

# SERVICE Counselor

PACKARD MOTOR CAR COMPANY



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## Speedometer Complaints

When an owner registers a speedometer complaint, the speedometer head should not be condemned until the trouble definitely has been traced to a defect in the unit.

Road test the car in a quiet area where the noise can be readily detected. Operate the car at a speed where the noise is at its peak. Then, on gear shift cars, declutch and turn off ignition switch, allowing car to coast. If the noise remains, it can definitely be determined whether it is in the speedometer head, cable or in some other part of the car while the car is coasting. If the noise has disappeared while the clutch is disengaged and the engine has been stopped, then, obviously, the noise is not in the speedometer assembly or cable.

On Ultramatic equipped cars, make the same test by moving the selector to neutral, "N" position, and turning off ignition switch.

A dry or insufficiently lubricated cable, a kinked or sharply bent cable and shaft assembly, an incorrect speedometer pinion, and grease in the speedometer pointer operating mechanism are the more common causes of irregular speedometer operation.

A dry cable is not necessarily a noisy one. Sometimes a dry cable will turn quietly but will cause the speedometer pointer to fluctuate or oscillate.

Overlubricating the cable can be avoided by applying grease only to the lower two-thirds of the cable. The upper section of the cable will receive sufficient lubrication by the grease which clings to the inside of the cable shaft or housing when the cable is fed into the housing.

A kinked or sharply bent cable and shaft assembly also may cause pointer fluctuation. A kinked cable and shaft usually result in cable breakage if not corrected in time.

Incorrect trip odometer, total odometer and car speed readings often may be traced to an incorrect speedometer pinion. Pinion selection is dependent upon axle ratio and a pinion other than the one specified for a particular ratio will cause the speedometer to read incorrectly.

Grease in the pointer operating mechanism of the speedometer head usually causes the pointer to register a speed considerably higher than the actual car speed. Overlubricating the cable may contribute toward this condition since excess grease is worked upward in the cable shaft or housing and, sometimes, into the speedometer head. When this condition exists, the head should be removed and sent to an authorized speedometer service station for repair.

## Undercoating Caution

Many bulletins have been issued on this subject but again a reminder is in order to use precaution when undercoating cars.

We are getting returned drive shafts on RFA's partly covered with undercoating.

With so many complaints of vibration, let's be sure to eliminate the possibility of it being caused by undercoating on the drive shaft.

When applying undercoating material—*avoid spraying on any mechanical parts such as:*

1. Drive shaft
2. Rear axle housing

3. Muffler, exhaust and tail pipe
4. Engine oil pan, Ultramatic oil pan
5. Clutch housing
6. Transmission case
7. Lubrication points (wipe after spraying)
8. Hand brake cables (release and tape 3" back)
9. Overdrive cables (tape)
10. Clutch, throttle and shift control linkage

*Drive shafts and universal joints should be wrapped with paper to avoid any possibility of coating these parts since an out-of-balance condition will invariably result.*

## Main and Rod Bearing Clearances

A few Zones have reported excessive engine noise or vibration, sometimes called "bearing rattle," and replacing the bearings did not correct the trouble.

In production, it is sometimes necessary to grind main or connecting rod journals on the crankshaft to .001 undersize to clean up the shaft.

There may be one or more connecting rod or main bearing journals on one crankshaft undersize.

A yellow paint mark on the connecting rod or main bearing crankshaft cheek denotes it is .0005 undersize and is fitted with a .001 undersize bearing shell in the lower half. The upper bearing shell is standard.

A green paint mark on the connecting rod or main bearing crankshaft cheek denotes it is .001 undersize and is fitted with a .001 undersize bearing shell both halves.

In those cases where new bearings were installed without correcting the trouble, it is possible that the new bearings had the same clearance as the ones removed.

When "bearing rattle" is evident, all bearing clearances should be measured with a Plastigage.

Inspect crankshaft paint markings to see if journals are undersize.

Select bearings to give proper clearance on the low limit side.

Both main and connecting rod bearing clearance is .0005 to .0025.

Connecting rod bearing clearance is measured as described in Service Counselor, Vol. 22, No. 8.

**NOTE:** *Never turn the crankshaft when measuring bearing clearances.*

Main bearing clearance is measured as follows:

1. Remove No. 1 and No. 5 main bearing caps (5 main bearing engine), or No. 1 and No. 9 caps (9 main bearing engine) and install a paper shim approximately .010 thick between bearing shell and cap. Install cap with bearing and tighten. Crankshaft should be locked; in other words, tight against the upper bearing shells.
2. Wipe oil from crankshaft and other bearing shells, lay a piece of Plastigage as long as the bearing is wide horizontally across the bearing.
3. Reinstall cap and pull nuts down to specified torque.
4. Remove bearing cap. Plastigage will be found stuck to either the crankshaft or the bearing.
5. Compare width of Plastigage with scale printed on chart furnished with Plastigage Kit to get the bearing clearance.
6. Remove the paper shims from both end bearings, install shims between bearing shell and caps in the two bearings next to the end bearings. Now, measure the two end bearing clearances in the same manner.

## Seat Cushion Stiffeners

### 24th Series

There may be some 24th Series Packard owners who, because of physical characteristics or personal preference, may desire firmer seat cushions than are standard. Firmer cushions will provide more support as well as raise the seat level to improve the line of vision.

Equipment kits to increase cushion firmness are available, and each kit contains the necessary parts to stiffen one half of one cushion, front or rear. The kits are packaged in this manner because an owner may wish to stiffen only one side of a cushion.

Only a few minutes are required to install the kits since they are installed from the underside of the cushion without disturbing the trim or padding. Installation instructions are included in each kit.

The part numbers of the kits are as follows:

- PA-437468 Cushion Helper Spring Equipment (Zig-Zag) 2462-65-67-69-92-95-98  
 PA-414062 Cushion Spring Inserts—Firm (Selecto-Seat) 2452-72  
 PA-414064 Cushion Spring Inserts—Extra Firm (Selecto-Seat) 2452-72

## Carburetor Metering Rods

### 24th Series

Listed are the metering rods for the Carter Carburetors.

- (Carter No. WGD-784S) Part No. 426390—2401  
 (Carter No. WGD-767S) Part No. 426187—2402-06-13  
 (Carter No. WGD-767S) Part No. 426187—used on 2401 when equipped with 2402 engine

Code No.	Part No.	Description	Models	Per Car
9.11334	410905	Metering rod standard (75-722)	2401	2
	436114	Metering rod one size lean (75-767)	2401	2
	436115	Metering rod two sizes lean (75-768)	2401	2
	436164	Metering rod standard (75-764)	2402-06-13	2
	436162	Metering rod one size lean (75-777)	2402-06-13	2
	436163	Metering rod two sizes lean (75-778)	2402-06-13	2
426390 and 426187 carburetors are identical except for the metering rods.				

### REPAIR KITS

9.1002	436137	Carburetor repair kit	2401	1
	436229	Carburetor repair kit	2402-06-13	1
	436229	Carburetor repair kit used on 2401 when equipped with 2402 engine		

## Technical Staff Changes

Homer Stanley has moved from Special Service Technician to Supervisor of the Factory Executive Garage where factory operated and executive owned cars are serviced. Delivery inspection is also performed on factory driveaway deliveries. A modern, completely equipped garage handles this work under his supervision at the direction of J. A. Carr, Manager, Parts and Service Department.



Art Dau, formerly Technical Editor, is now Special Service Technician calling on Zone Parts & Service Managers on technical problems. He takes over Homer's previous assignment.



On the Technical Editor's job is Howard (Andy) Langston. "Andy" is new to the job but not new to Packard. He started his service work as a mechanic in 1917. In 1929, he became service manager for a Detroit Dealer. The year 1942 brought him to the Factory as a Rolls Royce Service Representative and



Supervisor. The Detroit Zone added him as a Service Representative in 1945 and since 1947 he has been Service Manager for a Detroit Zone Dealer.

Technical articles he writes may not have a lot of seventy-five cent words in them, in fact, you may have to add your own commas, but when you get through reading them, you will be able to fix whatever he is talking about.

His practical experience and desire to get to the bottom of any problem will result in some real help on technical problems.

For recreation, he attempts another job even more complicated than service and that's golf.

## Hand Brake Handle Rattle

### 24th Series

Hand brake handle rod rattles have been reported on a few 24th Series cars. This is generally caused by insufficient tension of the anti-rattle spring in the handle bracket.

It is suggested that another spring (Part No. 433217 Anti-Rattle Spring) be installed on top of the present spring.

No parts need be disassembled. Insert one end of the spring in one of the holes and push it back on top of the other spring until the other end lines up with the other hole.

Be sure both springs are under the rod.

Lubricate the pull rod that slides on the springs and all the toggle joints with Lubriplate.

## Oil Seal Replacer

PU-367

The Rear Housing Oil Seal Replacer, for the 24th Series Ultramatic Transmission, provides a quick, easy and safe method of replacing the oil seal. This tool permits the mechanic to drive the oil seal straight into position and to the correct depth, with less danger of damage. Correct installation is also assured in the prevention of oil leaks.

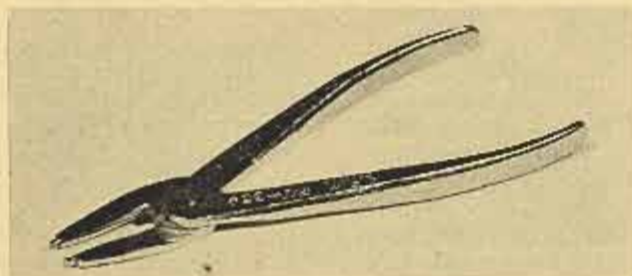


Order the Oil Seal Replacer, for the rear housing of the 24th Series Ultramatic under tool number PU-367 from K. R. Wilson, 215 Main Street, Buffalo 3, New York. The price is \$5.75.

## Retainers Ring Pliers

PU-369

The Retainer Ring Pliers permits the removal and replacing of the retainer ring for the ball bearing in the rear housing of the 24th Series Ultramatic Transmission. There is no danger of damage to the ring or other parts when these pliers are used.



Order Retainer Ring Pliers, tool number PU-369, direct from K. R. Wilson, 215 Main Street, Buffalo 3, New York. The price is \$3.75.

## Hose Clamp Pliers

PU-370

These special pliers provide a safe method to remove and replace the spring type hose clamps used on the radiator and heater hoses. This tool eliminates the danger of slippage with its resultant damage.



Order the Hose Clamp Pliers under tool number PU-370 direct from K. R. Wilson, 215 Main Street, Buffalo 3, New York. The price is \$3.50.

## Low Range Drum to Reactor Clutch Housing Clearance

Ultramatic Drive

Please make the following change in the booklet "Servicing the Ultramatic Drive."

On Page 25, first column, next to last paragraph change ".008 inch to .018 inch" end clearance to ".018 inch to .028 inch."