

SERVICE Counselor

PACKARD MOTOR CAR COMPANY



VOL. 25, NO. 8

AUGUST, 1951

Servicing the Electric Antenna

OPERATION

To raise antenna sections, pull operating switch knob out. To lower the sections, push switch knob in. When knob is released, it returns automatically to "off" position. Antenna sections can be raised or lowered to any intermediate height by releasing the switch knob when desired position is reached.

Caution: Do not hold switch in operating position beyond full travel of antenna, up or down. If this is done, unnecessary wear in the drive, on the nylon strip, and motor overload will result. Some of the early antennas did not have a circuit breaker. There is now a circuit breaker incorporated in the motor assembly to take care of any overload. If overload occurs, the circuit breaker heats up and breaks the circuit but again makes contact after cooling off.

SERVICE HINTS

In case of failure to operate, check for the following possible sources of trouble:

1. Examine electrical connections at switch and make sure they are securely tightened. Test live cable at switch with test lamp or meter. Test switch with a test lamp or meter at terminals on switch by operating knob both in and out to see if switch is operating properly.
2. If antenna sections are bent, motor may be caused to stall or operate slowly. The sections must be straightened or replaced to correct this condition.
3. If motor fails to operate after the above tests are made, remove complete antenna from car to service according to the following instructions:

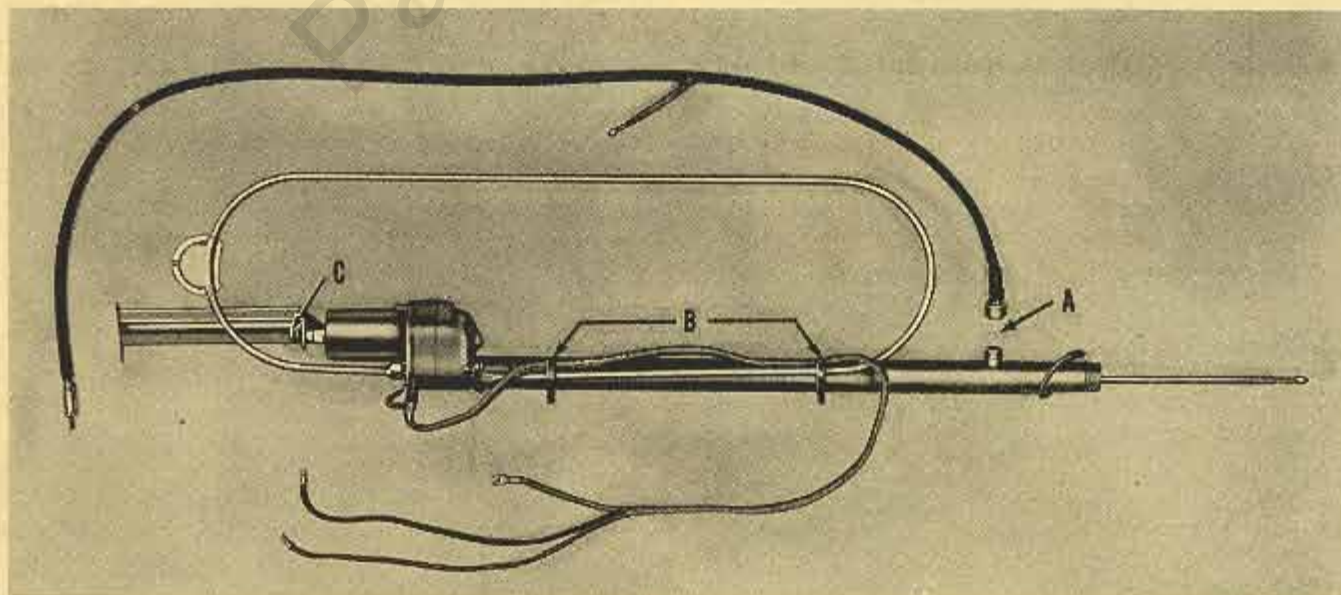


Fig. 1

DISASSEMBLY

1. Unscrew the knurled nut and pull the lead-in cable from the extension housing (see "A" Fig. 1).

2. Remove the two strap clamps which hold the aluminum tube and the motor cable to the extension housing (see "B" Fig. 1).

3. Unscrew the hex nut and remove the aluminum tube from the motor, then carefully remove the tube from the nylon strip to avoid damaging the nylon strip (Fig. 2).

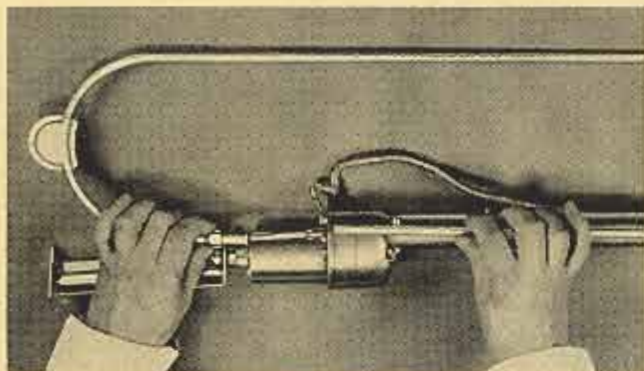


Fig. 2

4. Remove the elastic nut, flat washers, grommet and lower mounting bracket from the base of the motor (see "C" Fig. 1).

5. Remove the three attaching screws from the lower end of the extension housing, remove the housing and pull the nylon strip from the motor (Fig. 3).

Note: The nylon strip will pull quite hard from the motor but will stand over 150 lb. pull.

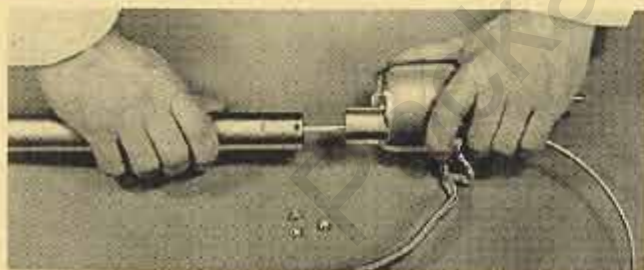


Fig. 3

6. Carefully pull the extension tubes out the lower end of the housing so as not to damage the seals (bushings) and the lead-in cable clip (Fig. 4).



Fig. 4

REASSEMBLY

7. Very carefully enter the extension tubes in the lower end of the housing; by looking down in the upper end, carefully guide the extension tubes up through the seals (bushings) and the lead-in cable clip (Fig. 4).

8. To install nylon strip in motor, connect black wire and ground wire (pig tail) to a 6-volt battery. With motor running, insert the nylon strip in the top end of the motor (Fig. 5), run the nylon strip through far enough so the extension tube housing can be installed to the motor with the three attaching screws (Fig. 3). Fig. 1 shows the alignment relationship of the motor, lead-in cable, etc. The motor, lead-in connection and the aluminum tube are assembled toward the front of the car.

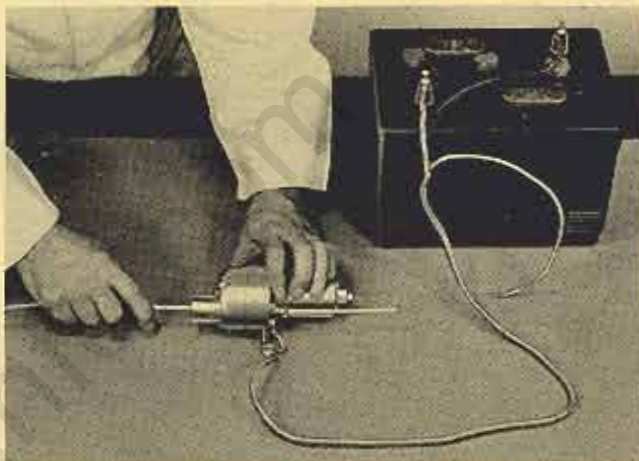


Fig. 5

9. Insert the nylon strip into the aluminum tube, connect the tube to the motor and tighten the hex nut (Fig. 2).

10. Install the strap clamps which hold the aluminum tube and motor cable to the antenna housing (see "B" Fig. 1).

11. Use a 6-volt battery and test antenna operation to see if it raises and lowers properly.

Note: Black wire and ground wire (pig tail) connected to a battery lowers antenna. Orange wire and ground wire (pig tail) raises antenna.

12. Install rubber grommet in upper end of lower mounting bracket. Install flat washer, rubber grommet and bracket assembly, another flat washer and elastic nut on stud at lower end of motor. Tighten elastic nut just enough to have a slight drag of the grommet in the bracket (see "C" Fig. 1).

Note: If the elastic nut at the lower bracket and the dome nut on the top end of the antenna housing at the fender are tightened too tight, the operating noise from the antenna motor will be transmitted into the car.

13. Connect antenna lead-in cable to the antenna extension housing (see "A" Fig. 1).

14. Reinstall antenna on the car, insert the wires through the dash, connect the lead-in wire to the radio set and connect the motor cables to the switch.

15. Turn on ignition switch, operate antenna switch to test antenna operation.

NOTE: Re-undercoat the lower end of the antenna and motor assembly to prevent water entering the unit, as the water tight seal was broken during dis-assembly.

PARTS LIST

Part No.	Description	No. Req.
PA422706	Electric antenna equipment	1
422701	Radio lead-in cable assembly	1
436238	Motor assembly	1
422782	Strap clamp	2
422658	Aluminum tube assembly	1
422656	Insulator gasket (grommet)	1
422657	Insulator	1
422003	Dome nut	1
422655	Mounting bracket	1
422118	Mounting bracket nut (elastic)	1
415922	Rubber grommet	1
416479	Mounting bracket washer	2
436260	Top section and nylon assembly	1
436261	Top section tips	1
416164	Antenna operating switch assembly	1
416285	Antenna operating switch knob	1
416299	Antenna operating switch nut	1
416457	Antenna operating switch adapter	1
416458	Antenna operating switch spacer	1
422716	Antenna operating switch feed cable assembly	1
429606	Antenna operating switch knob set screw	1

Revised Spring Data

24th Series

The front spring specifications have been changed on the 2401, 2402 when equipped with a standard transmission or overdrive.

All 24th series springs are listed for ready reference.

FRONT SPRINGS

Body	Trans.	Part No.	Load & Rate
2492-95-62-}	Std. & O.D.	387806	1950 x 90
65-67-98 }	Ultra.	395720	2040 x 90
2472-69	Std. & O.D.	395720	2040 x 90
	Ultra	382374	2180 x 90
2452	Ultra	382374	2180 x 90
2413 (Model)		395726	2900 x 172

Ambulance-Hearse

REAR SPRINGS

Body	Trans.	Part No.	Load & Rate
2492-95-62-}	All Trans.	433541	950 x 110
65-67-98 }			
2469-72-52	All Trans.	433542	1030 x 110
2413 (Model)	Ambulance	433803	1800 x 225
	Hearse (End Loader)	433803	1800 x 225
	Hearse (3 way)	418352	
		Left	2100 x 225
		418351	
		Right	2000 x 225

SERVICE REAR SPRING

2472-52	All Trans.	436224	1120 x 110
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NOTE: The standard rear springs for the "300" and "400" may be installed on the "200" if a greater load capacity spring is desired.

Ultramatic Bell Housing Oil Seal

Recently we encountered a case where an owner went to a Packard Service Station three different times to have an oil leak corrected, which happened to be around the bell housing oil seal. On the third tear-down a Factory Representative went to visit this Service Station to investigate the condition of the shaft and the seal.

In his report to the Factory he stated that the shaft was in excellent condition but the seal was made from leather. This leather seal was obtained from an outside source, because the seals purchased from the Service Parts Warehouse under Part No. 421112 are made from neoprene. A leather seal should never be used in an Ultramatic transmission. It will not be as effective as neoprene, because it will not stand the heat of the Ultramatic fluid.

A light coat of Permatex should be applied to the outside diameter of the seal before installing it in the bell housing.

Transmission Control Valve Damper

Ultramatic

When the rear pump takes over the function of the front pump on 23rd and 24th Series Ultramatic Drive Transmissions, there sometimes is a tendency for the valves to pulsate or flutter.

To reduce this possibility of valve flutter, a new type control valve damper, Part No. 423452, has been designed, and replaces the (golf ball) type damper, Part No. 423183. The new damper is of the spring loaded piston, diaphragm type, and will absorb the surging of the oil which causes the valves to flutter.

Reactor Shaft Bushing

Ultramatic

There have been a few reports of the direct drive clutch failing to engage due to low direct drive clutch pressure.

This may be caused in some instances by a worn reactor shaft bushing, Part No. 410865 causing an oil pressure leak past the bushing and the input shaft.

The clearance at the reactor shaft bushing and the input shaft in production is .001 to .0025 but may exceed this clearance after mileage develops. As long as the direct drive clutch engages properly and the oil pressure to the direct drive clutch is normal, these excess clearances are satisfactory.

If the direct drive clutch fails to engage, an oil pressure test should be made to determine if the pressure is low. If so, then check the governor oil pressure and operation; also check the direct drive shift valve for sticking before removing the unit.

The clearance may be checked by "miking" the input shaft and the inside diameter of the bushing.

The bushing can be replaced by using combination tools No. PU342, PU349, PU336, and PU350, as described in Service Counselor Volume 24, No. 11.

Glass Breakage, Hydraulic Windows

"250," "300," "400"

Reports have been received of glass breakage in the hydraulic window equipped cars. It is generally the door windows in the Convertible and Mayfair, and the front door windows in the "300" and "400" models that break. Reports have also been received about rattles in the doors while driving over rough roads and when closing the doors with the windows part way or all the way down.

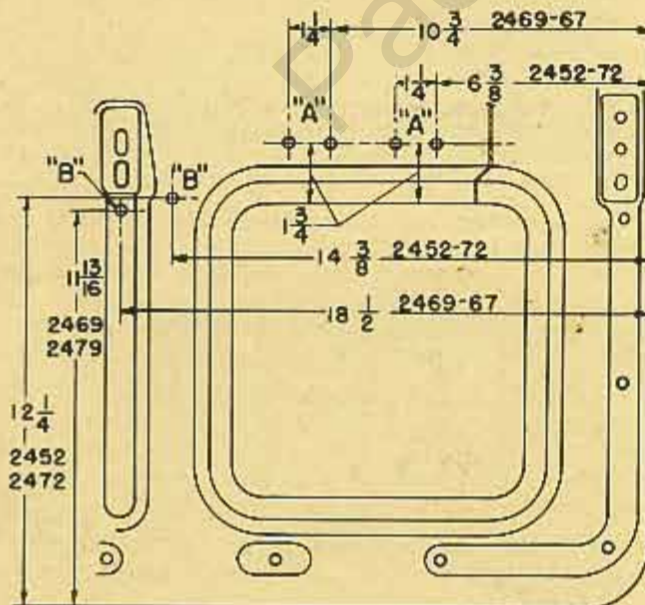
This condition is caused by the hydraulic regulator frame striking the glass or the lower lifter.

An anti-rattler bracket assembly and a bolt and spacer are now used in production to prevent the hydraulic regulator assembly from striking the glass.

Part Number 436269 kit is available for correcting this condition when it exists in the "250," "300" and "400" models. The parts are identical except for the length of the spacers. Two spacers are included in the kit. Part number 437813 spacer is $2\frac{5}{16}$ " long and used on the 2469-67 models. Part Number 437812 is $2\frac{1}{2}$ " long and used on the 2452-72 models.

Kit and detailed parts listed are for one Door.

Part No.	Description	Model	No. Req.
436269	Kit	2452-72-69-67	1
437814	Anti-rattler bracket assembly	" " " "	1
G-121804	Screw	" " " "	2
G-174916	Washer	" " " "	2
G-120375	Nut	" " " "	2
437813	Spacer	2469-67 ($2\frac{5}{16}$ ")	1
437812	Spacer	2452-72 ($2\frac{1}{2}$ ")	1
G-173206	Screw	2452-72-69-67	1
G-120386	Washer	" " " "	1
G-174916	Washer	" " " "	1
G-120375	Nut	" " " "	1

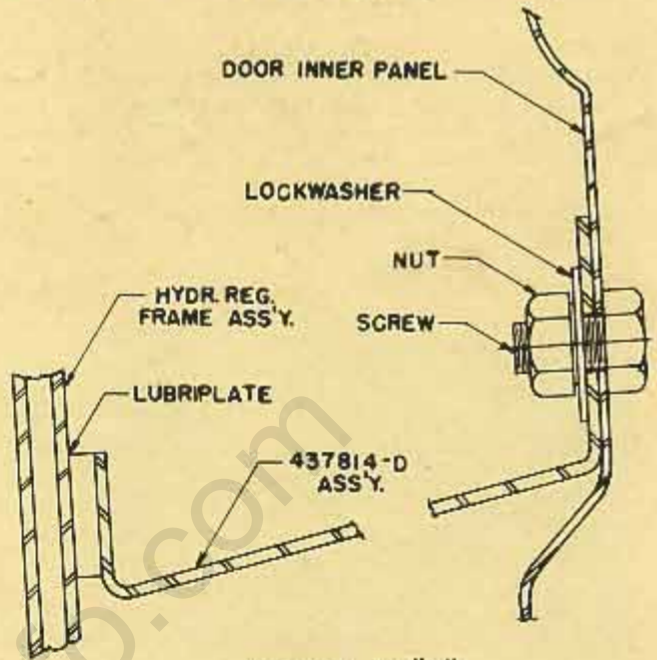


DOOR INNER PANEL—RIGHT SIDE

Fig. 1

Installation of the above parts is as follows:

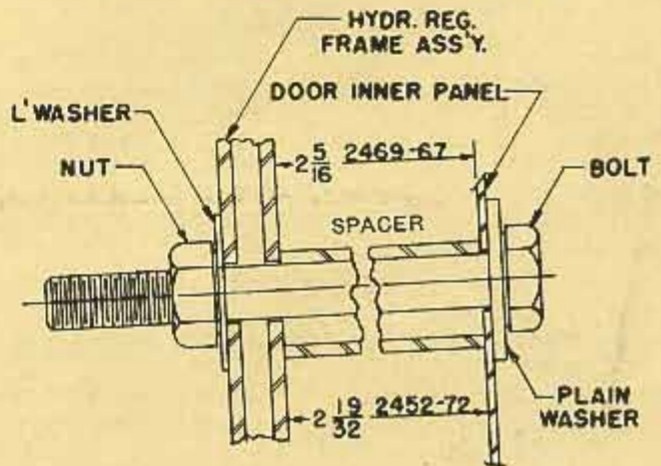
The measurements for locating the points for drilling are from the edges of the door inner panel and the edge of the access door opening. See Fig. 1.



SECTION AT "A"
ASSEMBLED

Fig. 2

1. Drill two holes $\frac{9}{32}$ " in the door inner panel for the anti-rattler bracket. See "A", Fig. 1. Lower the window and install the bracket assembly as shown on Fig. 2. Put a dab of Lubriplate on the felt end of the bracket where it contacts the regulator frame.



SECTION AT "B"
ASSEMBLED

Fig. 3

2. Drill one hole $\frac{9}{32}$ " in the door inner panel for the bolt and spacers. See "B", Fig. 1. Insert a block of wood between the door outer panel and the regulator frame, then drill a $\frac{9}{32}$ " hole through the regulator frame. Install the bolt, spacers and nut as shown on Fig. 3. Tighten nut securely.