

SERVICE MANUAL

SECTION X FENDERS AND SHEET METAL



Packard Motor Car Company
Detroit 32, Michigan

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SECTION X

FENDERS AND SHEET METAL

Front Fender Removal

Raise the car and remove the front wheel from the side of the car the fender is to be removed from. Remove the bumper. Remove the radiator upper splasher.

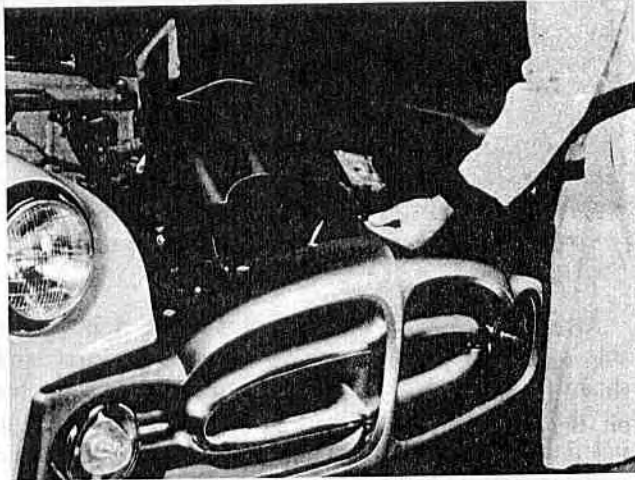


Figure 1—Removing the Radiator Upper Splasher

If the left front fender is being removed, disconnect the battery terminals. Remove the battery and the battery support. Remove the flexible fresh air duct hose from the rear end of the duct. Remove the wiring harness cable from the fender attaching clips. Disconnect the horn wire at the horn relay. Disconnect the headlight and the parking and directional light wires at the cable junction blocks. If the car is equipped with a manual or electric radio antenna or windshield washer, the method for removal is described in the Accessories Section of this manual.

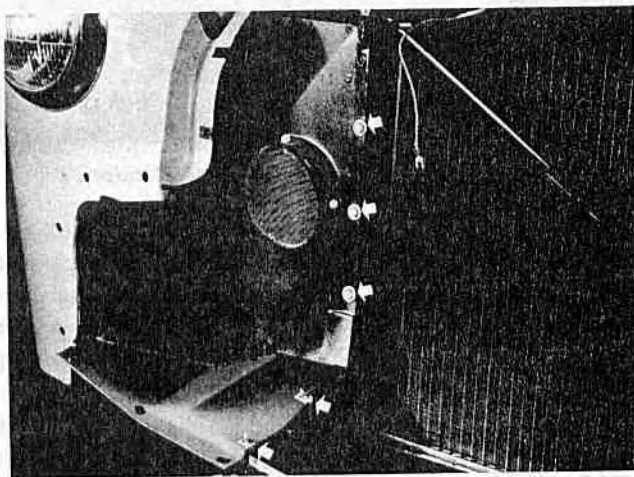


Figure 2—Radiator Side Splasher Attaching Screws Are Indicated by the Arrows

If the right front fender is to be removed, remove the screw that holds the heater water hose bracket and

blower motor ground wire to the fender side splasher. Disconnect the blower motor wire at the connection. Disconnect the fresh air duct hose from the rear of the blower. Remove the blower from the splasher.

Remove the upper radiator splasher. Remove the bottom screw from each side splasher brace. Remove the screws that attach the fender side splasher to the frame. Remove the screws that attach the horns to the radiator side splasher and cradle. Remove the screws that attach the fender to the radiator grille. (*These screws are removed from underneath the fender.*) Remove the bumper stone shields. Remove the screws that attach the fender to the radiator cradle brackets.

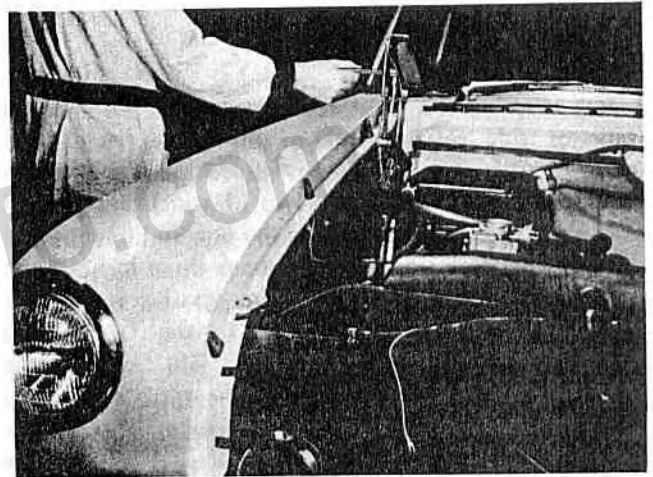


Figure 3—Removing the Front Fender to Cowl Attaching Screws

Remove the screws at the bottom rear of the fender where it is attached to the bottom of the cowl side panel. Remove the screw at the rear top of the fenders

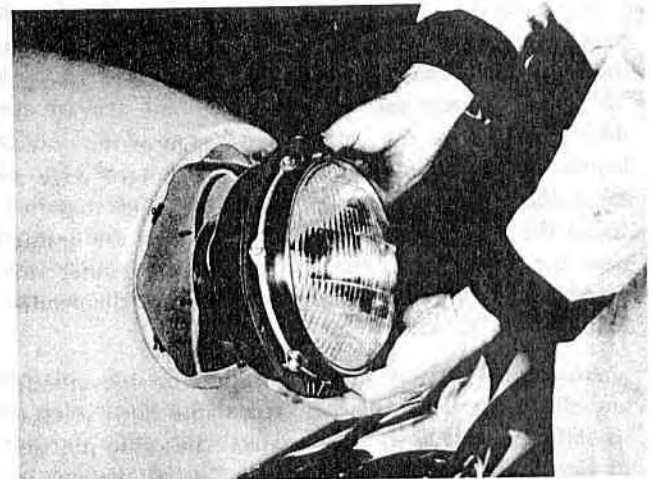


Figure 4—Removing the Complete Headlight Assembly

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where they attach to the cowl top panel. Remove the fender from the body. Remove the screws attaching the fresh air duct. Remove the duct.

Remove the wiring harness clips from the fender side splasher. Remove the headlight from the fender. Remove the fender side moulding by removing the nuts and washers from inside the fender. Remove the wiring harness junction block. Remove the horn relay from the fender side splasher. Remove the wiring harness cable junction blocks. If the right fender is being removed, remove the valve servicing opening shield from the fender side splasher.

Front Fender Splasher Assembly

The radiator side splasher, the fender side splasher, and the fender which are welded together as a single unit to form the front fender assembly, are available under separate part numbers.

To assemble the front fender splashers position the radiator side splasher against the front fender side splasher with the "half-moons" lined up. These "half-moons" are locating marks, two of which are pressed into the fender side splasher at the top, and one pressed into the radiator side splasher about three inches from the bottom. When the radiator side splasher is properly positioned, the two half-moons in the fender side splasher when viewed from the rear will be under the center of the two flanged edges at the upper end of the radiator side splasher. The front bottom edge of the radiator side splasher will be butted against the edge of the "half-moon" pressed in the fender side splasher near the bottom. Using "C" clamps to hold these parts, spotweld the parts together to form the assembly. Remove the "C" clamps.

Position the newly welded assembly of the fender side splasher and radiator side splasher in the fender. Using a drift punch, insert the tool into the fourth hole from the front of the fender inside flange to align the holes of the fender and fender side splasher. Using a "C" clamp, clamp the edges together and remove the drift pin. Line up the front flanged edge of the fender below the headlight opening with the flanged edge of the radiator side splasher and clamp the edges together. Insert the bolt in the hole of the fender at the bottom near the rear to join the fender with the fender side splasher. Spotweld the splasher assembly to the fender. Remove the "C" clamp.

Attach the fresh air duct to the radiator side splasher and the fender side splasher. Attach the horn relay to the left fender side splasher. Attach the cable junction blocks to the fender side splashers. On left fenders, install the wiring harness clips to the fender side splasher. Bolt the battery support to the fender side splasher.

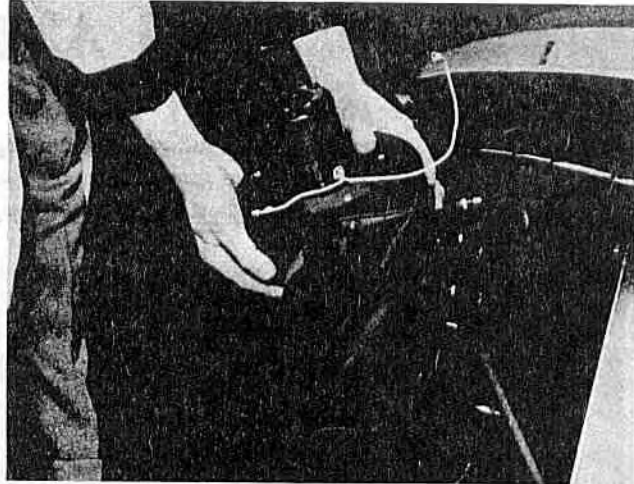


Figure 5—Installing the Heater Blower on the Fender Splasher

Attach the fresh air blower motor to the right fender side splasher. Attach the valve servicing opening and shield to the fender side splasher. Install the headlights on the fenders as described in the Electrical Section. Position the speed nuts on the fender flange where the radiator upper splasher attaches to the fender.

Front Fender Installation

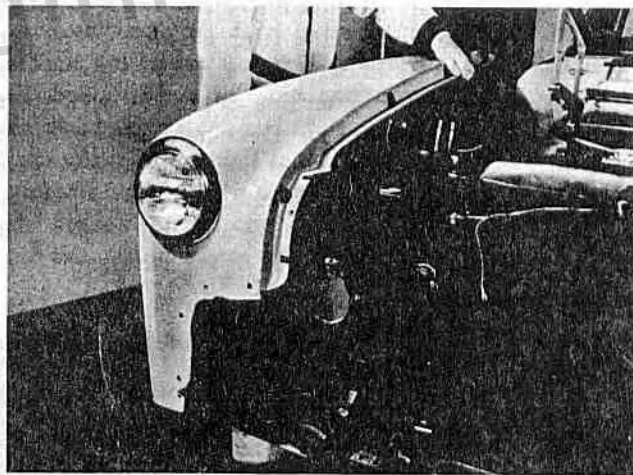


Figure 6—Installing the Front Fender

Position the fender on the chassis, aligning the holes in the fender with the holes in the cowl top panel and cowl side panel at the bottom. Position the speed nuts on the fender edges. Using the combination screw and washer assemblies, fasten the fender to the cowl top panel and cowl side panel at the bottom. Before tightening these screws, make certain the fender is lined up with the door. Attach the radiator side splasher to the frame. Position the speed nuts and assemble the fender to the radiator core cradle bracket.

Install the grille. Install the fender to radiator grille attaching screws. Position the speed nuts and attach the bumper stone shields to the fender, the radiator splasher

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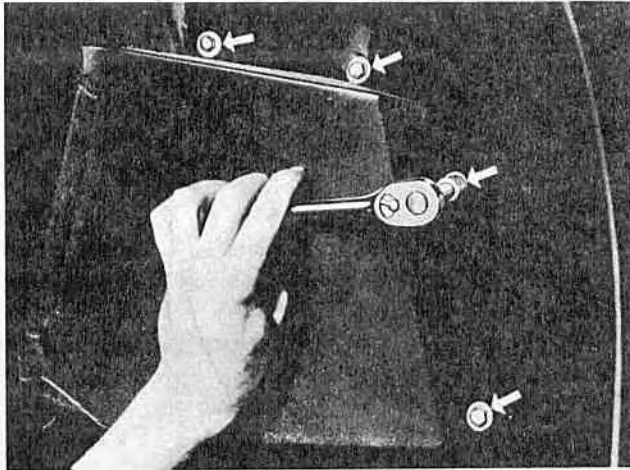


Figure 7—Installing the Grille to Fender Attaching Screws

side, and the bottom of the radiator grille. Attach the horn to the radiator side splashers and the radiator core cradle. Position the speed nuts and assemble the upper radiator splashers to the radiator core cradle, the fender, and the grille.

Install the fender side splashers to frame attaching screws and tighten securely. Slip the fresh air duct hose on the ends of the fresh air ducts. On the right fender, install the fresh air duct hoses on the blower motor ducts. Fasten the blower motor ground wire and heater water hose to the fender side splashers. Connect the blower motor lead-in wire at the connection.

Install the electrical junction blocks on the fender side splashers. Install the wiring harness in the clips on the fender side splashers. Connect the horn wires to the horn relay. Connect the headlight, parking, and directional light wires to their proper junction block connections. If wires have not been marked when disconnected to facilitate reinstallation, see the Electrical Wiring Diagram for proper location of these wires. Install the battery in the battery support and cradle. Install the battery retainer bolts in the battery support and retainer. Install the wing nuts and tighten securely. Install the battery cables over the posts and tighten. Support the bumper and bolt the front bumper supports to the frame at each side.

Install the wheel and tighten the wheel bolts. Remove the car jack. Position the mouldings on the fender sides. From inside the fender, slip the rubber washers over the moulding attaching bolts. Install the nuts and tighten.

The front fenders, splashers, radiator, grille, and cradle may be removed as an assembly if necessary to facilitate servicing the engine.

Radiator Core Cradle Removal

Raise the bonnet. Drain the radiator. Remove the radiator water hoses. Disconnect the battery cables.

Remove the battery. Remove the fresh air duct hoses from the ducts. Remove the wiring harness from the wiring harness to the fender attaching clips. Disconnect the headlight, parking, and directional light wires at the junction blocks. Disconnect the blower motor lead-in wire at the harness. Disconnect the horn wires at the horn relay. Remove the screw holding the water heater hose and blower motor ground wire to the fender side splashers.

If the car is equipped with a radio manual antenna, electric antenna, or windshield washer, disconnect the tubing or wiring necessary to remove the fender from the chassis.

Remove the bumper. Remove the bumper stone shields. Remove the radiator lower splashers. Remove the screws that attach each end of the grille to the fender. Remove the radiator top splashers and lift out the radiator front grille. Remove the horns. Remove the screws holding the fender side splashers and fender side braces to the frame. Remove the screws attaching the fender at the top to the radiator core cradle brackets. Remove the screws attaching the radiator side splashers to the radiator core cradle. Remove the screws attaching the fender at the rear to the cowl top panel and side panel. Remove the fenders. Remove the screws attaching the radiator core to the radiator core cradle. Remove the bolts attaching the radiator core cradle to the frame and remove the cradle.

Radiator Core Cradle Installation

Position the radiator core cradle in the frame. Install the radiator core cradle bolts and tighten the cradle to the frame. Install the radiator core to the radiator core cradle. Position the fenders in the chassis and attach them at the rear to the cowl top panel and side panel. Attach the radiator side splashers to the radiator core cradle. Attach the fenders at the top front to the radiator core cradle bracket. Attach the radiator lower splashers to the fender side splashers. Fasten the fender side splashers and the fender side splashers braces to the frame.

Position the radiator grille in the fenders and fasten the ends with screws from under the fenders. Install the horns and connect the wires at the horn relay. Connect the headlight, parking, and directional light wiring at the junction block. Attach the heater motor blower wire, the heater water hose and bracket to the fender side splashers. Connect the heater blower motor wire at the harness. Install the fresh air duct hoses. Install the radiator upper splashers. Install the bumper stone shields. Install the bumper. Install the battery and connect the battery cables. If the car is equipped with a radio manual antenna, electric antenna, or windshield washer, connect the tubing or wiring where it has been previously disconnected. Connect the radiator water hoses and fill the radiator. Adjust and align the bonnet.

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Grille Removal

Raise the bonnet. Disconnect the parking and directional light wires at the junction block. Remove the radiator top splasher. Remove the bumper. Remove the bumper stone shield. Remove the four screws attaching the ends of the grille to the fender at each end. Lift out the grille from the chassis.

Grille Disassembly

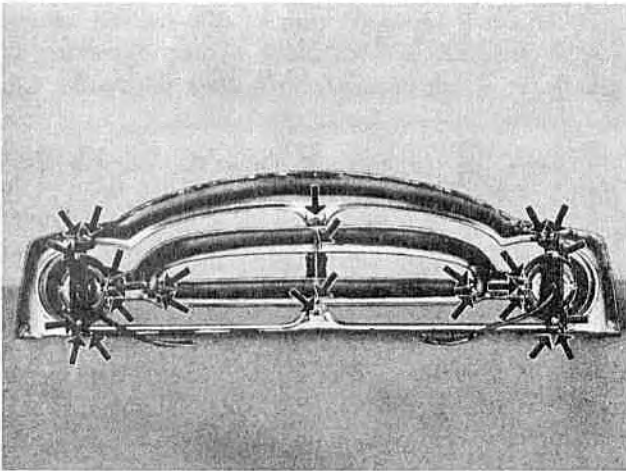


Figure 8—Rear View of the Complete Grille Assembly Showing Assembly Screws

Remove the screws holding the parking and directional light mounting bracket to the outer grille. Remove the nuts from the stud of the grille center bracket which holds the inner and upper grille sections against the flanged edges of the grille vertical center bar. Remove the screws holding the inner upper grille and lower grille sections to the grille vertical center bar. Remove the remaining assembly of the inner upper grille and lower grille sections, and parking and directional light assembly from the outer grille.

Remove the screws holding the outer grille lower extensions to the outer grille and the bottom of the grille vertical center bar. Remove the screws holding the ends of the grille center vertical bar to the outer grille.

Remove the nuts attaching the parking and directional light mounting bracket. Remove the bolts attaching the parking and directional lights to the ends of the inner upper grille and lower grille sections. Remove the bolts holding the inner lower grille section to the inner upper grille.

Grille Assembly

Assemble the ends of the inner lower and inner upper grille sections and install and tighten the attaching screws. Assemble the parking and directional light assemblies to the ends of the inner upper grille and lower grille sections and bolt them together. Install the vertical center bar into the outer grille, and install and

tighten the attaching screws. Position this assembly into the radiator outer grille and grille vertical center bar. Fasten the radiator inner upper grille and lower grille sections to the grille vertical center bar with the attaching screws.

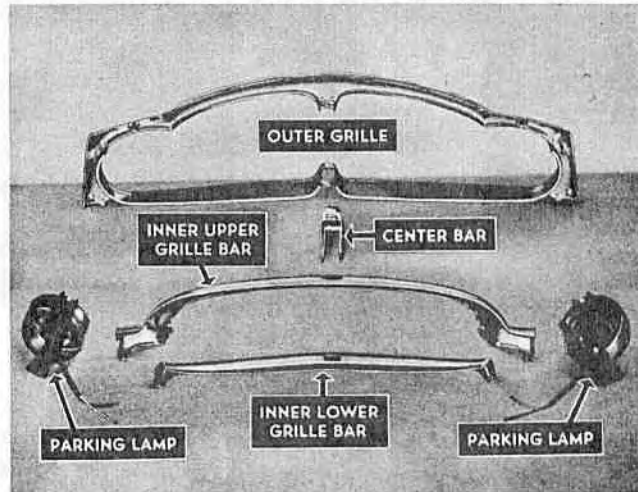


Figure 9—A Disassembled Grille Showing Component Parts

Assemble the vertical center grille bracket on either end of the bracket stud, slip on the washer, install the nut, and tighten. Insert the stud of this assembly into the hole in the inner grille and lower grille sections, with the V-shaped mounting bracket hooked over the edge of the grille vertical center bar. Slip the washer on the bracket stud end, install the nut, and tighten the nuts on each end of the stud. Install the outer grille shrouds.

Insert the parking light cables in the holes in the center of the parking light and directional mounting brackets. Position the brackets on the studs of the parking and directional light. Slip on the washers and install the nuts and tighten. Position the ends of the parking and directional light mounting brackets to the outer grille section and fasten them with the attaching screws.

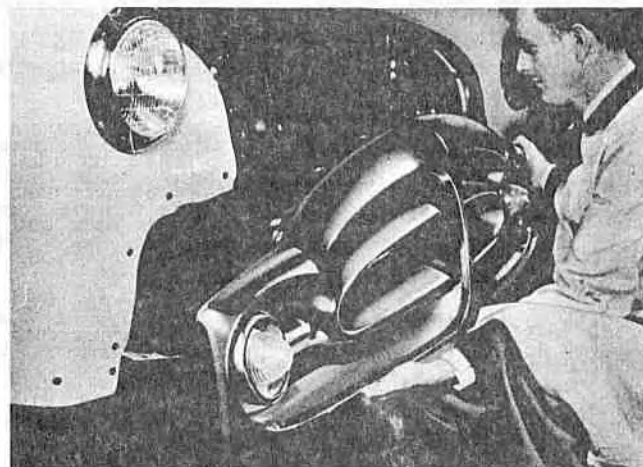


Figure 10—Installing the Grille

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Grille Installation

Position the radiator grille in the chassis. Start the combination screw and washer assemblies from the inside bottom of the fender to attach the grille at each end. Tighten the screws. Position a rubber grommet in the hole in the radiator side splasher above the fresh air duct and pull the parking and directional light cable through the hole. Install the right and left bumper stone shield. Install the radiator grille top splasher. Connect the parking and directional lights at the junction block. Mount and align the bumper. Align the bonnet to the fenders and grille.

Radiator Top Splasher Removal and Installation

Raise the bonnet. Remove the top splasher by removing the combination screw and washer assemblies which fasten the radiator top splasher to the radiator core cradle, the fender, and the top of the grille.

Position the radiator top splasher in the chassis. Install the attaching screws fastening the top splasher to the radiator core cradle, the fenders, and the top of the grille.

Radiator Lower Splasher Removal and Installation

Remove the front bumper. Remove the right and left front bumper stone shields. Remove the radiator lower splasher by removing the attaching screws holding it to the bottom of the grille and the bottom of the radiator side splashers.

Position the radiator lower splasher against the bottom of the grille and radiator side splashers. Install and tighten the attaching screws. Install the bumper stone shields. Install the front bumpers.

Bonnet Removal

Raise the bonnet and support it at each side. Note the present position of the hinge to bonnet screws to simplify adjustment on reinstallation. Remove the screws. Remove the bonnet.

Bonnet Installation

Position the bonnet on the hinges with the front end supported. Center the threaded hole in the bonnet rear reinforcement with the slotted hole in the hinge. Install the hinge to bonnet screws finger tight. From the front end of the car, sight the bonnet edges at the rear to note if they extend over the fenders an equal amount. If the spacing is equal, the bonnet will be in alignment with the fenders and the hinge to bonnet screws may then be tightened. If the spacing on the bonnet to fender sides is not equal, move the bonnet on the hinge toward the desired position and tighten the screws. The hinges have slotted holes to permit side-to-side movement.

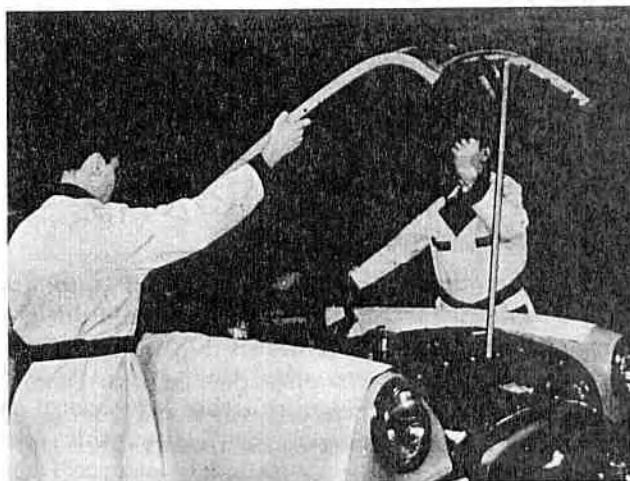


Figure 11—Installing the Bonnet

Bonnet Hinge Removal

Remove the bonnet from the hinges. Loosen the screw attaching the lower half of the hinge to a bracket welded on the cowl side panel. (It is not necessary to remove this screw, as this hole in the lower half of the hinge at the front is notched out.) The hinge to cowl bracket attaching screw at this point acts as a support for the front of the hinge and a pilot. Remove the hinge to cowl screws, and the hinge may then be removed from the body.

Bonnet Hinge Installation

Install the hinge on the hinge to cowl bracket screw. Install the hinge to cowl screws in the hinge in approximately the position they were in on disassembly. Tighten the hinge attaching screws. Install the bonnet and tighten the attaching screws.

Bonnet Lock Assembly Removal and Installation

The bonnet upper lock assembly is attached to a reinforcement at the front of the lock. To remove, unscrew and remove the attaching screws. To assemble, position the lock on the bonnet reinforcement. Insert the screws and pull the lock towards the front of the bonnet as far as it will go and tighten the screws.

Bonnet Lower Lock Assembly Removal and Installation

The bonnet lower lock assembly is fastened to the radiator top splasher with attaching screws. To remove the lower lock, remove the attaching screws, holding it to the splasher.

To install, position the lower lock assembly in the radiator top splasher. Install the attaching screws.

Bonnet Bumper Removal and Installation

Pry out the rubber bumpers. To replace the rubber

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bumper, press the bumper into the hole of the bonnet or fender until the slotted section snaps into the hole of the bonnet or fender. If any difficulty is encountered when making the installation, the tapered part which goes into the hole may be moistened to facilitate installation, or a pair of pliers may be used to pull down on the tapered end.

Bonnet Adjustment

The bonnet should have a side clearance of $\frac{1}{8}$ to $\frac{3}{16}$ inch. But most important, the bonnet fit should be uniform. The bonnet hinges are slotted to permit the bonnet to be moved sideways when the hinge to bonnet screws are loosened. Therefore, when the bonnet is not equally spaced between the fenders, this condition may be corrected in the following manner: Raise the bonnet, and from the front of the car note the distance the bonnet sides at the rear extend over the fenders. Loosen the hinge to bonnet screws and move the bonnet toward the side of greatest clearance to equalize the spacing and retighten the screws.

When the bonnet fit at the cowl is too high or too low, the adjustment may be made by loosening the hinge to cowl screws and moving the rear of the bonnet up or down and retightening the screws.

The bonnet upper lock has slotted holes that permit the lock to be moved forward or back when the screws are loosened for adjustment. The bonnet upper lock assembly has an adjustment to increase the tension on

the spring when bonnet flutter or vibration is caused by the lack of spring tension. To adjust, using a screwdriver, pull down on the spring to gain access to the nut on the pilot of the upper lock. Loosen the nut and turn the pilot clockwise to the amount needed for the correct adjustment and retighten the nut.

If the bonnet has a tendency to buckle when pulled down due to the hinges binding, this may be corrected by applying Lubriplate to the hinge friction points of the hinge that is binding and working the bonnet up and down until the hinges work freely.

Bonnet flutter may be caused by the lack of felt padding between the bonnet panel and the support, or the rubber bumpers at the front of the bonnet not properly contacting the surface of the radiator grille.

When bonnet flutter is caused by the lack of felt padding between the bonnet panel and the support, an additional amount should be added to this area until the padding is tightly compressed between the bonnet panel and the support. If the cause of bonnet flutter is the rubber bumpers at the front of the bonnet not properly contacting the surface of the radiator grille, in some instances the bonnet flange may be bent upward or downward to provide the proper bumper contact. There should be no interference between the bonnet flange and the radiator top splasher retaining screws.

If the bonnet flange strikes the screw heads, the cut-out in the flange should be enlarged.