PACKARD
Service Counselor
PARTS ★ ACCESSORIES ★ PRODUCT ★ PROFITS
INSTITUTIONAL PROMOTIONAL
APPROVED Packard SERVICE

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BLUE CORAL CONTEST WINNING DEALERS

OUR CONGRATULATIONS ON A SWELL JOB!

ALBANY
1. Schenectady, N. Y.
2. Newburgh, N. Y.
3. Albany, N. Y. (Zone Retail Store)

ATLANTA
1. Jacksonville, Fla.
2. Atlanta, Ga.
3. Nashville, Tenn.

BOSTON
1. Portsmouth, N. H.
2. Cambridge, Mass.
3. Brookline, Mass.

BUFFALO
1. Berwick, Pa.
2. Geneva, N. Y.
3. Susquehanna, Pa.

CHICAGO
1. Michigan City, Ind.
2. Burlington, Ia.
3. Iowa City, Ia.

CINCINNATI
1. Louisville, Ky.
2. Huntington, W. Va.
3. Indianapolis, Ind.

CLEVELAND
1. Ashtabula, Ohio
2. Cambridge, Ohio
3. Millersburg, Ohio

DALLAS
1. Covington, La.
2. Goose Creek, Tex.
3. Midland, Tex.

DETROIT
1. Grand Rapids, Mich.
2. Saginaw, Mich.
3. Monroe, Mich.

KANSAS CITY
1. Deer Lodge, Mont.
2. Cushing, Okla.
3. Gallup, N. Mex.

LOS ANGELES
1. Los Angeles (Packard Crenshaw Motor Co.)
2. Santa Barbara, Calif.
3. San Diego, Calif.

MILWAUKEE
1. Milwaukee (King Motors)
2. Green Bay, Wis.
3. Racine, Wis.

MINNEAPOLIS
1. Minneapolis (Zone Retail Store)
2. Bemidji, Minn.
3. Bismarck, N. D.

NEW YORK
1. Peconic, L. I., N. Y.
2. Winsted, Conn.
3. Bedford Hills, N. Y.

PHILADELPHIA
1. Kennett Square, Pa.
2. Waynesboro, Pa.
3. Norristown, Pa.

PHOENIX
1. Tucson, Ariz.
2. Phoenix (Zone Retail Store)
3. ———

PITTSBURGH
1. Canonsburg, Pa.
2. Tyrone, Pa.
3. Parsons, W. Va.

PORTLAND
1. Portland (Zone Retail Store)
2. Portland (Smith-Lyons Motor Co.)
3. Longview, Wash.

RENO
1. Alturas, Calif.
2. Greenville, Calif.
3. Fallon, Nev.

ST. JOHNSBURY
1. Hanover, N. H.
2. Colebrook, N. H.
3. Woodstock, Vt.

ST. PAUL
1. Albert Lea, Minn.
2. Austin, Minn.
3. St. Paul (Zone Retail Store)

SALT LAKE CITY
1. Twin Falls, Idaho
2. Boise, Idaho
3. Pocatello, Idaho

SAN FRANCISCO
1. Chico, Calif.
2. Monterey, Calif.
3. Marysville, Calif.

SEATTLE
1. Spokane, Wash.
2. Seward, Alaska
3. Mt. Vernon, Wash.

WASHINGTON
1. Washington (Haley's, Inc.)
2. Norfolk, Va.
3. Durham, N. C.

SERVICE MANAGER'S PERSONAL COPY

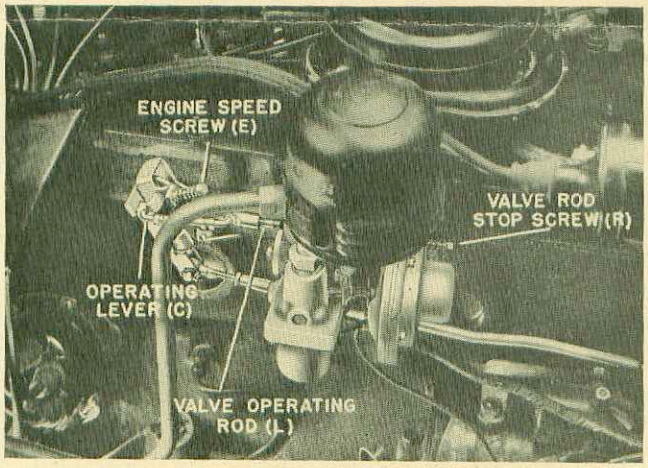
ELECTROMATIC CLUTCH

21st SERIES CARS

The new improved Packard Electromatic Clutch, which is factory-installed optional equipment on 21st series cars, is a vacuum-electric device that operates the clutch automatically.

The Electromatic mechanism used on 21st series cars differs radically from that used on 19th and 20th series cars, in that it is a very *simplified mechanism.* The basic difference between the 21st series and that of the 19th and 20th series Electromatic Clutch is the new *simplified control valve,* used with the 21st series Electromatic clutch. This new type valve eliminates the necessity of many of the previous modifying controls.

The 21st series Electromatic clutch control valve is of the type that regulates the degree of clutch engagement or disengagement in accordance with the degree of throttle opening. The construction and operation of the 21st series clutch control valve is such that normally, only two adjustments need to be made, namely:



1. The engine speed screw "E" controls the engine speed at which the clutch engagement starts.

2. The valve rod stop screw "R" controls the depth of engagement as the throttle is opened further.

ADJUSTMENTS

Before any Electromatic clutch adjustments are attempted, the engine should be warm and properly idling at a speed equivalent of 8 to 10 M.P.H. Assuming that the clutch itself is operating normally, and that clutch pedal free play and throttle linkage are properly adjusted, the procedure to adjust the Electromatic is as follows:

1. *Engine Speed Adjustment:*

When making this adjustment the engine should be warmed up and running with the gear shift lever in second gear position.

Procedure:

Adjust engine speed adjusting screw "E", so that car will just move on a level floor when the operating lever "C" is brought up against adjusting screw "E". Then turn adjusting screw "E" $\frac{1}{2}$ turn clockwise.

2. *Fast Start or Full Throttle Engagement Adjustment:*

This adjustment should be made during road test, making full throttle starts in second gear The adjustment should be made to give as rapid engagement as possible without causing engine to stumble or hesitate upon full clutch engagement.

Procedure:

Back off valve rod stop screw "R" until screw extends $1\frac{1}{4}$" from valve cover. This will cause a very rapid clutch engagement, and may cause the engine to stumble or hesitate. Then turn stop screw "R" clockwise $\frac{1}{4}$ turn at a time until satisfactory full throttle engagement is obtained without excessive clutch slippage. Care should be taken not to heat the clutch excessively by slipping the clutch during this adjustment. CAUTION: Do not oil or lubricate valve operating rod "L" under any circumstances.

After the new car is delivered to the owner, it may be necessary to readjust the Electromatic clutch to the owner's individual preference, or to compensate for the normal wear-in of the car.

The adjustments just described will normally take care of any adjustment necessary on the 21st series Electromatic clutch. Further details pertaining to the construction, operation, and servicing of the 21st series Packard Electromatic Clutch will be forthcoming in future service publications.

LOW SPEED ROUGHNESS

21st SERIES SUPER EIGHT

A low speed roughness in Super Eight engines, which cannot be smoothed out by the usual tuning operations, can generally be

corrected by reducing the size of the holes in the carburetor low speed by-pass plugs.

When this condition exists, it is at speeds ranging from just off idle to approximately 25 miles per hour.

Before changing the size of the by-pass, the manifolds should be tightened since a leak at the intake manifold will upset the low speed mixture. The carburetor float level should also be checked since a level lower than that specified may also contribute to low speed roughness.

If the manifolds are found to be tight and the float level to be correct, the by-pass plugs should then be removed, plugged, and re-drilled. The present hole, which is a #52 drill size hole, should be filled with solder and re-drilled using a #53 drill.

Reducing the by-pass hole to a #53 drill size will, in the majority of cases, smooth out any low speed roughness although it may be necessary to drill to a #54 size if an extremely lean condition exists. However, the hole should not be reduced to a #54 size without first drilling to a #53 size and checking the engine operation.

CASTER AND CAMBER ADJUSTMENT

MODEL 2126 (1650-1651)

We would like to call your attention to the fact that some of the early seven-passenger cars will require caster and camber adjustments to be made at the rear of the shock absorber arm instead of at the front.

These cars may have only the upper wheel support pivot pins in a reversed position, or they may have this condition in addition to having the right and left shock absorbers interchanged.

In the event that either of these conditions exist, it is not necessary to change the position of either the shock absorbers or the pivot pins since the operating characteristics of these parts are not affected when installed in these positions.

Caster and camber adjustments, on later cars of this model, are made at the front of the shock absorber arms and all shock absorbers are installed so that the pivot pin lock bolts are toward the front end of the car.

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HOW TO HANDLE NEEDLE BEARINGS

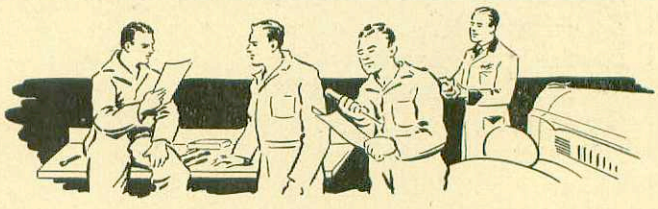
DO leave bearings in original wrappings until actually ready to use. That is one way to stop damage of bearings from dirt and moisture.

DO install bearings with original lubricant left in them —more can be added after installation.

DO press bearings into housing with an arbor press using a pilot punch. First place round or plain end of bearing in housing: then use press against stamped end.

"QUIZ TEST"

HOW MANY DO YOU KNOW— without looking at the answers?



1. If the overdrive engages as soon as the gear shifting lever is placed in low gear, on a 20th Series car equipped with overdrive and Electromatic clutch, the most likely cause is:
   (a) a burned-out fuse in the Electromatic main feed cable. ☐
   (b) the Electromatic linkage is out of adjustment. ☐
   (c) the overdrive control cable is out of adjustment. ☐
   (d) a disconnected or broken Electromatic main feed cable. ☐
   (e) a grounded overdrive solenoid cover. ☐

2. Noisy tappets on 20th Series Super Eight are usually caused by:
   (a) low oil pressure. ☐ (b) excessive valve spring pressure. ☐
   (c) dirt in the tappet body. ☐ (d) an oil filter cartridge that is partially clogged. ☐
   (e) tappets improperly adjusted. ☐

For Answers, See Back Page.

ENGINES WITH OVERSIZE BORES

SIX, EIGHT, SUPER-EIGHT

The factory recently built a number of engines have .020″ oversize cylinder bores, pistons and rings. These engines were installed in production cars and are identified by a star stamped after the engine number.

The practice of installing oversize engines in new cars is common throughout the industry, especially at times such as these when public demand for new cars is so great and material so scarce.

This in no way affects the operation and general performance of the car and these cars will give the same satisfactory service to owners as those cars having engines with standard size cylinder bores.

PARTS AND ACCESSORY TRANSFERS

Transfers in two colors as shown are available in two sizes. The 12″ size is supplied for use on glass or on opaque surfaces for use as decorations on parts bins or in parts stores.

This design is also available in a 4″ size for use on either opaque or glass. Surfaces such as accessory displays and counter parts catalog holders.

12″ Parts & Accessory Transfers (Specify type)	35c each
4″ Parts & Accessory Transfers	10c each

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HELP OWNERS CONSERVE BATTERIES

1. Avoid replacing batteries unless absolutely necessary.
2. Check the battery each time the customer's car is serviced.
3. Recharge whenever the hydrometer reading drops below 1.225.
4. Repair cracked cases or covers as soon as discovered.
5. Clean and coat corroded terminals with Ignition Sealer.
6. Check carrier to assure that battery cannot vibrate.

QUIZ QUESTION ANSWERS

1. ANSWER: (a) and (d) A disconnected or broken Electromatic main feed cable, or a burned out fuse, will cause the condition described. If all other conditions are normal placing the gearshift lever in low, closes the low and reverse switch circuit, which causes the Electromatic "L & R" (Low and Reverse) relay contacts to close. A disconnected Electromatic feed cable or a burned-out fuse, will permit current reversal through the governor "AD" contacts and the overdrive solenoid windings. Current flowing through the overdrive solenoid windings will energize the solenoid, causing the overdrive to engage.

2. ANSWER: (a) and (c) It is most important that the hydraulic tappets used on the Super Eight have an adequate supply of clean oil. The oil pump provides enough oil pressure to the tappet mechanism for quiet operation. Normal variations in oil pressure caused by thin oil or a hot engine will not cause the tappets to be noisy.

If only one or two tappets are noisy, it indicates that dirt has entered the tappet body and is preventing the ball check from seating properly. Excessively low oil pressure will cause all tappets to be noisy.

Originally, on the 18th and 19th Series Super Eight (that does not have the 20th Series oil filter piping arrangement), the oil passed through the oil filter on its way to the tappets. A clogged oil filter cartridge on those 18th and 19th Series Super Eights, can obstruct the flow of oil to tappets, and consequently, result in noisy tappets. On the 20th Series Super Eight, the oil goes directly to the tappets, without passing through the oil filter. A clogged oil filter cartridge on a 20th Series Super Eight would not affect the tappet operation. See Service Letters 7-15-40, 6-15-41, and 8-15-43.

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