PARTS • ACCESSORIES • PRODUCT

SERVICE Counselor

PACKARD MOTOR CAR COMPANY

VOL. 24, NO. 10 OCTOBER, 1950

Packard Service Training Continues

All Packard owners are entitled to standard performance from Packard cars. If the car is not standard, it should be made so. There are, of course, a few hypercritical owners who expect more than a certain car was designed to give. In such cases diplomacy and tact are necessary, and a good "selling job" must be done with the customer.

Most important, however, is "know how." Are you sure it is standard and if not can you make it standard.

Service Training is the answer and it is available. More trained Packard servicemen can only mean more satisfied Packard Owners.

In meetings of the type shown, training material can be used and the general discussions which follow bring out problems and corrections. Getting the correct answers is important and getting acquainted with the other fellow's problems is important too.

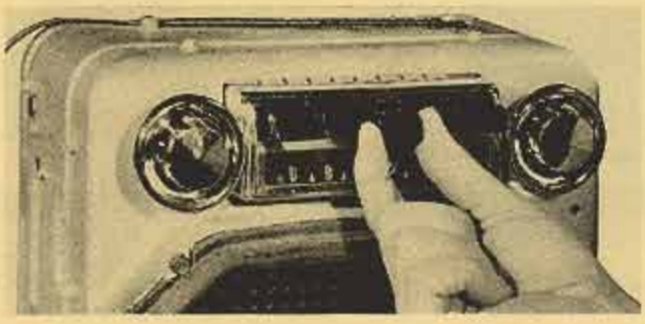
Packard Master Servicemen's Awards Issued at Packard Kansas City Company, Kansas City, Missouri

Scientific Diagnosis School at Chicago for Zone Service Personnel

Parts Management and Merchandising School at Columbia, S. C. Conducted by Atlanta Zone

The New 24th Series Radios

Custom Radio With Push Button Tuning



The 24th Series Packard Custom Radio with Push Button Tuning features a five push button tuner which insures instant accurate tuning to any of five pre-set stations in addition to the usual manual tuning. These push buttons can be easily and quickly set to any station by the operator with only one hand in a simple three step procedure as outlined below:

Turn on the radio and allow it to warm up.

(1) Pull push button slightly to the left and out as far as it will go. (about ½")

(2) Tune in the desired station manually being careful to tune to the clearest point of the signal.

(3) Push the button in firmly to the end of its travel.

This completes the set-up of one push button and it will remain accurately aligned to the station selected until the button is again extended as in step (1).

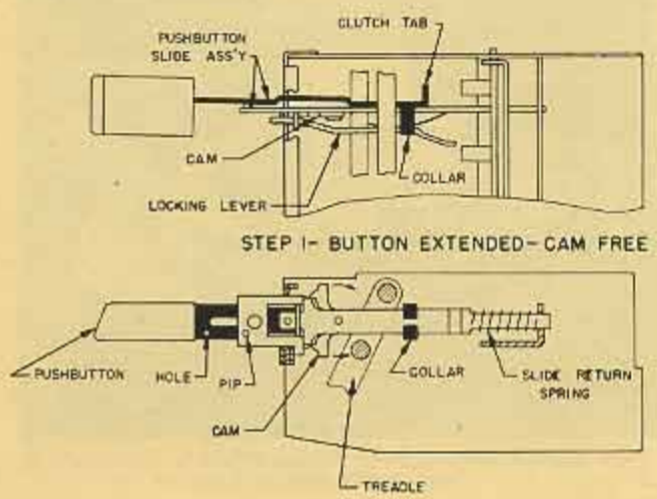
This tuner has greatly simplified both the push button set-up and the mechanical linkage which connects the permeability tuned circuits to the push buttons. It has completely eliminated use of troublesome dial cords and pulleys.

The push button slide shown below (Figure 1) is the key to this simplified method of push button tuning. The tuning cam contacts the treadle bar as the push button is depressed. Since the treadle bar is free to move it will assume the angle of the cam and thereby move the three tuning cores to tune in the desired station. When set up, this cam is locked securely in place by a tremendous pressure exerted by the lever action on the cam.

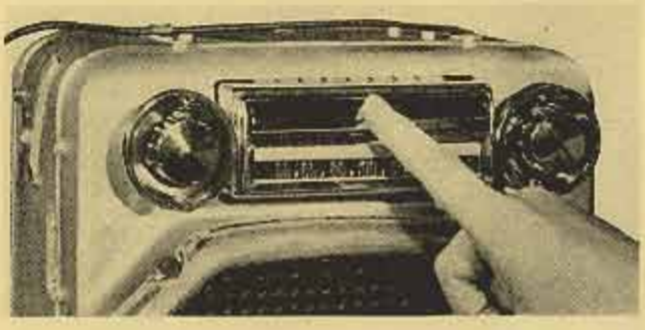
When in the unlocked position, that is, with the push button extended, the cam is free to move. As the push button is moved to the left and extended, the lock-up pip is pulled from the lock-up hole and the push button slide portion (dark part) has moved forward along the main slide. This action releases the pressure on the lever arm which has been imposing heavy pressure on the cam when the slide is locked in position.

In the second set-up step the desired station is tuned in and this positions the treadle bar so that the tuning cores are in the proper position. Now as the push button is depressed in the third step, first the cam positions itself against the treadle bar and then the push button slide (dark portion) moves along the main slide with the collar which contacts the lever arm moving along the incline and exerting a pressure on the lever. As it nears the end of travel the pip finally drops into the hole securing the slide together. Because of the long lever arm, an extremely high pressure is exerted on the cam holding it fixed so that whenever the push button is depressed it will contact the treadle bar and return it instantly and accurately to the station to which it has been previously set.

For simplicity and accuracy this "push-pull lock-up" tuner is unsurpassed. It makes five favorite stations instantly available at all times and greatly enhances the listening pleasure of the 24th Series Packard Custom Radio with Push Button Tuning.



Custom Radio—Automatic Tuning



Packard is introducing something truly new in their 24th Series Packard Custom Radio with Auto-

matic Tuning. This something truly new is an automatic tuning system which is actually automatic. In order to change stations, the operator of the radio merely depresses a bar located just above the dial of the radio in the place of the usual push buttons. Depressing this bar rejects the station to which the radio has been previously tuned and immediately sets in motion an automatic tuning system which selects the next strongest station to the right for the listener.

Since program selection in an auto radio is normally done by changing stations until a station is obtained which presents a program of interest, this tuner provides the owner with the utmost flexibility of effortless program selection. It provides particularly for the person who travels extensively by selecting the listenable stations in any locality in the United States without any adjustment of push buttons or radio by either the owner or his service man when changing from one locality to another.

This new tuner is the most forward step in tuning since the tuning process moved from the half dozen dial stage to the single dial gang tuned control system. The tuner is powered by a planetary motor arrangement which drives the tuning cores and the dial pointer across the broadcast band from the 550 to the 1600 kilocycle end at a constant speed. When the tuner reaches the 1600 KC end of the broadcast band, it is automatically, and almost instantaneously, returned to the extreme left of the band by means of a powerful solenoid mechanism which recocks the power springs of the clockwork type motor. Whenever the tuning bar is depressed, an electronic circuit in the set assumes control and allows the tuning motor to continue the sweep across the broadcast band until a station which will stop the tuner is encountered. The signal from this station passes through the normal tuning circuit of the radio set to the detector tube and part of the signal from the detector tube is fed to a trigger tube in the electronic part of the tuner. This trigger tube actuates a control relay which controls the operation of the tuner motor by dropping an arm into a nylon flywheel which is the last gear in the planetary gear train in the motor. When the radio set is "on station", there is no current in the control relay and the relay arm is inserted in the flywheel holding the tuner stationary. Whenever the station selector bar is depressed, it energizes the control relay which releases the flywheel and starts the motor tuning. The entire band is traversed in from 4½ to 5 seconds if the bar is held depressed. The vanes of the nylon flywheel are electronically one kilocycle apart so that extremely accurate tuning is obtained.

The electronic circuit of this tuner is extremely novel and the stopping action of the tuner is controlled by a relatively small positive voltage which is obtained by taking the difference between two signal controlled voltages. These signal controlled voltages are so developed in the circuit that the difference between them is substantially the same regardless of the signal strength of the received station. The combination of this electronic circuit and the mechanical accuracy of the tuner results in slightly better tuner accuracy than that obtained through the use of mechanical push buttons and, in fact, is much more accurate than average manual selection This. accuracy remains substantially constant across the broadcast band regardless of whether the station received is weak or very strong.

One rather interesting result of this method of obtaining the stopping signal voltage on this tuner is that the tuner will select a station right through strong local interference such as power line noise, which partially or completely obscures the signal as far as a listener is concerned. If the set stops under such conditions and is left tuned to that position, the station will immediately show up whenever the car is driven away from the noise area.

In order to work in all localities of the United States, the tuner must, of course, have a sensitivity at least equal to that of the usual sensitivity of automobile radio sets. This means that, with unlimited station selection by the tuner, in some areas of the United States, the tuner will stop on more than fifty stations in scanning across the dial. This obviously is undesirable because it would take a tremendous amount of time to tune across the entire broadcast band if the tuner paused on each station long enough for the listener to decide whether or not he wanted to listen to that particular station. So, in order to take care of all types of operating conditions, a control has been incorporated on the receiver on the shaft behind the manual tuning knob to establish a tuner sensitivity as selected by the operator. This control is a step control and when it is in the farthest counter-clockwise position, the tuner will stop only on the strongest local stations—In most large city locations this means the tuner will stop on approximately six stations. As the control is advanced in the clockwise direction, it increases the tuner sensitivity in steps so that it will stop on stations of lesser signal strength. When in the most clockwise position, the tuner has maximum sensitivity and will stop on all listenable stations in that particular locality.

An additional advantage of the tuner sensitivity control which permits the owner to establish the strength of the stations which will stop the tuner, is the fact that without effort on the owner's part, he is always listening to the stronger stations in the locality, which will greatly decrease possible fading and man made static interference problems. Most network programs are available to the auto radio listener on a half dozen or more stations and selecting the strongest station that carries the particular program will, of course, provide the best possible reception of that program. Any one desired station may be tuned in by holding the selector bar depressed until just before the pointer reaches that frequency on the dial. Truly the new 24th Series Packard Custom Radio with Automatic Tuning provides the owner with completely automatic finger tip tuning to any desired program, thus assuring the maximum in automotive radio listening pleasure.

The other controls on this new PACKARD radio are conventional in that there is a tone control arm; an "OFF", "ON" switch incorporated with the volume control at the left, and of course the manual tuning control which is at the right.

Attaching Vacomat Gas Mileage Tester

When attaching the Vacomat gas mileage tester to the window of the right front door, lay the hoses over the front fender and attach them to their respective connections. The hoses should be allowed to extend into the engine compartment as far forward or as close to the front end of the car as a comfortable slack of the hoses will permit.

Make a wedge shaped wooden block, wrap the block with tape and press the wedge in between the hood and the shield above the grille to hold the bonnet securely open against the safety catch. This will permit the hoses to extend between the bonnet and the fender without the danger of squeezing or closing off the gasoline or vacuum lines. It is suggested that the hood block be taped to prevent slippage. The block should also be placed as close to the safety catch as possible.

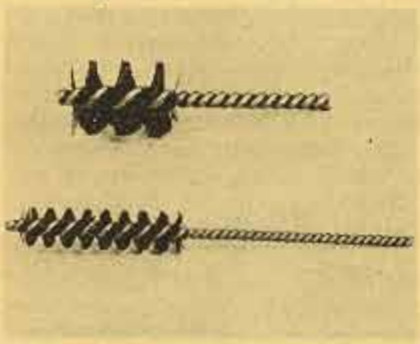
This procedure applies to the 24th Series because of the design of the bonnet.

Governor Cleaning Brushes

Ultramatic Drive

Service Counselor Vol. 24, No. 5, May, 1950, describes the procedure for cleaning Ultramatic governors.

In addition to those operations covered, it is important that the bores of the vent valve support and the governor housing be thoroughly cleaned and free from burrs. This can best be accomplished by using nylon-bristled brushes and spinning them through the bores with an electric drill. The parts should be thoroughly washed after brushing.



Wire brushes should not be used as they may score the bores and wire bristles are subject to breakage. The bristles of many ordinary cleaning brushes also are subject to breakage and are not suitable for the job.

Nylon brushes are available under No. H-1225N (½" dia. for valve support) and No. H-118112-N (1⅛" dia. for housing). Send orders direct to the Chas. A. Strelinger Company, 149 East Larned Street, Detroit, Michigan.

Prices of the brushes are No. H-1225N—$.47 and No. H-118112N —$.71.

Brake Shoe Spring Tool

The tool illustrated (figure 1) may be made up to facilitate removal and installation of the new type brake shoe hold-down springs now being used in production. Figure 2 shows the new type spring in place.

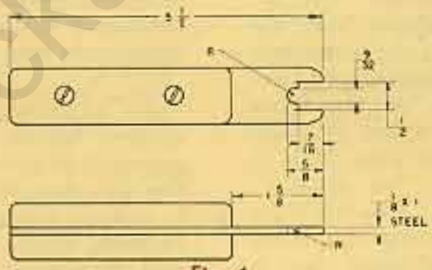


Fig. 1

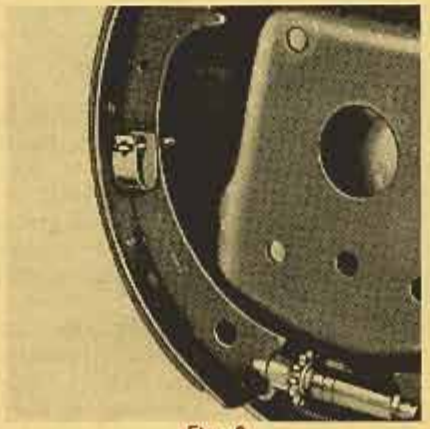


Fig. 2

A Note on Spark Plugs

Keeping spark plug insulators free of dirt, grease and moisture is a vital aid to easier starting and generally better performance. For this reason, spark plug maintenance should not stop simply with the installation of new or cleaned plugs.

Laboratory tests have shown that moisture must be present to increase surface shorting tendencies. Dirty, dry insulators have substantially the same "flashover" resistance as clean dry insulators of the same type. It should be noted, however, that any foreign matter on the spark plug insulator will tend to collect and hold moisture which in turn encourages flashover.

For this reason, spark plug insulators should be wiped periodically with a clean dry rag, preferably each time the hood is raised to check oil or water.

Plug Gauge Set—PU-324

Ultramatic Drive

Dealers who purchased Plug Gauge Set PU-324 for use with 23rd Series Ultramatic Drives will find the set adaptable to use with 24th Series Ultramatic Drive units by using the following identification chart. For example where No. 1—2—3—4 gauges are specified for 23rd Series, use No. 1—2—3—4 for 24th Series also. Where No. 5—6—7 are specified for use with 23rd Series, use No. 4 for 24th Series.

Identification Chart

	23rd	24th
Throttle Valve Bore	1	1
Timing Valve Bore	2	2
Pump Selector Valve Bore	3	3
Modulating Valve Bore	4	4
Control Valve Bore	4	4
Pump Check Valve Bore	4	4
Direct Drive Shift Piston Bore	5	4
Direct Drive Shift Valve Bore	6	4
Converter Inlet Valve Bore	7	4

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