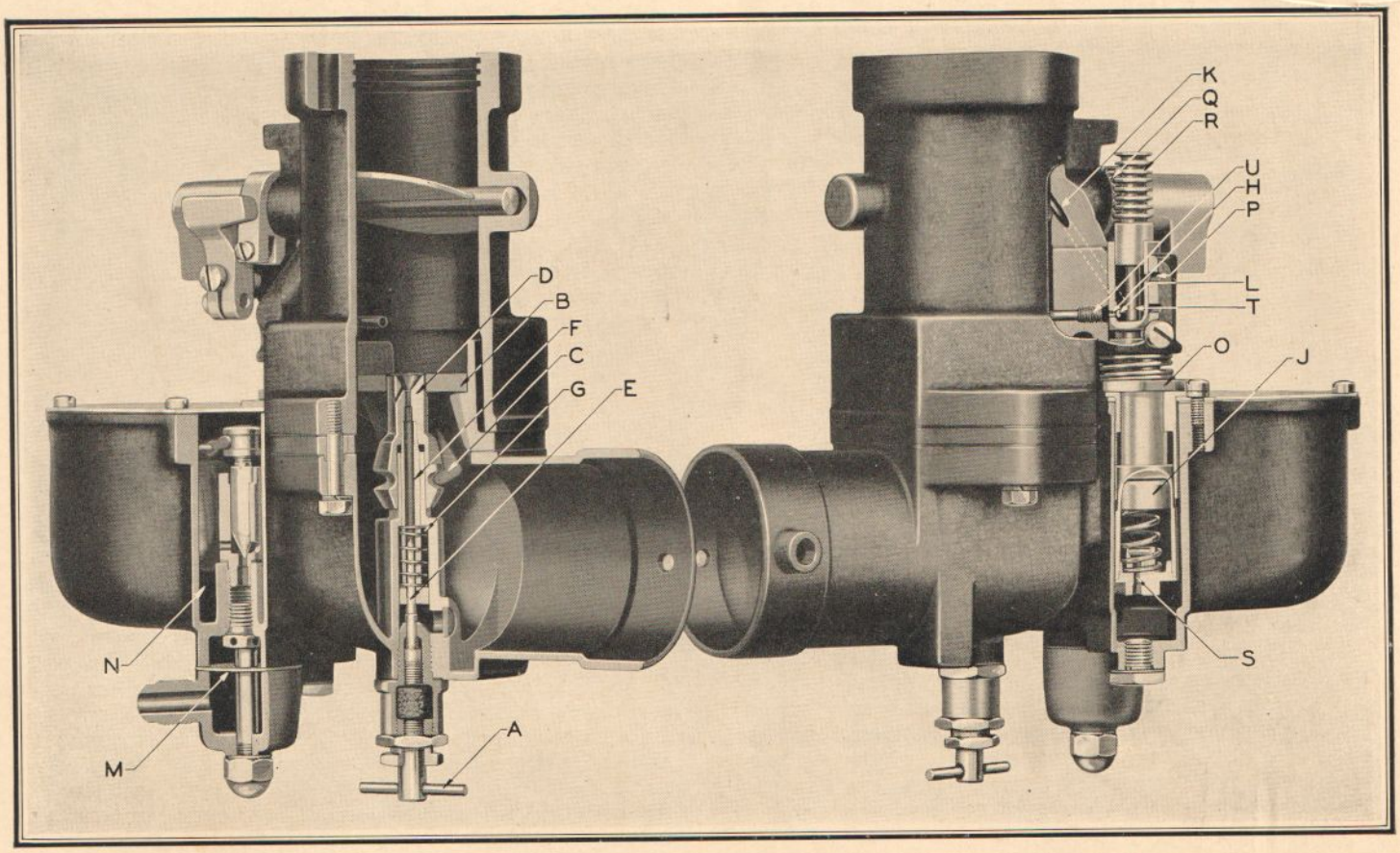
Suction in the mixing chamber aspirates fuel from the main nozzle in the metering head and the vanes open to admit air. As the vanes open wider the metering head assembly rises. This raises the orifice in the position in relation to the tapered pin and supplies more fuel.

Attached to the throttle shaft is a gear (Q) meshing with a rack (R) connected to a piston (J) in the pump housing. For throttle openings corresponding to a level road speed of sixty miles per hour or less, the rack (R) uncovers the air bleed (P). This hole is large enough to destroy all suction on the power jet (H) and functions as an economizer. At sixty miles per hour level road speed the rack (R) closes off this air bleed hole (P) and additional fuel is sucked into the mixing chamber to give the richer mixture for maximum power demands.

If the throttle is opened suddenly the pump piston (J) compresses the fuel below it (imprisoned in the pump housing by virtue of the check valve) (S) and forces a charge of fuel upward through the stem (T) and into the mixing chamber through the power tube (U) to supply the additional charge of fuel necessary for sudden acceleration.

Occasional cleaning of strainer (M) is recommended—at the same time drain sediment trap. There are no parts in this carburetor to wear and affect operation. It is designed to give easy starting and economical performance over the entire range of operation.

Correction of adjustment should be made only at one point, the metering pin screw (A). With a warm motor this should be set to give an idling adjustment of 5 m.p.h. in high gear. For a richer mixture turn to the left.



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