SERVICE MANUAL

SECTION IV

BODY

Packard Motor Car Company
Detroit 32, Michigan

INDEX

BODY CONSTRUCTION

To place proper emphasis on the repair problems to be met by men who do maintenance work on Packard bodies, the following paragraphs describe in detail the procedures for removing body parts and equipment.

In general, installation procedures are the reverse of the procedure for removal. Where this does not hold true, the procedure for installation is described in detail.

When installing parts and equipment, it is important that care be taken to assure their proper operation and adjustment. In many cases the correct adjustment will depend upon the judgment of the mechanic. For that reason the procedures included in these paragraphs are intended to serve only as a guide.

22nd Series Packard bodies are described in this Service Manual. Five distinct body types are used. The body type numbers and model designations are shown in the table in figure 1.

The body type number appears as part of the vehicle number stamped on the plate attached to the left top side of the cowl, under the bonnet.

Each closed body type is of all-steel construction for maximum safety. The steel floor, roof, and panels are all welded into one complete unit ruggedly braced for great strength and scientifically insulated to keep out noise and dirt, as well as road and engine heat.

The closed bodies are secured to the chassis by cushioned bolts at the locations shown in figure 2. The special rubber cushions are located between the body and the chassis and between the chassis and the body bolt nuts and washers as shown in the inset. The body bolts are tightened to a torque of 12 to 15 ft. lbs. to obtain the desired compression of these cushions. The convertible bodies are rigidly reinforced at cowl, floor and rear sections and secured to the chassis by body bolts with steel washers. The torque requirement for these bolts is 20 to 23 ft. lbs.

All models have a built-in fresh air ventilating system. The front sections of the fresh air ducts are located along the underside of the front fenders and secured to the fender support rail. The front fenders are bolted to the body and are attached to the radiator core cradle by screws.

22ND SERIES BODY TYPE NUMBERS AND MODELS

BODY TYPE	BODY NUMBER	MODEL DESIGNATION
		7-Passenger Limousine
	2250	Custom Eight
	2270	Super DeLuxe Eight
	2276	Super Eight
		7-Passenger Sedan
	2251	Custom Eight
Limousine	2271	Super DeLuxe Eight
	2277	Super Eight
		Partition Taxicab
	2280	Taxicab Six
		Touring Sedan
	2252	Custom Eight
	2272	Super Eight
	2262	DeLuxe Eight
4-Door	2292	Standard Eight
	2286	Taxicab Six
		Club Sedan
	2255	Custom Eight
2-Door	2275	Super Eight
	2265	DeLuxe Eight
	2295	Standard Eight
		Convertible Victoria
Convertible	2259	Custom Eight
	2279	Super Eight
		Station Sedan
4-Door	2293	Standard Eight

Fig. 1—22nd Series Body Type Numbers and Model Designations for Six, Eight, Super Eight and Custom Eight.

The models differ in the richness of the upholstery, the type of cushions, the number of chrome mouldings and certain other accessories.

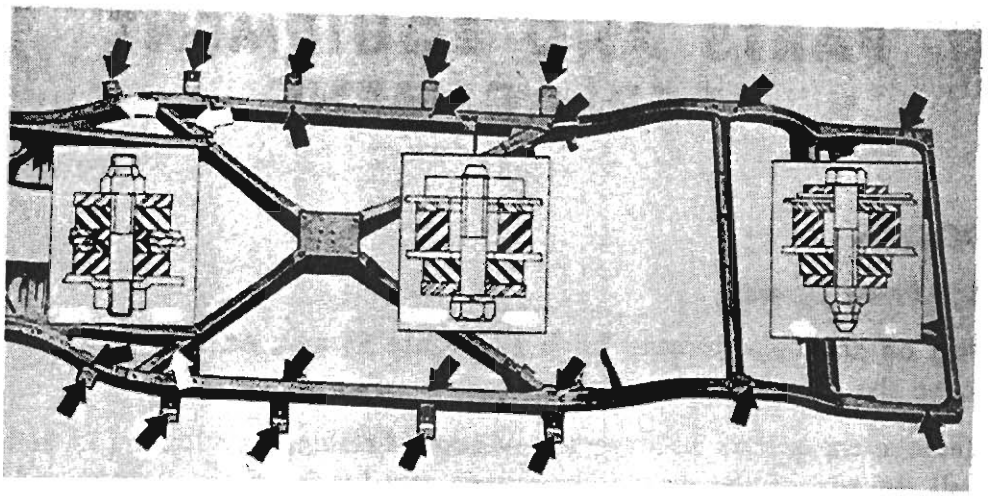


Fig. 2—Body Mounting Bolt Locations. Inset Showing Cross-section of Typical Body Bolt and Cushion.

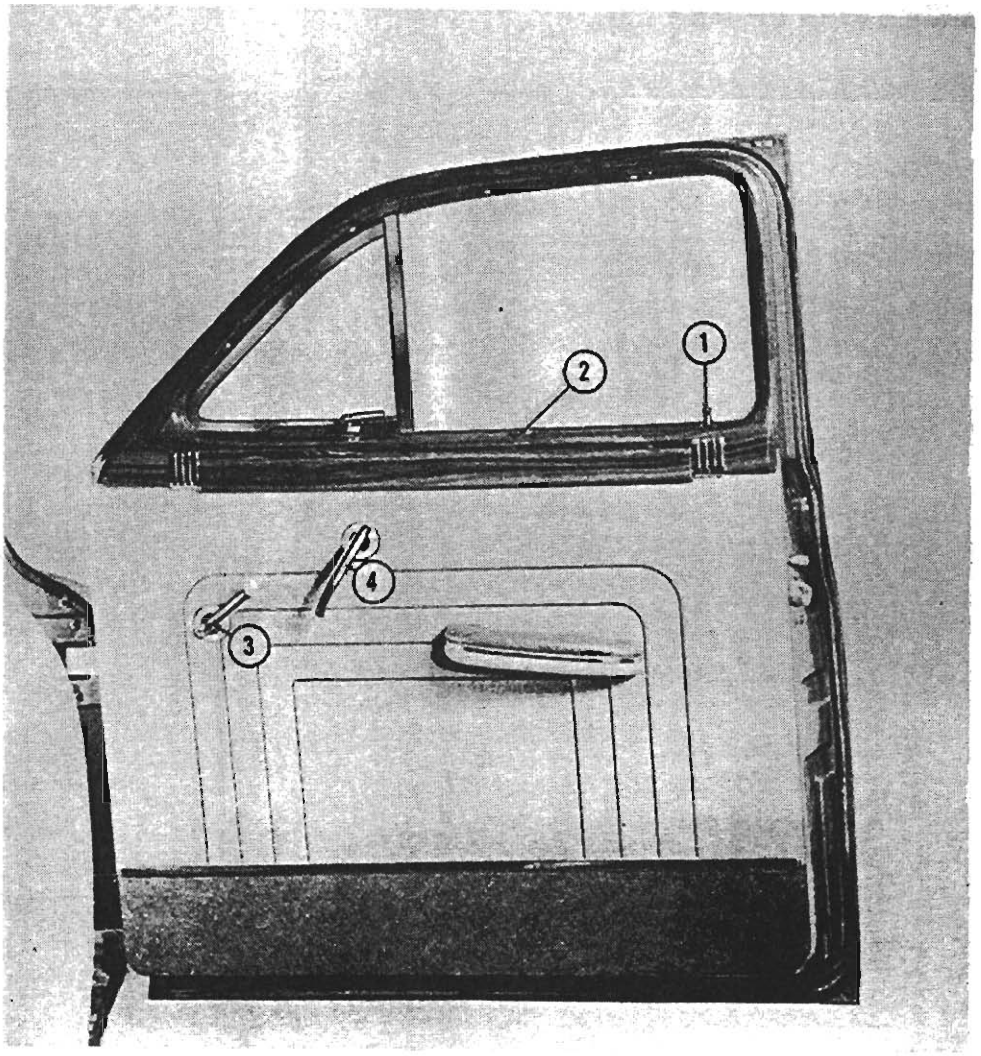


Fig. 3—Front Door Interior, Indicating Parts To Be Removed To Remove a Trim Panel.

PARTS AND EQUIPMENT REPLACEMENT

DOORS

1. Trim Panel

Pull off the door locking knob (1, figure 3) and, on rear doors, remove the window wing draft deflector.

Remove the screws holding the window finishing moulding (2) and pull the top of the moulding inward and lift it off the locking rod.

Press inward on the window regulator handle escutcheon plate (3) and push out the handle retaining pin. Remove the door lock inside handle (4) in the same way.

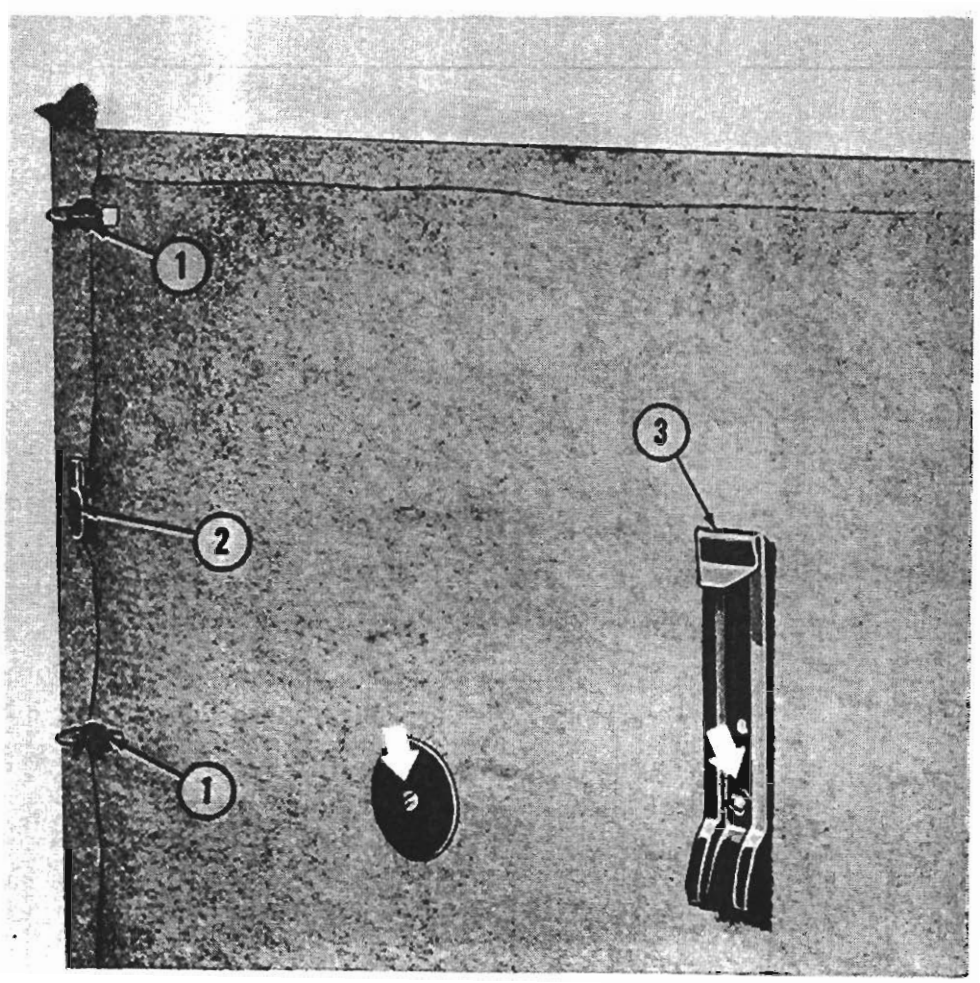


Fig. 4—Front Door Trim Panel Fasteners and Arm Rest Clip and Retaining Screws.

Concealed fasteners (1, figure 4) around the side and bottom edges of the trim panel secure the trim panel to the door. Pry out the fasteners and raise the panel to free the hook-on clip (2) at the upper rear edge of the panel. Remove the panel and the escutcheon plate springs.

On front doors the trim panel must be lifted upward to free the arm rest clip (3) from the door inner panel.

To remove the arm rest from the trim panel, pull off the anti-rattle pad and take out the two trim panel to arm rest retaining screws and washers (indicated by arrows) and remove the arm rest clip.

To reinstall the trim panel, reverse the procedure for removal. Before installing the window finishing moulding place a length of strong cord in the inside groove of the window wing weatherstrip and let the ends of the cord fall to the outside of the door as shown in figure 5. After the moulding is in place, pull the cord to bring the inside lip of the weatherstrip over the moulding.

When installing the window regulator handle, run the window to the "closed" position and install the handle on the shaft so the arm of the handle extends toward the front of the door.

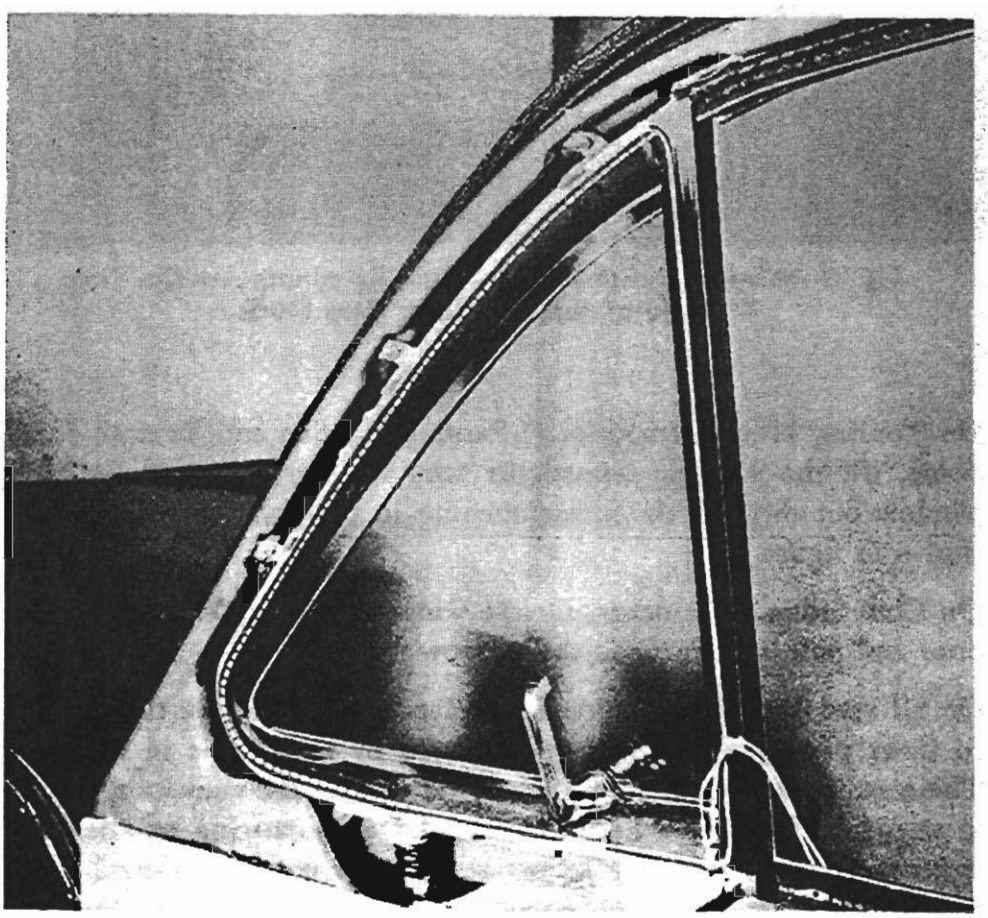


Fig. 5—Place Cord in Window Wing Weatherstrip to Position Weatherstrip When Moulding Is Installed.

2. Window Glass and Lifter

Remove the trim panel and, working through the access opening in the door inner panel, remove the window glass stop (1, figure 6). Pull the hairpin type retainers and the washers from the studs of the regulator arms (2) and free the studs from the lifter channel brackets (3). Let the window glass and lifter assembly move toward the bottom of the door.

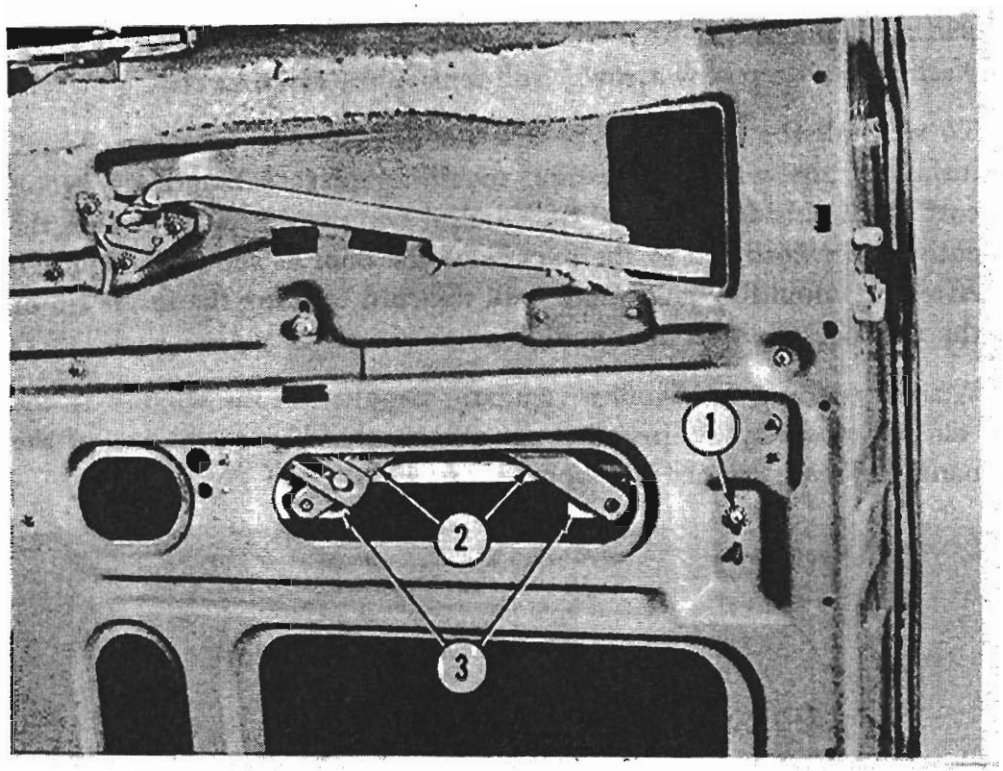


Fig. 6—Window Lifter Hairpin Type Retainers Are On The Outside of the Regulator Arm Studs.

On Touring Sedan, Limousine, 7-Passenger Sedan and Taxicab front doors, tilt the window toward the front of the door and pull the window out through the access opening in the door inner panels as shown in figure 7.

On Club Sedan front doors, tilt the window toward the front of the door and pull it up through the window opening.

On all rear doors and Station Sedan front doors remove the runway to inner panel retaining screws indicated by the arrows in figure 8. These screws are located near the lower end of the runway retainers as shown by the dotted lines. Remove the window wing weatherstrip retainer assembly retaining screws and tip the complete assembly inward. Spread the runway far enough to lift out the window glass and lifter assembly as shown in figure 9.

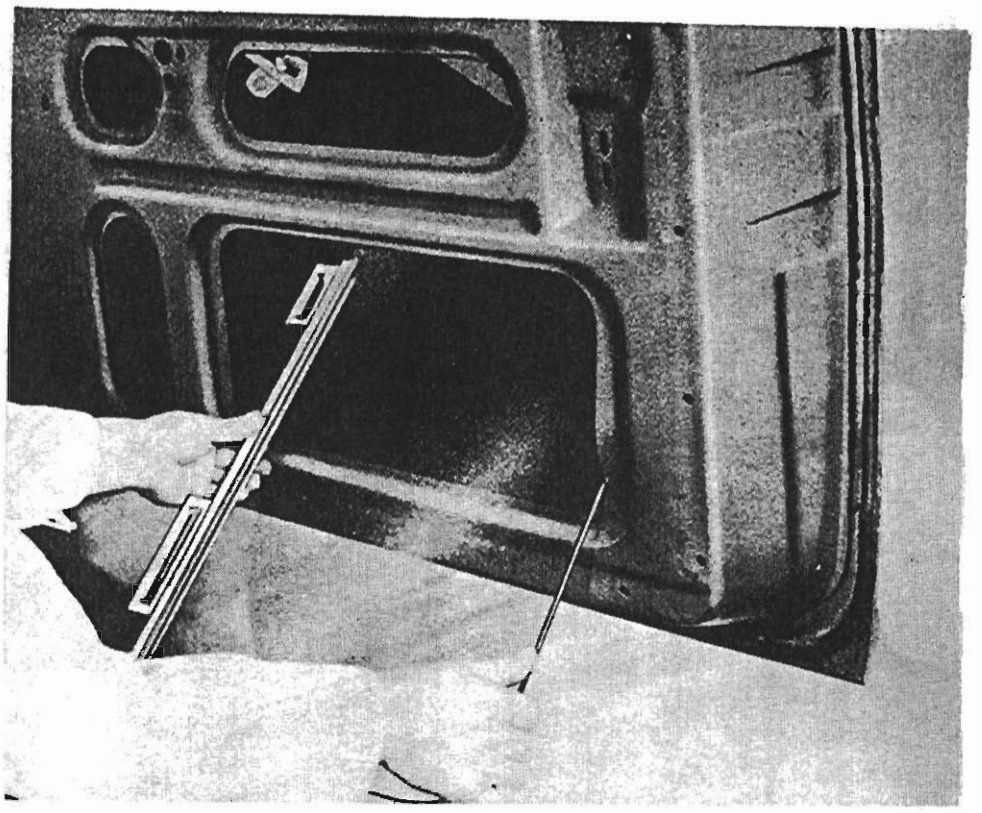


Fig. 7—Pull the Window Glass and Lifter Assembly Out Through the Lower Access Opening In the Door Inner Panel.

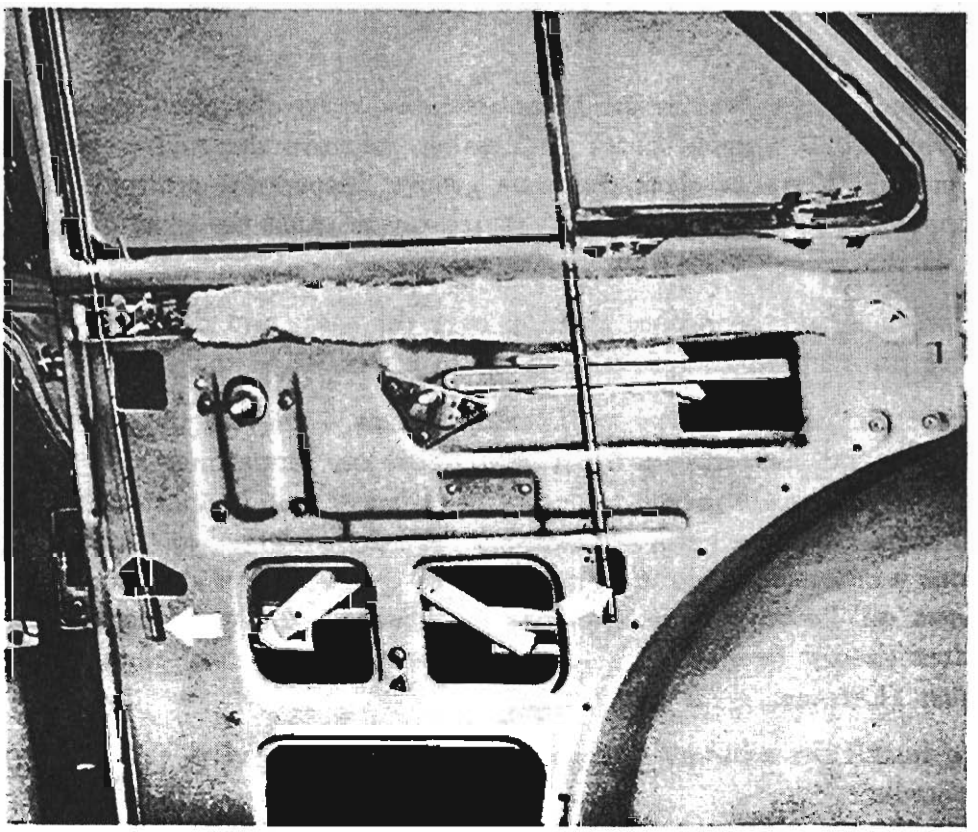


Fig. 8—Rear Door Window Runway Retainers Are Fastened At The Locations Indicated by Arrows.

Fig. 9—Spread the Runway Far Enough to Lift Out the Window Glass and Lifter Assembly.

To replace the glass in the lifter assembly, drive the glass out of the lifter with a wooden block and mallet. Remove the rubber cushion from the lifter and clean the lifter groove. Inspect the groove and remove any burrs, nicks or bends which might cause the glass to crack. Coat the groove with light engine oil.

Place a length of rubber cushion over the glass and drive the lifter onto the cushion and glass as shown in figure *10*.

For front door windows on Touring Sedans, Limousines, 7-Passenger Sedans and Taxicabs, and for rear doors on Limousines and 7-Passenger Sedans the forward edge of the lifter should be located $\frac{5}{8}$ inch to the rear of the glass (Dimension "A", figure 11). For Club Sedan door windows, this dimension should be $\frac{13}{16}$ inch. For rear door windows on Touring Sedans and Station Sedans, the rear edge of the lifter should be located $\frac{27}{64}$ inch forward of the rear edge of the glass (Dimension "B", figure 11).

To install the window glass and lifter assembly, reverse the removal procedure.

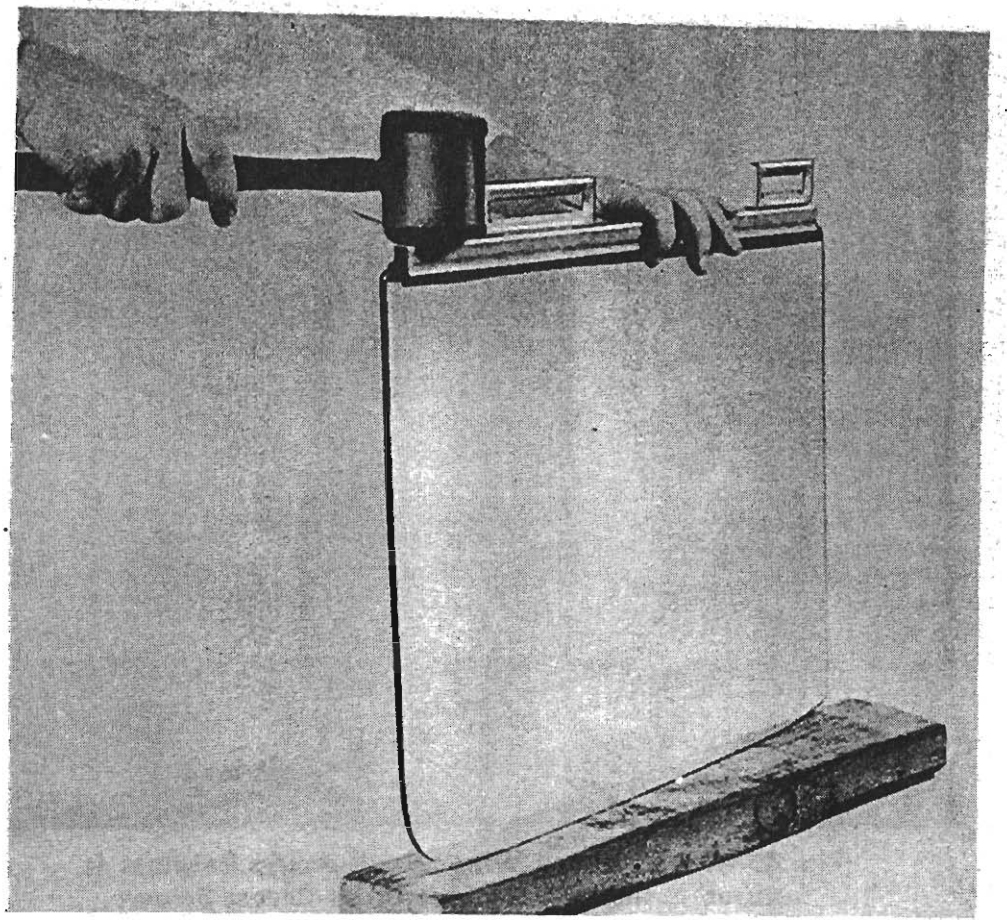


Fig. 10—Place Rubber Cushion over Glass and Drive Lifter Onto Cushion and Glass.

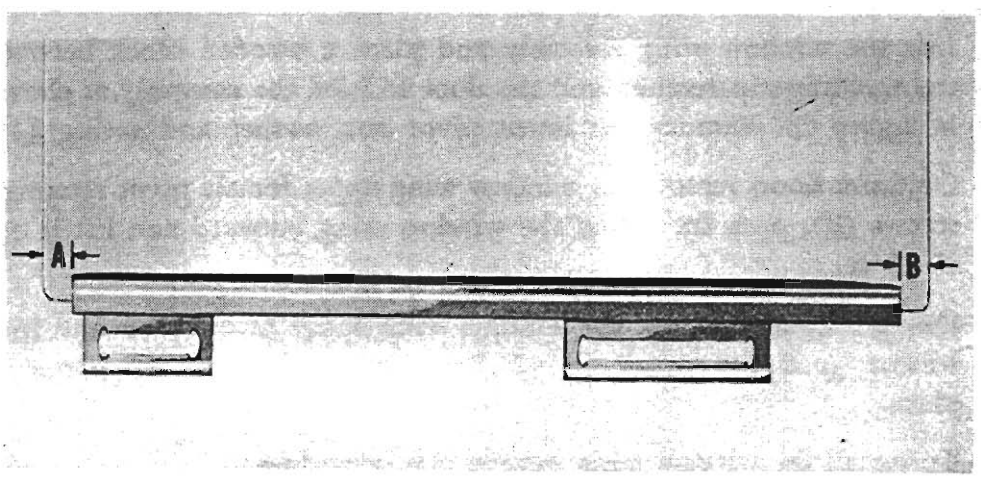


Fig. 11— Window Glass Must Be Properly Positioned In Lifter To Insure Satisfactory Operation.

3. Window Wing

Remove the trim panel and take out the window wing weatherstrip retainer assembly retaining screws indicated in figure *12*.

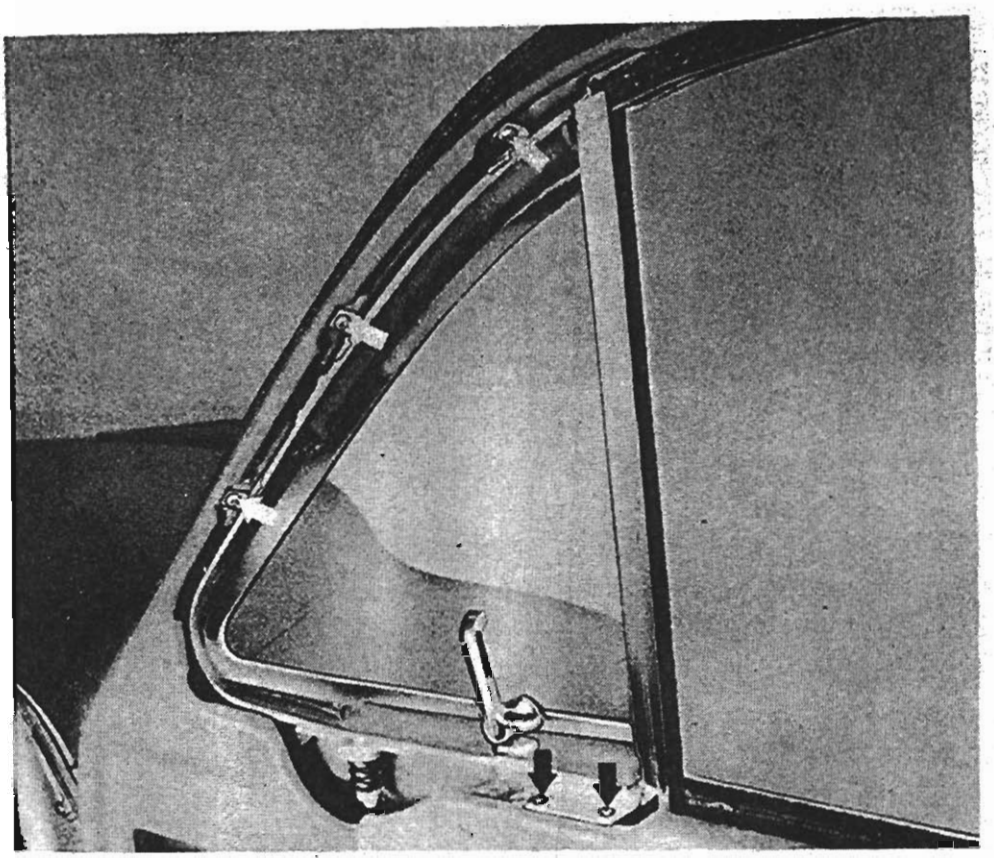


Fig. 12—The Window Wing Weatherstrip Retainer Is Secured to the Door by Five Cross-Recess Screws.

Take out the runway retaining screws and push the top of the window wing and runways toward the inside of the door.

Lift the window wing assembly and place a wooden block between the weatherstrip retainer and the door to hold the assembly as shown in figure *13*. Remove the lower pivot nut, washer and spring (1).

On front doors remove the window wing upper female pivot retaining screws (2), push the top of the window wing outward and lift it out of place.

On rear doors take out the window wing upper pivot screw and lock washer, push the top of the window wing inward and lift it out of place.

To install the window wing, reverse this procedure.

To replace the glass in the retainer, remove the old glass and rubber cushion and clean the retainer groove thoroughly. Inspect the groove and remove any burrs or nicks and correct any other non-standard condition which might cause the glass to bind. Coat the groove with light engine oil.

Place a rubber cushion (.070" or .080" thick, depending on the thick-

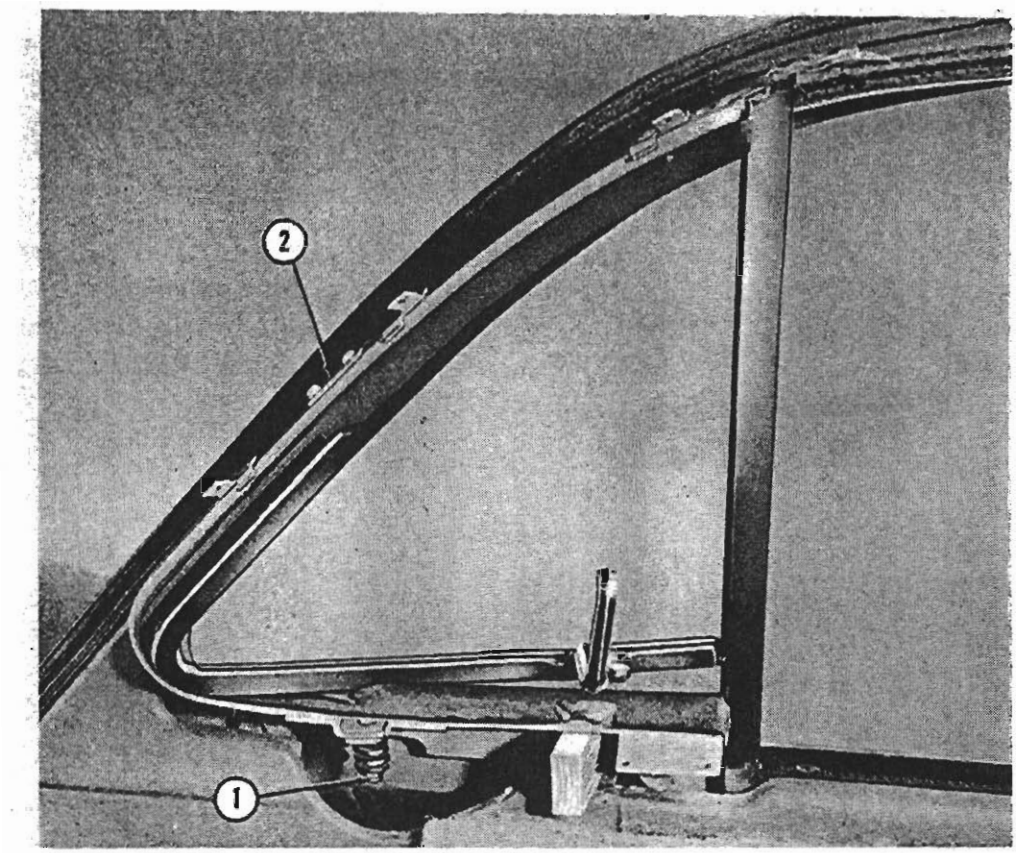


Fig. 13—Prop the Retainer with a Wooden Block While Removing the Upper and Lower Pivots.

ness of the glass) around the edge of the glass allowing the ends of the cushion to extend about 1 inch to the rear at the top and bottom of the glass. Center the cushion on the glass and push the glass and the cushion into the retainer groove. Cut off the ends of the cushion, and trim around the edge of the retainer as necessary.

4. Window Runway, Retainer and Window Wing Weatherstrip Retainer

The window runway (1, figure 14), the runway retainer (2), the window wing weatherstrip retainer (3), and the runway tie bar (4), are installed as a complete assembly. To remove the complete assembly, remove the trim panel and the window glass stop.

Pull the hairpin type retainers from the regulator arm studs and free the studs from the lifter channel brackets.

Remove the runway retainer to door inner panel retaining screws located near the lower end of the retainers and take out the window wing weatherstrip retaining screws. Remove the glass and lifter assembly and pull the runway and retainer assembly up out of the door. These parts are fastened by rivets or welds at the points indicated by the arrows in figure *14*.

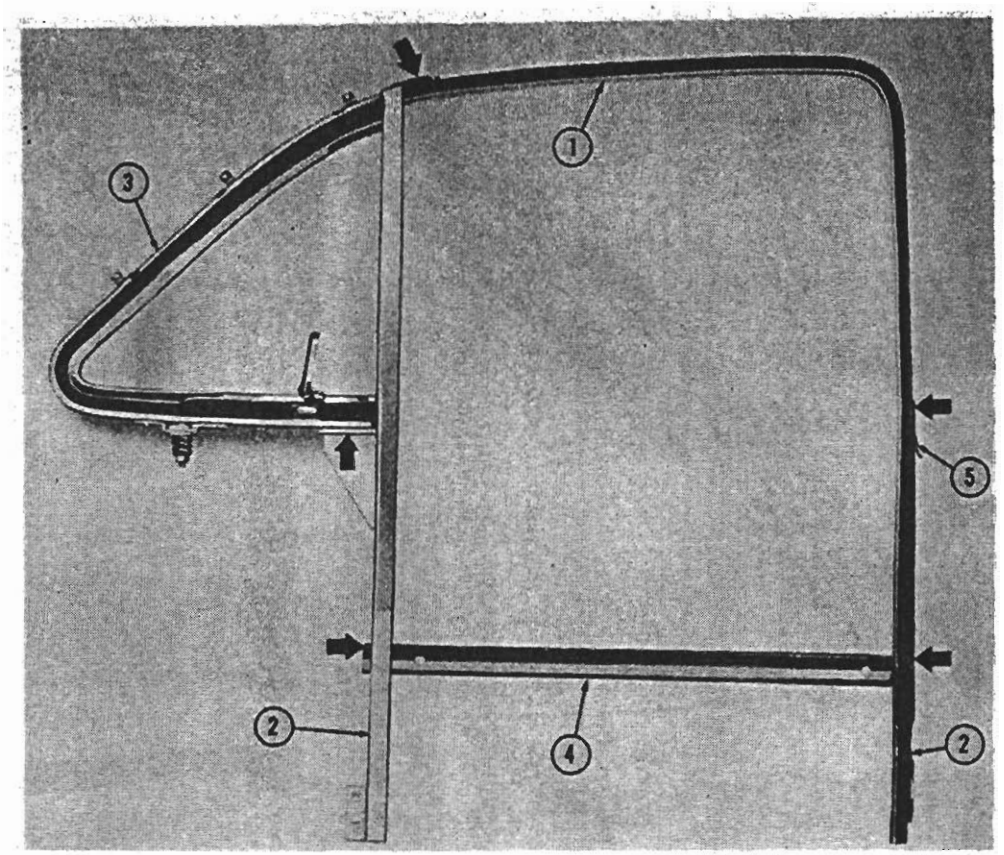


Fig. 14—The Assembly is Riveted Or Welded At The Locations Indicated by the Large Arrows.

To replace a window runway, a window runway retainer, a window wing weatherstrip retainer or a runway retainer tie bar, take out the rivets or break the welds as necessary. When reassembling these parts place the window in the runway and secure the parts to provide satisfactory window operation.

To install the complete assembly, reverse the procedure for removal. When doing this, be sure the runway clip (5) is located in the opening in the door inner pillar.

Before securing the assembly, place a length of strong cord in the outside groove of the window wing weatherstrip and tie the ends of the cord together. After the assembly is secured, pull the cord to position the outside lip of the weatherstrip as shown in figure *15*.

5. Window Regulator—Front

Remove the trim panel and the window glass stop.

Lower the window and pull the hairpin type retainers and the washers from the regulator arm studs and free the studs from the lifter channel brackets.

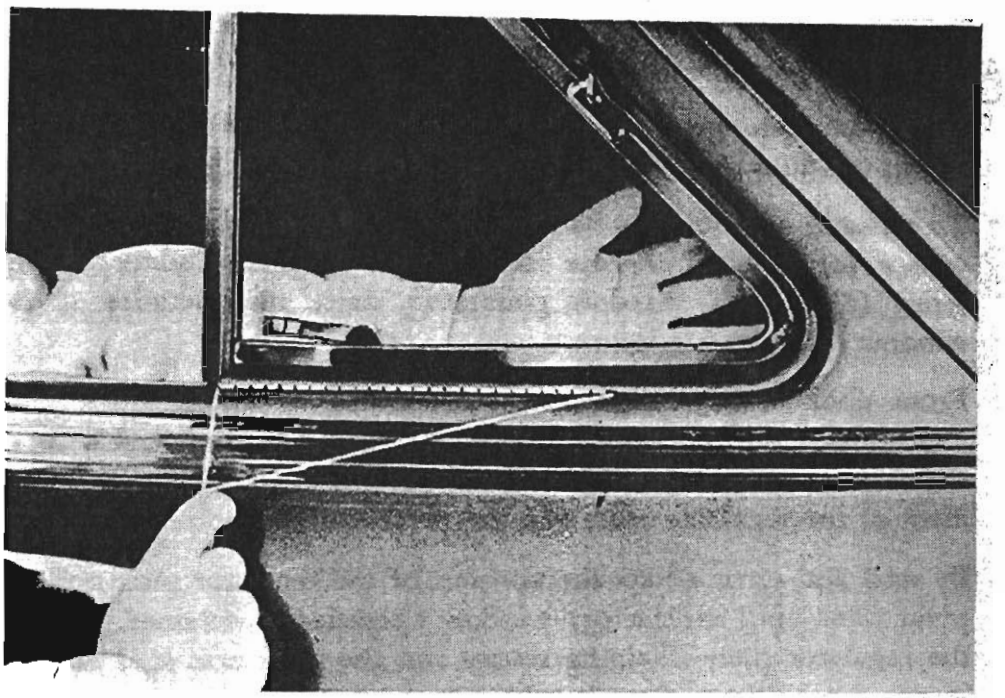


Fig. 15—After the Assembly Is Installed, Pull the Cord To Position the Outside Lip of the Weatherstrip.

Raise the window and prop it in place to keep it from slipping down. Remove the arm to door inner panel pivot stud (1, figure 16). Slide the pivot arm stud out of the pivot bracket (2) inside the door inner panel and slide the pivot arm rivet (3) out of the slot in the regulator arm link (4).

Pull the regulator arm and pivot assembly out through the access opening in the door inner panel.

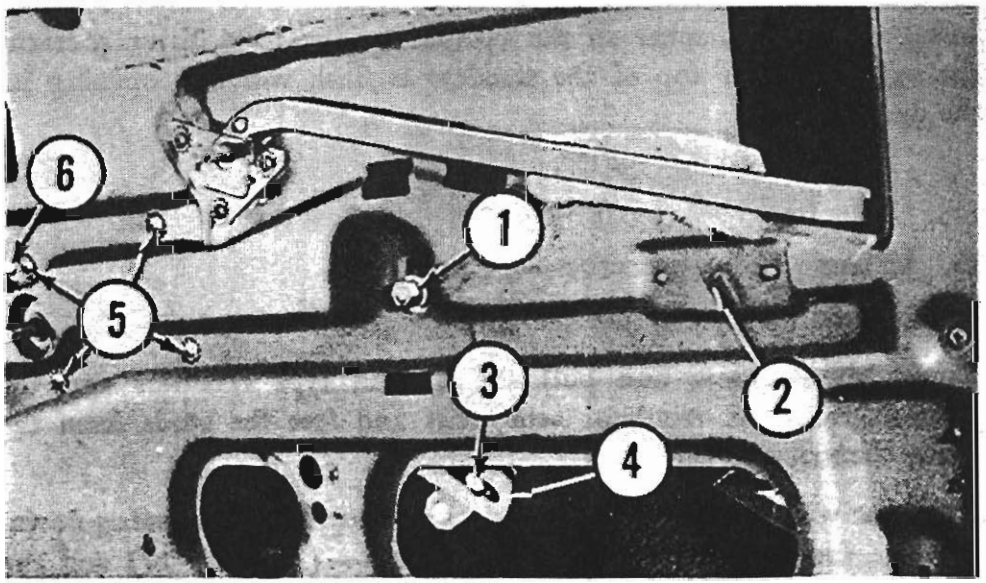


Fig. 16—Front Door Window Regulator Attachment Points. The Pivot Bracket Is on Inner Panel at Shaded Area.

Remove the regulator plate retaining screws (5) and the locating screw (6) from the door inner panel.

Lower the plate, gear, and link assembly out through the access opening in the door inner panel.

To reinstall a front door window regulator assembly reverse the procedure for removal. Before installing the regulator plate locating screw (6) and the window glass stop, check the operation of the window for correct alignment.

Front door window alignment is controlled by the regulator plate retaining screws (5) and the pivot arm stud (1). Elongated holes at these locations permit an up and down and a slight twisting movement of the regulator plate and the pivot arm assembly.

By trial and error adjust the position of the regulator plate and the pivot arms until satisfactory window operation is obtained. Tighten the regulator plate retaining screws and the pivot arm stud nut and install the regulator plate locating screw.

NOTE

When installing a locating screw in a replacement regulator plate, use the existing hole in the inner panel as a guide, and drill through the regulator plate flange. When installing a locating screw in a regular plate in which a previously drilled hole will not line up with the hole in the inner panel, it may be necessary to drill for a larger screw. If use of a larger screw is not practical, a new hole may be drilled through the panel and the regulator plate flange.

Install the stop bracket so the bottom of the glass lifter contacts the stop when the top of the window is flush with the opening in the door.

6. Window Regulator—Rear

Remove the trim panel and the window glass stop.

Lower the window and pull the hairpin type retainers and the washers from the regulator arm studs and free the studs from the lifter channel brackets.

Raise the window and prop it in place to keep it from slipping down. Remove the regulator plate retaining screws (1, figure 17) and the locating screw (2) from the door inner panel.

Slide the pivot arm stud out of the pivot bracket (3) inside the door

inner panel and pull the regulator assembly out through the opening in the door inner panel.

To reinstall a rear door window regulator assembly reverse the procedure for removal. Before installing the regulator plate locating screw (2) and the window glass stop, check the operation of the window for correct alignment.

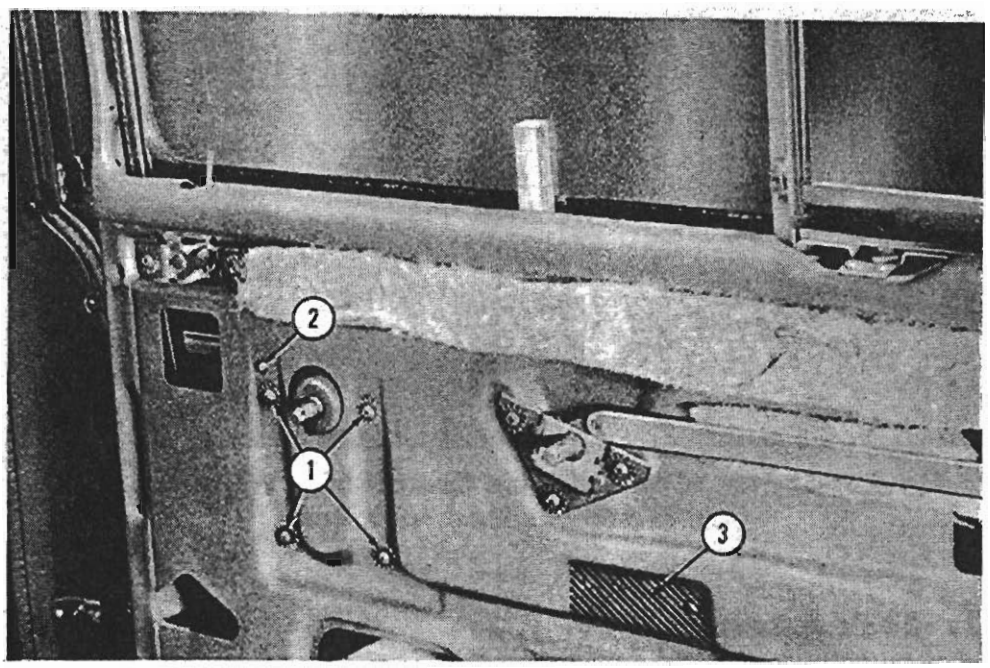


Fig. 17—Use a Wooden Block to Prop Window Up Out of Way While Removing Rear Door Window Regulator.

Rear door window alignment is controlled by the regulator plate retaining screws (1). The elongated holes in the door inner panel permit an up and down and slight twisting movement of the regulator plate. Position the regulator plate so the window works smoothly and opens and closes completely. Tighten the retaining screws and install the locating screw.

NOTE

When installing a locating screw in a replacement regulator plate, use the existing hole in the inner panel as a guide and drill through the regulator plate flange. When installing a locating screw in a regulator plate in which a previously drilled hole will not line up with the hole in the inner panel, it may be necessary to drill for a larger screw. If use of a larger screw is not practical, a new hole may be drilled through the panel and the regulator plate flange.

Install the stop bracket (1, figure 18) so the bottom of the glass lifter (2) contacts the stop when the top of the window is flush with the opening in the door.

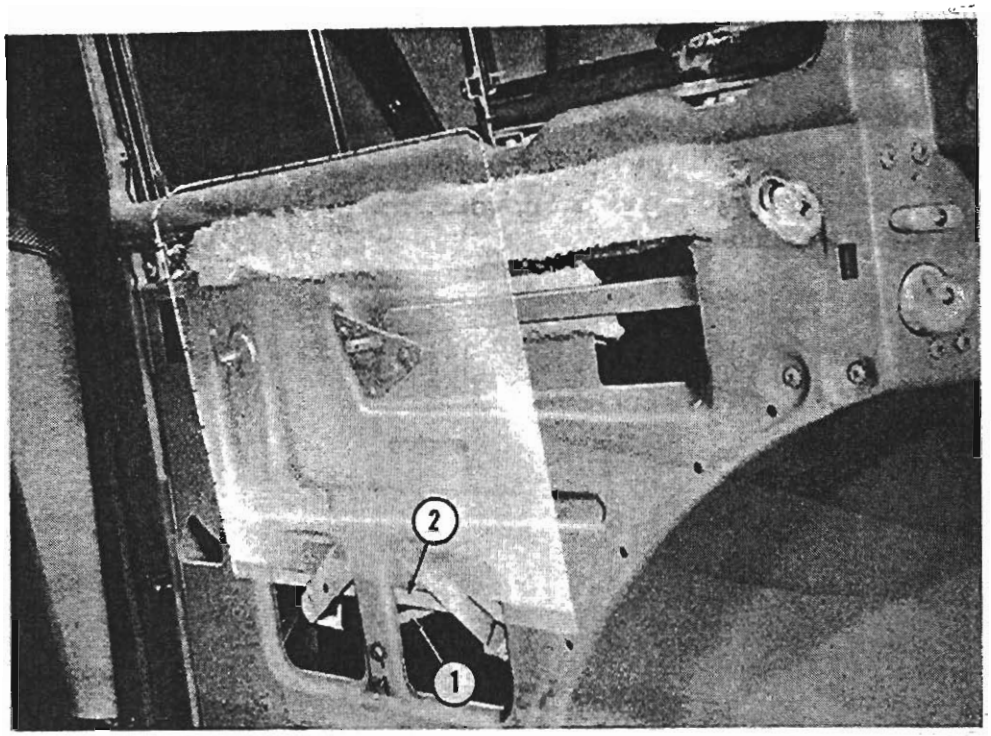


Fig. 18—Bottom of Lifter Should Contact Stop When Top Edge of Window is Flush with Door.

7. Lock Assembly

Remove the trim panel, the window stop, and the rear runway retainer screw. Take out the lock outer handle inside attaching screw (1, figure 19), remove the outer handle outside attaching screw and remove the handle. To remove a lock outer handle which has no outside attaching screw, remove the inside attaching screw and pull the handle out and to the rear.

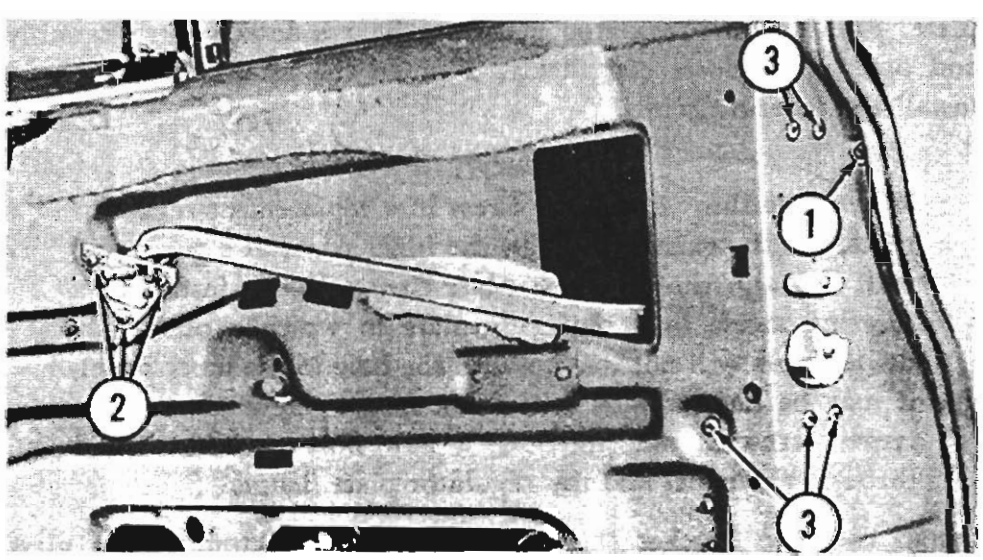


Fig. 19—Remove Lock Assembly, Remote Control Link, and Outer Handle By Taking Out Screws Indicated.

Remove the lock remote control assembly retaining screws (2) from the door inner panel.

Remove the lock retaining screws (3) from the door rear pillar and the door inner panel.

On front doors remove the lock cylinder, let the lock move toward the bottom of the door and disengage the remote control link. See figure 20. Pull the link up out of the door, and pull the lock assembly out through the access opening in the door inner panel.

On rear doors, turn the lock to disengage the locking control link (1, figure 21). Let the lock move toward the bottom of the door and disengage the remote control link (2). Pull the link up out of the door and pull the lock assembly out through the access opening in the door inner panel.

To install the lock assembly, reverse the procedure for removal.

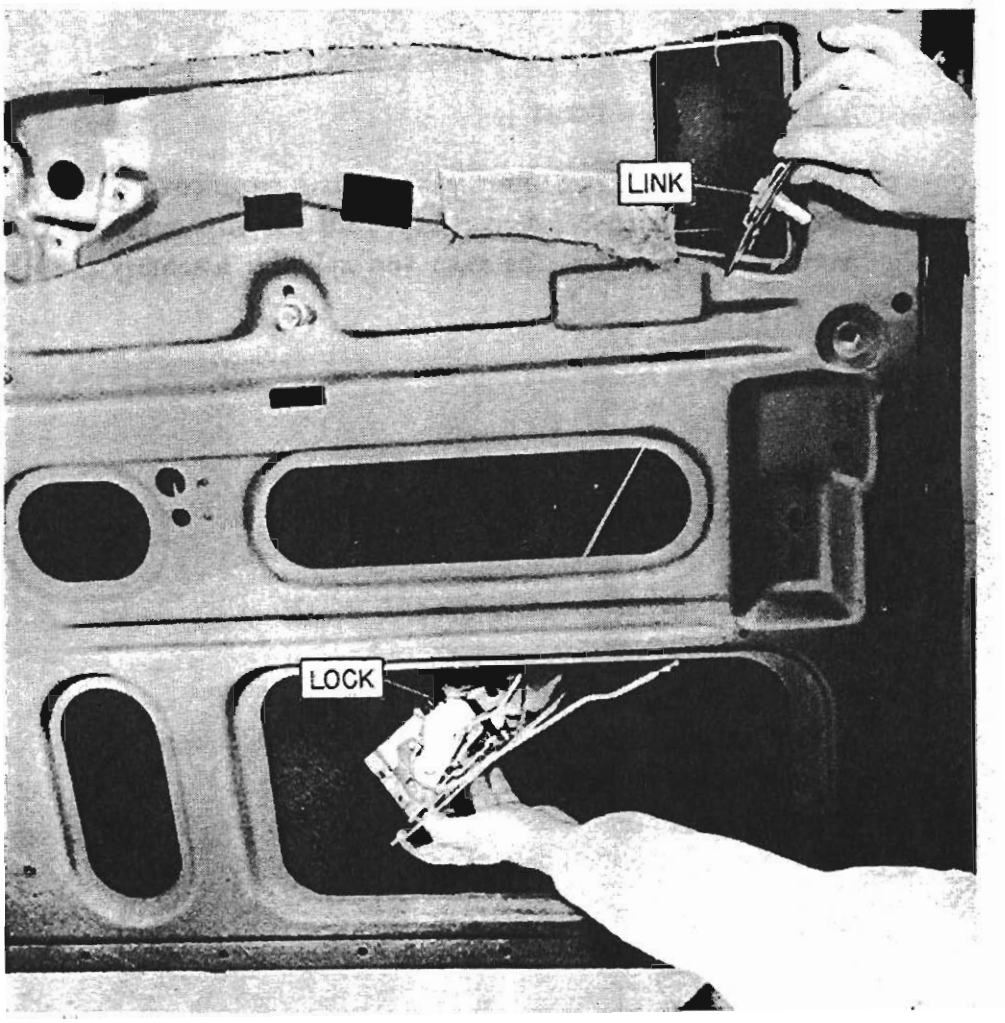


Fig. 20—On Front Doors Disengage the Link and Pull It Out Through the Upper Access Opening.

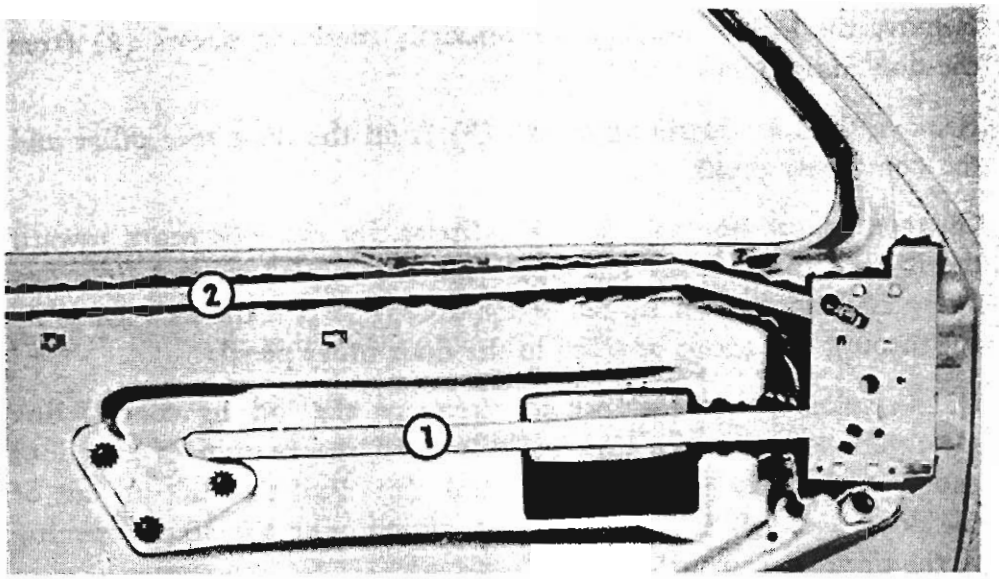


Fig. 21—On Rear Doors, Turn the Lock To Disengage the Locking Control Link Before Lowering the Lock.

8. Lock Cylinder—Front

Loosen a 3 inch section of the door weatherstrip to uncover the lock cylinder case retaining clip (1, figure 22). Pull the clip out until the case (2) is released, then pull the case and cylinder assembly out of the door.

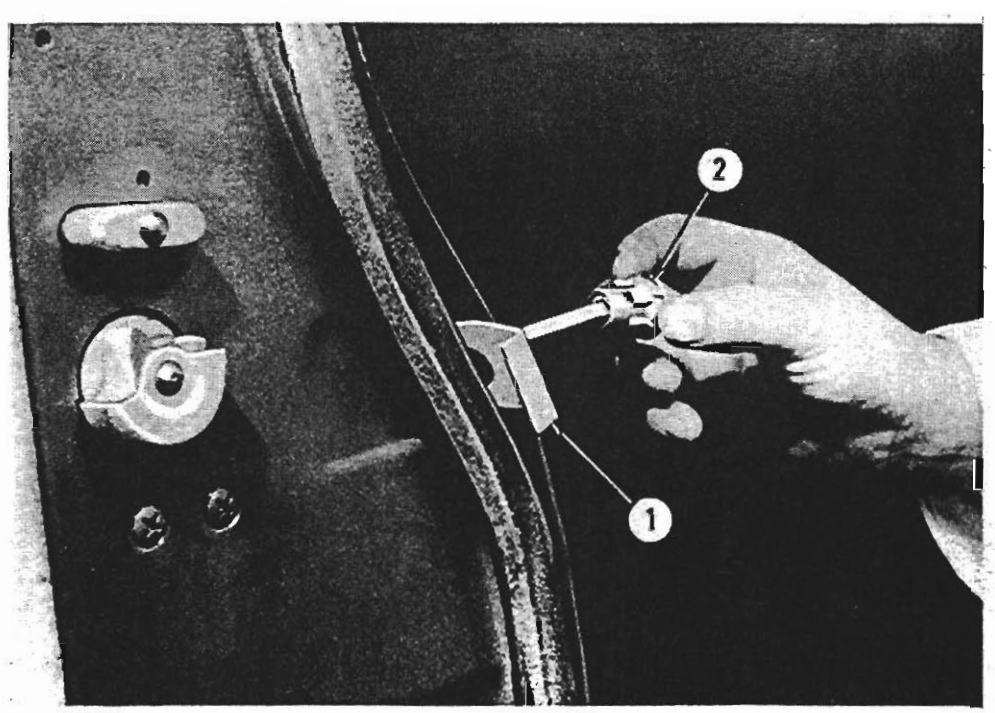


Fig. 22—After Pulling the Retaining Clip To Release the Case, Pull the Case and Cylinder Assembly Out of the Door.

To install a lock cylinder make sure the lock cylinder is in the neutral position by removing the key from the cylinder. Stick a long needle through the door trim panel and through the hole for the shaft in the lock and insert the point of the needle in the hole in the end of the shaft, as shown in figure *23*.

Install the cylinder, using the needle to guide the shaft into the lock. Press the lock cylinder against the door outer panel and push in the retaining clip to hold the cylinder tightly against the door panel.

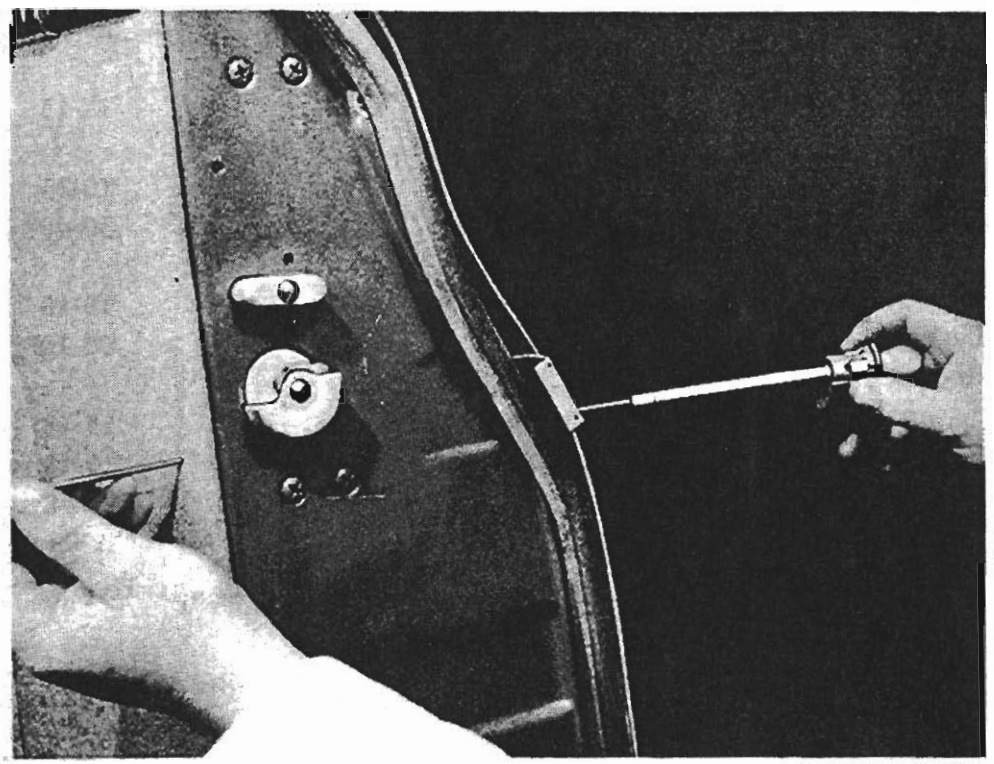


Fig. 23—Using a Needle As a Guide, Push the Lock Shaft Into the Lock Assembly.

9. Hinges

The doors are hung on concealed hinges secured by cross recess screws which fasten to floating tapping plates inside the door and inside the hinge pillar. Failure to pull these screws down evenly and to within specified limits, may result in the doors sagging due to slipping of the hinges. The torque data shown in the table in figure *24* should be closely adhered to when tightening the hinge screws.

When removing a hinge, have the door supported to keep it from dropping. Remove the trim panel and, working through the access opening in the door inner panel, take out the check arm retaining pin and remove the washer and bumper as shown in figure *25*.

Take out the hinge to body screws, and pull the door away from the body pillar.

TIGHTENING TORQUE SPECIFICATIONS

Part Description	Thread Size	Torque Ft.-Lbs.
Door Hinge to Pillar—Screw	5/16-24	18-22
Door Hinge to Door—Screw	3/8-24	45-55
Door Hinge to Door—Screw	5/16-24	25-35
Body hold down bolt (hard top cars)	3/8-16	12-15
Body hold down bolt (convertibles)	3/8-16	20-23
Front fender moulding bolt nut	#10-32	30-40*
Front center and lower moulding to reinforcement screw	5/16-18	15-18
Parking light moulding	1/4-20	90-100*
Radiator front fender front center and lower moulding screw	5/16-18	15-18
Radiator front fender moulding screw	5/16-18	15-18
Radiator grille and fin. assy. screw	#10	30-40*

*In. lbs.

Inch pounds may be determined by multiplying the foot pound recommendation by 12.

Fig. 24.—Door Hinge Tightening Torques Must be Within Above Limits to Avoid Door Sag.

Remove the hinges from the door by working through the access openings (1, figure 25) in the door inner panel to remove the hinge to door screws. On rear doors, the window front runway retaining screw should be removed to provide access to the upper hinge front screw.

To install the hinges, reverse the procedure for removal. After the door is hung, check and correct the alignment of the door according to the procedure outlined under "Door Alignment."

10. Alignment

A properly hung door should be set to leave an approximately even space between the door edges and the adjacent body panels, and the door should close easily and completely at the top and bottom.

Except in cases where the car has been overturned or otherwise dam-

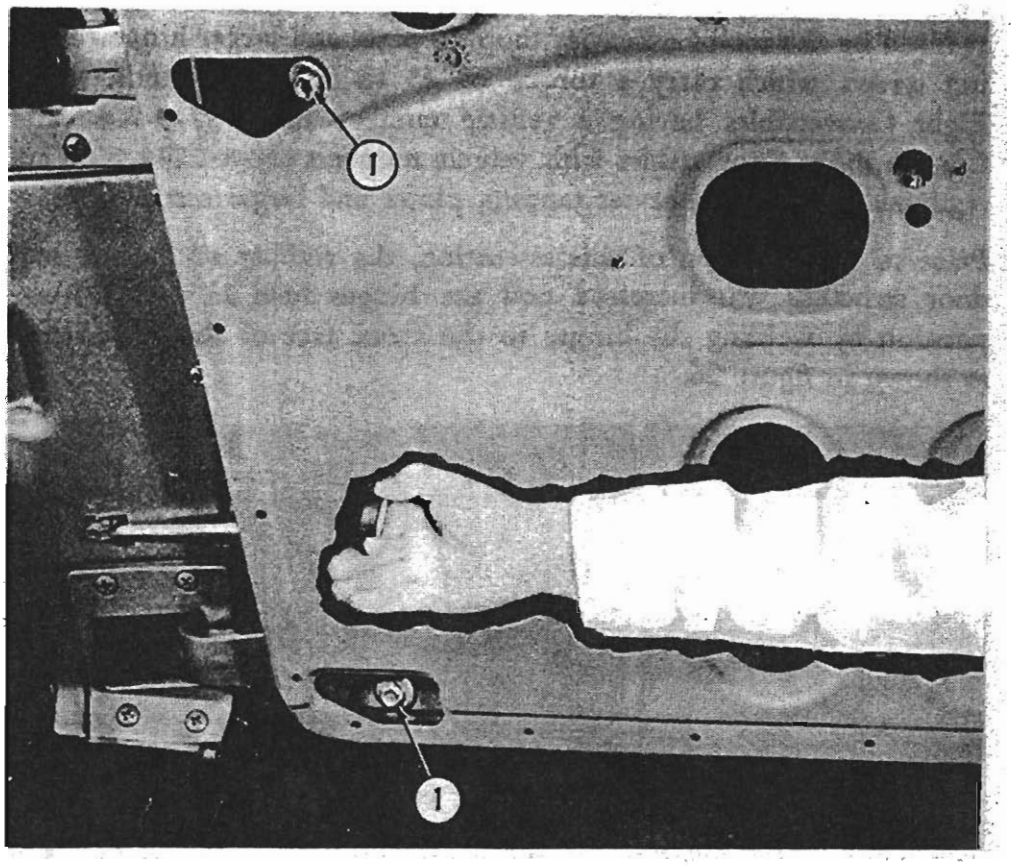


Fig. 25— Reach through the Lower Access Opening in the Door Inner Panel and Remove the Door Check Arm Pin.

aged by accident, the doors may ordinarily be fitted to the body door opening by the simple method of adjusting the hinges and the striker plate.

To adjust the door in or out, or up or down, loosen the hinge to body screws, move the door and retighten the screws.

To adjust the door forward or back, loosen the hinge to door screws, move the door and retighten the screws.

To move the rear end of the door in or out, adjust the striker plate.

NOTE

When retightening hinge screws, use a torque measuring wrench to obtain the torque specified for the job, as shown in figure *24*.

In taking a torque reading it is important that a steady pull of the wrench be made and that the reading be taken *after* the initial high reading has been overcome.

11. Alignment—Early Convertibles

The possibility of doors sagging on late model convertibles has been

reduced by the use of a heavier tapping plate and larger hinge retaining screws which carry a torque of 45 to 55 foot pounds. Super Eight Convertibles having a vehicle number above 2279-7060 and Custom Eight Convertibles with vehicle numbers above 2259-2600 are equipped with these heavier tapping plates and larger screws.

Prior to the adoption of this alteration, the rigidity of the original door structure was increased and the hinges held in their proper position by welding the hinges to the front face of the door panel as shown in figure 26.

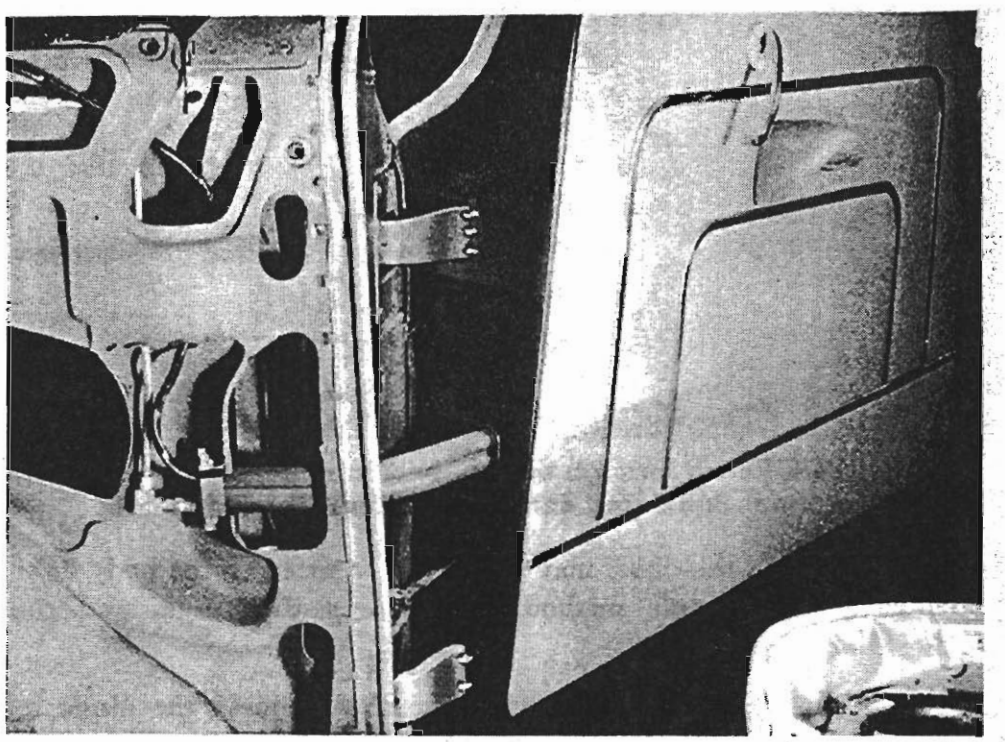


Fig. 26—To Increase the Rigidity of Convertible Door Panels At the Hinge Openings, Weld the Hinges to Panel.

The following Service correction is recommended to prevent door hinge slippage in bodies which were built *prior to these changes.*

The window finishing moulding, inside door handle, and the locking rod knob should be removed and the clips around the trim panel should be unfastened. It will not be necessary to disturb the automatic window controls or wiring. Removing the trim panel this far will provide access to the hinges and the trim panel can be held up out of the way when the door is closed to check for proper fit and alignment.

Line up the door to the desired fit and then tighten the hinge retaining screws to a torque of 25 to 35 foot pounds. In some cases it may be necessary to add steel shims or washers under one or more body bolt spacers to obtain proper door alignment. When this is done, the

body bolt retaining nuts should be tightened to a torque of 20 to 23 foot pounds.

When the door is properly aligned, drill a 17/64-inch hole opposite the center retaining screw in each hinge. Drill through the hinge, the door panel, and the tapping plate and then tap for, and install, a 5/16"-18 screw. This screw will serve as a dowel pin to hold the hinge in its proper position.

To increase the rigidity of the door panel at the hinge openings, the hinge should be welded to the door panel as shown in figure *26*, three spots for the top hinge and two for the lower hinge.

The final step is to properly position and anchor the door lock striker plate assembly.

The striker plate may be anchored by drilling a 1/8-inch hole between the upper retaining screws and through the striker and shims, the pillar panel, and the clinch nut plate and then installing a No. 8 x 3/4" sheet metal screw.

12. Striker Plate Adjustment

Loosen the striker plate retaining screws and move the striker assembly in or out to the point where the door will close and latch easily. It should not be necessary to slam the door.

Be sure the striker plate is square with the inside edge of the pillar. Move the striker plate up or down until the dovetail block of the door assembly just rubs lightly against the top of the striker plate block when closing the door.

When the striker is properly positioned, open the door far enough to check the operation of the safety latch. It may be necessary to add shims behind the striker assembly to provide positive engagement of the latch. Shims are available in two thicknesses—thin, part number 376794 and thick, part number 376795.

After these adjustments are completed, tighten the striker plate retaining screws.

The edges of the door should fit flush or nearly so with the adjacent body panels. If, after resetting the hinges or striker plate, some section of the flange does not fit flush, it may be necessary to spring hammer the flange as shown in figure *27*.

CAUTION

Before spring-hammering, tape the painted surface of the flange and make sure the body spoon is smooth, broad and flat. Lay the spoon flat lengthwise to the flange and strike

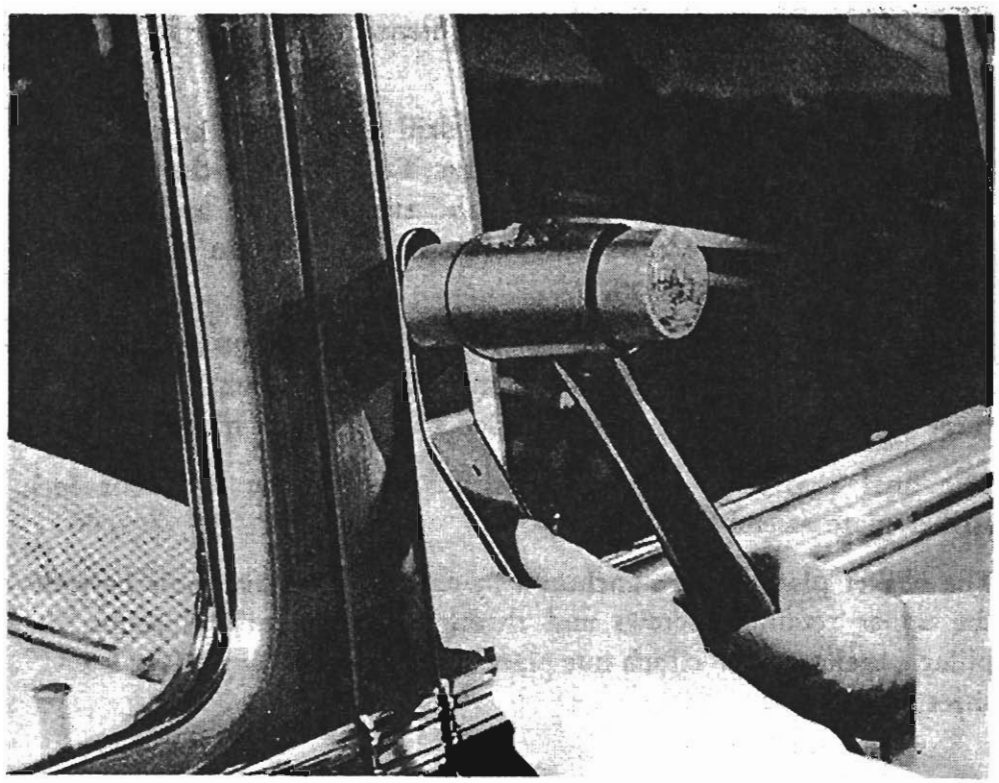


Fig. 27—When Spring Hammering Door Flanges, Tape Painted Surfaces and Hold Body Spoon Flat.

the spoon with a hammer, moving the spoon along the flange to gradually bend in the high section of the flange.

WINDSHIELD

1. Removal

Before removing either windshield glass, install masking tape on the instrument board and around the windshield opening to keep from soiling or damaging the finish or the headlining.

Pull off the windshield wiper control knob, remove the rear view mirror, take off the inside division finishing moulding, and loosen the outside division finishing moulding screws. Take out the windshield finishing moulding screws and remove the moulding. Using a wooden wedge, loosen the weatherstrip all around the outside finishing rim, the division, and the glass (inside and outside).

Work the weatherstrip off the outside finishing rim at the upper outside corner and using a wooden block and screwdriver, pry the glass toward the inside of the car, as shown in figure *28*.

Working inside the car, roll the weatherstrip off the glass, starting at the upper outside corner. Pull the glass away from the division weatherstrip as shown in figure *29*.

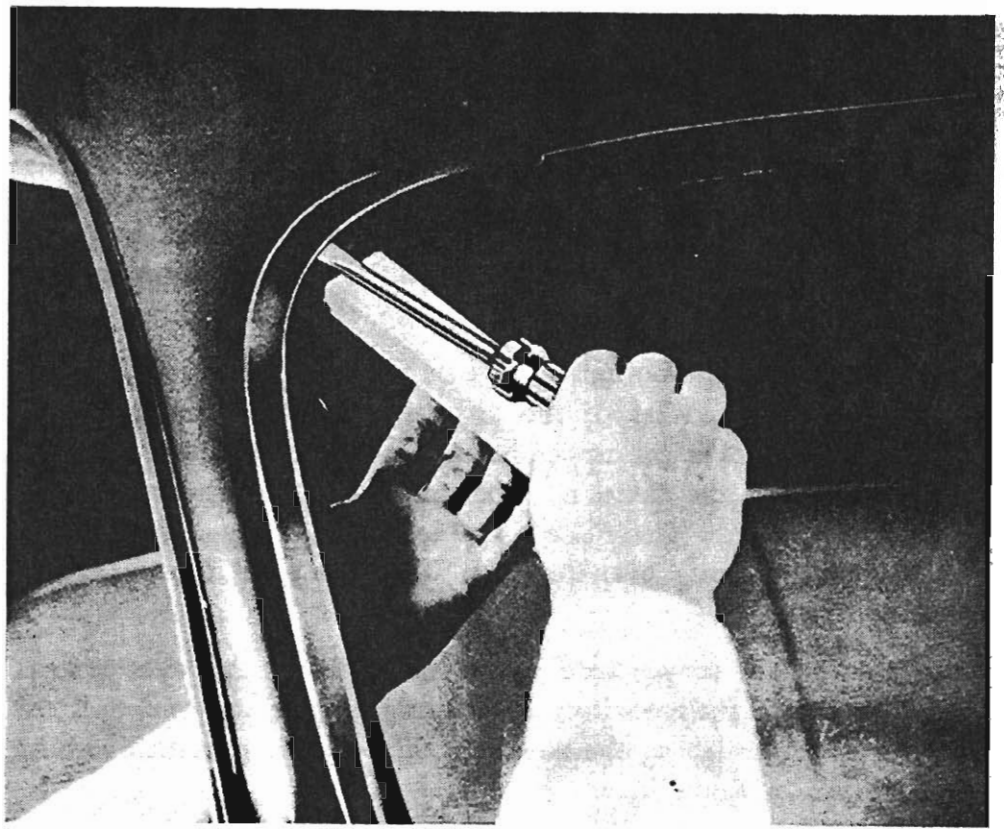


Fig. 28—Using a Wooden Block and a Screwdriver, Pry the Glass Toward the Inside of the Car.

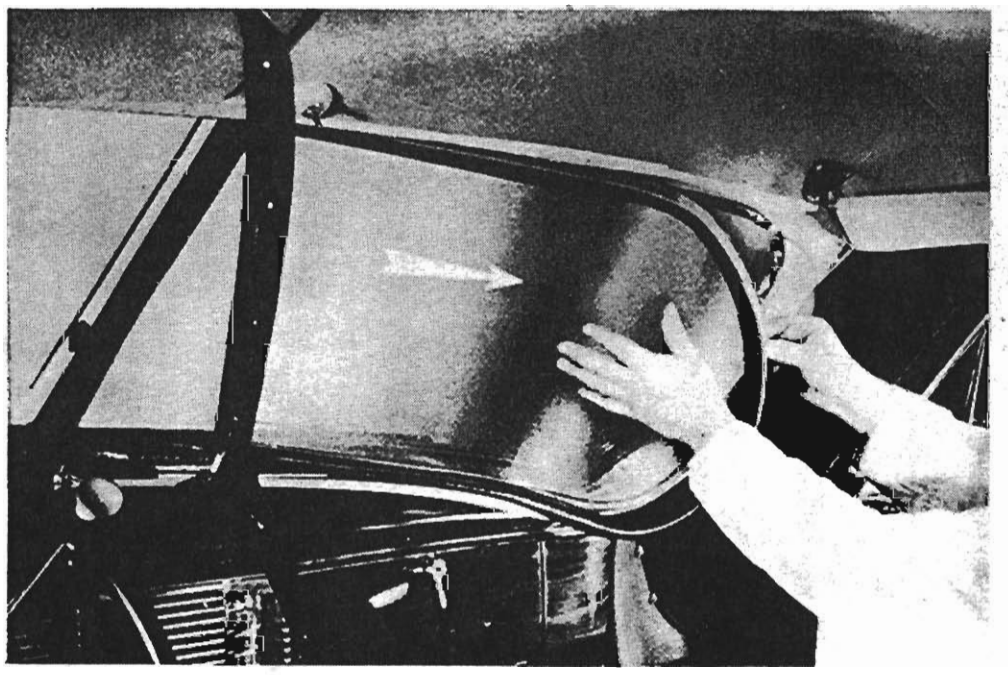


Fig. 29—After Rolling the Weatherstrip off the Outer Edge of the Glass, Pull the Glass Outward.

2. Replacement

CAUTION

Before installing a replacement glass, check the opening flanges with a straight edge to make sure there are no nicks, burrs, or bends that might cause binding and breakage. Remove all traces of old sealer from the windshield body opening and the weatherstrip. Thoroughly clean the surfaces and coat them with body sealer.

Insert the glass in the bottom groove of the weatherstrip and slide it to within about 4 inches of the division. Hook the top groove of the weatherstrip over the upper inside corner of the glass and slide the glass toward the division, continually working the top of the weatherstrip over the glass. Use a wooden wedge to work the outside end of the weatherstrip over the glass. Work the glass into the groove at the division.

Place a length of strong cord in the outer lip of the weatherstrip. Press the glass tightly against the windshield opening and pull the cord to bring the lip of the weatherstrip over the outside finishing rim as shown in figure *30*.

Tighten the outside division finishing moulding screws and waterproof the windshield with body sealer. Be sure the sealer flows along the edge of the glass between the glass and the weatherstrip, and then work a thin coating of sealer between the outside division finishing moulding and the weatherstrip.

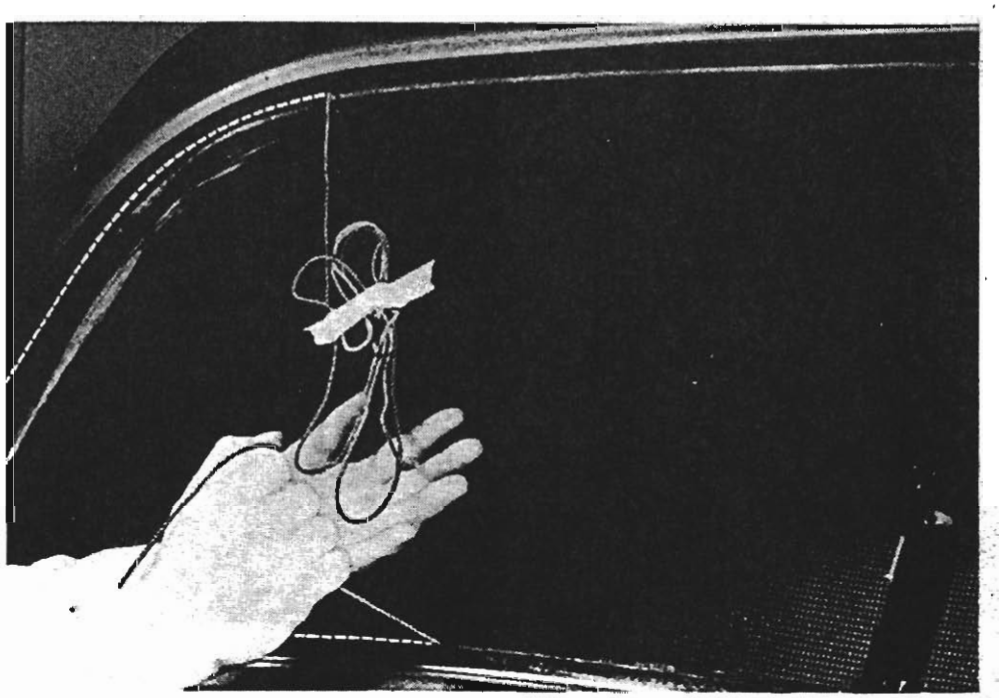


Fig. 30—Pull the Cord to Bring the Lip of the Weatherstrip Over the Outside Finishing Rim.

Install the windshield finishing moulding, the inside division finishing moulding, the rear view mirror and the windshield wiper control knob. Remove the masking tape and clean the interior as necessary.

WINDSHIELD WIPER ASSEMBLY

1. Cable Adjustment

The windshield wipers are of the cable operated type, with the motor (1, figure 31) mounted on the engine side of the dash above the engine. Tension on the cables is maintained by two spring loaded tensioner assemblies which are attached to the dash under the instrument panel at the locations indicated by the circles "A".

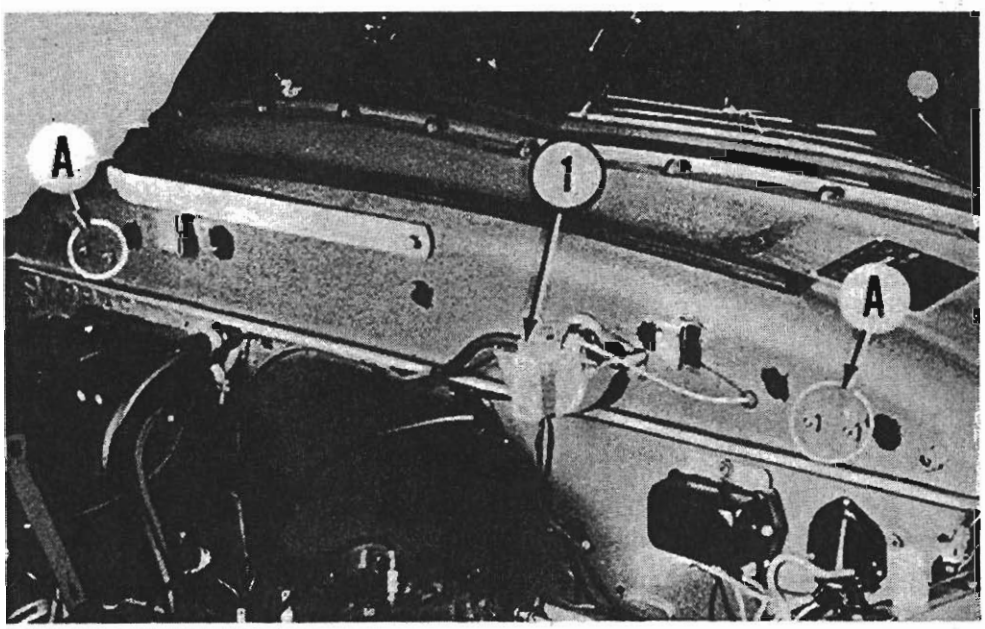


Fig. 31—Windshield Wiper Motor and Location of Tensioners On Inside of Dash as Indicated by Circles.

To adjust cable tension on the right cable assembly, loosen the tensioner locknut until the pressure is removed from the lock washer. See figure 32. The tension exerted by the spring will then move the pulleys outward and tighten the cables. If loosening the locknut does not permit the spring to take up the slack in the cables, it may be necessary to tap the stud slightly to unseat the washer.

CAUTION

Do not remove the nut entirely from the stud.

After the nut has been loosened and the cables retensioned, tighten the nut to hold the cables in their new position.

To tension the left cables, loosen the tensioner lock nut to allow the tensioner spring to take up all the slack. Then hold the tensioner

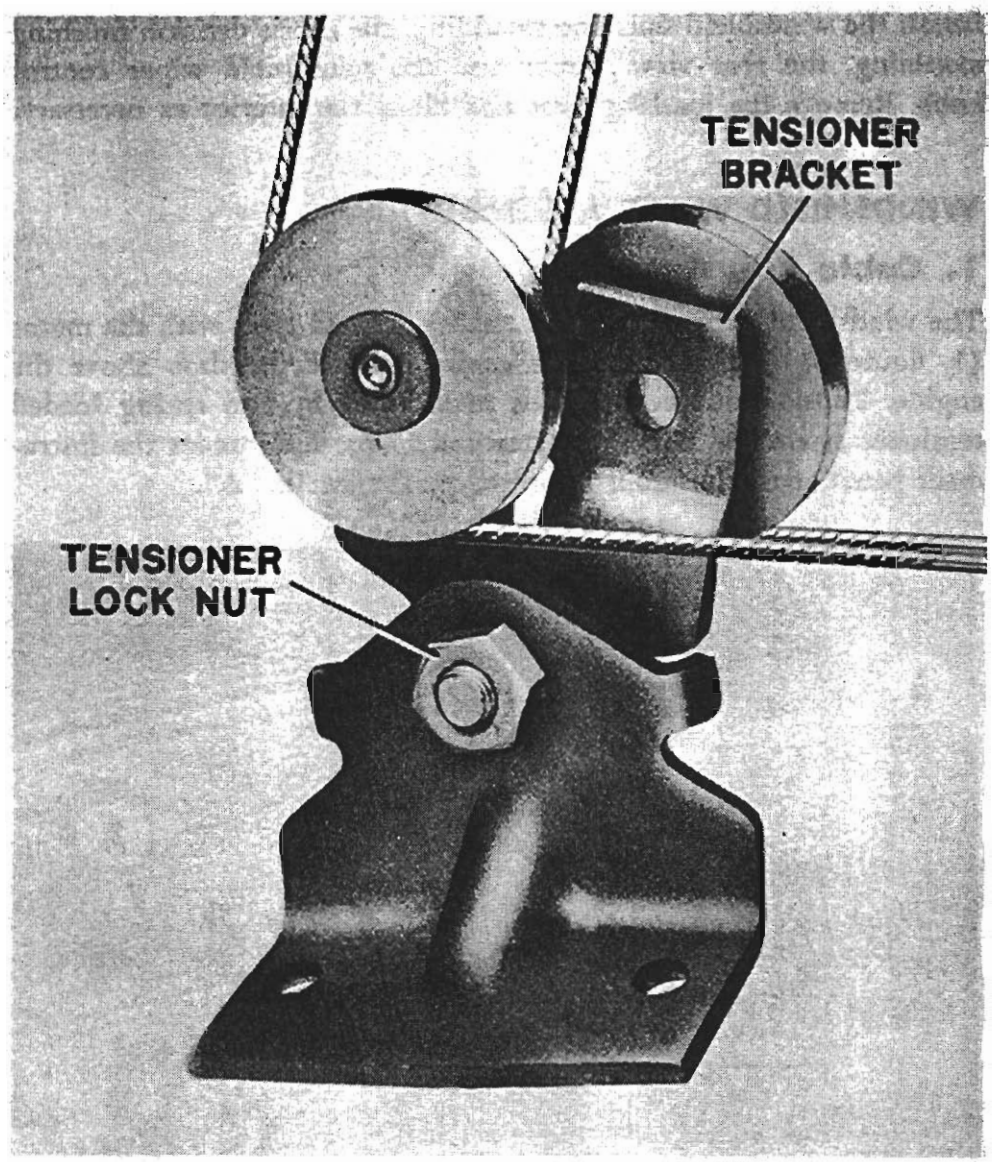


Fig. 32—Windshield Wiper Control Cable Spring Loaded Tensioner.

bracket firmly by hand to prevent the tensioner bracket from turning on the pivot pin when tightening the tensioner lock nut. It is necessary that the left tensioner bracket be held when tightening the locknut because turning the locknut to the right to tighten would tend to wind up the spring and thereby reduce the tension.

The above method for adjusting the left cable assembly may also be necessary on the right side when heavier cables have been installed and the tensioner spring does not hold the cables taut.

CAUTION

Do not use a screwdriver or any other pry tool to force the tensioner bracket outward while retensioning cables. Using a screwdriver may damage the pulleys or cause "over-tension" of the cables resulting in cable fatigue.

2. Removal of Windshield Wiper Parts

CAUTION

When windshield wiper cables are to be disconnected, the battery should be disconnected to prevent possible contact of the cables with "hot" wires.

Tensioner—Loosen the tensioner locknut, remove the cables, and take out the two tensioner retaining screws. See figure 32.

Motor—Disconnect the vacuum tube (1, figure 33), the control cable (2), and take out the two screws which hold the motor to the auxiliary drive assembly (3). Pull out the motor and remove the rubber saddle (4).

Drive Cable and Pivot Shaft Assembly—Raise the wiper arm and pull the arm assembly off of the pivot (5), and take off the shaft retaining nut (6). Push the pivot shaft toward the inside of the car, and lift the cables out of the auxiliary drive assembly.

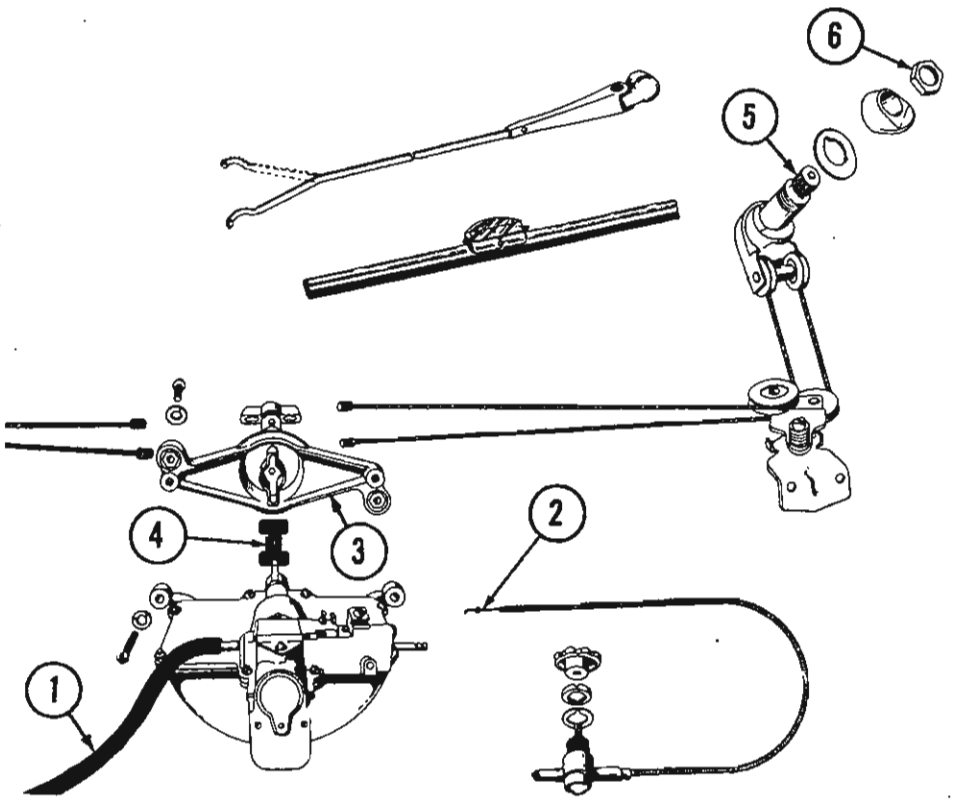


Fig. 33—Exploded View of Windshield Wiper Parts.

Motor Control Cable Assembly—Pull off the control knob and, using tool J-2502, remove the slotted switch nut. See figure 34. Pull the switch out from the under side of the instrument board. Disconnect the control cable from the wiper motor on the engine side of the dash and pull the cable through the dash.

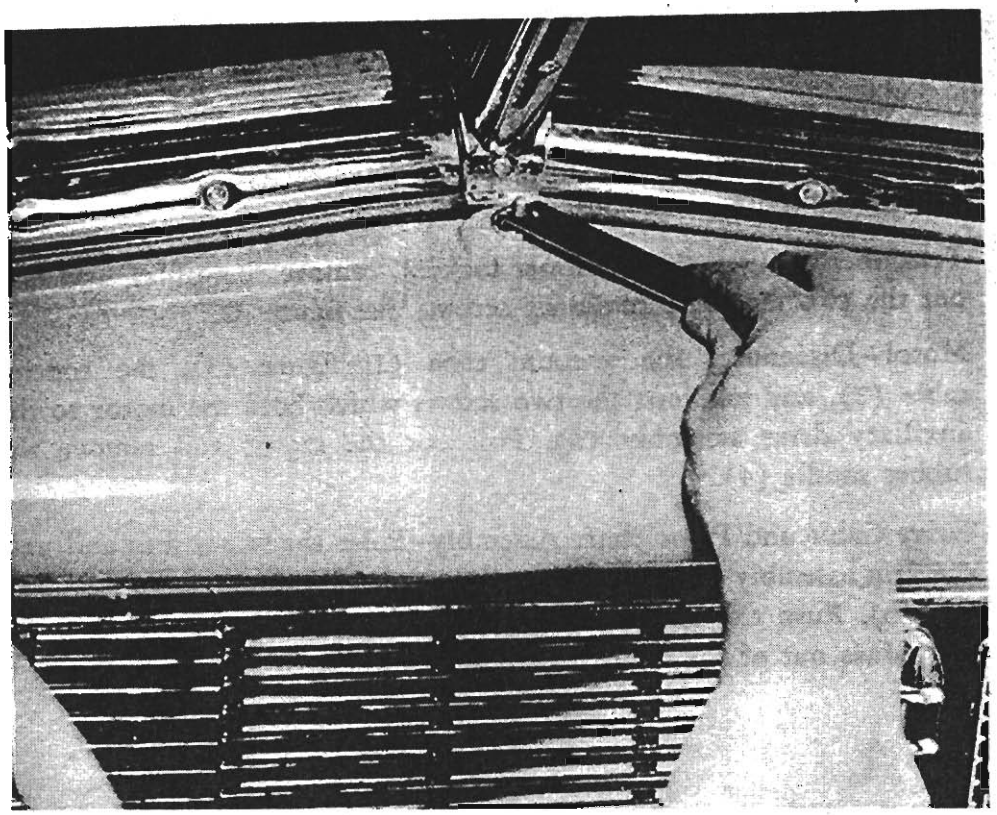


Fig. 34—After Removing the Control Knob, Use Tool J-2502 to Remove the Slotted Switch Nut.

WINDOWS

1. Removal—Rear

Take out the window finishing moulding screws and remove the moulding. Using a wooden wedge, loosen the weatherstrip from the glass and from the outside finishing rim. Force the lip of the weatherstrip off the finishing rim and push the window toward the inside of the car. Roll the weatherstrip off the glass.

2. Installation—Rear

Roll the weatherstrip on the glass and force body sealer between the weatherstrip and the glass, making a water tight joint when the weatherstrip springs back against the glass.

Insert a strong cord in the outer lip of the weatherstrip, crossing the ends near the middle of the upper edge. Tape the ends of the cord on the outside of the glass as shown in figure 35.

From inside the car, fit the window into the opening and have it held tightly in place.

From outside the car, pull the cord to snap the lip of the weatherstrip over the window finishing rim as shown in figure 36.

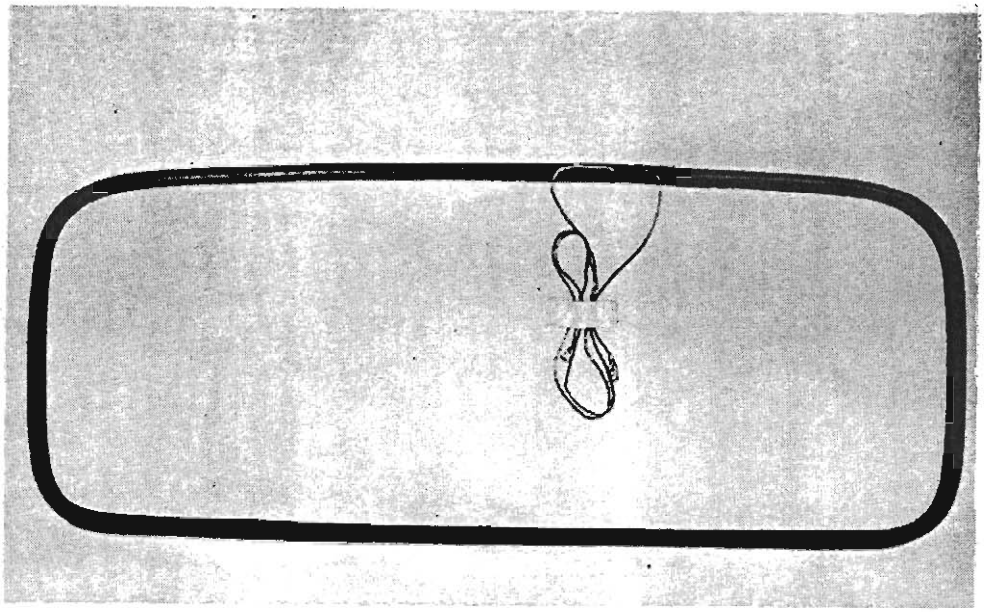


Fig. 35—Insert a Strong Cord in the Outside Lip of the Weatherstrip and Tape the Ends on the Glass.

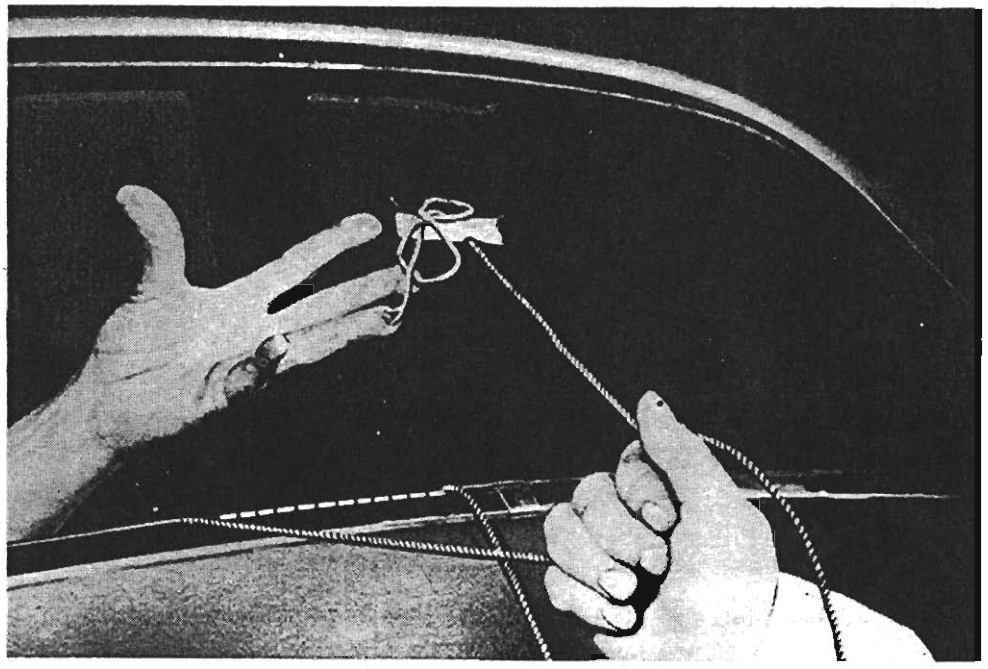


Fig. 36—With the Window Held in Place, Pull the Cord to Snap the Lip of the Weatherstrip Over the Rim.

Work a coating of body sealer betwen the finishing rim and the weatherstrip to make a water tight joint at that point.

Reinstall the window finishing moulding.

3. Rear Quarter Window—Club Sedan

Take out the window finishing moulding screws and remove the

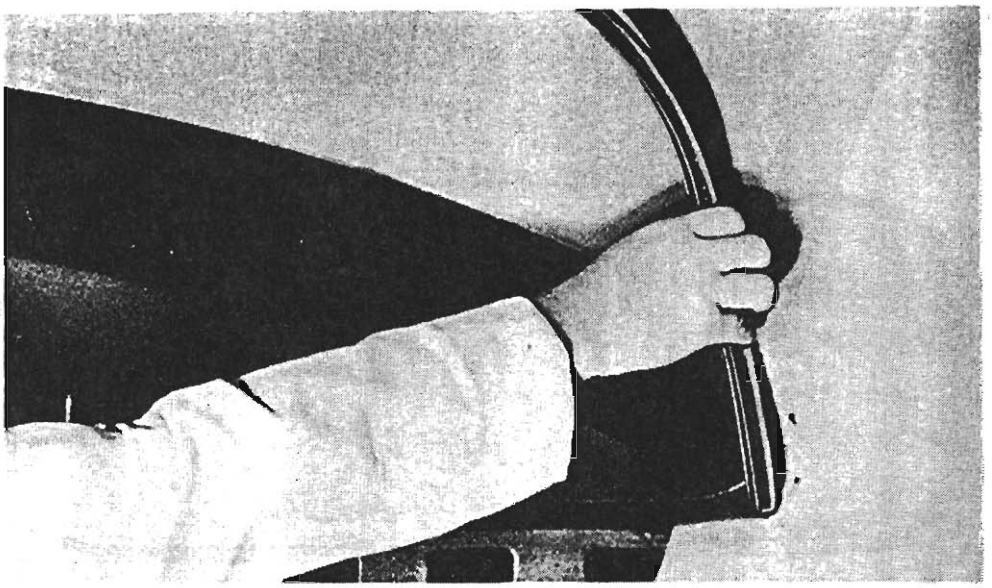


Fig. 37—Pull the End of the Rear Runway Out of the Window Opening.

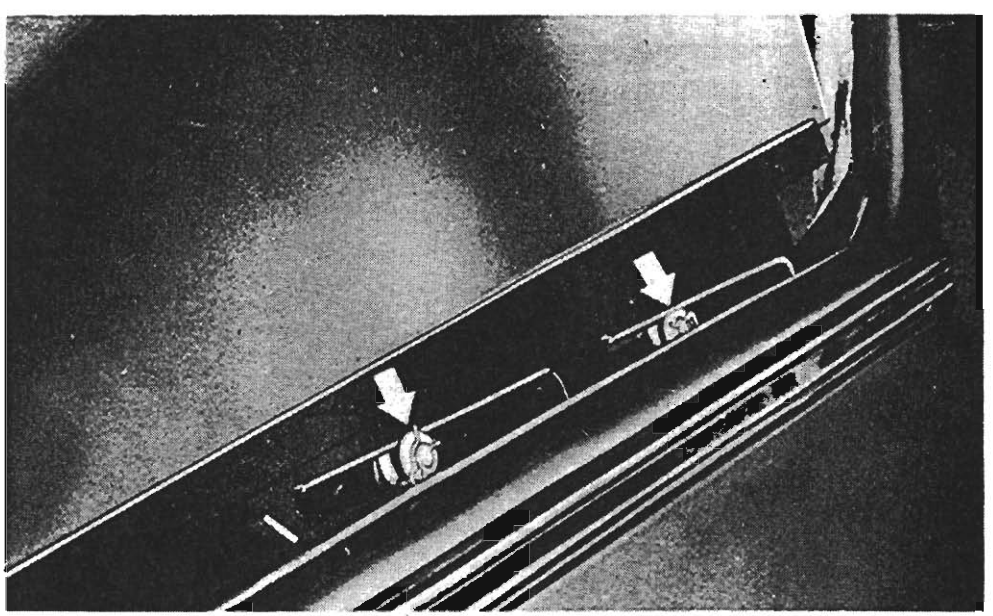


Fig. 38—Raise the Window Until the Regulator Arm Studs Come to the Top of the Opening.

moulding. Lower the window and pull out the window rear runway as shown in figure 37.

Tip the top of the window toward the inside of the car and raise the window until the regulator arm studs come to the top of the window frame. Pull the hairpin type retainers and the washers from the regulator arm studs indicated in figure 38. Free the studs from the lifter channel brackets and lift the window and lifter assembly out of the opening.

To install the rear quarter window and lifter assembly, reverse the procedure for removal.

4. Rear Quarter Window Regulator Assembly—Club Sedan

Take out the rear seat cushion.

Remove the window finishing moulding, the regulator handle and the handle escutcheon plate.

Take out the side arm rest to floor retaining screws and remove the trim panel to floor retaining screws. Pull out the side quarter ash receiver and remove the ash receiver retainer and rim. On cars equipped with a side quarter cigar lighter, disconnect the "Hot" wire from the lighter.

Pry the trim panel out to free the concealed fasteners.

Bend the bottom of the arm rest and the trim panel inward and pull down to free the arm rest to inner panel hold-on clip. Pull the arm rest forward away from the seat back.

Pull off the large water shield from the inner panel, then lower the window and pull the hairpin type retainers and the washers from the regulator arm studs. Free the studs from the lifter brackets, raise the window and prop it up out of the way.

Remove the regulator retaining screws (1, figure 39) and the locating screw (2). Slide the pivot arm out of the pivot bracket behind the inner panel at the location indicated by the shaded area (3). Pull the regulator assembly out through the access opening in the inner panel as shown in figure *40*.

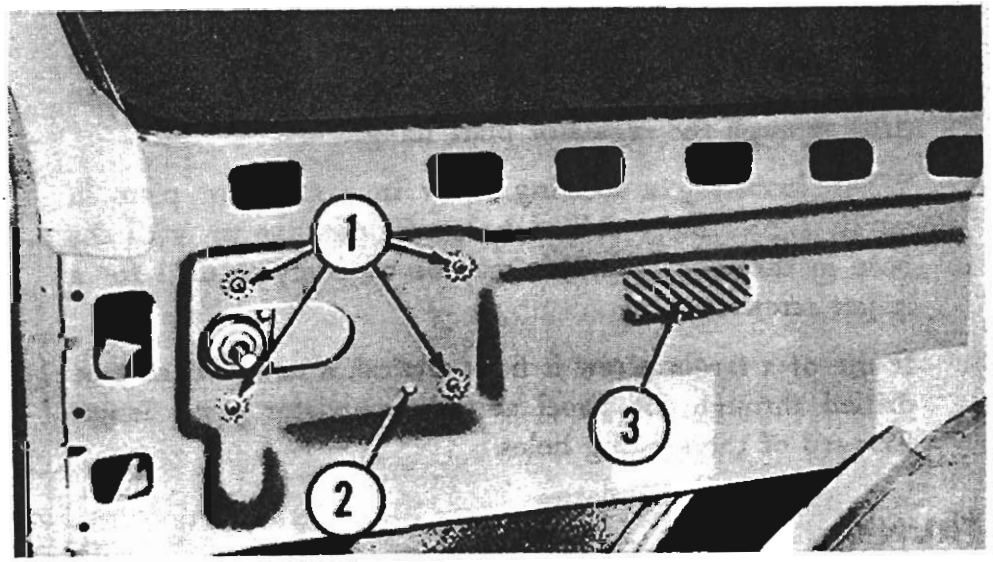


Fig. 39—Remove the Regulator Retaining Screws, Locating Screw and Slide the Pivot Arm Out of the Bracket.

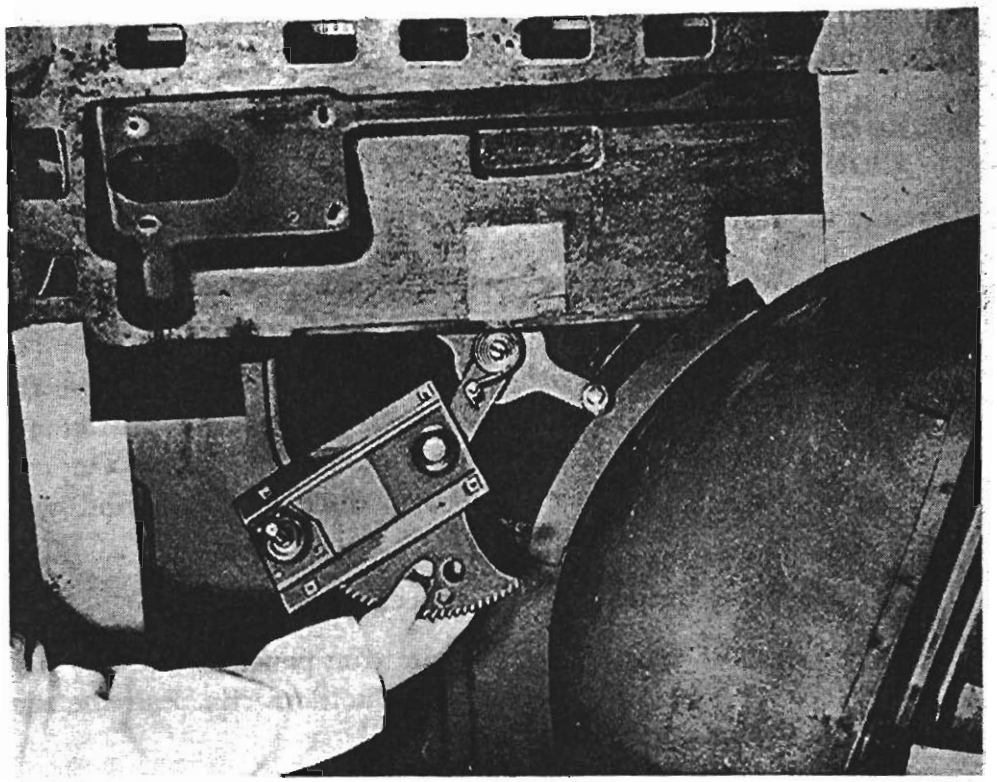


Fig. 40—Pull the Regulator Assembly Out Through the Access Opening in the Inner Panel.

To install the regulator assembly, reverse the procedure for removal. Before installing the regulator plate locating screw, check the operation of the window and the regulator. Adjust the regulator for correct operation by shifting the regulator in the slotted screw holes until the window opens and closes easily and completely, then install the locating screw.

NOTE

When installing a locating screw in a replacement regulator plate, use the existing hole in the inner panel as a guide, and drill through the regulator plate flange.

When installing a locating screw in a regulator plate in which a previously drilled hole will not line up with the hole in the inner panel, it may be necessary to drill for a larger screw.

If use of a larger screw is not practical, a new hole may be drilled through the panel and the regulator plate flange, forward of the existing holes.

TRUNK

1. Lid

The trunk lid is attached to the body by two concealed type hinges

which are counterbalanced with flat coil springs. (See figure 41.) Removal of the hinge assembly is accomplished by taking out the hinge to lid screws and the hinge to body screws.

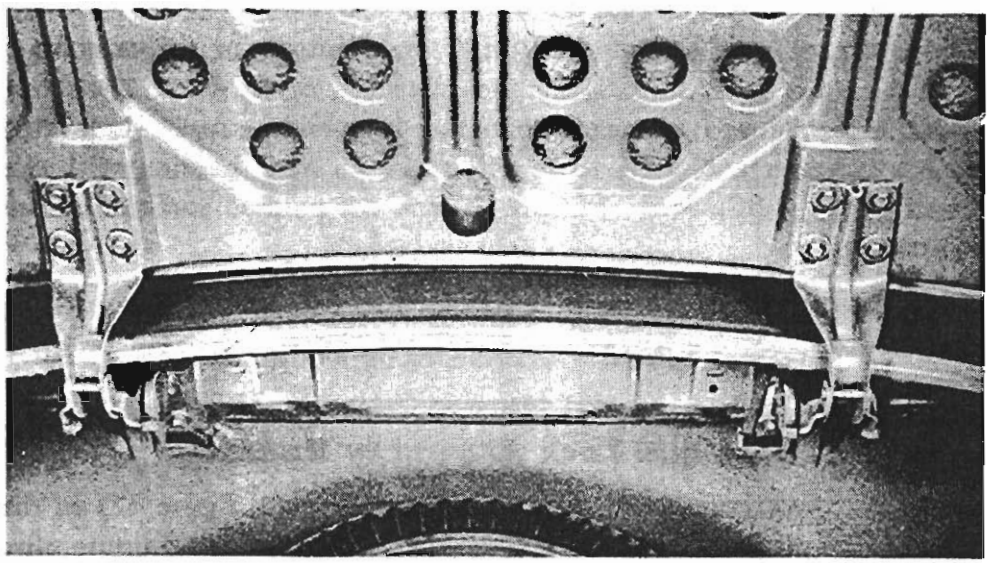


Fig. 41—Slotted Holes for Trunk Lid Hinge Screws Provide for Lid Adjustment.

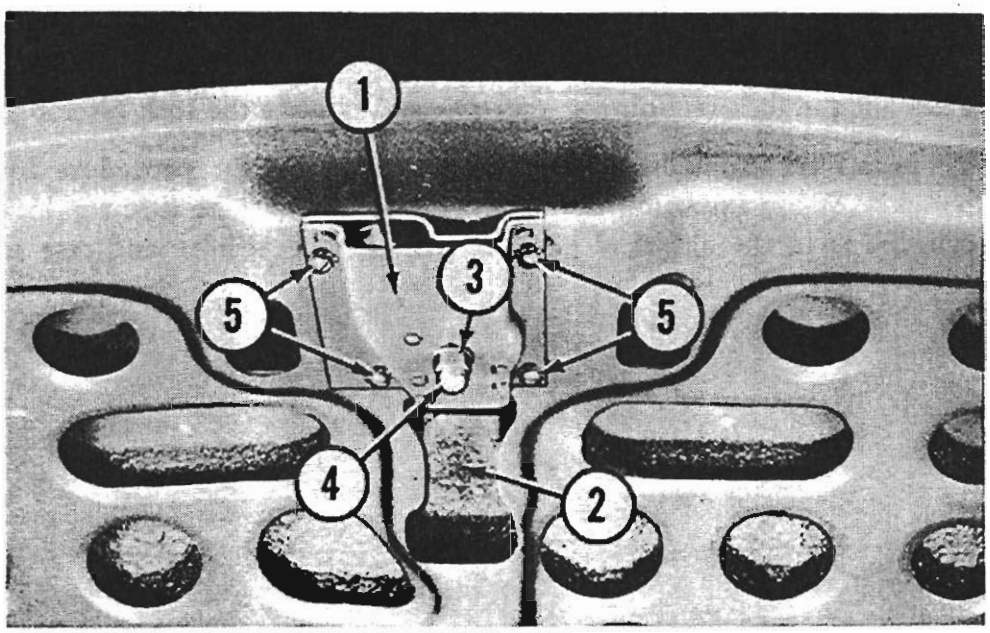


Fig. 42—The Lid Lock Assembly can be Shifted at the Slotted Screw Holes in the Lock Plate.

2. Lid Alignment

In cases where the trunk lid does not fit the opening properly, it may be necessary to shift the lid at the hinge screw holes sufficiently to adjust it to the opening. If the upper, or hinge, end of the lid is not

flush with the body, it may be raised or lowered by the use of shims under either or both hinges. To raise the lid, place a thin shim between the lid and the hinge. To lower the lid, place the shim between the hinge and the hinge supports.

The lower, or lock, end of the lid may be adjusted for firmer contact with the opening by shifting the lock plate (1, figure 42) at the screw holes. If the flange is uneven or irregular it should be carefully leveled with a hammer and dolly so it will make an even bearing with the trunk gutter weatherstrip. Be sure to tape the painted surfaces before hammering.

The striker plate should be adjusted for full contact with the locking arm, by loosening the screws and moving the plate.

3. Lid Handle and Lock Assembly Removal

Using a screwdriver, reach through the opening (2, figure 42) in the trunk lid reinforcement and pull out the lock cylinder retaining clip. Remove the lock cylinder and case.

Straighten the tab of the washer (3) and take off the handle shaft retaining nut (4). Take out the escutcheon plate retaining screw and pull out the handle, the plate and the gasket.

Take out the lock retaining screws (5) and remove the lock assembly.

To install the trunk lid handle assembly, reverse the procedure for removal. When installing the lock cylinder and case be sure the lock cylinder is in the unlocked position. Install the cylinder and case so

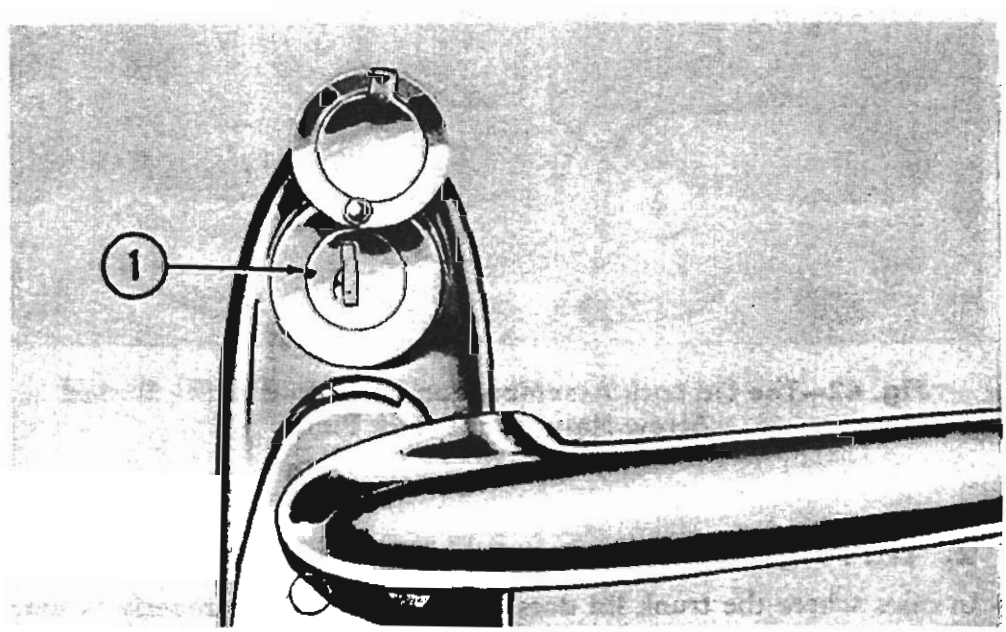


Fig. 43—The Cylinder Retaining Pin Hole Should be to the Left of the Key Hole.

the cylinder retaining pin hole (1, figure 43) is to the left of the key hole. Then install the retaining clip.

NOTE

A holder for easy installation of the clip can be made by cutting a slot near the end of a 5/8 x 6" square head bolt. The slot should be cut at an angle to grip the clip to permit tapping the clip into place if necessary. See figure 44.

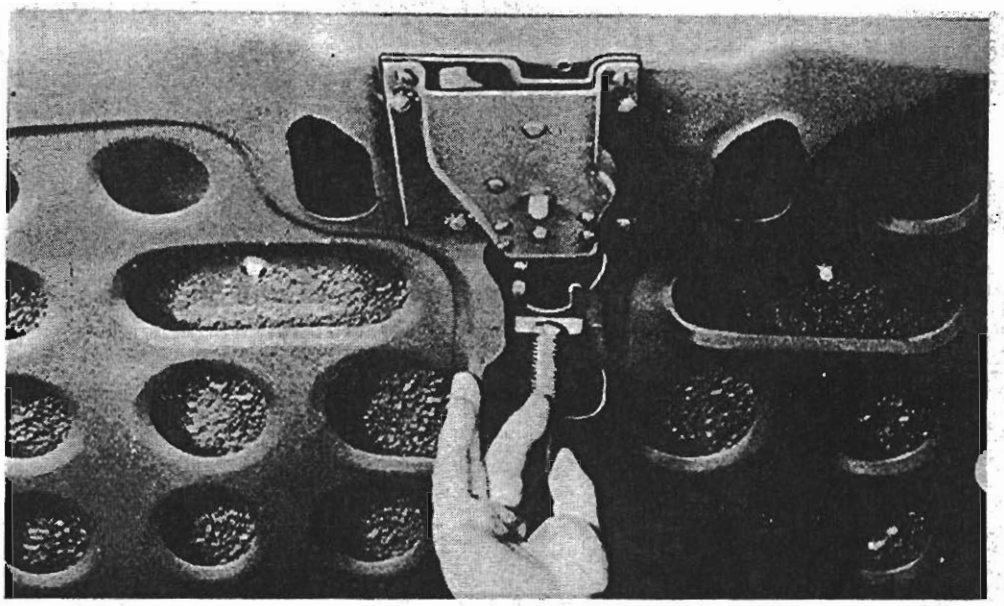


Fig. 44—Install the Lock Cylinder Case Retaining Clip.

SEATS

Three types of seat construction are used in the different models. In the Packard Eight and the DeLuxe Eight, the springs are covered with two-ply blanket padding secured to the springs by anchor rings. In the Packard Super Eight a foam rubber pad is laid over the regular padding. In the Packard Super DeLuxe Eight and the Custom Eight a rubber filler is added to the foam rubber.

1. Removal

FRONT OR REAR SEAT CUSHION—Raise the front of the cushion, slide it forward and lift it out.

FRONT OR REAR SEAT BACK CUSHION (FULL BACK)—Take out the two screws (1, figure 45) at the bottom of the seat back assembly and slide the cushion upward to disengage the upper anchor hooks (2).

REAR SEAT BACK CUSHION (DIVIDED BACK)—Remove the seat cushion. Take out the four screws (1, figure 46) at the bottom of the seat back assembly. Lower the center arm rest, pull back the

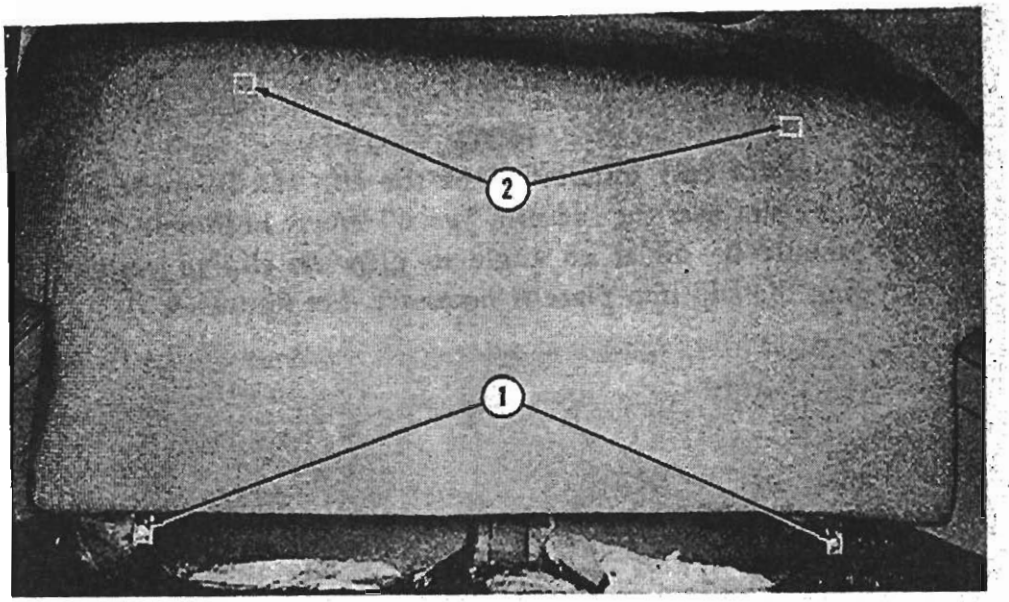


Fig. 45—Take Out the Two Support Screws and Slide the Cushion Up Off the Anchor Hooks.

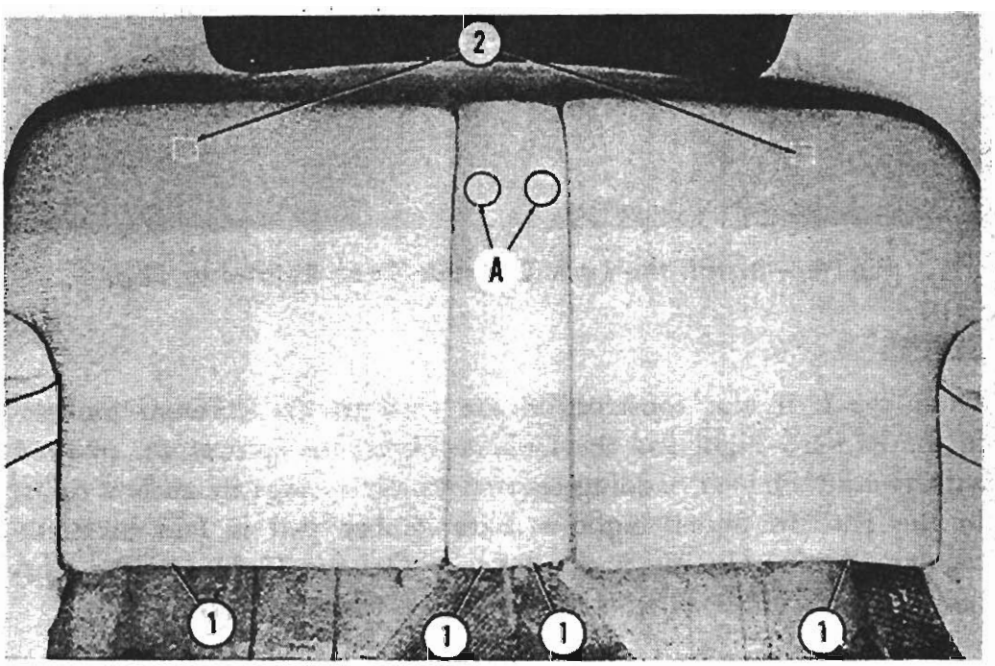


Fig. 46—Center Arm Rest Supports Are Secured by Four Screws at the Locations Shown.

arm rest flap and remove the two screws at the location indicated by circles "A". Slide the cushion upward to free the upper anchor hooks (2) and remove the seat back cushion.

FRONT SEAT BACK CUSHION (CLUB SEDAN)—Remove the seat cushion. Support the seat back and remove the two cross recess screws from the supports at the bottom of the seat back at the loca-

tion indicated by the circles "A" in figure 47. Let the seat back move downward away from the upper anchor hooks.

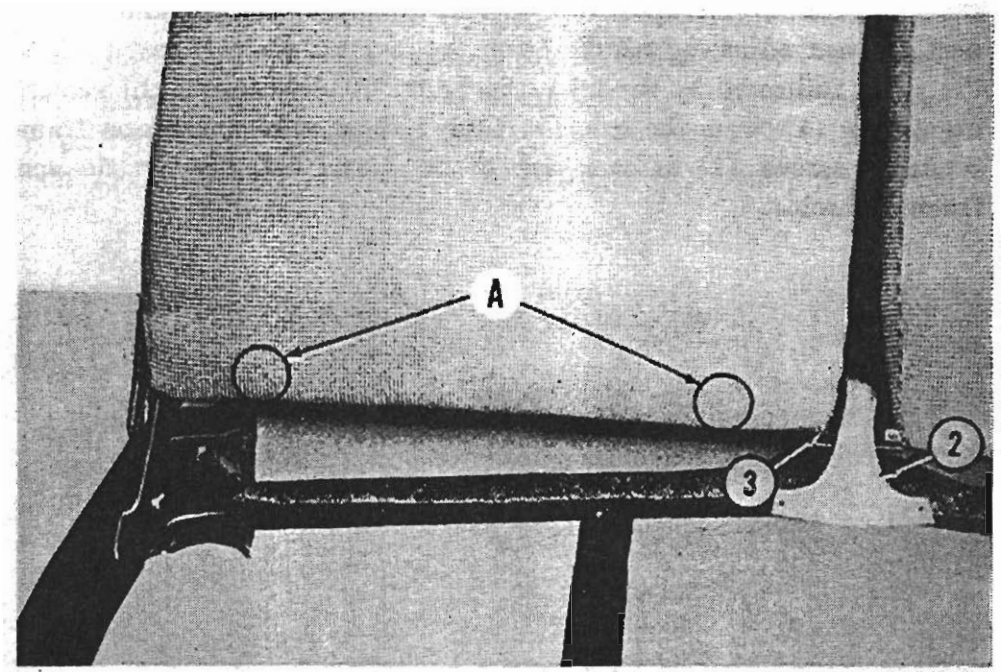


Fig. 47—Club Sedan Front Seat Back Cushions Are Secured by Screws Indicated by the Circles.

FRONT SEAT BACK AND BACK CUSHION (CLUB SEDANS)—Remove the seat cushion. Pull out the tacks at the forward end of the center pivot bracket flap (2, figure 47). Pull back the flap and take the cotter pin out of the center pivot pin (3). Take the cotter pin out of the side pivot pin and pry the pivot arm (1, figure 48) to bring the pin out of the bracket (2). Pull the assembly outward away from the center pivot pin bracket.

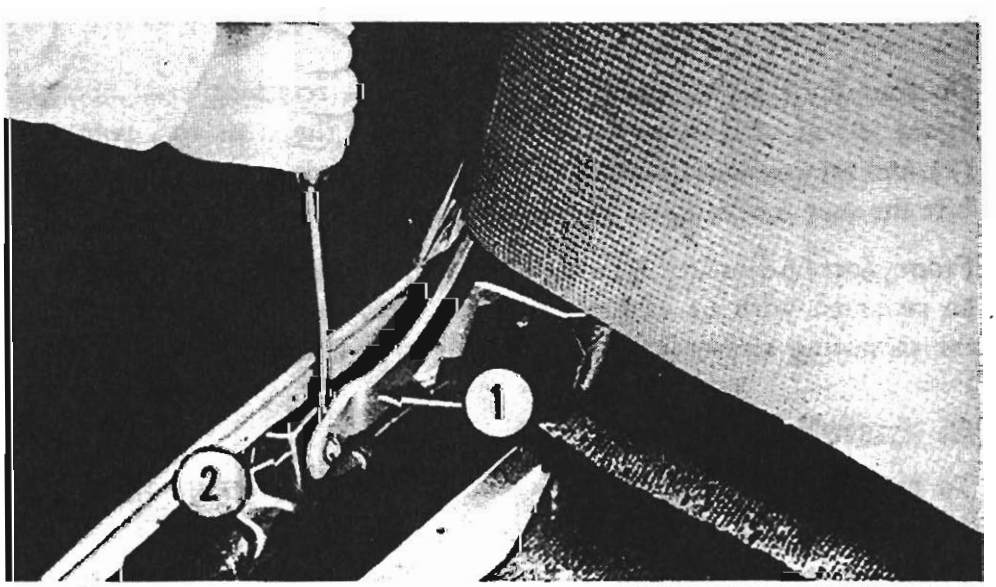


Fig. 48—Pry the Outer Pivot Arm to Bring the Pivot Pin Out of the Pivot Bracket.

FRONT SEAT BOTTOM FRAME ASSEMBLY—Two variations of front seat frame mounting are shown in figures 49 and 50. To remove the front seat frame, move the seat all the way forward and disconnect the seat adjusting handle from the lever at the left seat track at the point indicated by the arrow in figure 49. Disconnect the retracting spring (1) from the seat. On Club Sedans, remove the seat frame retaining screws (2) at each side of the frame and lift out the seat frame assembly.

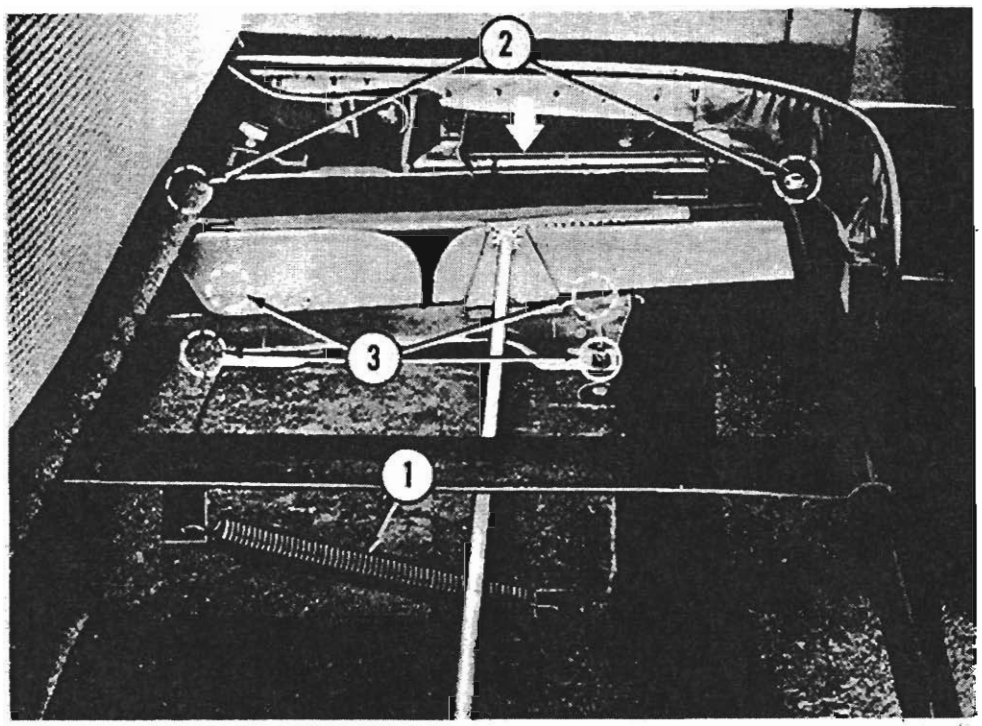


Fig. 49—Club Sedan Front Seat Bottom Frame Assembly Screws, Adjusting Track Screws, and Retracting Spring.

On four door Sedans, remove the seat frame retaining stud nuts, (1, figure 50) at each side of the frame. Lift off the cross rod gear racks (2) and remove the cross rod (3) by springing out one end of the rod. Lift the seat frame up off the mounting studs.

Front Seat Adjusting Tracks—The front seat adjusting tracks can be removed with or without the seat frame assembly by taking out the mounting screws indicated by the circles (3) in figure 49.

2. Installation

To install the seat parts and equipment, reverse the procedure for removal.

When installing the front seat adjusting track cross rod and the gear racks, move the seat to locate the cross rod gear teeth in corresponding

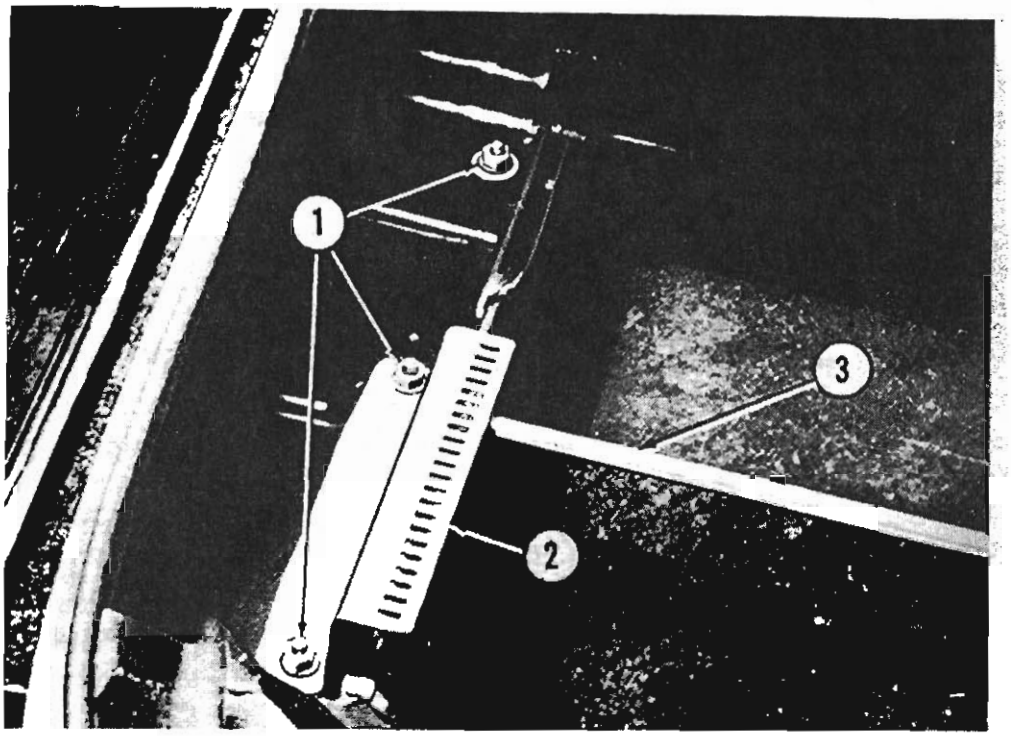


Fig. 50—Four Door Sedan Front Seat Bottom Frame Screws, Cross Rod and Gear Rack.

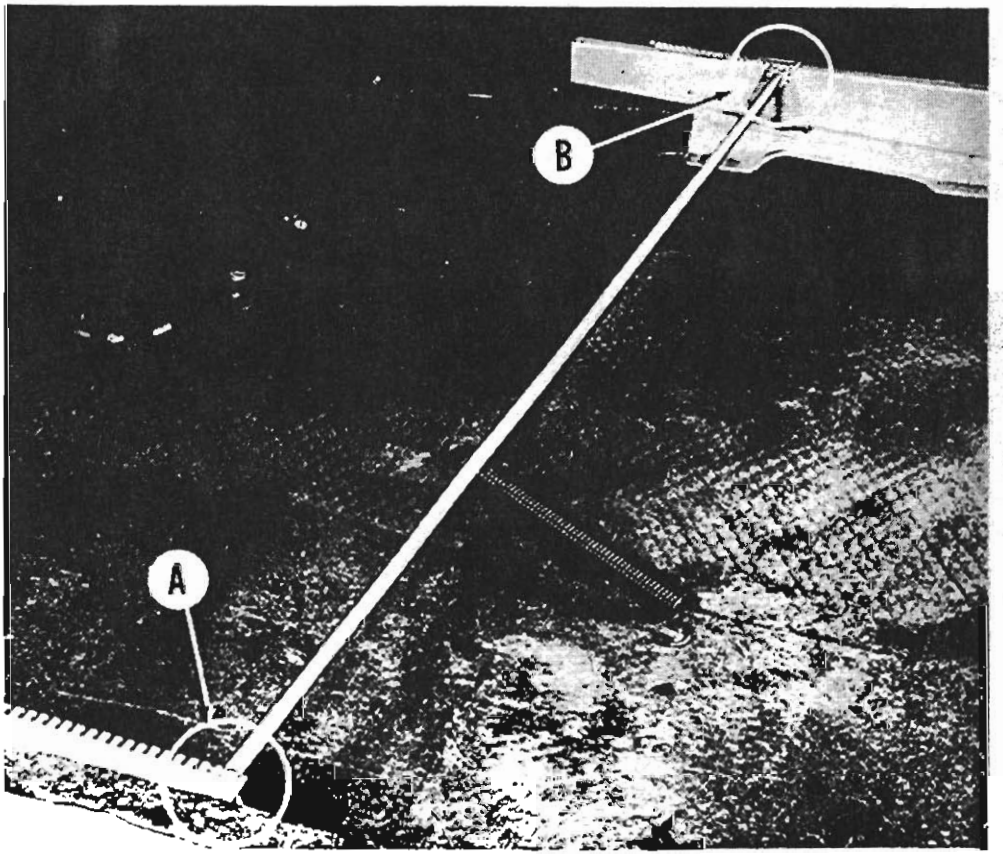


Fig. 51—Locate the Cross Rod Gear Teeth in Corresponding Holes in the Gear Racks.

holes in the gear racks. If the gear teeth are in the second and third holes of the left side track, as shown at point "A" in figure 51, be sure the gear teeth are also in the second and third holes of the right side track as shown at point "B".

HEADLINING

1. Removal

In the front compartment, remove the windshield rear view mirror, the finishing moulding, and the inside visors. Remove the tacks from the headlining at the windshield header bar tacking strip (1, figure 52) and loosen the headlining. Reach between the headlining and the roof and take out the screws holding the headlining front retainer (2). Spring the end of the number 1 listing wire (3) out of its grommet at the roof rail. Free the headlining from the retainer teeth and remove the retainer. Repeat the preceding operation to remove all the listing wires and the headlining retainers at both sides of the car.

NOTE

If the headlining is to be scrapped, considerable time will be saved by cutting the headlining to provide access to the retainers.

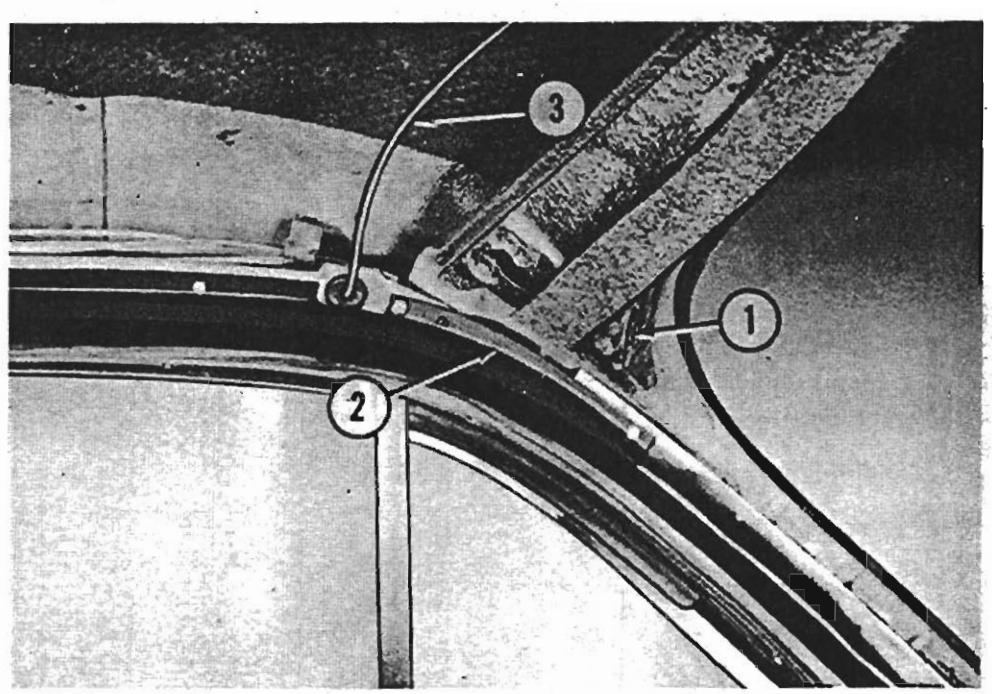


Fig. 52—Windshield Header Bar, Headlining Front Retainer and No. 1 Listing Wire Grommet.

In the rear compartment, remove the rear seat cushion, the rear seat back, the dome lights, the arm slings, and the rear window. Remove

the tacks around the edges of the rear window package tray trim panel and remove the trim panel. Take out the tacks at the rear window tacking strip and loosen the headlining.

On Club Sedans, take out the rear quarter window finishing moulding and take out the tacks at the roof rail tacking strip (1, figure 53).

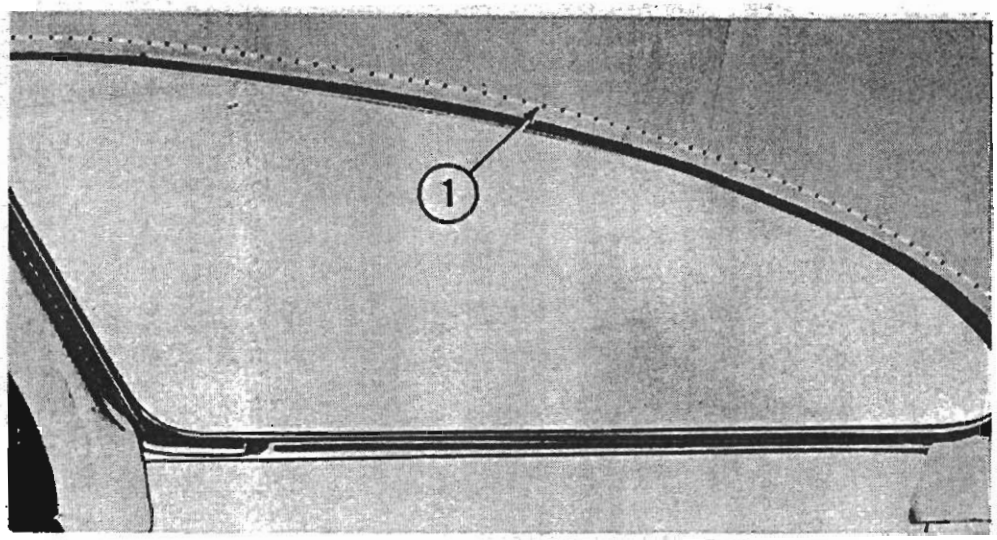


Fig. 53—On Club Sedans, Take Out the Tacks at the Roof Rail Tacking Strip.

2. Installation

Install the headlining retainers, slide the headlining onto the listing wires and, starting at the rear of the car, spring the ends of the rear listing wire (1, figure 54) into the grommets at the roof rail. Swing the listing wire up against the roof and secure it in position by bending the clip (2). Working toward the front of the car, install the other listing wires. Using a blunt putty knife, push the edges of the headlining up between the retainers and the roof rail as shown in figure 55. Hammer the retainers to flatten the retainer teeth and secure the headlining.

Cement the headlining onto the window opening flanges and tack the headlining to the tacking strips.

Install the rear window package tray trim panel.

Install the rear window.

Connect the dome light wires and install the dome lights.

Install the quarter window finishing moulding and the windshield finishing moulding.

Install the rear view mirror and the inside visors.

Install the rear seat back and the rear seat cushion, and replace any carpeting that was removed.

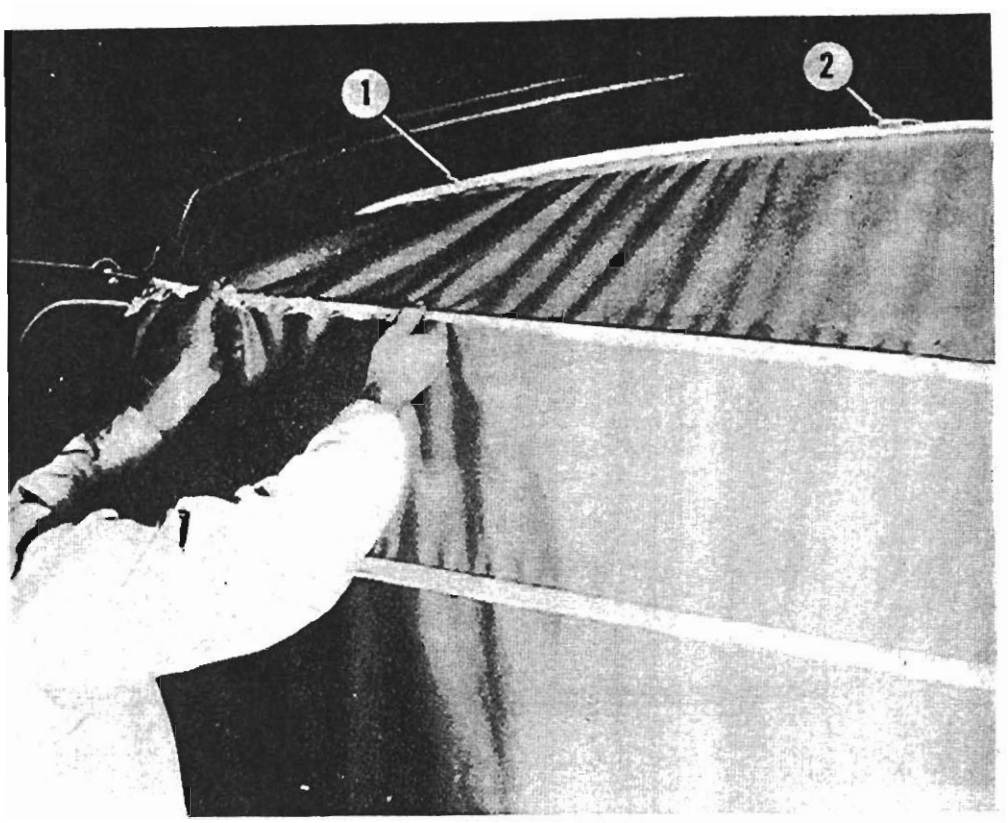


Fig. 54—Spring the Listing Wire, and Insert the End of the Listing Wire Into the Grommet at the Roof Rail.

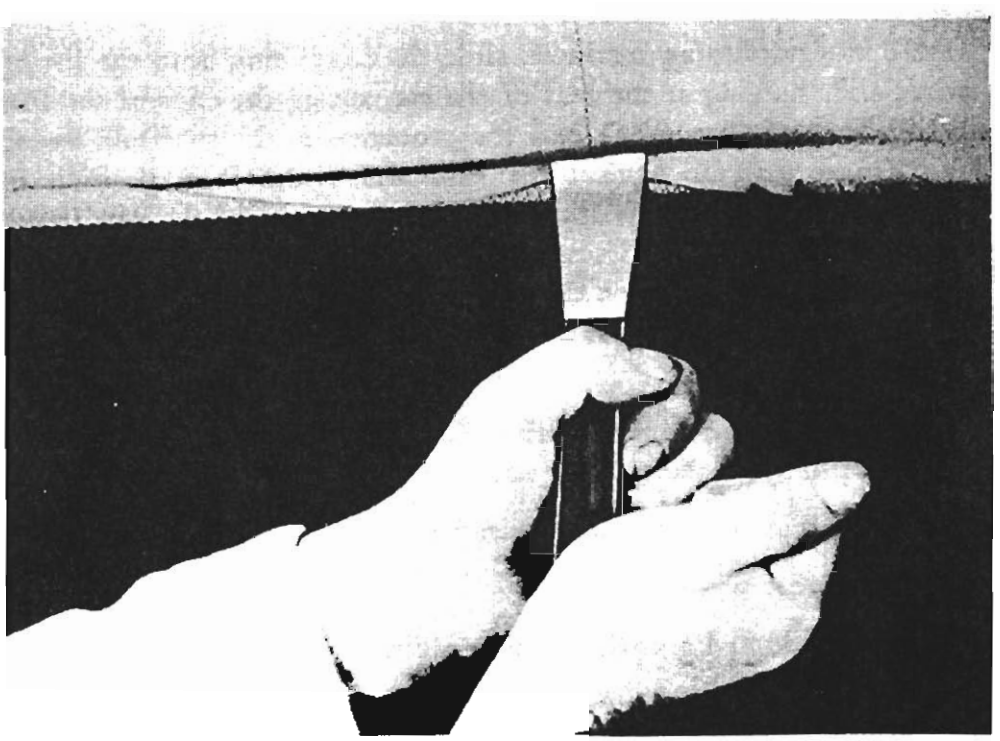


Fig. 55—Using a Blunt Putty Knife, Push the Headlining Up Between the Retainer and the Roof Rail.

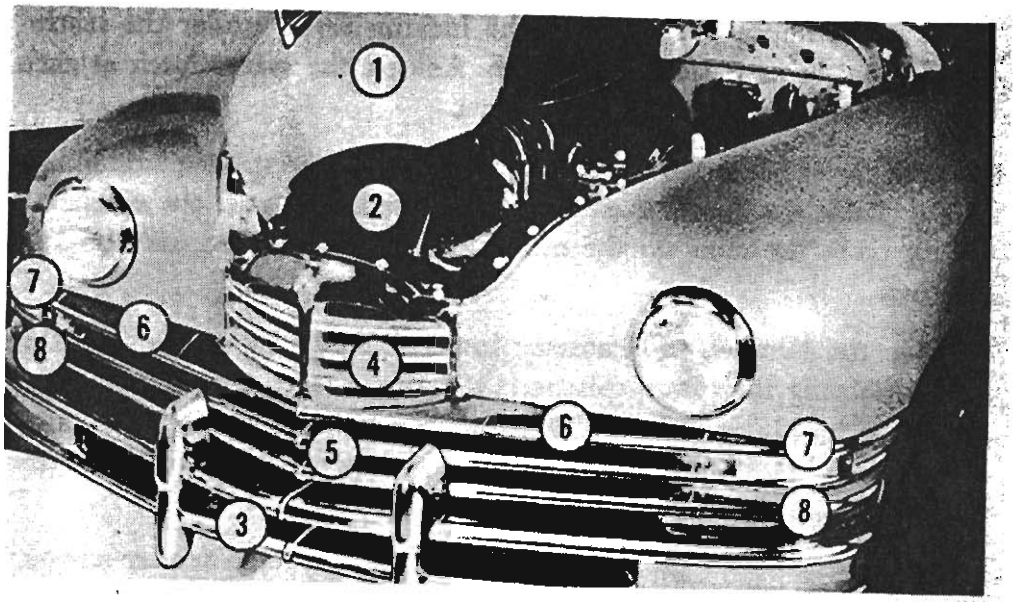


Fig. 56—To Remove a Left Front Fender, the Parts Indicated Should Be Removed.

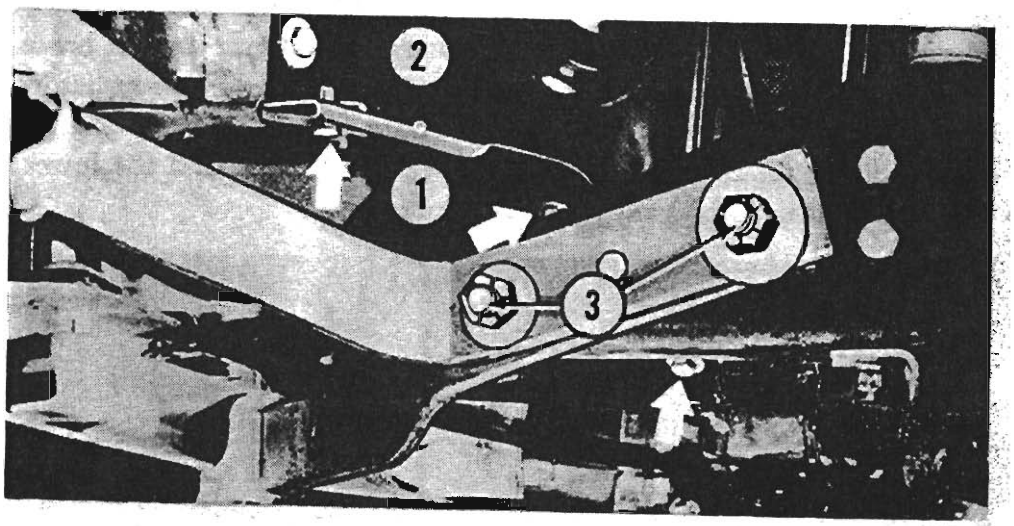


Fig. 57—Take Out the Lower Splasher to Side Splasher Screws and the Bumper Bracket to Frame Bolts.

FRONT END SHEET METAL

1. Removal

To remove either front fender, the following parts should be removed: See figure 56.

Bonnet (1) Radiator top splasher (2)

Bumper and radiator lower splasher (3) Radiator grille (4)

Radiator front fender center and lower moulding (5)

Remove the bonnet by releasing the locking levers under the instrument panel at each side of the dash. Release the safety latch at each side of the bonnet and lift the bonnet.

Remove the radiator top splasher by taking out the splasher retaining screws. Raise the forward end of the splasher and pull the electrical wiring from the clips on the underside of the splasher. Lift off the splasher.

Remove the bumper and radiator lower splasher by taking out the screws holding the lower splasher (1, figure 57) to the side splasher (2) at each side of the car. Take out the bumper bracket to frame bolts (3) and pull the bumper and the lower splasher forward. Lift the splasher off of the bumper.

Remove the radiator grille by taking out the grille to fender screws. Remove, or loosen, the front fender upper mouldings (6, figure 56) and the parking light moulding (7) so the upper edge of the grille will clear the upper moulding. Pull the grille forward.

Remove the radiator front fender center and lower moulding by taking out the screws holding the moulding support lower brace (1, figure 58) to the upper brace (2) at each side of the radiator. Loosen the lower side mouldings (8, figure 56) and let the center and the lower mouldings, the moulding reinforcement, and the lower brace move downward away from the fenders.

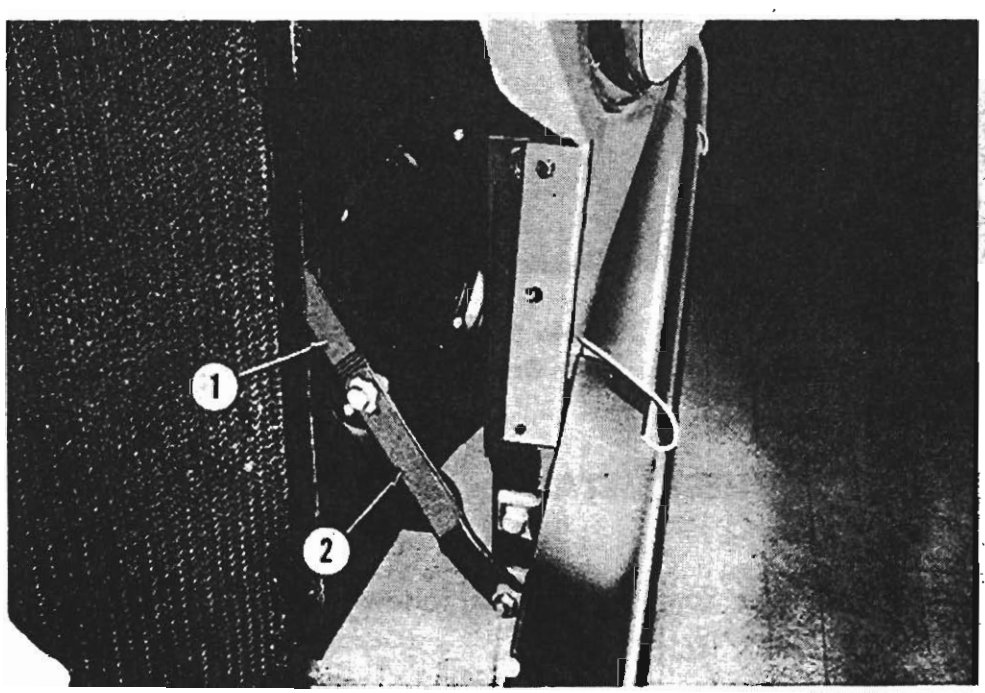


Fig. 58—Take Out the Screw Holding the Moulding Support Lower Brace to the Upper Brace.

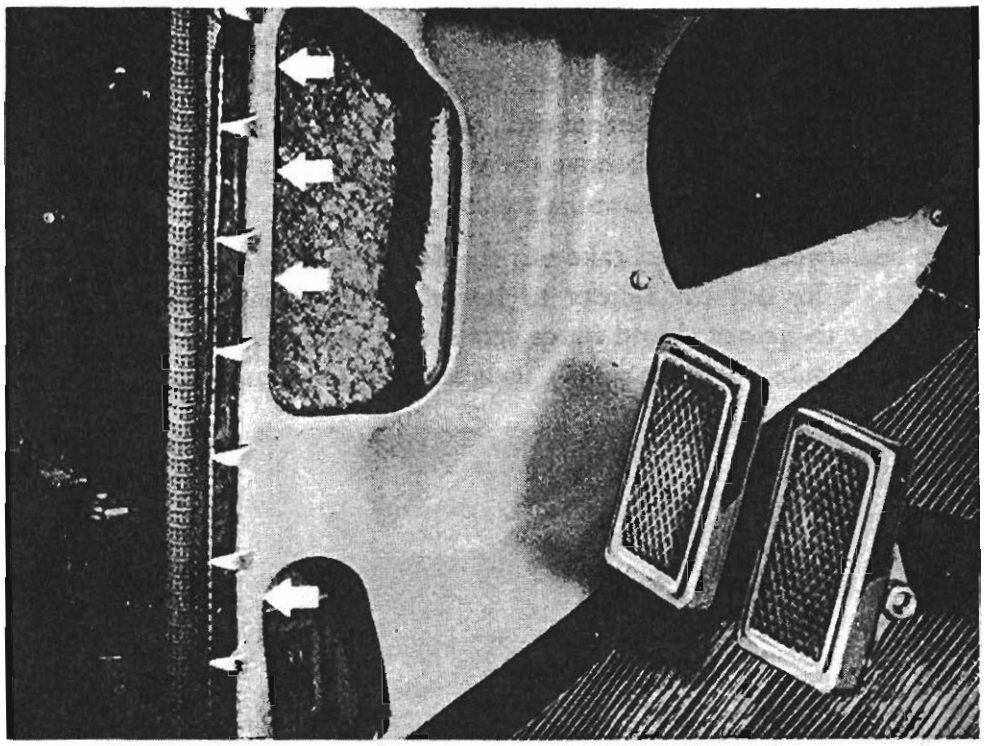


Fig. 59—The Fender To Cowl Bolt Retaining Nuts Are Accessible Through the Openings in Cowl Side Panel.

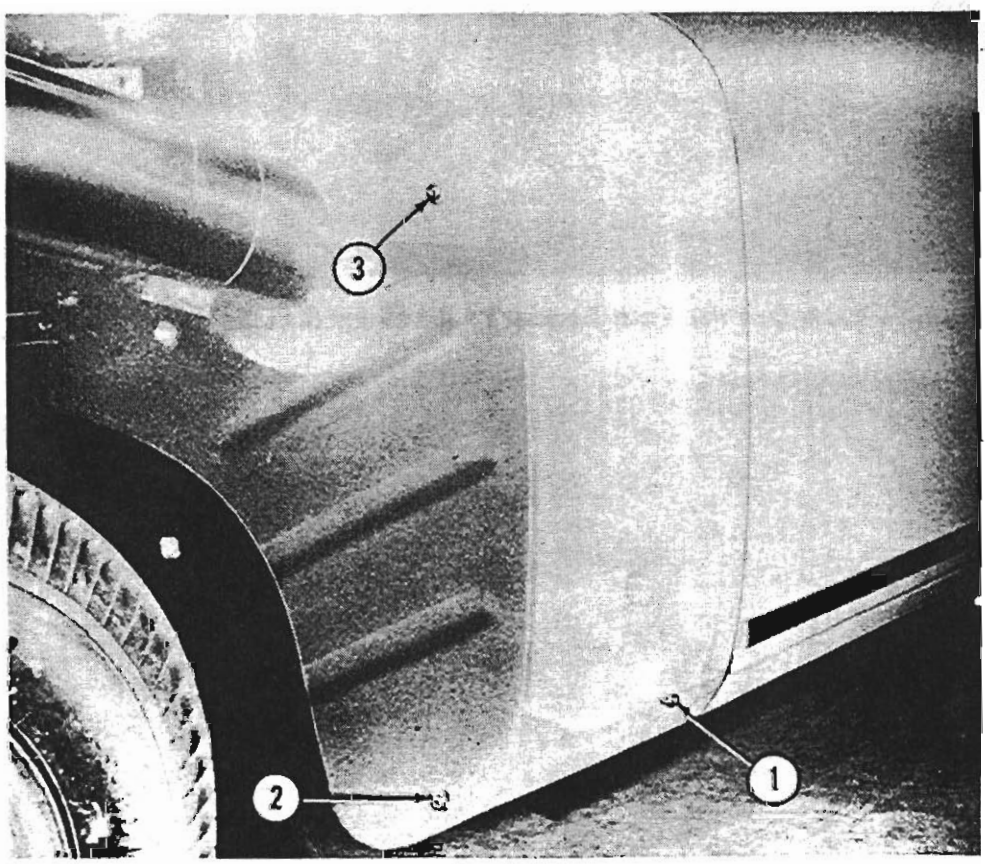


Fig. 60—Access to the Three Screws Indicated Is From Underneath the Fender.

2. Left Fender—Removal

From inside the car, take out the left cowl side trim panel retaining screws. Remove the trim panel and, working through the access openings in the inner panel, remove the four fender to cowl bolt retaining nuts indicated by the arrows in figure *59*.

From underneath the car, take out the fender to side sill screw (1, figure 60). Take out the fender to lower gravel shield screw (2) and the fender to gravel shield brace screw (3). Take out the four fender to radiator side splasher screws indicated by the arrows in figure *61*.

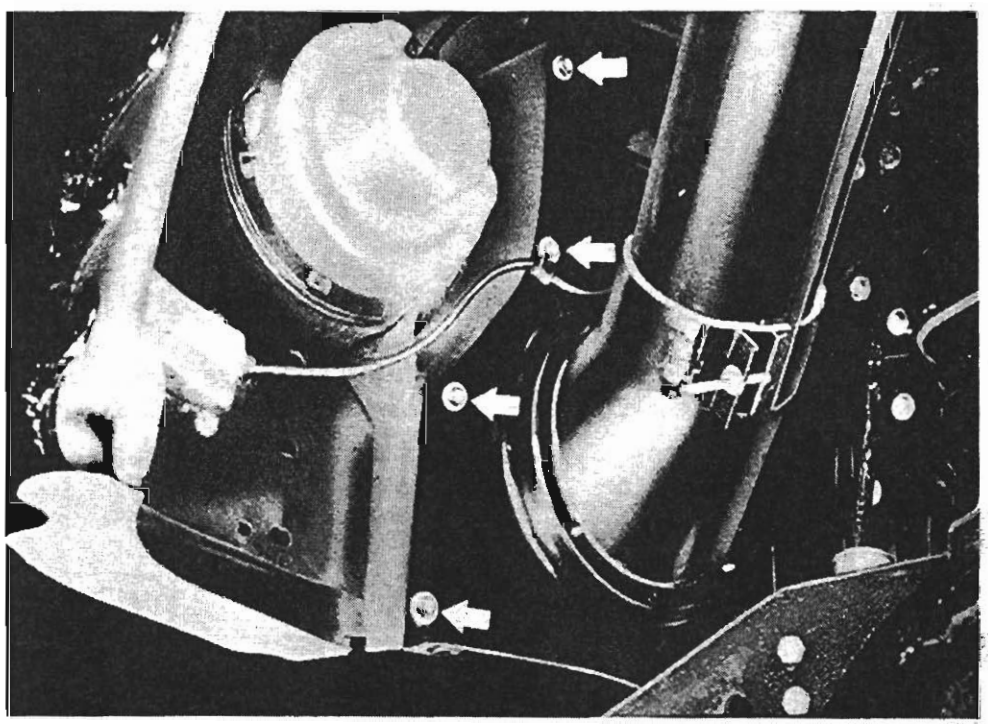


Fig. 61—Take Out the Four Fender to Radiator Side Splasher Screws.

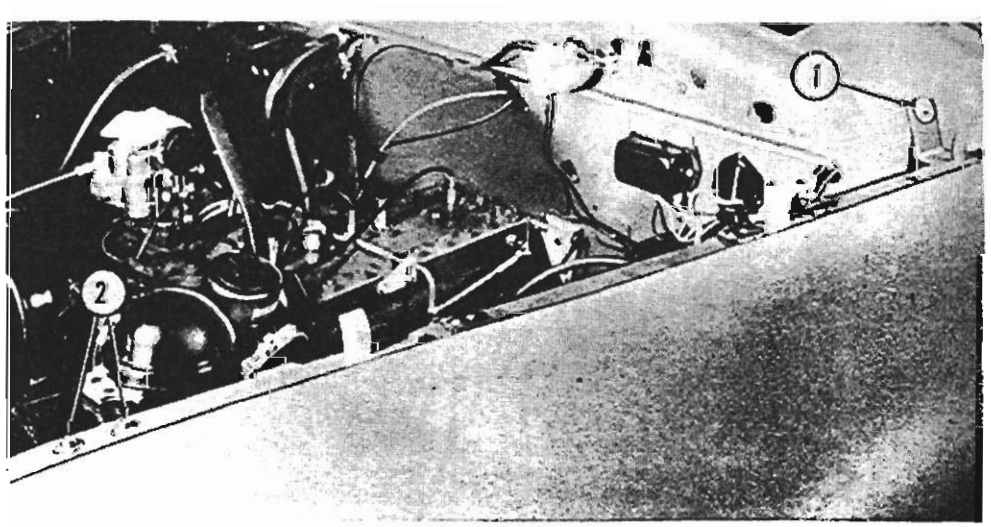


Fig. 62—Take Out the Fender to Body Upper Bracket Screw and the Two Fender to Core Cradle Bracket Screws.

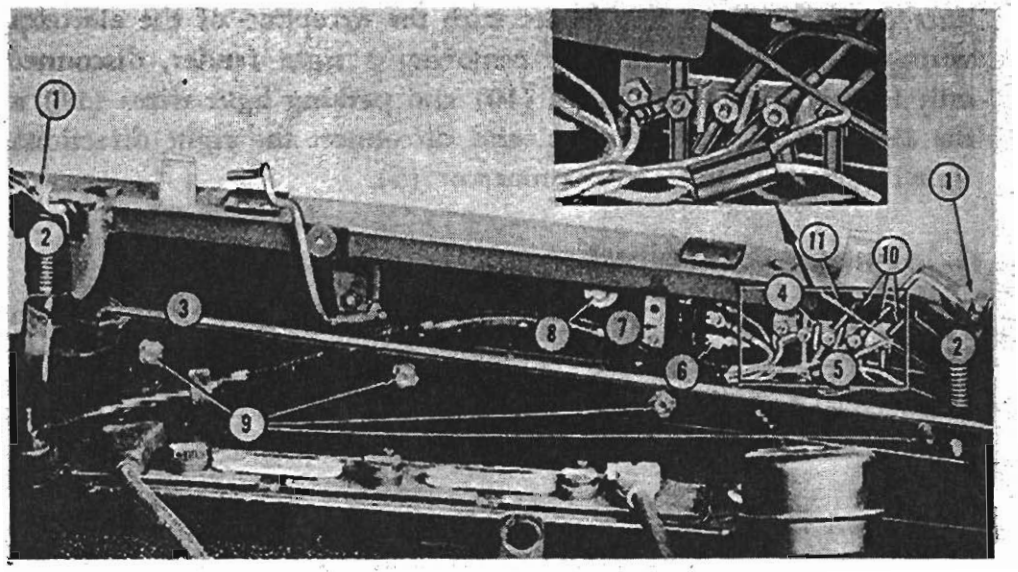


Fig. 63—Left Fender Support Rail Showing Disconnections For Removing a Fender.

At the top of the fender, take out the fender to body upper bracket screw (1, figure 62) and the two fender to core cradle bracket screws (2).

From the engine side of the fender perform the following operations. See figure 63.

CAUTION

When doing any work at the engine compartment, disconnect the cable from the positive terminal of the battery.

1. Take the cotter pins out of the bonnet lock clamp pins (1). Pull out the clamp pins and remove the anti-rattle springs (2). Swing the lock operating rod (3) inward out of the way.
2. Disconnect all headlight and parking light wiring at the left fender junction block (4).
3. Disconnect the directional signal light wires at the connector (5).
4. Disconnect the lower horn wire (6) and take out the horn relay mounting bracket screws (7) to free the horn relay from the fender.
5. Take out the fresh air duct assembly to support rail screw (8).
6. Take out the four fender upper splasher to support rail screws (9). The fender may now be lifted from the car.

3. Right Fender—Removal

The procedure for removing a right fender is the same as the proce-

dure for removing a left fender with the exception of the electrical wiring to be disconnected. In removing a right fender, disconnect only the right headlight wires (10) and parking light wires (11) at the left fender junction block, and disconnect the right directional signal (orange) wire at the connector (5).

4. Fender—Installation

The reverse of the removal procedure will serve as a guide for installing the fenders. The parts should first be installed loosely and then adjusted according to the procedure outlined in the following paragraphs.

5. Front End Sheet Metal Alignment

The alignment of the bonnet, fenders and grilles depends upon the fit of adjacent parts, and, as one part is moved to improve alignment it is sometimes necessary to readjust other parts. The edges of the door, fender and bonnet should be parallel to the edges of their adjacent parts and have a uniform clearance of approximately $\frac{3}{16}$ inch. See figure 64.

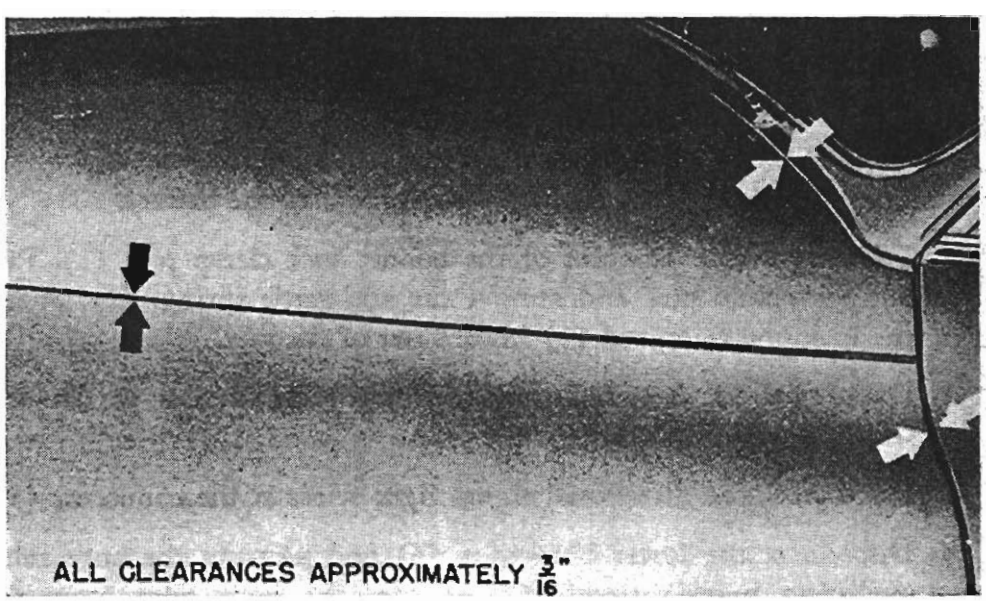


Fig. 64—Adjacent Parts Should Be Flush, and Have a Uniform Clearance.

Clearance for aligning the front fenders with other parts is provided at practically all points through oversize or elongated holes at point of attachment.

Each case requires a thorough examination of existing conditions and the use of careful judgment to determine the method of making correct alignment. A suggested sequence for checking the alignment is as follows:

DOOR TO COWL—The alignment of all front end sheet metal is based on the front doors being properly aligned in their openings. Check for alignment of the rear edge of the door with the center pillar and, if necessary, align according to the procedure outlined under "DOOR ALIGNMENT."

RADIATOR TO COWL—The radiator cradle must be parallel to the cowl. Check the position of the cradle by measuring from the forward corners of the cowl to the rear edge of the cradle. (Dimensions "A", figure 65). In case these distances are not equal loosen the support screws and, using a jack, move the cradle to correct the position. To avoid damage while jacking, place a wooden block (1, figure 66) across the dash panel reinforcement and a second wooden block (2) across the cradle flange.

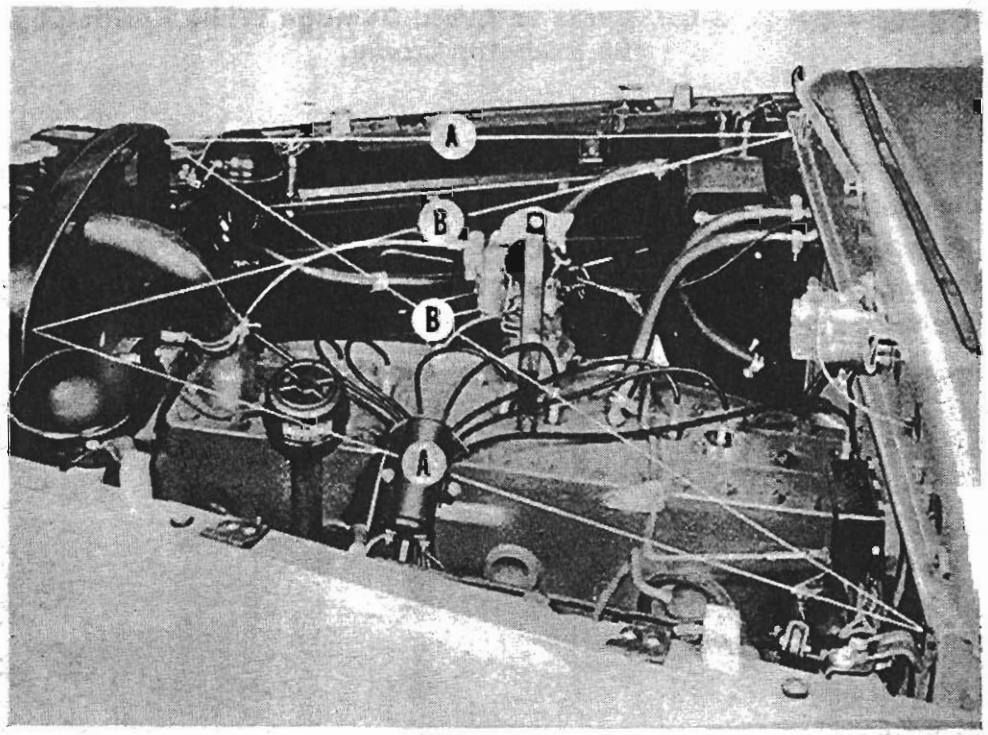


Fig. 65—The Radiator Cradle Should Be "Squared Up" With the Cowl Panel.

The distance from the forward corner of the cowl to opposite rear edges of the cradle (Dimensions "B", figure 65) should also be made equal by jacking if necessary.

FENDER TO DOOR—The rear edge of each front fender should be parallel to the front edge of the front door and have a uniform clearance of approximately $\frac{3}{16}$ inch. When the clearance between the fender and the door is too great, loosen the fender bolts and screws and move the fender to the rear. A hook and a pry bar similar to the

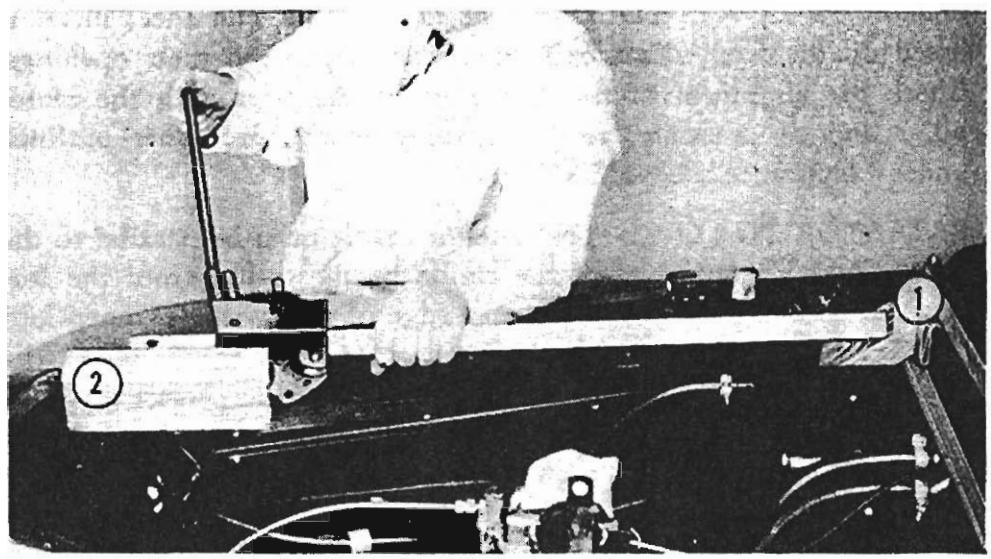


Fig. 66—Use Wooden Blocks to Avoid Damage While Positioning the Radiator Cradle.

one shown in figure 67 may be used. The hook should be hooked to the body upper bracket, and the lower end of the pry bar should press against the front door upper hinge plate. While moving the fender, raise or lower the front of the fender to keep a uniform clearance between the fender and the door edge.

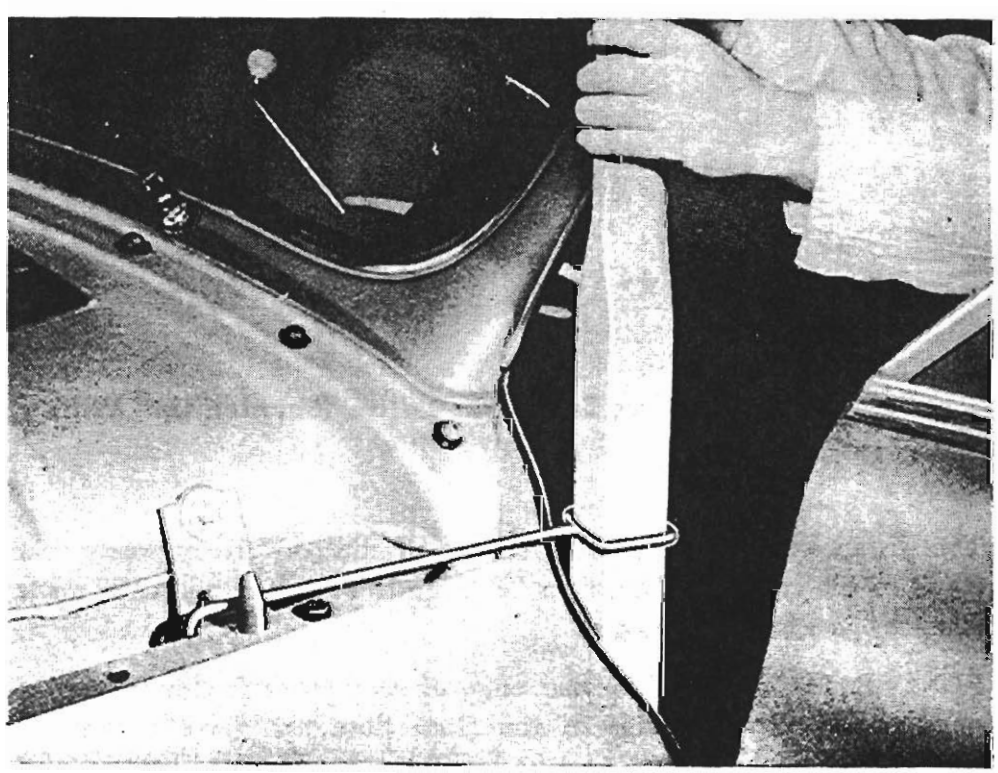


Fig. 67—Move the Fender to the Rear to Obtain Correct Clearance Between Fender and Door.

BONNET TO COWL—The side to side position of the bonnet is determined by the dowel pins (1, figure 68) on each fender. These pins are not adjustable.

The bonnet may be moved forward or back by positioning the guide pins (2) on the fenders. Loosen the guide pin screws and set the guide pins so there will be a clearance of approximately $3/16$ inch between the bonnet and the cowl.

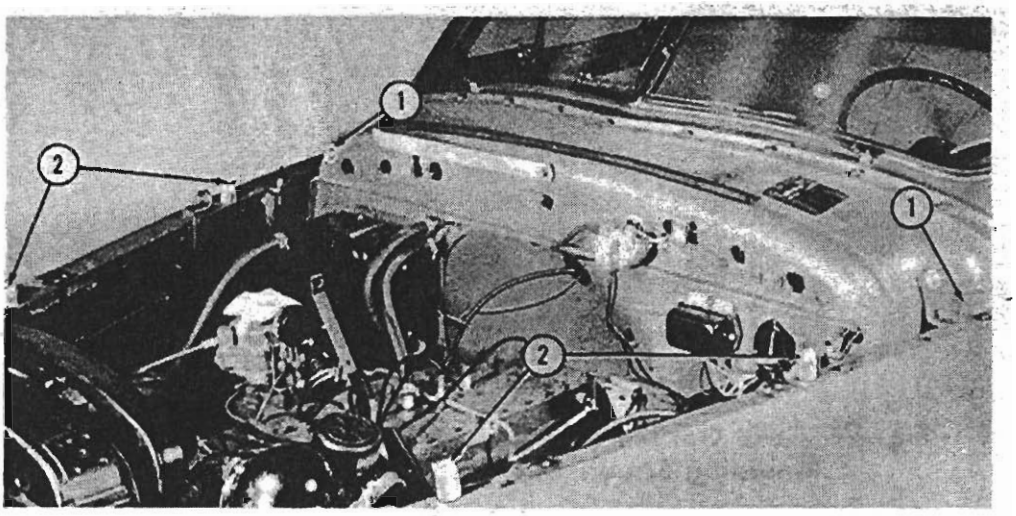


Fig. 68—Dowel Pins and Guide Pins Determine the Position of the Bonnet on the Fenders.

EDGE OF BONNET WITH TOP OF FENDER—In cases where the bonnet does not fit flush with the adjacent surfaces at any point, the contour of the bonnet can be corrected by forcing it with the hands or with a hydraulic jack.

LIMOUSINE—7-PASS. SEDAN—TAXICAB—STATION SEDAN

PARTS REPLACEMENT

The following paragraphs cover service procedures for body parts used only on the Limousine, the Seven-Passenger Sedan, the Taxicab, or the Station Sedan.

1. Rear Quarter Window Wing

Take out the finishing moulding screws and remove the moulding. (Figure 69.)

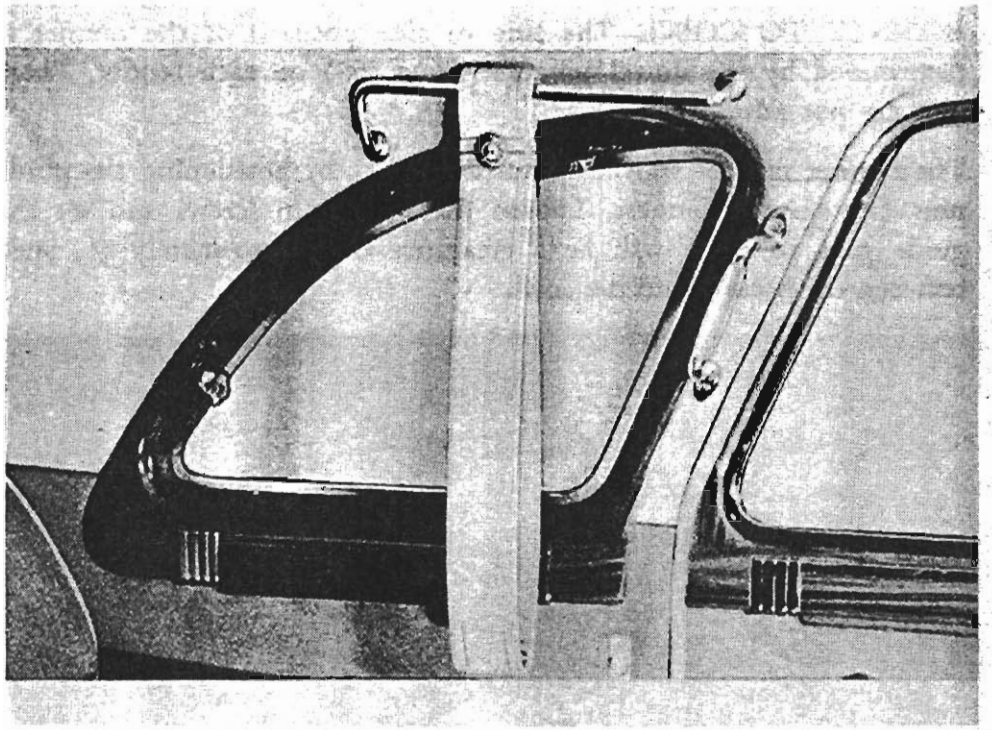


Fig. 69—Take Out the Rear Quarter Window Wing Finishing Moulding Screws and Remove the Moulding.

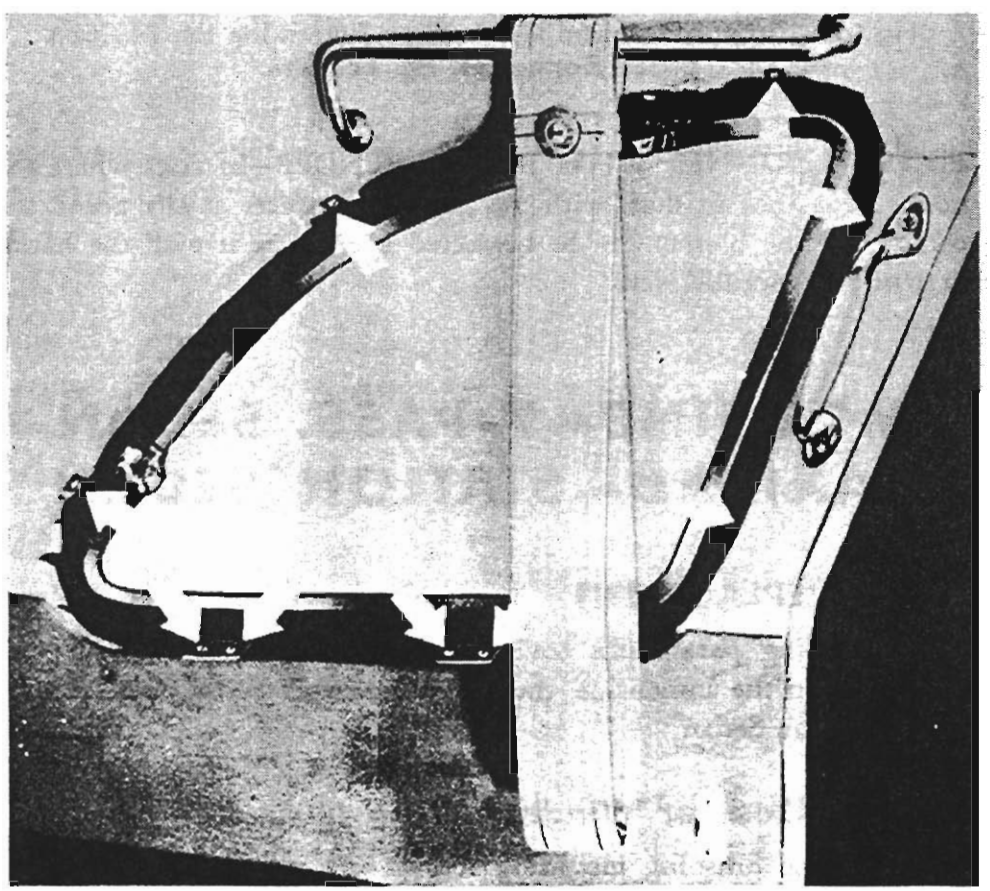


Fig. 70—Take Out the Weatherstrip Retainer Screws Indicated by Arrows, and Push the Glass Inward.

Take out the weatherstrip retainer screws indicated in figure *70*. Pry the weatherstrip off the outside finishing rim and push the glass toward the inside of the car.

Before installing the rear quarter window wing assembly, place a length of stout cord inside the outer lip of the weatherstrip and tape the ends of the cord to the outside of the glass.

From inside the car, fit the window into the body opening. Press the window firmly into place and pull the ends of the cord to snap the weatherstrip over the outside finishing rim.

Put in the retaining screws to secure the assembly in place, and reinstall the window finishing moulding.

2. Folding Seats

Remove the seat back by taking out the pivot screw (1) at each side of the seat. (Figure 71.)

Remove the seat cushion frame by taking out the frame to support retaining screws (2) at each support (3).

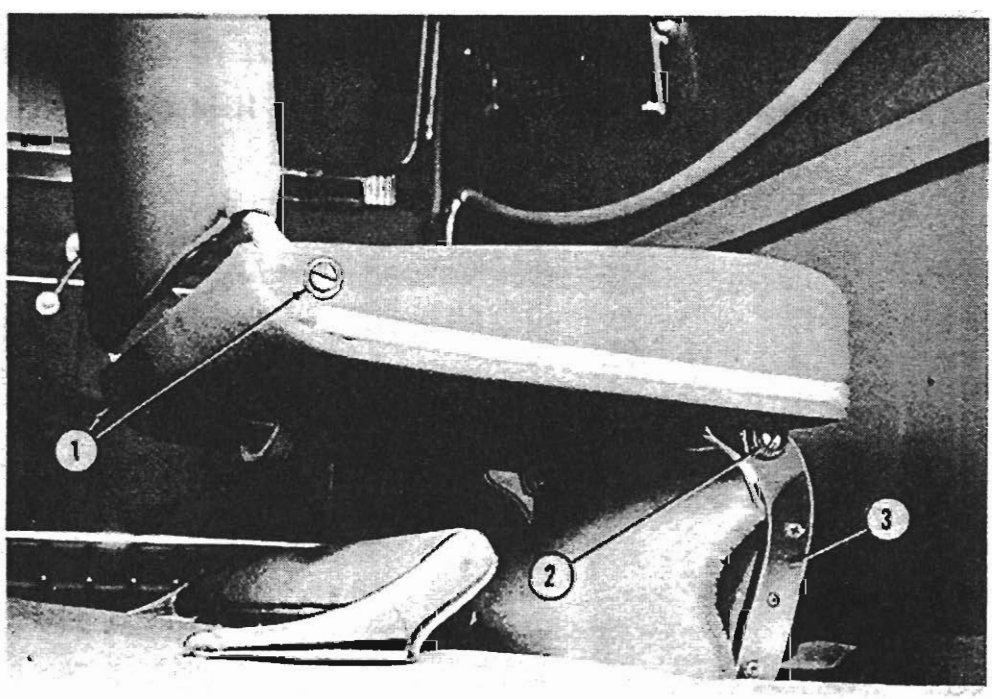


Fig. 71—The Folding Seat Can Be Disassembled by Removing the Screws Indicated.

The seat support pivots on two pins (1, figure 72) which are held in place by a wooden retainer (2). Two screws indicated by the circles "A", secure the retainer to the floor socket plate (3).

To remove the seat support, remove the carpet, raise the seat, take out

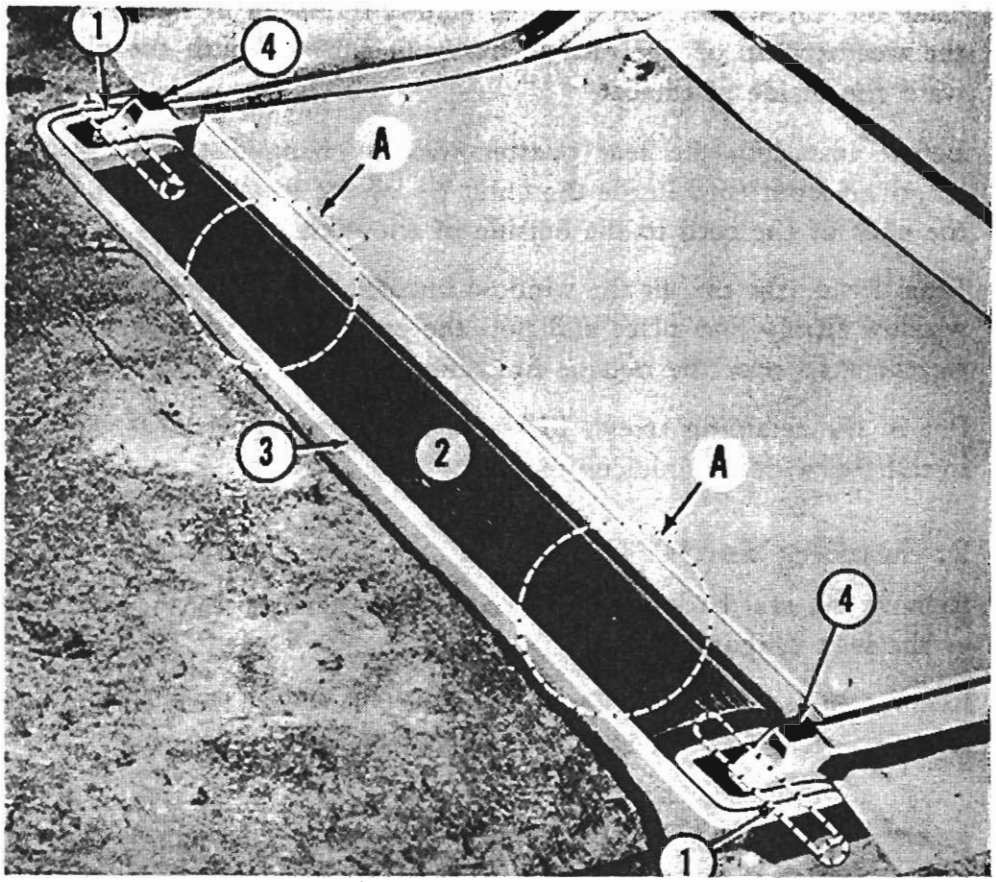


Fig. 72—Folding Seat Support Pivot Pins Are Held by the Wooden Retainer (2).

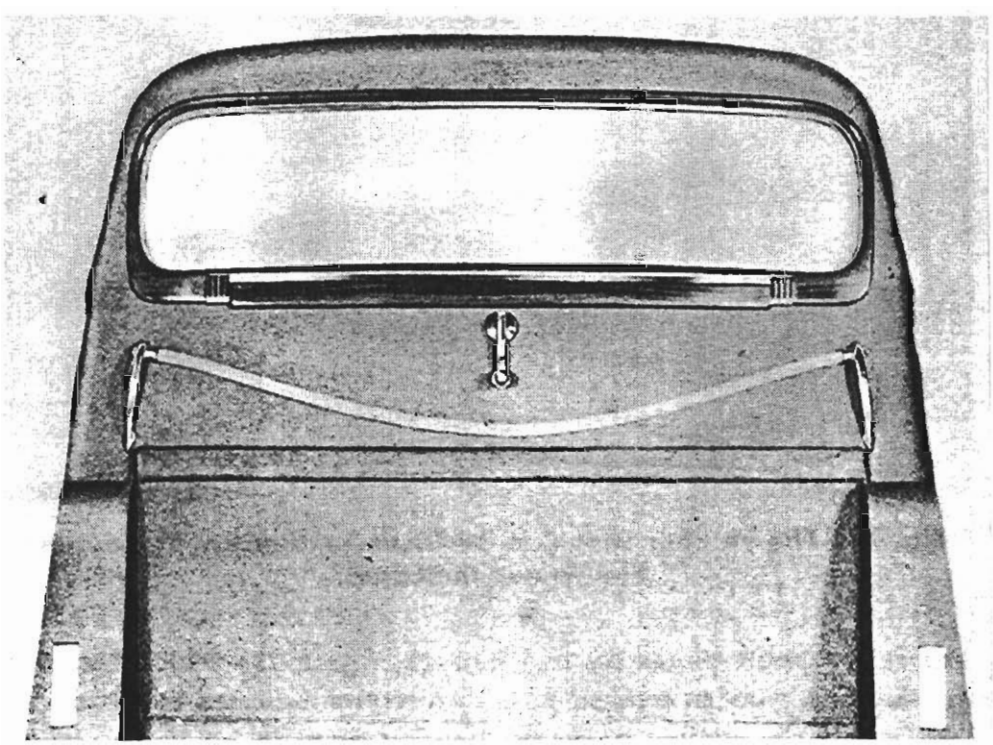


Fig. 73—Limousine Partition.

the two screws holding the pivot pin retainer and remove the retainer. Pull the pivot pins and lift out the seat supports.

To install the folding seat, reverse the procedure for removal.

After the seat is installed, the seat support stop (4, figure 72) should be filed to position the seat.

3. Partition

The following procedures refer to the limousine partition. See figure 73.

The taxicab partition is mounted in the same way as the limousine partition and, with minor obvious exceptions, the same procedures will apply.

To remove window, take out the partition window finishing moulding screws and remove the moulding.

Loosen the trim to uncover each of the three window glass guide plates shown in figure 74. Take out the plate retaining screws and remove the plates.

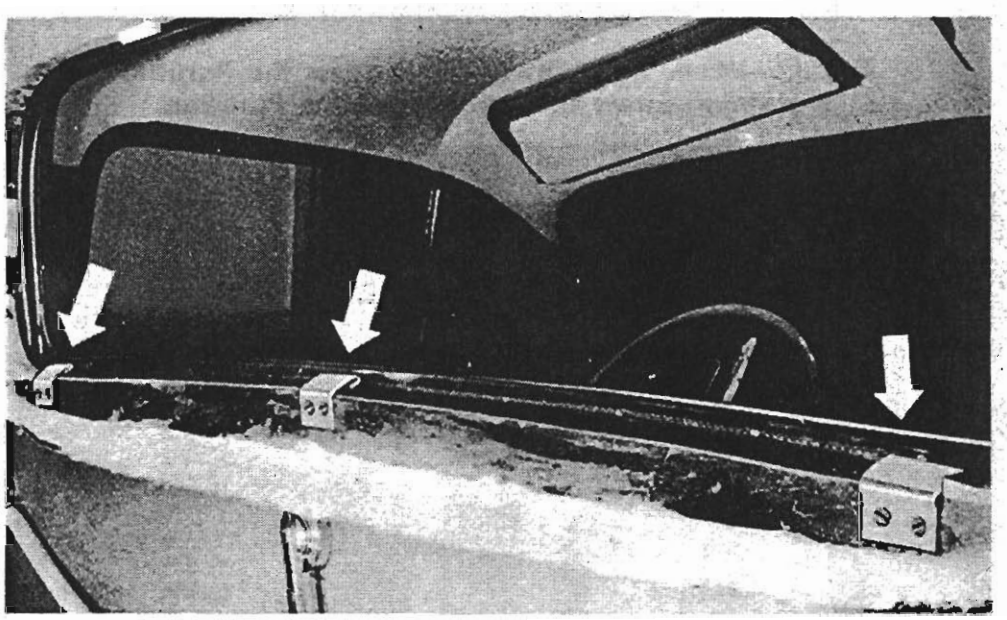


Fig. 74—Loosen the Trim To Uncover the Three Window Glass Guide Plates.

Spread the sides of the runway and pull the top of the glass toward the rear of the car. Raise the window until the ends of the regulator arms come up to the window frame. Pull the hairpin type retainers and the washers from the regulator arm studs and lift out the window glass.

To remove partition, take out the front seat bottom frame retaining

screws and remove the frame. Take out the partition retaining screws at the front compartment floor.

In the rear compartment, remove the partition window finishing moulding and move the runway to uncover the slotted screw at each side of the partition. See figure 75. Remove the screws.

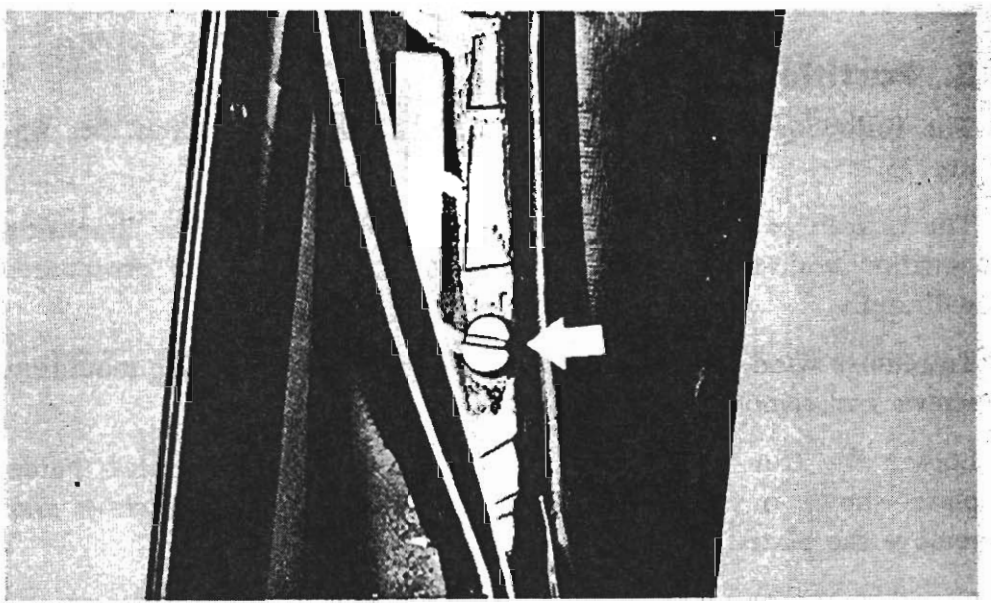


Fig. 75—Move the Runway To Uncover the Partition Retaining Screw at Each Side of the Partition.

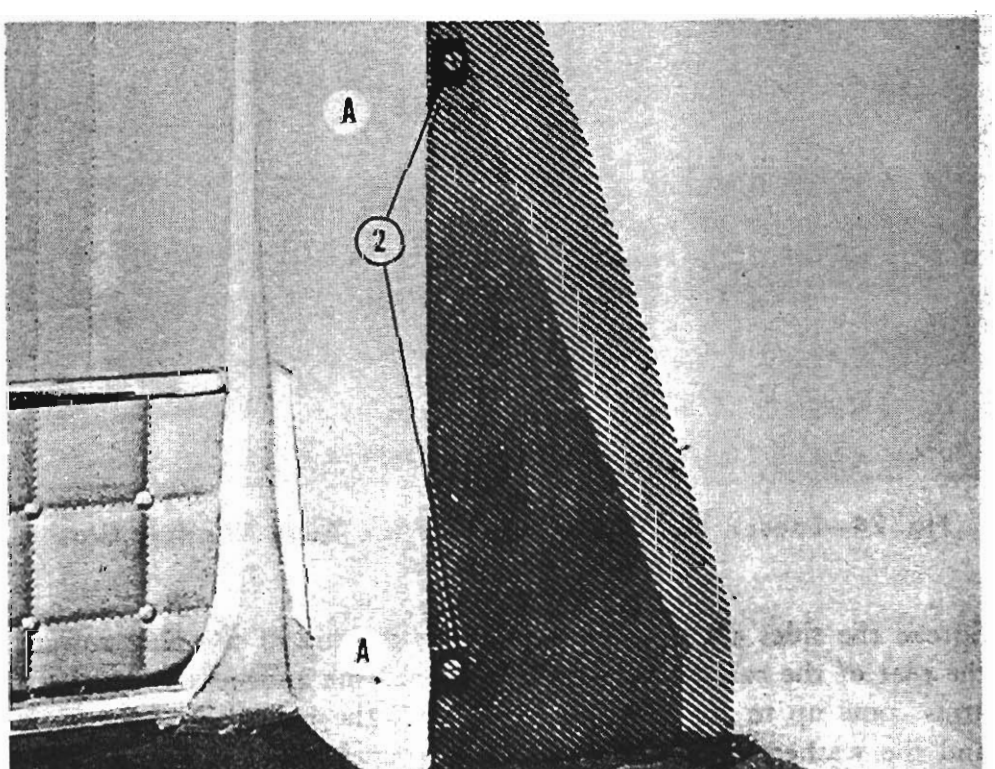


Fig. 76—After Removing the Lower Trim Panel, Remove the Rear Trim Panel Retaining Screws.

Pull the inner trim panel (indicated by shaded area in figure 76) at the base of the partition to uncover the screws holding the rear trim panel (2). Take out the screws, pull the trim panel out far enough to disconnect the courtesy light, and then remove the trim panel.

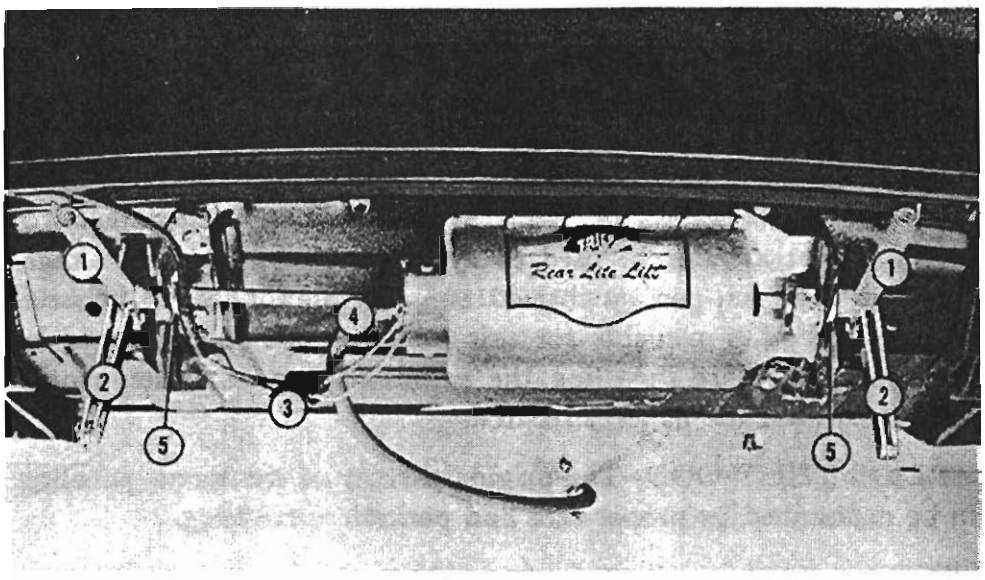


Fig. 77—Taxicab Rear Window Operating Motor.

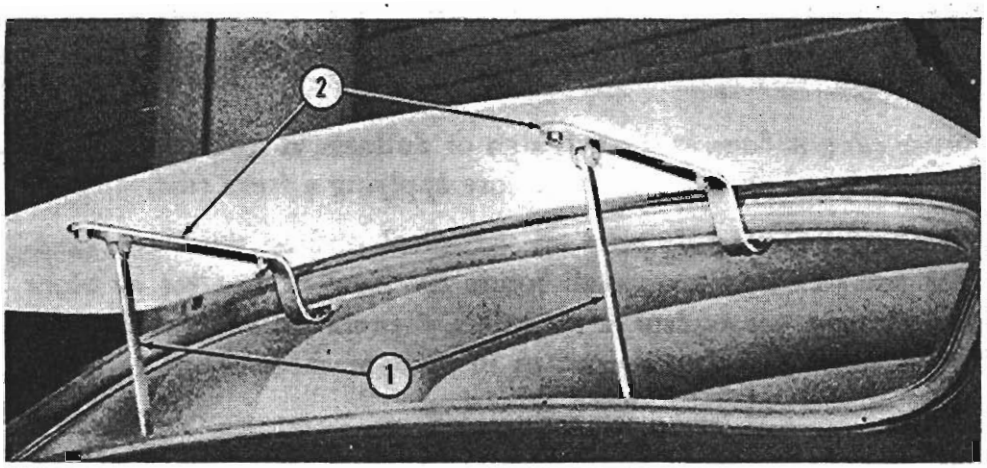


Fig. 78—Take Out the Screws Holding the Hinge Arms to the Window Glass Brackets.

Take out the two partition to body center pillar bracket screws at each center pillar at the location indicated by circles "A" in figure 76.

Pull the top of the partition forward and disconnect the wiring at the connectors in the upper left-hand corner of the partition.

Pull the partition out of place and lift it out through the front door.

4. Rear Window Operating Mechanism (Taxicab)

Disconnect the springs (1, figure 77) from the hinge arms (2).

Raise the window and take out the screws holding the hinge arms (1, figure 78) to glass brackets (2).

Disconnect the electrical wiring at the connectors (3, figure 77) and pull off the vacuum tube hose (4).

Loosen the torque shaft locknuts (5) and let the motor move downward out of the support bracket slots. Lift the motor out of the brackets.

5. Station Sedan Outside Wood Panels

Wood frames and panels are secured to Station Sedan steel doors and window frames by screws and studs. When replacing these panels it is important that a sealer be used to avoid the possibility of leakage. A gum grade sealer, part number 401803, suitable for sealing between metal and wood is available for this purpose. The sealer should be applied freely before installing the panel, and excess sealer should be removed after the panel is secured.

CARE OF THE WOOD—The original beauty of the wood paneling can be maintained by proper care and periodic varnishing.

With average care it will not be necessary to varnish the wood panels oftener than once each year. Constant exposure to sun, rain, snow or salt air may make varnishing necessary at shorter intervals. A coat of varnish should be applied when the surface becomes dull, checked or scratched.

If varnishing is done at the first sign of dullness, it will not be necessary to strip off the old varnish before applying a fresh coat.

VARNISHING—Lightly sand all varnished surfaces with fine sandpaper and carefully inspect all joints for signs of dry rot or black stains. If stains are evident at the joints, they should be scraped down to solid wood and then stained to the proper shade. This work can best be done by an experienced refinisher.

If gouges or scratches in the varnish are found, the edges should be "feathered" or tapered so they will not be visible after the varnish has been applied. Cracks or openings at the joints should be filled with a non-hardening type filler before varnishing. Gouges should be filled with plastic wood or stick shellac and then sanded smooth.

After sanding, all surfaces should be carefully wiped to remove all dust with a tack rag prepared by moistening the rag with a solution of two parts of gasoline and one part varnish. Wring as dry as possible before using.

Apply a full coat of high quality varnish, Packard SM 5781 with a good varnish brush. Allow 12 to 15 hours drying time before using the car.

REPAIRS

Panels

Repairing body damage depends largely on the extent of the damage done, and requires the services of a thoroughly experienced and capable repair man.

If a section of a panel is damaged so that it cannot be bumped out, then it will be necessary to procure a replacement panel. Often it will be found most practical to cut out the damaged section and a matching section from the replacement panel, weld the replacement section into place, and refinish the panel.

When cutting out damaged parts, care should be taken to avoid disturbing the welded joints of the body panels.

Repairs such as these will be made much more easily if the repair man knows exactly how the body is constructed. Packard body panels used in manufacture are shown in figures *79* to *85*.

Sealing, General

The correction of body water leaks first requires a thorough inspection of suspected areas to determine the source of the leak. The size and location of the opening will largely determine the type of sealer to select for the job. In most cases leakage can be eliminated by the use of rubber cement, "dum-dum", or liquid body sealer.

Occasionally the opening between the surfaces may be too wide to be sealed completely with liquid sealer. In such cases the opening should be carefully caulked with "dum-dum", using a putty knife or a caulking gun. After caulking, flow liquid body sealer into the opening to form a continuous contact between the surfaces.

Sealer should be applied only to clean dry surfaces.

Before sealing, the surfaces should be thoroughly cleaned with gasoline to remove all traces of old sealer or dirt. After sealing, excess sealer should be removed from the surfaces by using gasoline before the sealer hardens.

In many cases, service replacement panels are not identical to those used in manufacture. Constant effort is expended by the Factory to make available replacement parts which will be most suitable. As a result, the panel assemblies, sub-assemblies and parts listed in the Packard Body Section Parts List have been developed to make easier the job of repairing Packard bodies.

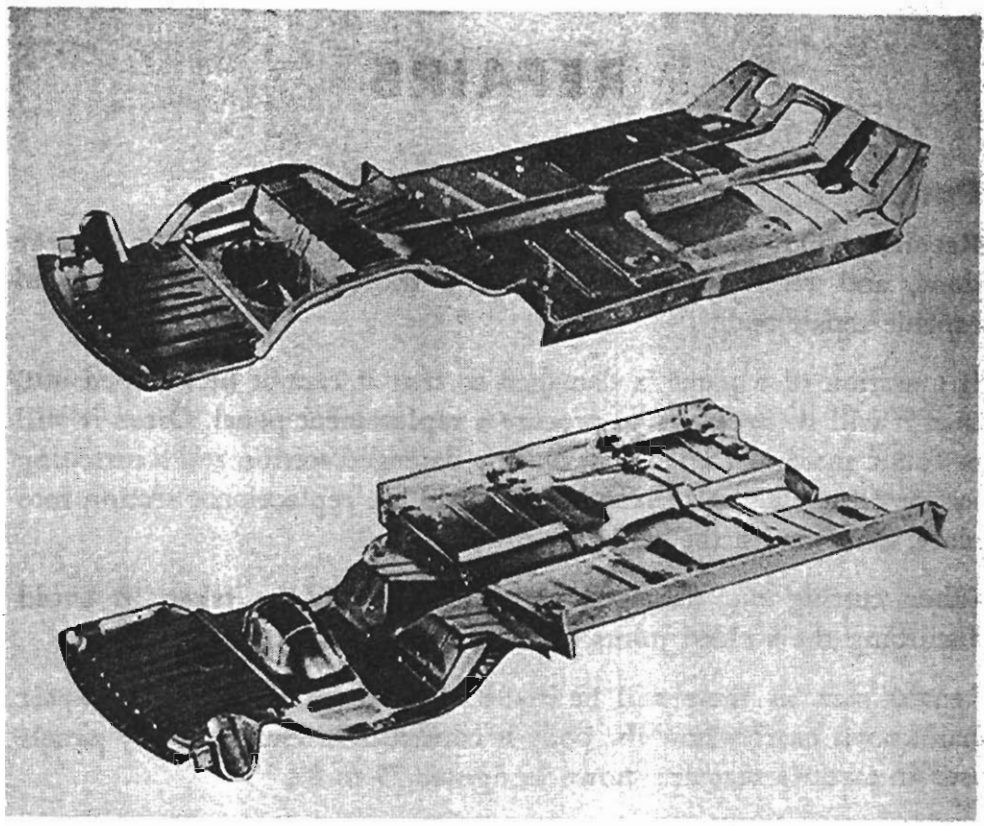


Fig. 79—The One Piece Floor Has Heavy Ribs To Stiffen Flat Sections, and Extra Cross Braces for Rigidity.

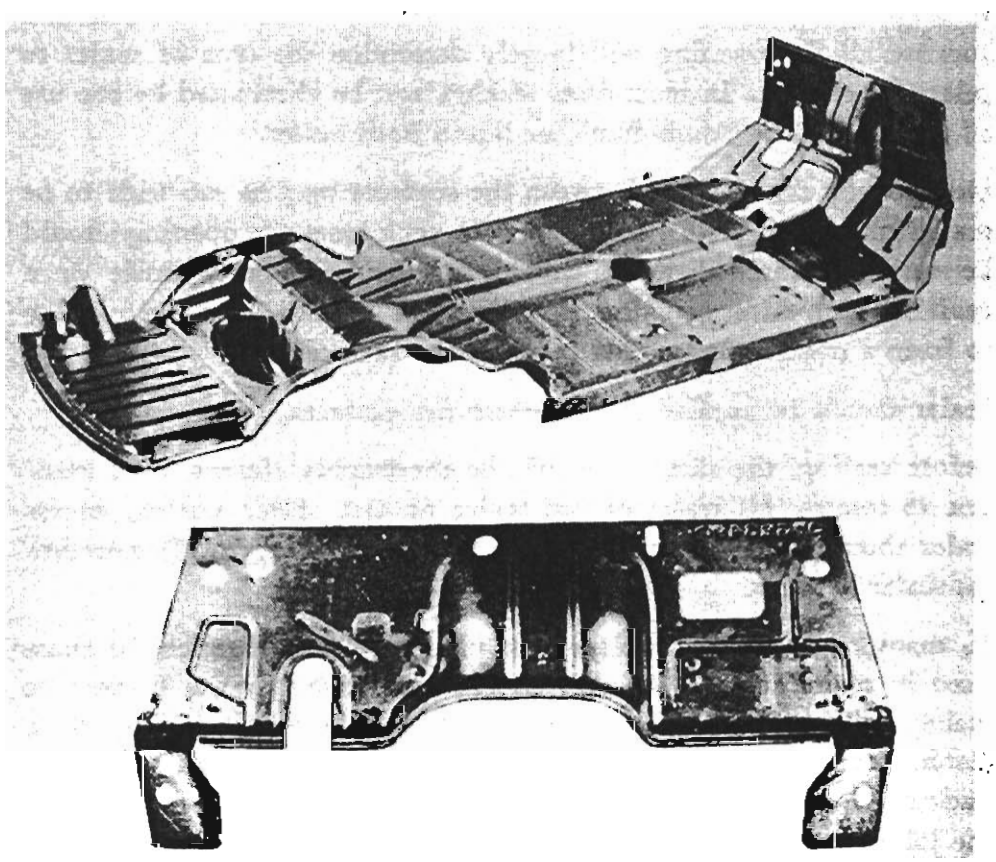


Fig. 80—The Dash Panel Is Welded to the Floor Pan. Dash Braces Are Welded to Dash Panel and Cowl Side Panel.

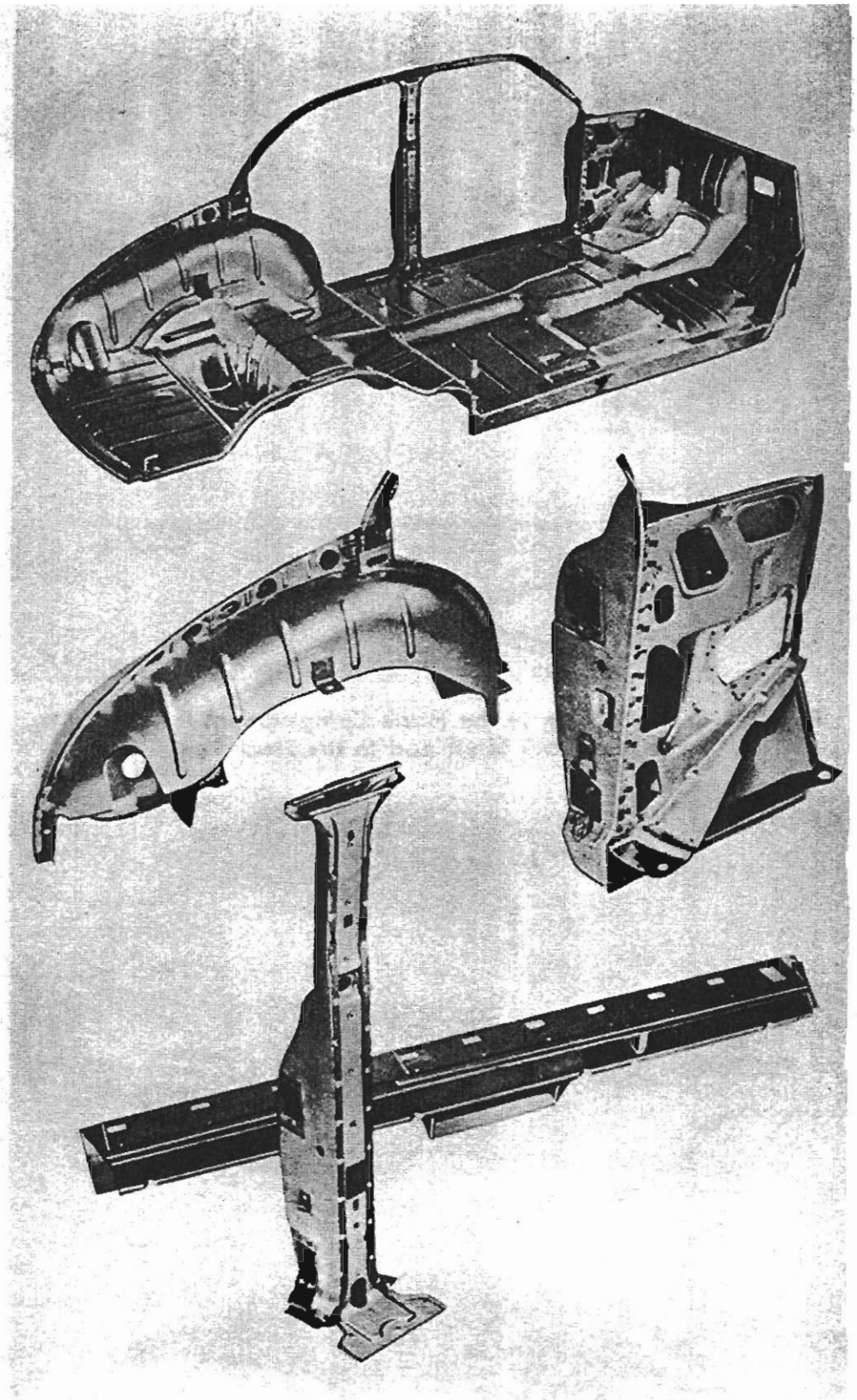


Fig. 81—Each Side Consists of a Cowl, Side Panel, Side Sill, Center Pillar, Roof Side Rail, and One Piece Fender and Wheel House.

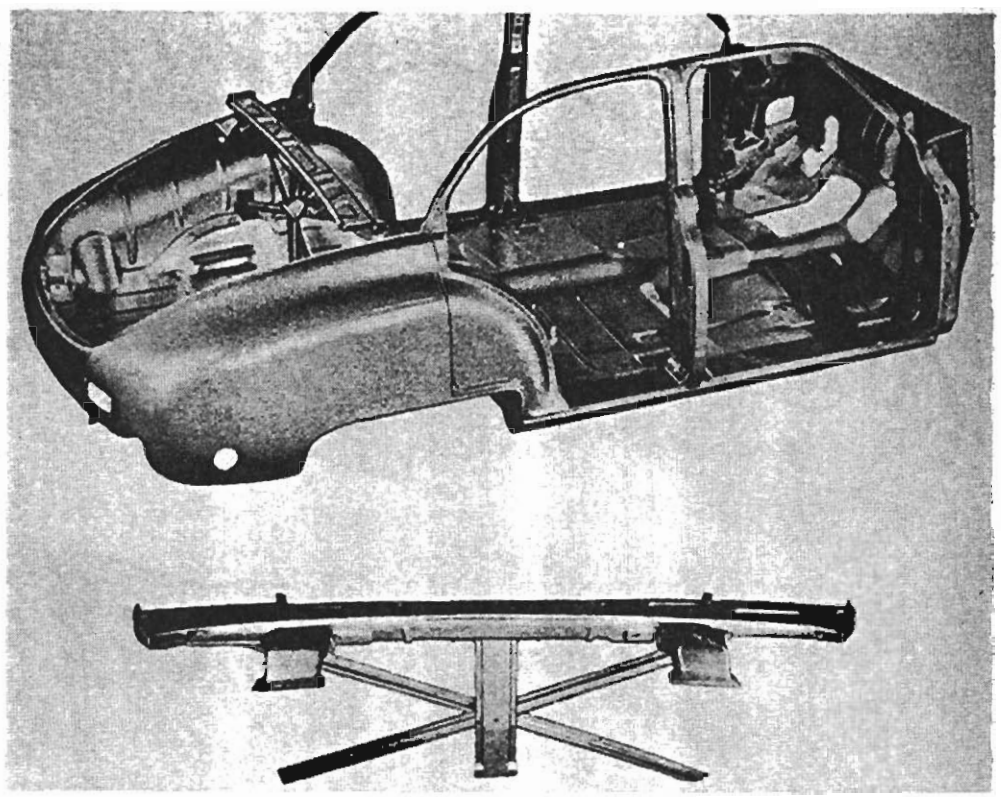


Fig. 82—Cross-Bracing at the Trunk Compartment Is Welded to the Seat Back Shelf and to the Floor Pan.

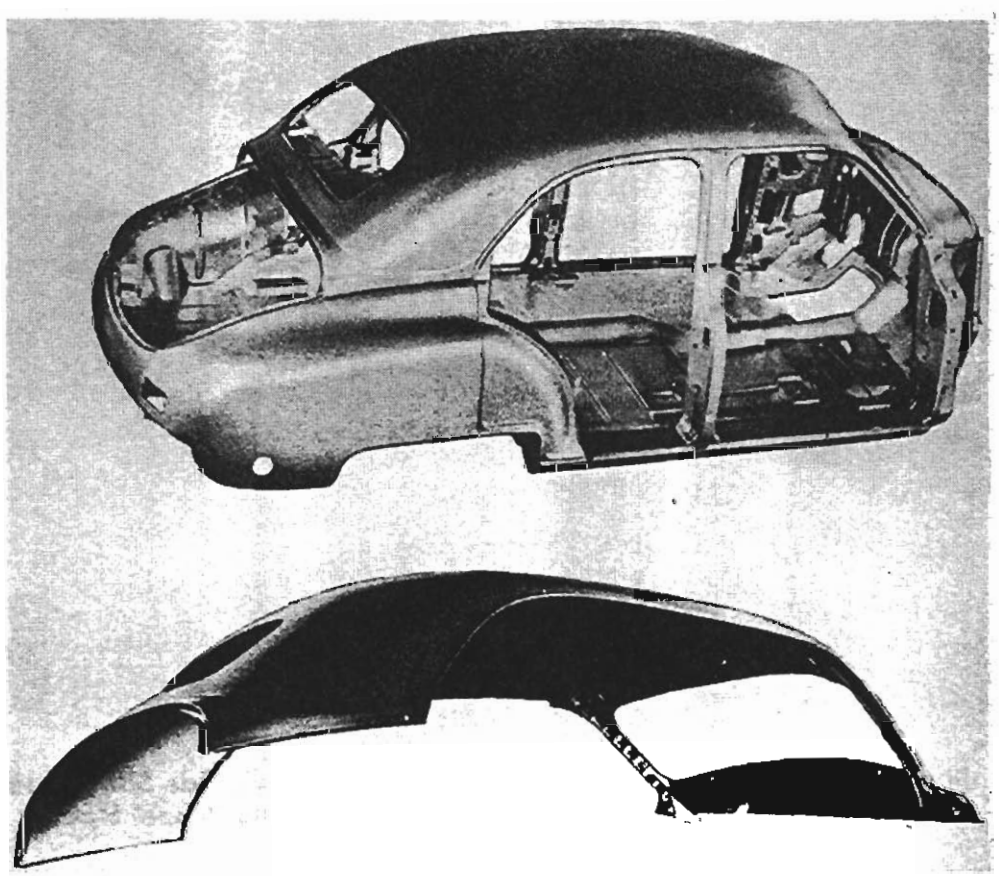


Fig. 83—The Seamless Steel Top Has Slender Pillars and Reinforced Header and Cowl Construction.

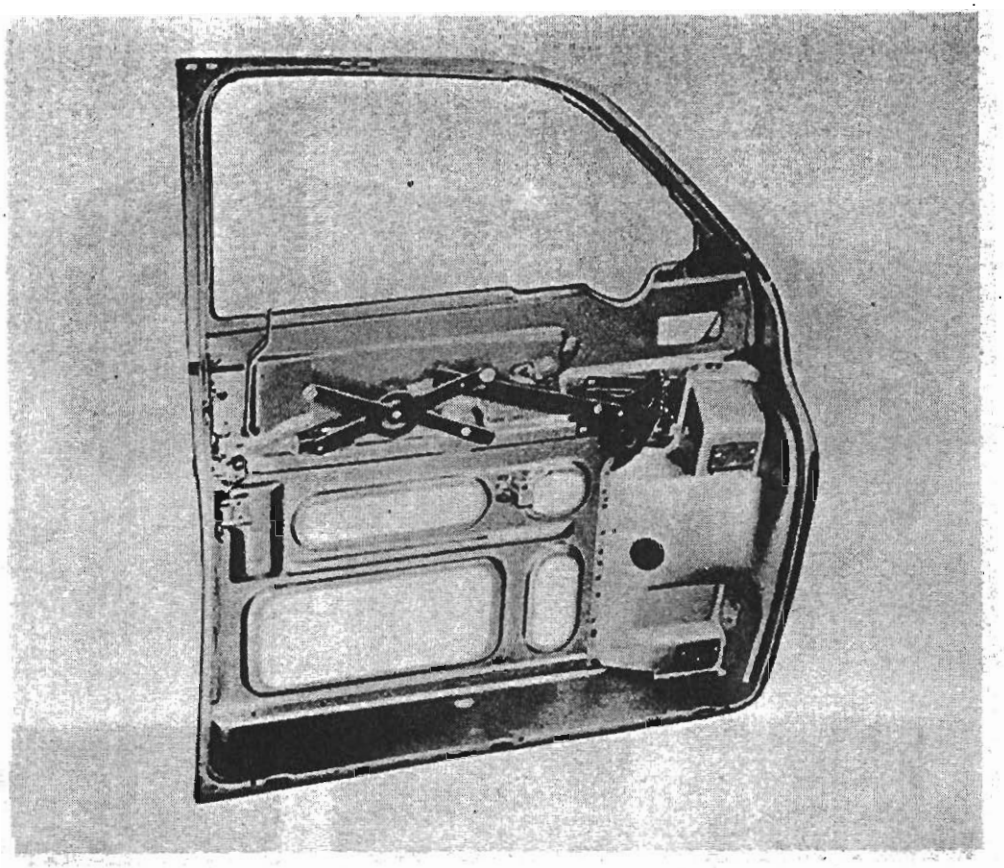


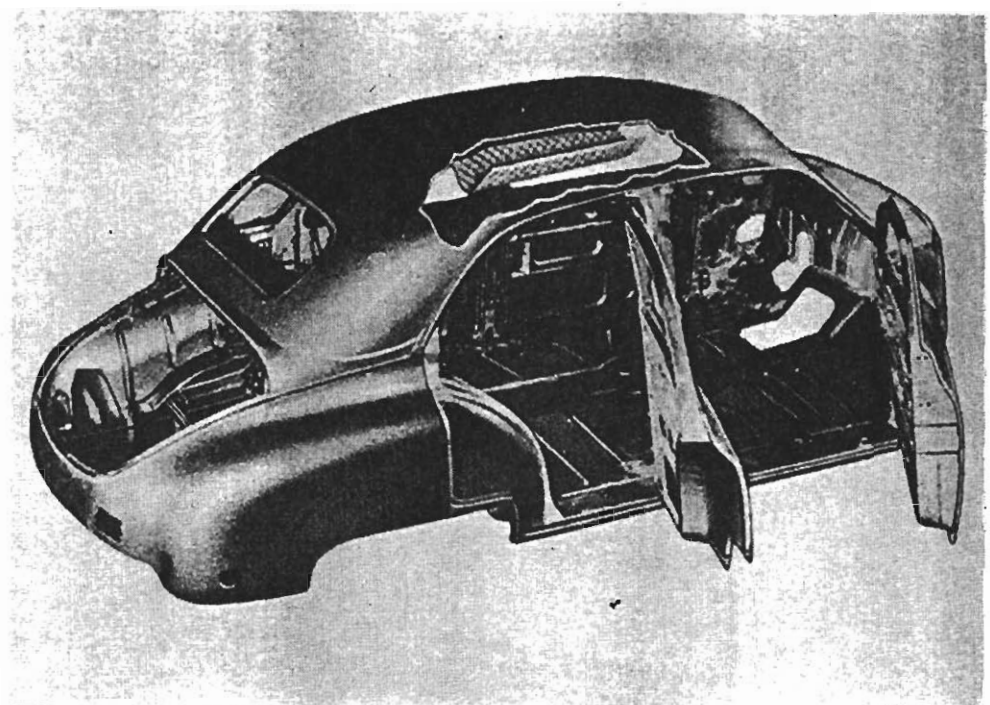
Fig. 84—Door Inner Panel, Showing Window Regulator Assembly, and Reinforcements for Door Hinge Mountings.

The front compartment, the doors, the rear window, and the trunk compartment are the sections where water will most often make its appearance inside the car. Leakage may also occur at the rear quarter panels on Club Sedans. The following paragraphs point out places of possible leakage in each of these sections, and suggested methods for sealing them at their source.

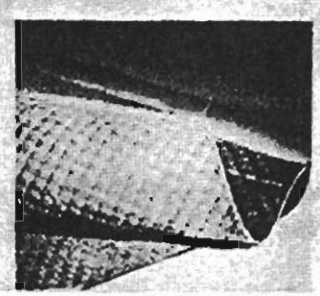
FRONT COMPARTMENT—Water may enter at one point and make its appearance inside the body at a point sometimes a considerable distance from where it entered.

Water leaking into the front compartment can generally be traced to one of the points indicated in figure 86.

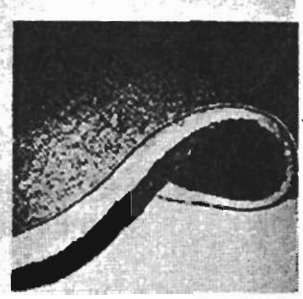
When leaks are traced to the windshield, the method of sealing is simple. If the water appears between the glass and the weatherstrip inside the car, apply liquid body sealer between the glass and the weatherstrip around the entire windshield on the outside of the car. If the water appears between the finishing moulding and the weatherstrip, or between the moulding and the instrument board, apply liquid body sealer between the weatherstrip (1) and the outside finishing moulding (2), between the outside moulding and the body



REAR DECK—Suede like flock sprayed over asphaltic sound deadening compound.

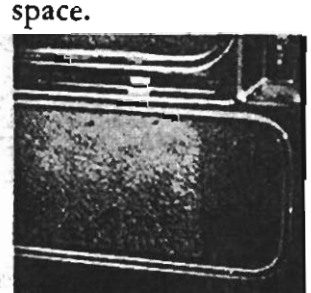


TOP—A thick pad of asphalt impregnated felt and a deep, dead air space.



FLOOR—Covered by indented, impregnated felt, a heavy layer of felt jute and a carpet.

REAR COMPARTMENT—Insulating board, and asbestos strips at cross bracing.



DOOR INNER SURFACE — Heavily sprayed with viscous asphaltic compound.

COWL—Covered by a thick jute pad, celotex, and a fiber board.

Fig. 85—Body Repairs Are Not Complete Until Heat, Cold and Sound Insulation Has Been Installed.

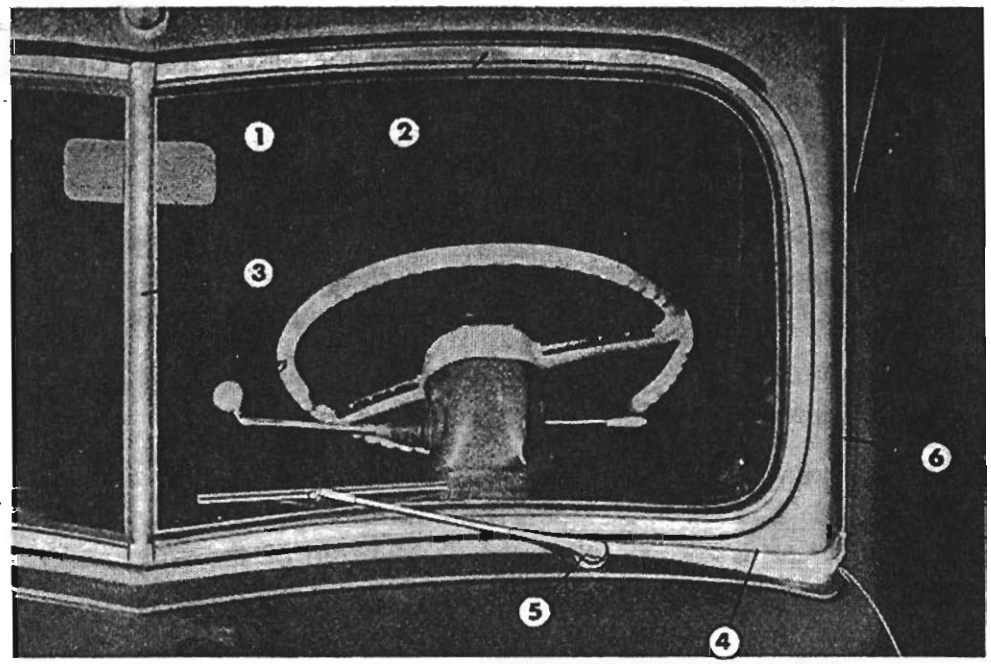


Fig. 86—Water Leaking Into the Front Compartment Can Usually Be Traced to one of These Points.

around the entire windshield, and between the outside division finishing moulding (3) and the weatherstrip. In addition, in cases where a severe leak enters at the division finishing outside moulding, it may be advisable to remove the division moulding and fill the screw holes with "dum-dum" to make a watertight seal at that point.

When water leaking into the front compartment cannot be traced to the windshield, the point of entry is often very hard to locate. Water may enter through the cowl side belt moulding (4) stud attachment holes, between the windshield cleaner pivot shaft spacer gasket (5) and the body, or through the seams at the roof rain gutter moulding (6). In all these cases the water may run onto the forward side of the instrument board and finally drip, or it may follow the cowl side panel and show up at the base of the cowl side trim panel. Water appearing at the base of the trim panel may also be entering between the fresh air duct adaptor gasket and the body.

Minor leaks at the cowl side belt moulding (4) may be sealed by forcing liquid body sealer between the moulding and the body. In case of a severe leak at this point, remove the moulding, fill the stud attachment holes with "dum-dum" and reinstall the moulding.

Leaks at the windshield cleaner pivot shaft (5) may be corrected by removing the wiper arm and then removing the spacer nut. Lift off the spacer and the gasket, apply rubber cement to both sides of the gasket and reassemble.

If water enters the body at the spotwelded joints of the roof panel and the rain gutter moulding (6), seal along the entire seam. Using a caulking gun, force sealer well into the spotwelded crevices. After excess sealer has been cleaned off, the area sealed may be touched up with color to match the body.

Water entering at the fresh air duct adaptor gasket may be eliminated by applying liquid body sealer between the gasket and the adaptor and between the gasket and the cowl panel around the entire gasket.

DOORS—Water leaks at the doors can usually be divided into two groups: Window wings and door weatherstrips.

When a leak is traced to the window wing two causes should be investigated. The more common fault is improperly fitting weatherstrips. If water is admitted between the bottom of the wing and the weatherstrip, it may be necessary to shim the weatherstrip retainer to fit.

Wet windcord around the doors is an indication of poorly fitting weatherstrips, especially at the top or front edge of the doors. See figure 87. To check this condition, place narrow strips of paper between the door weatherstrip and the body opening and use them as a feeler gauge to determine whether or not the weatherstrip is contacting the body. A drag should be felt when the paper strips are pulled. Sections of the weatherstrip which do not make proper contact with the body should be shimmed by cementing strips of rubber between the door and the weatherstrip.

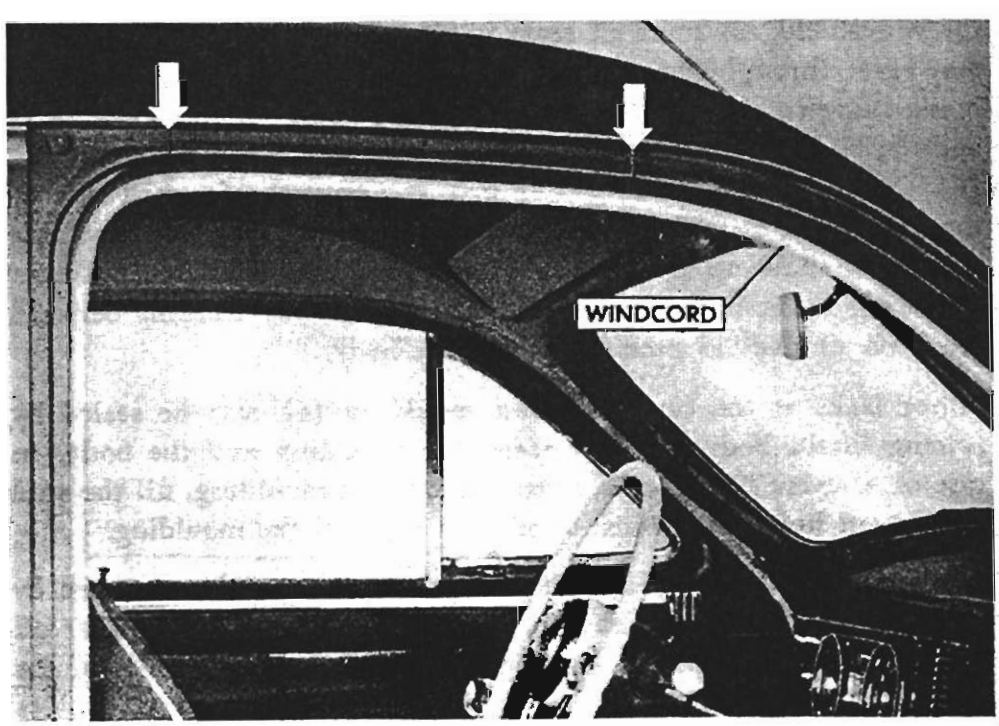


Fig. 87—Wet Windcord Around the Doors Is an Indication of Poorly Fitting Weatherstrips.

Leaks at the curved section of the front doors, opposite the instrument board, are usually due to insufficient compression of the weatherstrip on the body. Remove the retaining screws and install a thin piece of rubber behind the weatherstrip and reinstall the screws.

The stub arrows in figure 87 indicate the welded joints and seams at the top of the door opening where the roof rail and pillars are joined. If the metal is rough or has a depression, leakage past the weatherstrip may result. To correct a leak at these points, smooth or fill with glazing compound and touch up when dry.

REAR WINDOW—Correction of leaks at the rear window can be accomplished by flowing liquid body sealer between the glass and the weatherstrip, between the weatherstrip and the finishing rim, and between the finishing rim and the body around the entire rear window.

TRUNK COMPARTMENT—Water leaking into the trunk compartment can generally be traced to one of the points indicated in figures 88 and 89.

The trunk lid itself should be inspected for proper alignment and adjusted as necessary.

WEATHERSTRIP—If the trunk lid is properly aligned, the trunk lid

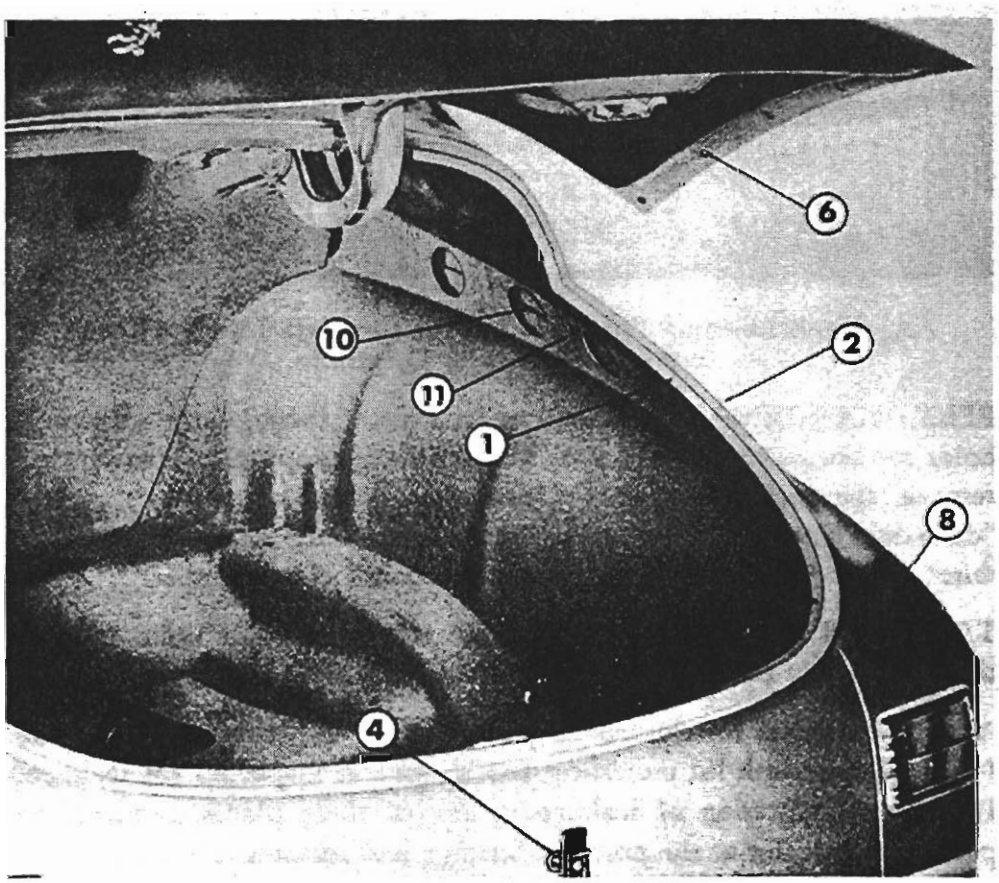


Fig. 88—Leakage Into the Trunk Compartment May Occur at Any of These Points.

weatherstrip may be checked for proper fit by the method previously outlined for the doors, and the fit can usually be corrected by shimming just as in the case of the door weatherstrip.

If the weatherstrip is deteriorated it cannot seal properly and should be replaced. To install weatherstrip, clean the surface with gasoline and brush a thin, even coat of rubber cement onto each surface. Allow the cement to dry until it becomes tacky and will not transfer to the fingers. Press the weatherstrip firmly into the drain gutter and close the trunk lid. When closing the lid, place paper between the lid and the weatherstrip to prevent the lid from pulling any section of the weatherstrip out of place. Let it stand undisturbed for at least two hours.

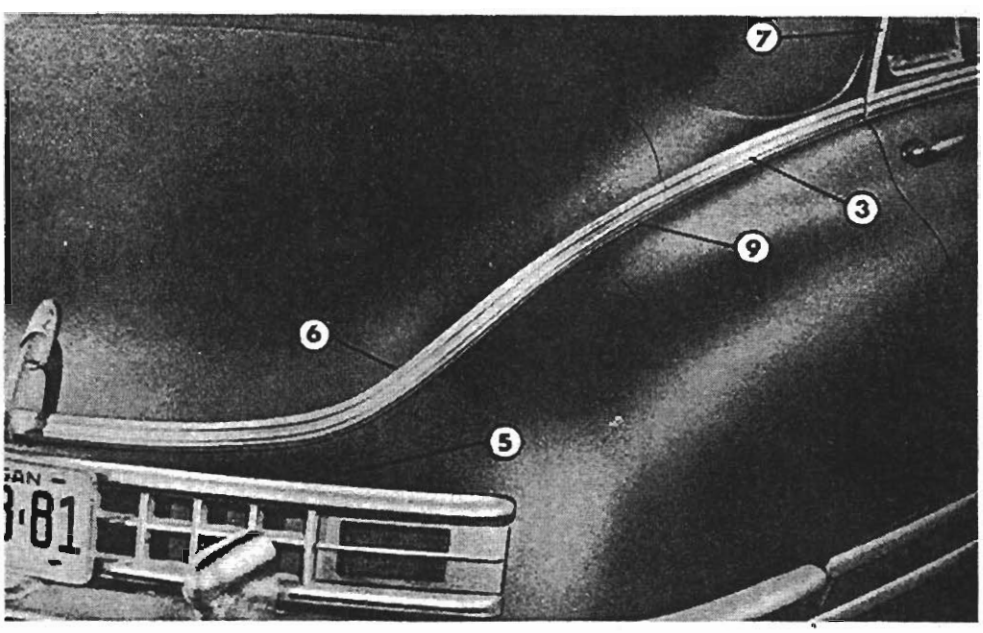


Fig. 89—Additional Points at Which Leakage Into the Trunk Compartment May Originate.

BELT MOULDING CLIPS—Water may enter through the attaching holes for the belt moulding (3). When leakage appears at these holes, remove the moulding and fill the holes with "dum-dum." Apply "dum-dum" to each clip, reinstall the moulding and apply "dum-dum" around the holes from inside the trunk compartment.

TAIL LIGHTS—When water leaks are traced to a tail light, remove the light, apply rubber cement to both sides of the gasket and reinstall.

Attachment holes for the license plate bracket (4), the rear end grille (5), and the trunk lid moulding (6) should be inspected for leakage. If there is indication of leakage at any of these places, remove the parts, apply sealer at the point of leakage and reinstall the parts.

BODY SEAMS—When leakage is apparent but no point of entry can be found in the vicinity, the body seam above the rain gutter (7)

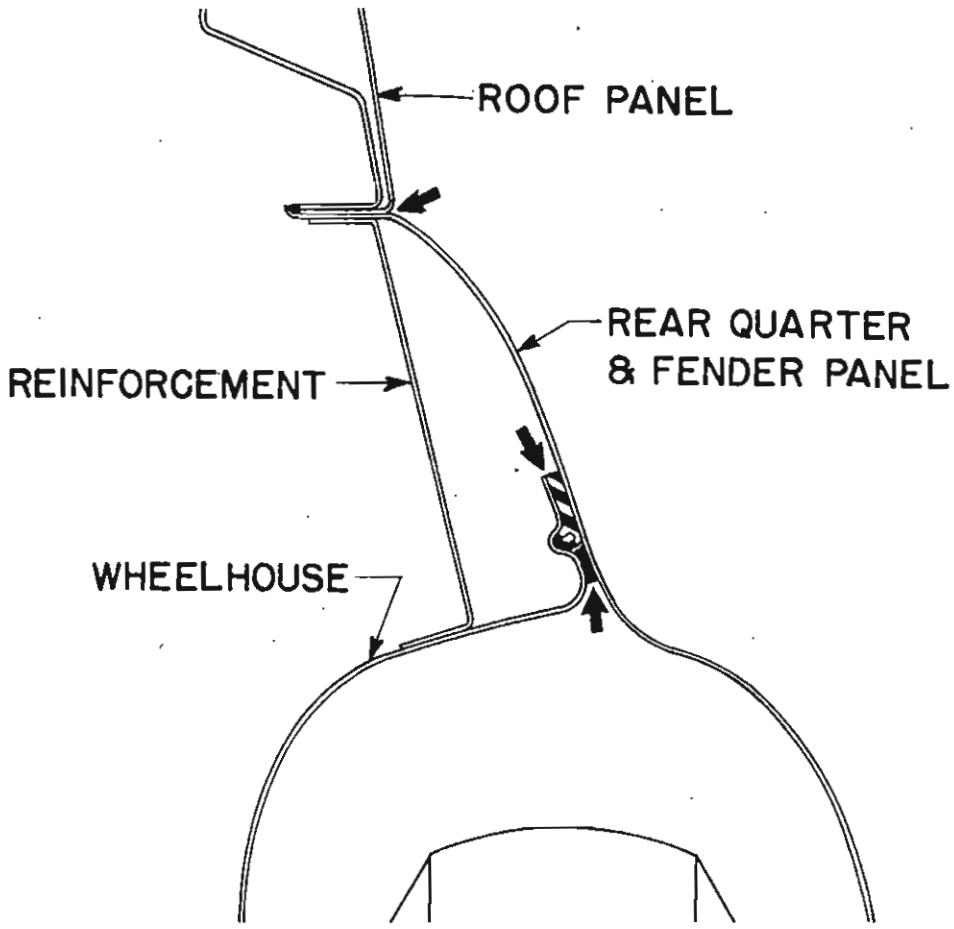


Fig. 90—A Special Seal Is Cemented Into the Opening Between the Wheel House and the Rear Fender.

should be sealed. It is possible for water to enter this seam near the front of the car and run back into the trunk compartment.

Leaks are sometimes found at the seams (8) between the rear end center panel and the fenders. A leak at these points may be sealed by filling the seams with sealer. After sealing, the surface at the seam may be touched up with paint to match the body color.

The seam (9) between the roof panel and the rear quarter and fender panel may be sealed by flowing liquid body sealer the entire length of the seam.

WHEEL HOUSE—In production, a special seal is cemented into the opening between the wheel house and the rear fender. See figure 90. Should further sealing become necessary, the opening may be filled with body sealer. Fill the upper part of the opening by working through the lightening holes in the drain gutter reinforcement (11, figure 88) inside the trunk compartment. Fill the lower part of the opening by working from underneath the fender. The application of undercoating at this area will also assist in forming a more thorough seal against leakage.

Sealing Club Sedan Rear Quarters

When water enters the rear compartment at the side quarter panels, one or both of the following conditions may exist. 1—Water entering the rear quarter window opening is not being directed to the drain holes provided for the disposal of this water. 2—Insufficient sealing at panel seams and welded joints.

Revisions in various rear quarter details and improved sealing have corrected these conditions in late 22nd Series bodies. Correcting these leaks, when they occur in earlier 22nd Series Club Sedans in service, may be accomplished by properly sealing seams and welded joints and then installing Rear Quarter Inside Panel Water Shield Kit, part number 410472, to shut out water which enters through the window opening.

Each kit contains three identical large water shields, or aprons, and two small water shields which also are identical. Two of the large shields and the two small shields are to be installed in one piece as received. The third large shield is included in the kit to provide material for cutting patches to cover openings in the quarter window frame panel.

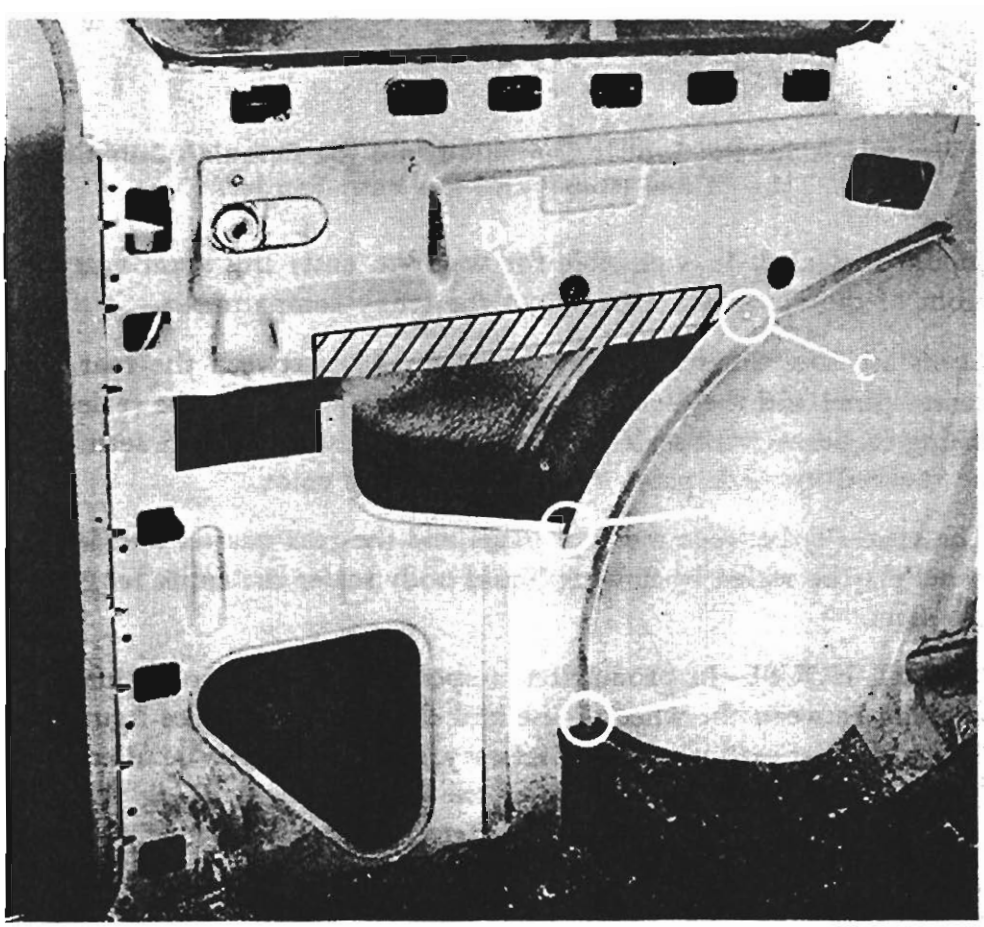


Fig. 91—Club Sedan Rear Quarter Inner Panel Without Water Shields Installed.

The recommended procedure for sealing against leakage and for installing the water shields is as follows:

Remove the rear seat cushion and the rear seat back and then remove the rear quarter side trim panel.

Remove the old water shields and, using carbon tetrachloride or gasoline, remove any fragments of paper or cement which may stick to the panels when the old shields are pulled off.

The next step is to check the half-round drain holes located between the floor side sill panels and the floor pan. This check is made from the underside of the car. If the car has been undercoated, the holes may have been plugged or covered with undercoating material. If so, the holes should be opened so that water directed from the quarter window opening may escape. A check also should be made from inside the car. Pieces of trim, paper, or other material may have been accidentally dropped behind the panels and may be lying over the drain holes. This also would stop the water drainage and any foreign materials should be removed.

Figure *91* shows the rear quarter panels before starting the sealing operations and water shield installation. You will note that a pocket exists at circle "A" where the lower end of the drain flange is welded to the upper rear corner of the lining panel. It is very important that this pocket be completely filled with "dum-dum." When this pocket is filled, water entering the window opening and following the drain flange will be directed to the outside of the lining panel instead of accumulating in the pocket and falling to the inside of the panel.

Circle "B" indicates a point at which an opening may be found. If there is an opening, it should be plugged and sealed with "dum-dum" applied from the underside of the car.

The seams behind the window frame panel, the drain flange, and the lining panel should be sealed along their entire length indicated by the shaded area shown in figure *92*. Sealer also should be applied at the welded joints indicated by the shaded area shown in figure *93*.

After the seams and openings have been completely sealed, the water shields may be installed. The first step is to break the spot weld at circle "C", figure *91*, and bend the upper end of the drain flange away from the window frame panel approximately 1/8 inch.

Cut patches from one of the large water shields and cover the two holes and the large rectangular opening as shown in figure *94*. Note that the lower front corner of the patch covering the rear hole is behind the upper end of the drain flange where the spot weld was broken.

These patches may be cemented to the panel using the same cement as that used for cementing rubber weatherstrips. The cement should be applied both to the face of the panel and to the back of the patches. Allow the cement to dry until it becomes tacky and then cover the openings.

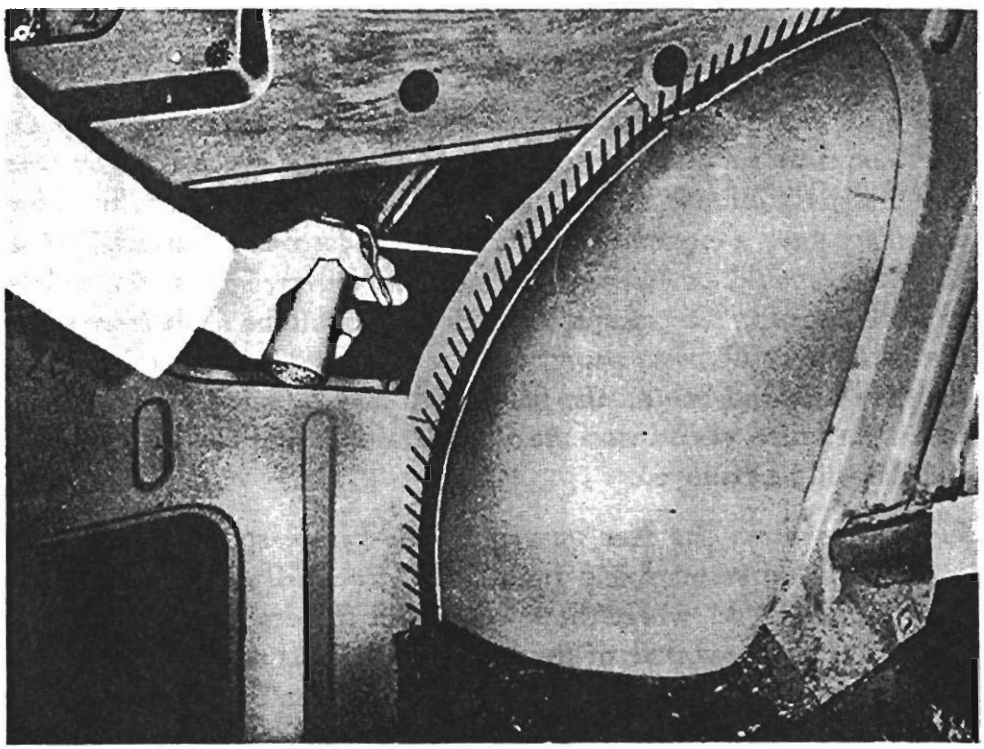


Fig. 92—Apply Sealer the Entire Length of the Seam Between the Drain Flange and the Lining Panel.

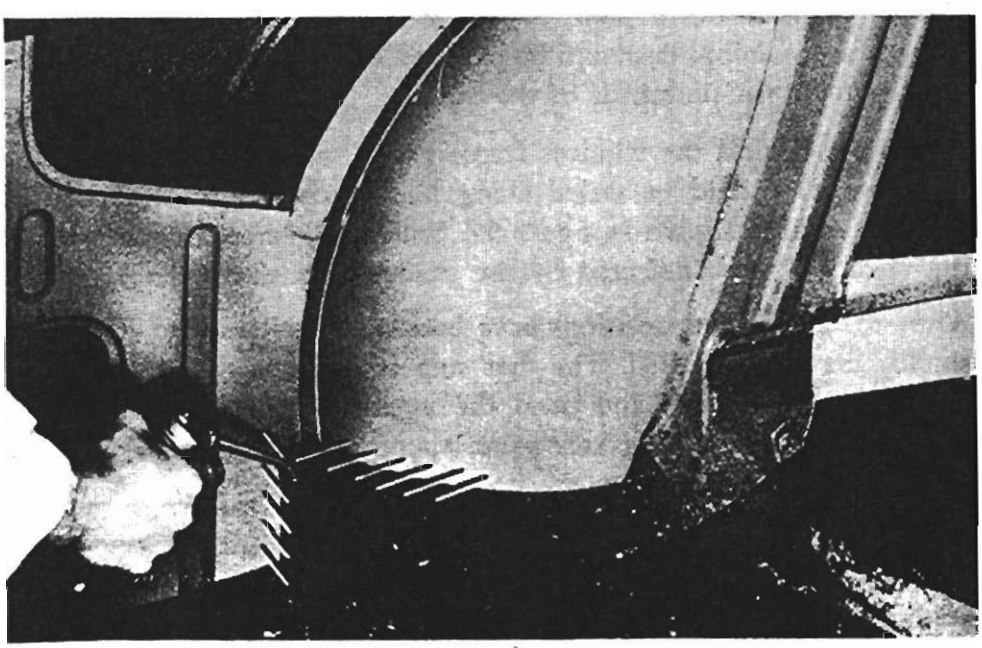


Fig. 93—Apply Sealer Between the Floor Panel and the Wheel House and the Inner Panel.

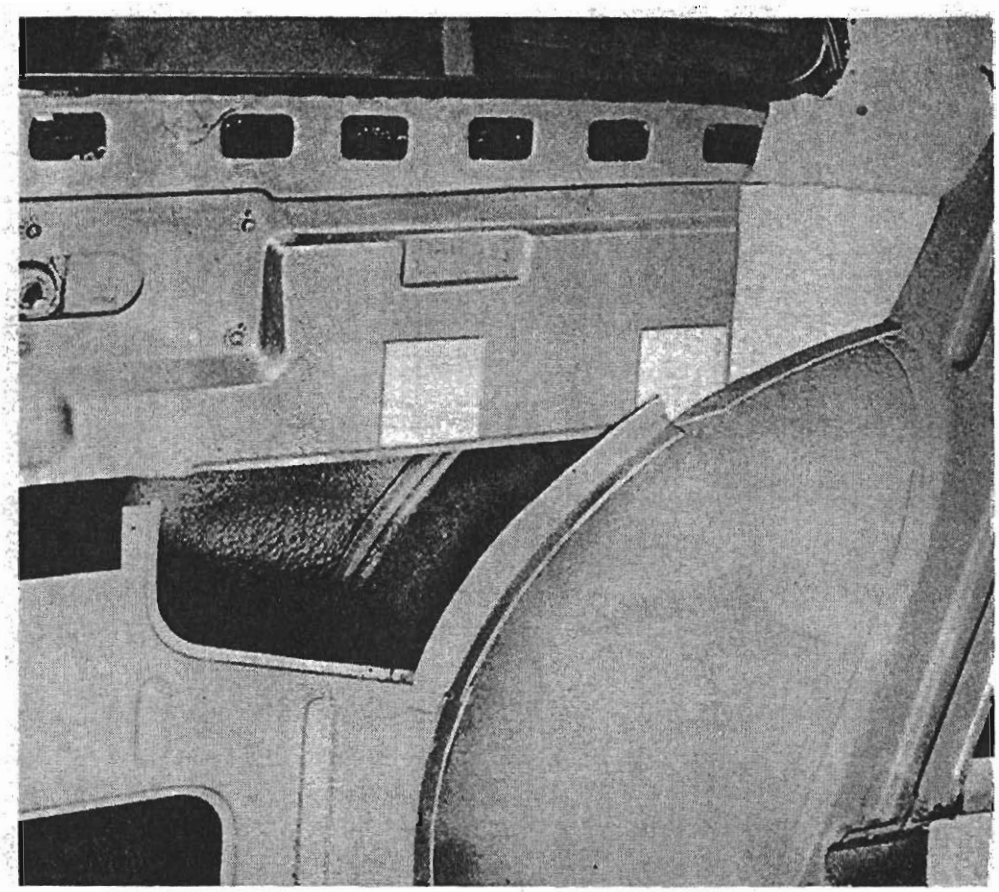


Fig. 94—Patches Cut From the Large Water Shield Are Installed Over the Three Holes as Shown.

The large water shield now should be installed. Apply cement to the face of window frame panel, cementing over the patches which cover the two holes. The raised or protruding faces of the panel should be completely coated with cement. It is not necessary to apply cement to the channels or indented sections of the panel. However, it is very important that cement be applied behind the panel over the area indicated by the shaded section "D", figure *91*.

The upper portion of the large water shield also should be coated with cement. Extend the cement low enough so that the shield is cemented approximately 2 inches below the lower edge of the frame panel after the shield has been placed on the face of the panel and smoothed out. This cemented section then should be pushed up or folded behind the panel and pressed to the previously cemented section behind the panel as shown in figure *95*. It is vitally important that the fold in the shield extend upward approximately one inch, otherwise the shield will be punctured by the arm rest hook when the trim panel is installed.

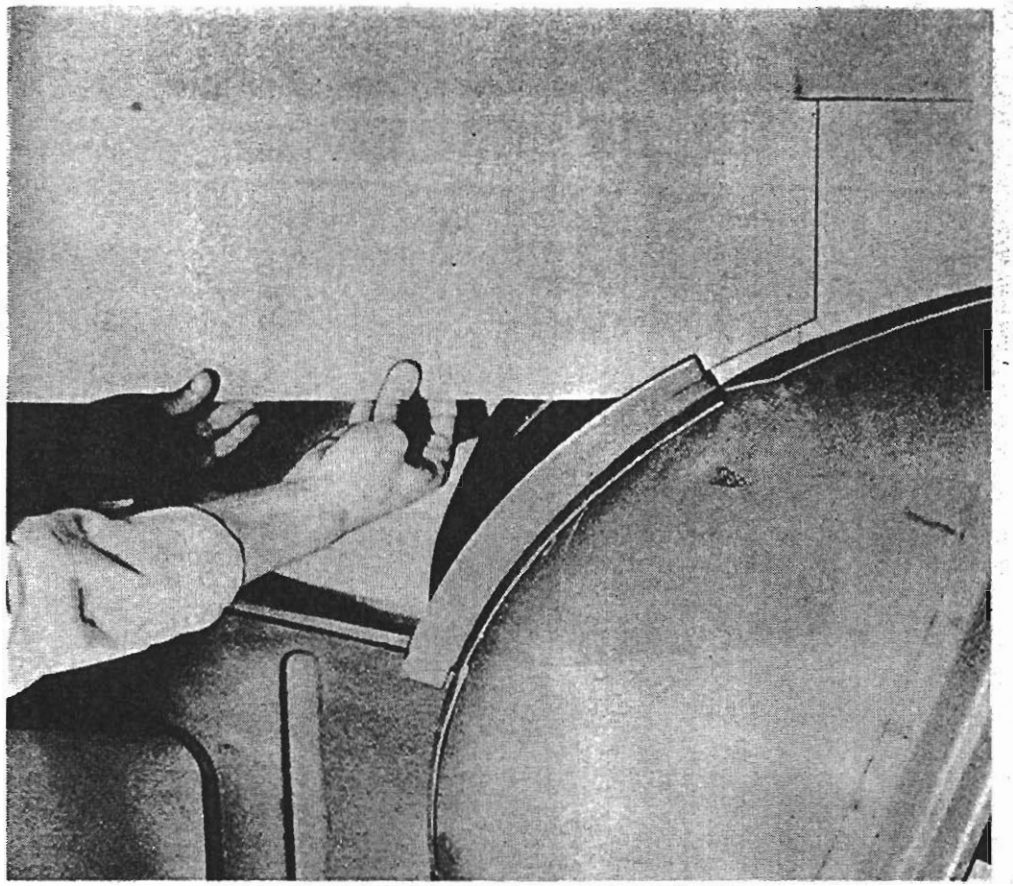


Fig. 95—Fold the Water Shield Upward About 2 Inches Along the Cemented Section on the Inside of the Inner Panel.

Figure *96* shows the lower water shield cemented into place. Note that the forward edge of the shield contacts the edge of the windcord tacking strip and that the upper end of the shield overlaps the large shield approximately one inch.

After the lower water shield has been installed, locate the trim panel fastener openings by pressing along the forward edge of the upper and lower water shields. The round openings for the fasteners can easily be felt through the shields. As each opening is located, puncture the shield at the opening using an ice-pick or scratch-awl.

Before installing the trim panel, recheck the fold in the shield, as shown in figure *95*, to make sure that this section is properly cemented to the back of the panel. To install the trim panel, bend the lower end of the panel inward, as shown in figure *97*, while pushing the panel to the rear and upward to engage the armrest hook. When properly positioned, snap the panel fasteners into place and reinstall those parts which were removed to gain access to the rear quarters.

Sealing Convertible Tops

When leakage is noticeable at convertible top deck cover seams, belt

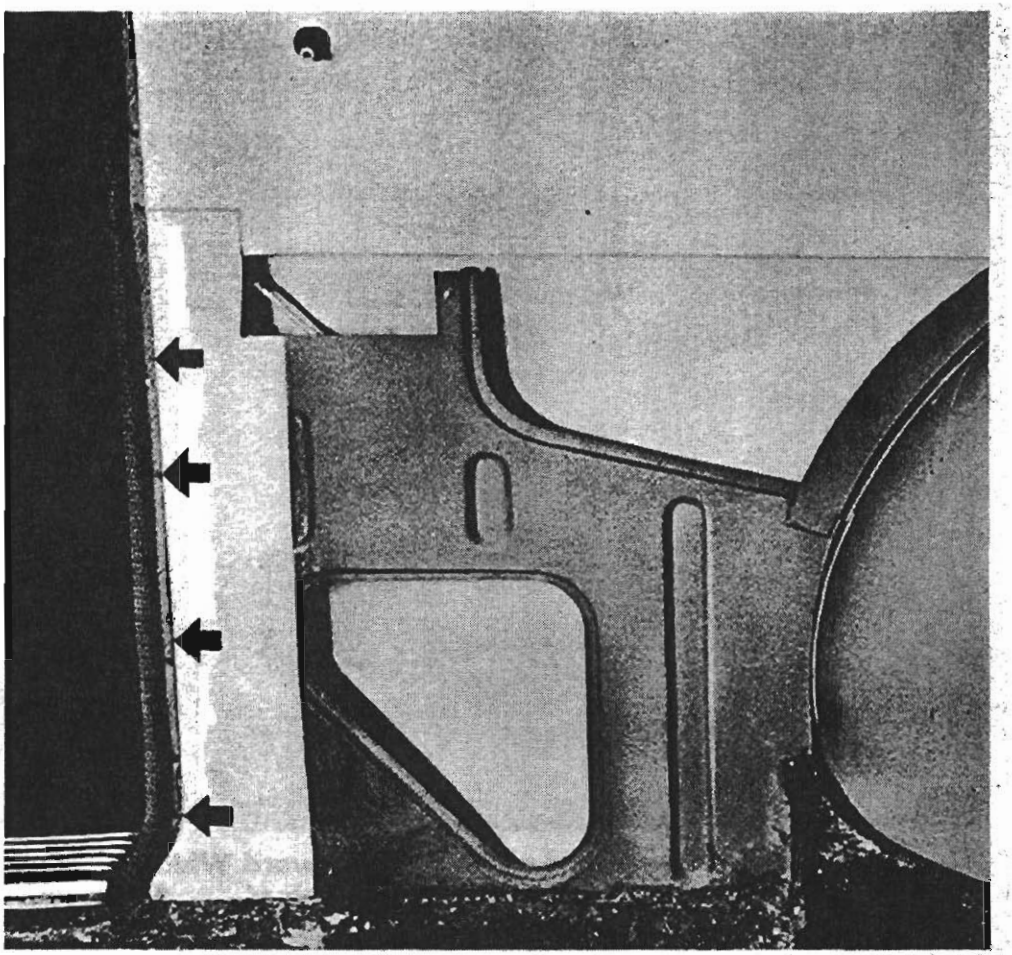


Fig. 96—The Lower Water Shield Contacts the Edge of the Windcord and Overlaps the Large Shield.

rail mouldings, or top front header trim mouldings, a transparent sealer (Part Number 410467) should be used.

To seal the top deck seams, raise or lower the top to the position where tension on the top fabric is released. Pull down the side quarter pads and place the sealer tube nozzle against the stitch line. See figure 98. Apply sufficient sealer to make a water tight joint along the entire seam. Rub off excessive sealer, using a clean, dry cloth.

Leakage at the stainless steel belt rail moulding may be sealed by the following method:

Working at the top well, remove the three screws (See figure 99) at both ends of the well rear trim panel, and pull the trim panel inward to unfasten the snaps. Loosen the belt moulding retaining nuts (See figure 100) so the moulding can be pulled approximately 1/8 inch away from the body. Insert the sealer tube nozzle between the moulding and the body as shown in figure 101 and apply sealer the entire length of the moulding.

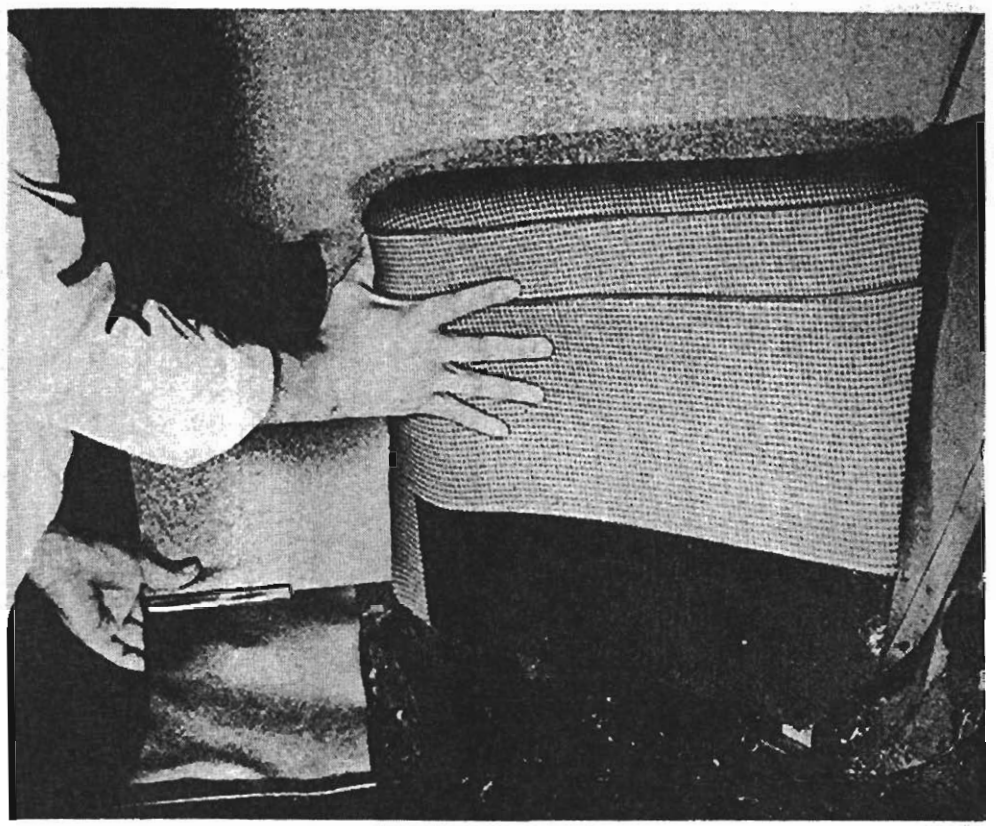


Fig. 97—Bend the Lower End of the Panel Inward While Pushing the Panel to the Rear and Upward.

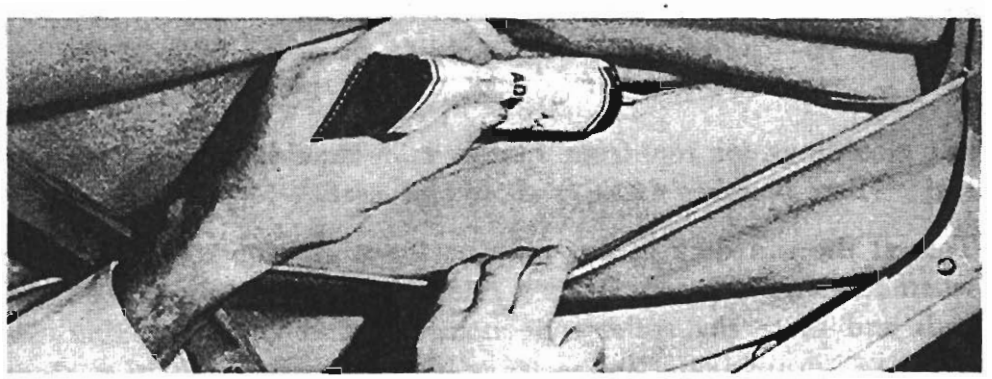


Fig. 98—Pull Down the Side Quarter Pads and Place the Sealer Tube Nozzle Against the Stitch Line.

After this operation has been completed, tighten the moulding retaining nuts, and reinstall the well rear trim panel.

Leakage around the header trim mouldings may be corrected by the following method:

Using a small screwdriver, pry off the header trim moulding clip. Take out the header trim moulding retaining screw at the outer end of each moulding, and insert a screwdriver between the moulding and the moulding retainer. Pry the moulding off the retainer.

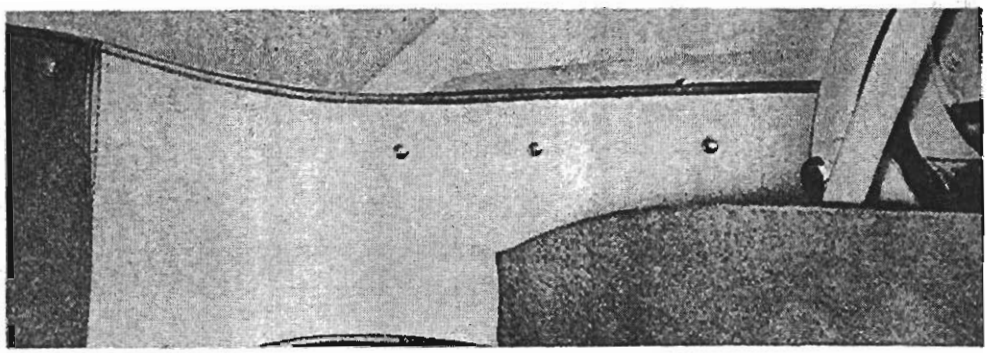


Fig. 99—Remove the Three Screws at Both Ends of the Well Rear Trim Panel.

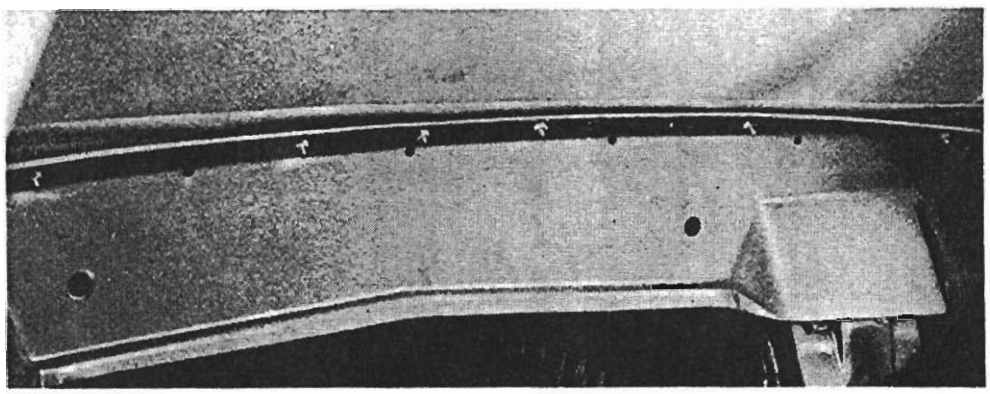


Fig. 100—Loosen the Belt Moulding Retaining Nuts So the Belt Moulding Can Be Pulled Out About ⅛ Inch.

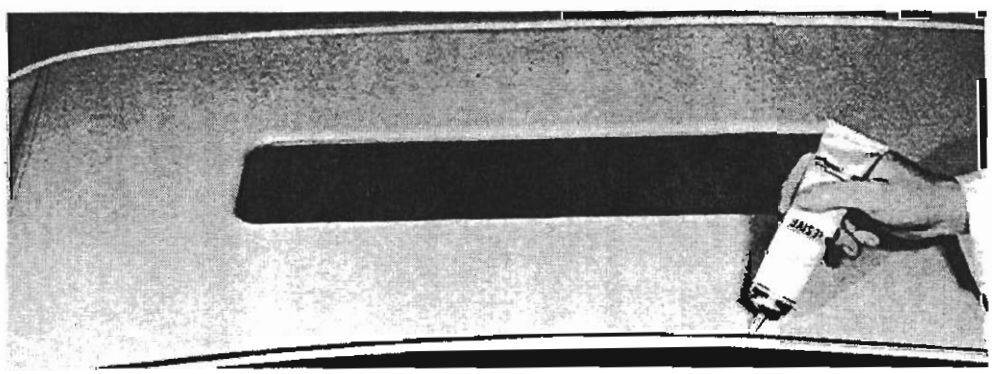


Fig. 101—Insert the Sealer Tube Nozzle Between the Moulding and the Body and Apply Sealer.

CAUTION

Care should be exercised when removing and replacing mouldings to avoid bending them excessively.

Loosen the retainer screws until there is sufficient room to insert the sealer tube nozzle between the retainer and the top. Apply sealer the entire length of the retainers, and retighten the retainer screws.

After applying sealer, reinstall the mouldings and the moulding clip.

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