SECTION 13-C
WINDSHIELD AND WIPER
CLOSED BODY WINDOWS AND VENTILATORS

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SERVICE BULLETIN REFERENCE

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13-14 WINDSHIELD WIPERS

a. Description of Series 40 Windshield Wiper

The Series 40 windshield wiper motor is mounted under the cowl, forward of the instrument panel. The motor operates the wiper blades through flat metal links which are part of the windshield wiper transmission assemblies. All bushings in the operating links are rubber mounted to reduce noise.

The wiper motor is controlled by a valve located on underside of instrument panel which is operated by a knob above instrument panel at top center. The control valve has three connections for attachment of rubber hoses. One hose connects to the manifold vacuum pipe and the other two hoses connect to the wiper motor. See figure 13-23.

The windshield washer, if installed, is operated by a separate control located on instrument panel.

b. Description of Series 50-70 Windshield Wiper

Series 50-70 use a cable drive windshield wiper installation. The wiper motor is mounted on the front side of dash in engine compartment and it operates the wiper transmissions through flexible steel cables. Location of the

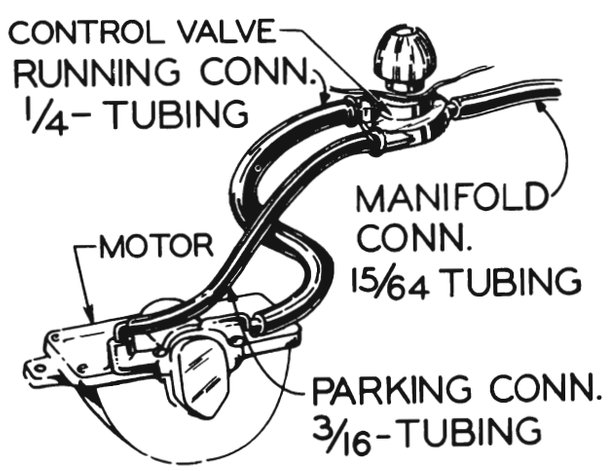

Figure 13-23—Windshield Wiper Motor and Control Valve—Series 40

motor in front of the dash insulates all noise of operation from the driving compartment.

The wiper motor is attached by two screws to a driver assembly mounted on the front face of dash panel. The T-shaped rear end of the motor shaft seats in a socket on front end of a short shaft in the driver assembly. The rear end of the driver shaft, which extends through the dash into driving compartment, has a cross lever with swivel connectors for attaching the transmission cables. See figure 13-24. The connection between the motor shaft and driver shaft is insulated with a rubber saddle, and the screws which attach the driver to dash

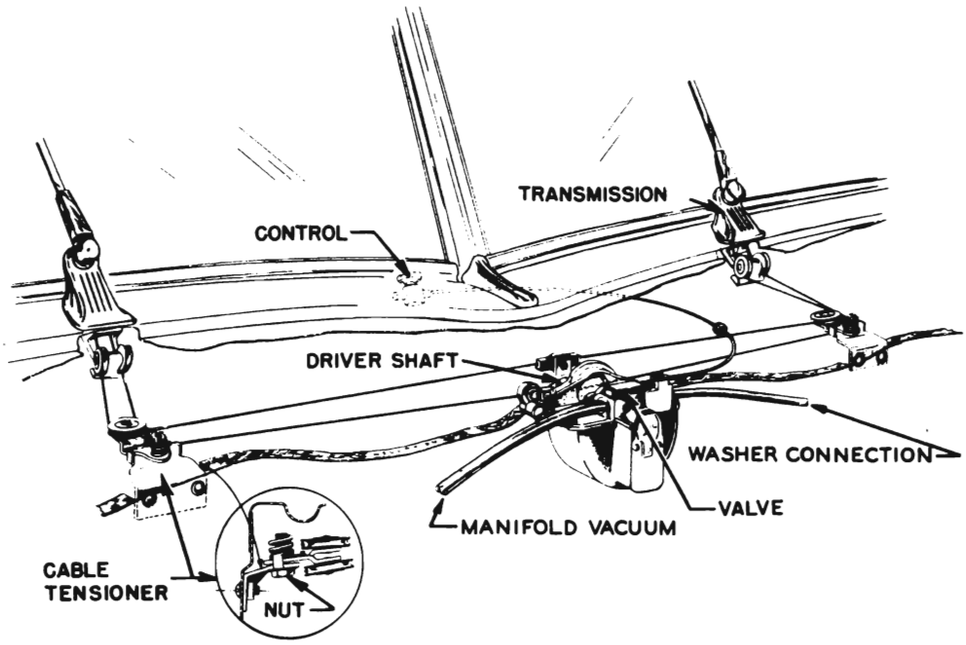

Figure 13-24—Windshield Wiper Installation—1948 Series 50-70

panel are insulated with rubber bushings to prevent transmission of noise.

One end of the cable which actuates each windshield wiper transmission is attached to the swivel connector on one end of driver shaft lever and the other end of cable is attached to connector on opposite end of lever. The loop of the cable runs outward and around pulleys on a cable tensioner mounted on rear side of dash panel, then rearward and around idler pulleys on transmission housing and upward around a driven pulley mounted on a shaft in housing. The cable is clamped to the driven pulley to insure positive drive and the cable tensioner provides adjustment for proper cable tension. See figure 13-24.

The tube which connects the wiper motor to engine intake manifold is attached to a valve on the motor. The motor valve is actuated by a bowden cable extending from a control mounted at center of instrument panel with the control knob located above the panel. The windshield wiper is operated by turning the control knob clockwise.

Refer to paragraph 11-9 for information on windshield washer connections and operation.

c. Windshield Wiper Cable Lubrication and Adjustment—Series 50-70

The cables must run true on the cable tensioner pulleys so that they do not chafe on sides of pulley groove. When the cables do not run true, the corrective procedure is to manually bend the tensioner assemblies upward or downward as required.

The windshield wiper cables require occasional lubrication, preferable each time the chassis and body is lubricated. Wipe a few drops of light engine oil on cable where they pass over the tensioner pulleys.

CAUTION: *Windshield wiper blades must not be rotated by hand for any reason as this places an undue strain on the cable fastenings.*

1948 Series 50-70 windshield wiper cables must be adjusted whenever they become slack, otherwise excessive wear or possible jumping off pulleys may result. To adjust either cable for proper tension, loosen the nut on lower side of cable tensioner and tap lightly to unseat lock washer. See figure 13-24. As the nut is loosened, the spring on cable tensioner will move pulleys to automatically take up any slack in cable. Tighten the nut firmly to hold pulleys in proper position. Each side must be adjusted separately.

1949 Series 50-70 windshield wiper cables do not require adjustment as each cable tensioner automatically keeps all slack out of cables by means of a spring and ratchet. See figure 13-26.

d. Removal and Installation of Windshield Wiper Transmission—1948 Models

1. Remove blade and arm from wiper transmission.

2. Disconnect the fan-shaped windshield defroster vent on underside of cowl by removing two screws and drop vent down out of position. For removal of right hand transmission, also remove the instrument panel compartment (glove box).

3. On *Series 40*, remove wiper link retainer and disconnect links from wiper motor.

3a. On *Series 50-70*, loosen cable tensioner nut, push tensioner pulleys toward center of car and tighten nut to provide slack in cables, slip cables off pulleys, then disconnect cables from driver shaft lever.

4. Remove hex head bolt and retainer which holds the wiper transmission to cowl, then lift out the transmission with link or cable attached.

5. Before installation of transmission, clean off all old cement from contacting surfaces of cowl, gasket, and transmission using a cloth moistened with benzine, carbon-tetrachloride or white gasoline. Allow to dry thoroughly.

6. Apply a coating of 3-M Rubber Adhesive (par. 13-4) to all contacting surfaces of transmission, gasket, and cowl and allow to dry until "tacky" (about 10 min.). CAUTION: *Do not install parts while cement is wet as gasket may slip out of position and cause water leak.*

7. Install transmission by reversing procedure for removal. Make sure the transmission gasket is centered properly with transmission housing and is sealed to both the cowl and transmission housing.

7a. On *Series 50-70*, the transmission cables must be properly placed on tensioner pulleys and properly connected to driver shaft lever. Referring to figure 13-24, note that the right hand end of each transmission cable passes around the upper pulley on cable tensioner and connects to the upper end of driver shaft lever. The left hand end of each transmission cable passes around the lower cable tensioner pulley and connects to the lower end of driver shaft lever. While holding cables in pulleys, loosen tensioner nut to allow tensioner to take up slack in cables, then tighten nut. CAUTION: *Do not allow tensioner to snap against cables.*

8. Before installing wiper arm and blade, operate the windshield wiper and then stop it to obtain the proper parked position. Install arm and blade so that blade just clears windshield reveal molding in parked position. NOTE: *Service wiper arms are adjustable for length.*

e. Removal and Installation of Windshield Wiper Transmission—1949 Series 50-70

The transmission shaft extends upward through the windshield rubber channel and the reveal molding. A driving burr which is pressed on the splined upper end of the shaft for attachment of the wiper arm must be removed with a special tool whenever the transmission or the windshield reveal molding is to be removed.

1. Remove blade and arm from driving burr on wiper transmission shaft.

2. Remove adapter screw from handle of Burr Remover and Replace J 2682 and thread it into the end of transmission shaft, then install the tool so that clutch end of barrel grips the under side of driving burr. See figure 13-25.

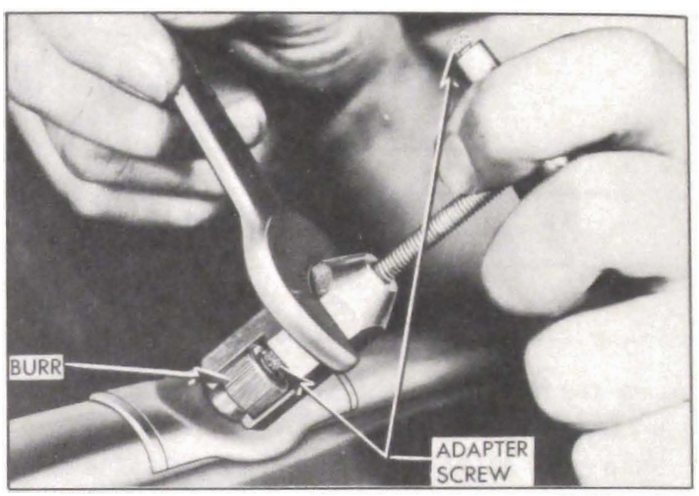

Figure 13-25—Pulling Driving Burr from Transmission Shaft

3. Holding the barrel of tool stationary with an open end wrench, turn handle of tool *counterclockwise* until burr is removed.

4. Apply slight pressure to cable tensioner ratchet spring, then rotate upper section until a 1/8" pin can be inserted through the holes in upper and lower sections to remove spring pressure from the cables. See figure 13-26. Disconnect cables from wiper driver shaft lever.

5. Remove two attaching bolts and lower the transmission out of position and remove.

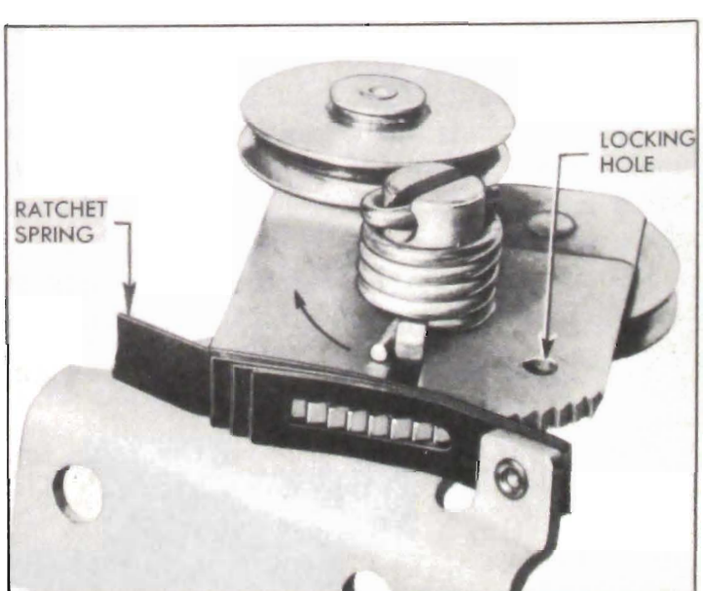

Figure 13-26—Cable Tensioner—1949 Series 50-70

NOTE: *For removal of right hand transmission the instrument panel compartment (glove box) must be removed.*

6. Before installing transmission coat the shaft with liquid soap to aid in inserting it through the windshield glass channel. Install transmission by reversing removal procedures.

When connecting the transmission cables, attach the right hand end of cable to upper end of driver shaft lever, and attach left hand end to lower end of lever. Pass the right hand loop of cable over the upper pulley on cable tensioner and pass the left hand loop over the lower pulley.

8. While holding cables in pulleys, apply slight pressure to cable tensioner ratchet spring and rotate upper section to remove pressure from temporary locking pin which will then fall out of holes. Slowly release upper section until cables are tight, then release ratchet spring. CAUTION: *Do not let upper section snap against cables.*

9. Always install a new driving burr on upper end of transmission shaft and use Remover and Replacer J 2682 to press it into position. The bore of a new burr is not serrated; the splined shaft cuts serrations in the softer metal of burr during installation.

10. Reverse the barrel on handle of tool J 2682 so that tapered end of barrel is toward threaded pilot of handle. Carefully place new driving burr on shaft so that it is squarely aligned, then screw the threaded pilot of tool handle into end of transmission shaft.

11. Holding handle of tool stationary, carefully and gradually turn the barrel *counterclockwise* with an open end wrench until the driving burr has been pressed flush with end of shaft. See figure 13-27.

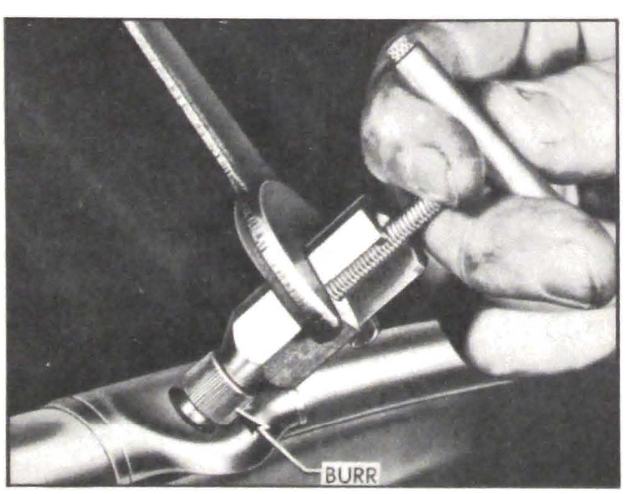

Figure 13-27—Installing Driving Burr on Transmission Shaft

12. Before installing wiper arm and blade, operate the windshield wiper and then stop it to obtain the proper parked position. Install arm and blade so that blade just clears windshield reveal molding in parked position.

13-15 WINDSHIELD GLASS REPLACEMENT—1948 MODELS

a. Windshield Glasses, Rubber Channels and Moldings

A pinch welded flange around the entire windshield opening and a center division bar welded to cowl and roof panels provide surfaces against which the windshield glasses and rubber sealing channels are assembled. A molded rubber sealing channel is cemented over the pinch welded flange and the center division bar and the channel is covered on outside by chrome plated reveal and division outer moldings. The two laminated safety plate windshield glasses are set in a molded rubber glass channel which is pressed against the reveal molding sealing channel by the two piece windshield garnish molding and the center division inner molding. See figure 13-28. Sealing compounds are used to insure water-tight joints between the rubber channels and the glasses and pinch welded flange.

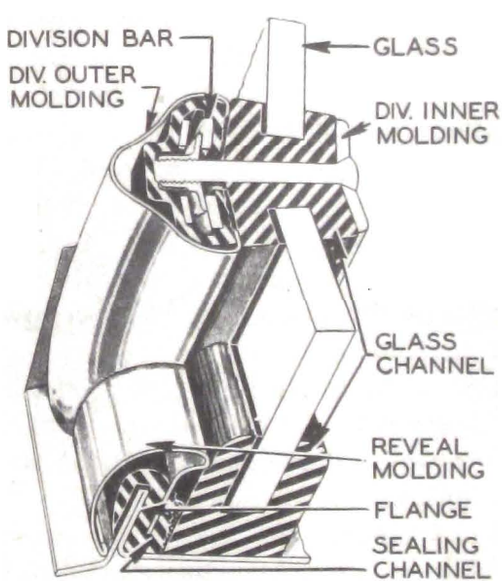

Figure 13-28—Cross-Section of Windshield at Center Division Bar—1948 Models

b. Windshield Water Leaks

Water leaks at the windshield may be caused by imperfect sealing of glass in its rubber channel or imperfect sealing of the reveal molding sealing channel. A water leak which appears to originate in the windshield also may be caused

by imperfect sealing of windshield wiper transmission gasket (par. 13-14, *d)*.

Water leaking between windshield glass and its rubber channel may be corrected by forcing 3-M Rubber Adhesive (par. 13-4) between the glass and outer lip of the channel, using Cement Gun B 182-A.

For minor water leaks around the windshield glass channel it may only be necessary to loosen the windshield glass and channel out of its opening sufficiently to reseal. In case of a major water leak, however, it may be necessary to completely remove the windshield, including reveal and division outer moldings and sealing channel in order to insure proper sealing of all joints. Sealing instructions are given in subparagraph *e*, below.

c. Removal of Windshield Glass

The following procedure covers complete removal of both windshield glasses, exterior moldings and sealing channel. If only one windshield glass is to be removed, follow the procedure through Step 5 only, leaving opposite half of garnish molding in place to support the glass which is not being removed.

1. Apply masking tape along the top edge of the instrument panel adjacent to the windshield garnish molding to protect the finish.

2. Remove escutcheons at top and bottom center of windshield garnish molding, then remove the garnish molding.

3. Remove the rear view mirror and the center division inner molding.

4. Run a putty knife around windshield opening between the chrome reveal molding and the glass channel to break the seal, using care to avoid damaging the rubber channel. Gently force the glass and channel toward inside of car and remove.

5. Run putty knife between glass and outer lip of channel to break seal and remove glass from channel. Use care to avoid damaging rubber channel.

If it is necessary to remove the reveal molding or sealing channel, continue with the following steps.

6. Starting at the top, work along one side of the division outer molding with a stiff blade putty knife and pry gently until molding is removed.

7. Remove chrome reveal molding by prying downward at the top center to start it and then disengaging molding from rubber channel clear around the opening.

8. Remove the reveal molding sealing channel where wrapped around the center division bar, also gently remove this channel from the pinch welded flange of the windshield opening.

9. Thoroughly clean off old cement and sealer from pinch welded flange and the rubber channels, using a cloth moistened with benzine, carbon-tetrachloride, or white gasoline. Allow to dry thoroughly.

d. Inspection for Cause of Glass Cracking

If a windshield glass cracks, other than by accident, the cause of the breakage should be determined and corrected before another glass is installed.

The reason that a windshield glass cracks is because it is placed in a strain due to a high spot in the mounting. This strain becomes emphasized upon tightening the garnish molding screws or by wind pressure, extremes of temperature, or the motion of the car.

After cleaning out all old sealing compound, check the windshield opening for true alignment. Use a new windshield glass as a template by placing it in the opening and flat against the pinch-welded flange. The glass should lie flat without tilt or rock; use a feeler gauge to check all around for high spots or depressions in flange.

If high spots or depressions are found, straighten the flange with a calking tool and hammer. It is very important to true up the flange so that the glass will lie in a flat plane when installed.

e. Installation of Windshield Glass

After inspection of windshield opening as described above, use the following procedure to install windshield parts, starting with Step 4 if only one glass was removed.

1. Install reveal molding sealing channel by first wrapping the center section around the center division bar and then place the outer lip over the pinch-welded flange around the windshield opening, pressing it firmly and evenly into positon. **Ths is important.**

2. Apply a ribbon of 3-M Rubber Adhesive (par. 13-4) with the nozzle of the sealing gun up under the lip of sealing channel all around the windshield opening and under both top and bottom ends of the center division section. See figure 13-29.

3. Install the chrome reveal molding, starting at top center and working rear edge down into inner lip as installaton proceeds around

window opening. Install center division outer molding, starting at top end and snapping into place.

4. Lay a ribbon of 3-M Auto Body Sealer in the enclosing lips of the reveal molding sealing channel where wrapped around the center division bar. The sealer should extend the full length of the division bar. Also lay a heavy bead of this sealer on the rear side of the sealing channel entirely around the windshield opening. See figure 13-29.

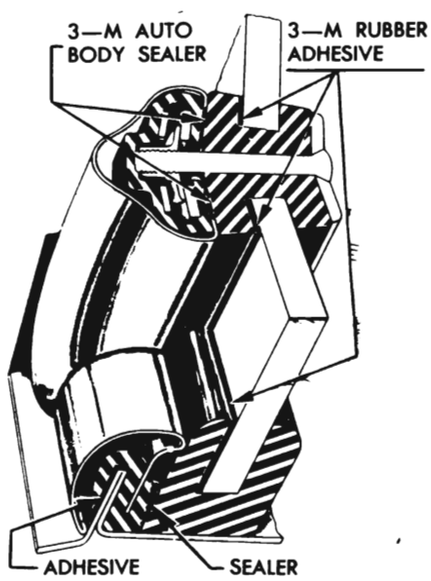

Figure 13-29—Location of Sealing Compounds

5. On a bench install both halves of the windshield glass in the windshield glass channel. Tie the rubber channel to the glass with twine so it will be held in place until installed in windshield openings. Cement the outer lip of channel to the glass with 3-M Rubber Adhesive applied with Cement Gun B 182-A.

6. Install glass and rubber channel assembly in body opening and remove twine. Press assembly firmly and evenly to place in the opening, causing the sealer to embed it into place.

7. Install center division molding, windshield garnish molding, escutcheons and rear view mirror.

8. Clean off all excess sealing compound with carbon tetrachloride used sparingly. Remove masking tape from instrument panel.

13-16 WINDSHIELD GLASS REPLACEMENT—1949 SERIES 50-70

a. Windshield Glasses, Rubber Channels and Moldings

The windshield construction on 1949 Series 50-70 differs from prior models in a number of important details. The glasses are curved and are mounted in a new type rubber channel which permits replacement from outside of the body. The chrome reveal molding and garnish moldings are redesigned and new methods of attachment are used.

The rubber glass channel is molded with three grooves or channels. One groove fits over the pinch-weld flange of the windshield opening, another groove retains the windshield glasses and the third groove contains a rubber filler strip which is inserted by a special tool during installation of glasses. See figure 13-30.

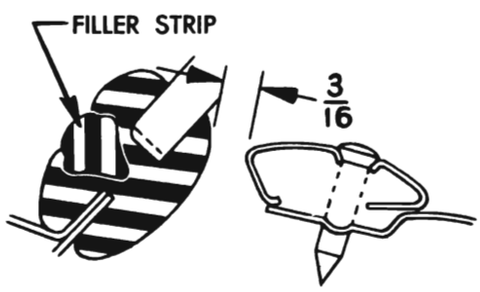

Figure 13-30—Sectional View of Windshield Glass Channel and Moldings—1949 Series 50-70

The chrome reveal molding which covers the glass channel on the outside is of 4-piece construction with the upper sections telescoping under the lower sections to form square outer corners. The molding is attached by clips to retainers which straddle the pinch-weld flange of windshield opening. The center division outer molding snaps over a center division reveal molding retainer which is held in place by a screw at each end. See figure 13-31.

The garnish molding is held in place by screws at top, sides and bottom. A clearance of $\frac{3}{16}$" exists between bottom portion of garnish molding and the glass channel to provide windshield defroster outlets.

b. Removal of Windshield Glass

1. Protect cowl and hood with a suitable covering.

2. Remove windshield wiper arm and driving burr from transmission shaft (par. 13-14, *e*).

3. Remove center division outer molding by carefully prying loose at top end and following downward until molding is removed.

4. Remove screws at upper and lower ends of center division molding retainer and remove retainer. See figure 13-31. NOTE: *In some cases this operation must be done after removal of reveal molding, because of interference.*

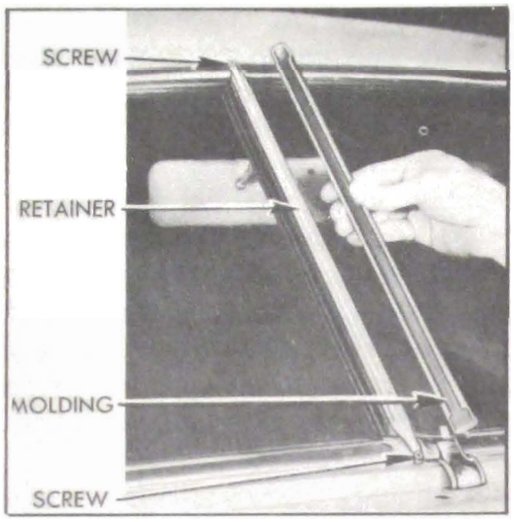

Figure 13-31—Removal of Center Division Outer Molding and Retainer—1949 Series 50-70

5. Starting at top center, remove upper section of reveal molding by inserting blade of putty knife or other suitable tool under upper lip of molding and carefully prying DOWNWARD or toward the glass. Follow around and pry loose at approximately every retainer location.

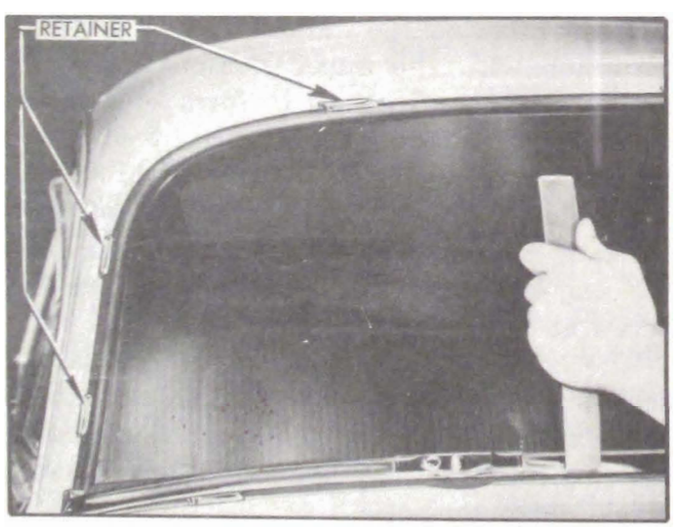

Figure 13-32—Removal of Reveal Molding—1949 Series 50-70

6. Remove bottom section of reveal molding by prying UPWARD toward glass with removing tool. See figure 13-32.

7. Locate the ends of the glass channel filler strip, either at lower corner of windshield or adjacent to center division, and pull filler strip out of groove in glass channel. See figure 13-33. This leaves the glass loose in its channel.

8. Disengage glass from rubber channel and carefully lift it out of opening, working on outside of body. See figure 13-34.

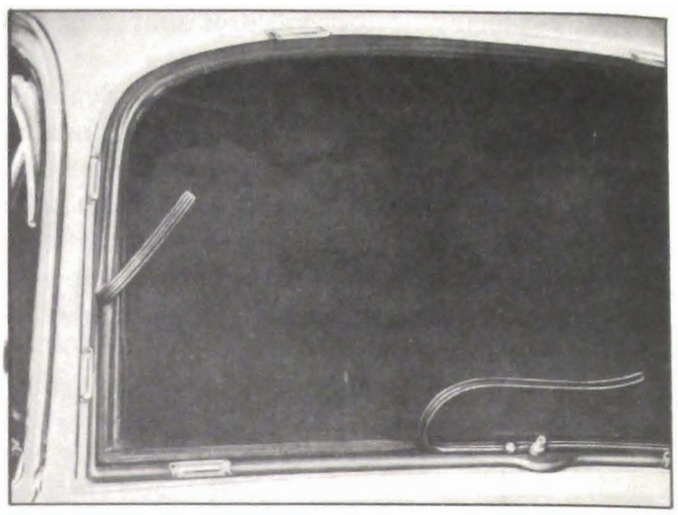

Figure 13-33—Removal of Glass Channel Filler—1949 Series 50-70

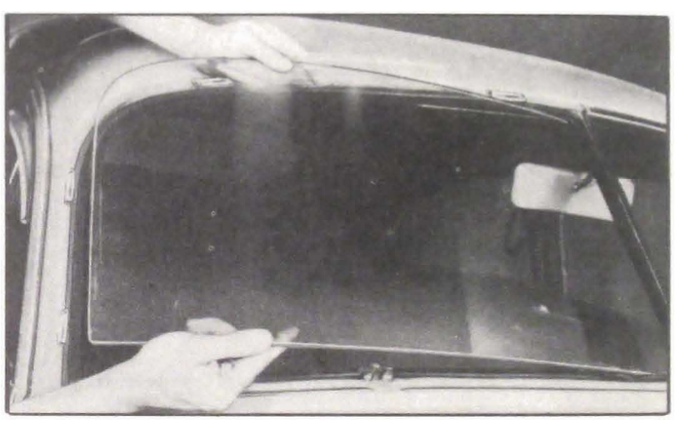

Figure 13-34—Removal or Installation of Windshield Glass—1949 Series 50-70

9. To remove the windshield glass channel, carefully loosen the sealing compound at base of channel with a putty knife then lift up and disengage channel from the pinch-weld flange of windshield opening.

10. Mark the exact location of reveal molding retainers with chalk or masking tape to insure reinstallation in original positions, then remove retainers from the pinch-weld flange.

c. Installation of Windshield Glass

1. Fill the reveal molding retainers with 3-M Rubber Adhesive in the section which fits over the pinch-weld flange. See figure 13-35, view No. 1. Install retainers in their original positions over pinch-weld flange, then apply a bead of 3-M Rubber Adhesive completely around windshield opening and also in the valley and edges of the molding retainers. See figure 13-35, view No. 2.

2. Carefully clean old sealing compound from glass channel and install channel over

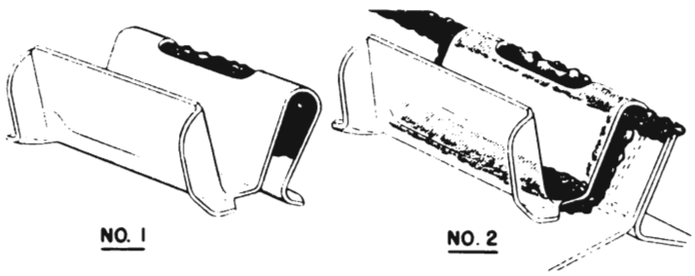

Figure 13-35—Sealing of Reveal Molding Retainers

the pinch-weld flange. pressing it firmly and evenly into place. Apply mild liquid soap in the grooves of channel to aid in installation of windshield glass and channel filter strip.

3. Holding the glass as shown in figure 13-34, first insert the straight end of glass into the groove of the windshield glass channel at the center division, then lower the glass flat against the balance of the channel.

4. With a putty knife or similar flat bladed tool, carefully work the lip of the windshield glass channel over the edge of the glass. Start at the bottom and working towards the side, then up the side and across the top to finish the installation. Using a sealing gun and 3M rubber adhesive (par. 13-4), seal under the extended outer lip of the rubber channel *only in the area directly below the windshield wiper shaft and washer tube;* also, apply a ribbon of sealer to the rubber channel around the circumference of the wiper shaft and washer tube.

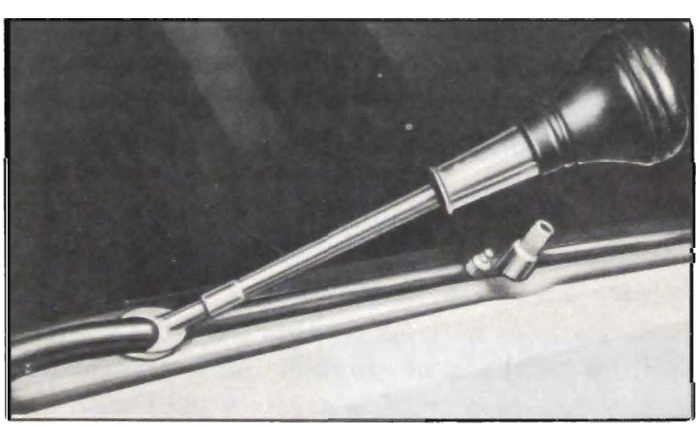

Figure 13-36—Installation of Glass Channel Filler Strip—1949 Series 50-70

5. Insert lower end of the glass filler strip through the eye of Replacer J 2727. Starting at center division, insert end of tool into groove of glass channel and push along to "zipper" the filler strip into place. See figure 13-36. Repeat with upper end of filler strip to complete the installation.

6. Using sealing gun, apply a 1/8" bead of 3-M Rubber Adhesive along the edge of windshield glass channel where the reveal molding contacts the cowl.

7. The installation of reveal molding is the reverse of removal, except that the *upper* section should be installed first. Adjust clips in molding to align with molding retainers, then place molding in position and slide into place. Install *lower* molding, center division molding retainer, and division molding with escutcheon.

8. Install new driving burr on windshield wiper transmission shaft, install wiper arm and blade (par. 13-12).

13-17 BACK WINDOW GLASS REPLACEMENT—CLOSED BODIES

a. 1948 Models

The back window glass is mounted in the same manner as the windshield glasses and the replacement procedure is the same except for the center division which is not used in the back window. Follow the windshield glass replacement procedure given in paragraph 13-15, with attention to the following items:

1. The back window glass is tempered safety plate glass, not laminated. If this glass is scratched or cut in any way disintegration may result.

2. If it is necessary to remove the chrome reveal molding on a sedan it will be necessary to first remove the rear quarter belt molding. Each lower corner reveal molding is attached to the body by two screws located beneath the rear quarter belt molding.

3. When applying 3-M Auto Body Sealer before installation of glass and rubber channel apply extra sealer at the lower corners to insure watertight joints in the area where water collects.

b. 1949 Series 50-70

The back window glass is mounted in the same manner as the windshield glass except for the center division which is not used in the back window.

The replacement procedure is basically the same as for windshield glass (par. 13-16) except for steps concerning windshield wiper and center division outer molding. The following points should be observed during replacement of back window glass:

1. *On Models 56-S and 76-S* remove right hand reveal molding first.

2. *On Models 51 and 71,* the lower reveal molding is formed by a 2-piece (right and left) rear quarter belt molding which must be removed before the upper moldings. Pry loose each section from the snap-on retainers at lower edge of window opening, then slide the curved end of each molding off the retainers at the rear quarter panel.

3. When installing glass, insert lower edge in glass channel first. To make a permanent watertight seal, lay a 1/8" bead of 3-M Rubber Adhesive along the outer edge of glass channel around entire window opening, then install reveal moldings.

13-18 DOOR WINDOWS—CLOSED BODIES

a. Description

All door windows have safety plate glasses. The door window glass slides vertically in felt glass run channels attached to the door with clips and supported by the window garnish molding. Fabric weatherstrips attached to door outer panel and to garnish molding seal the glass along lower side of window opening and assist in preventing vibration of glass.

The lower edge of door window glass is sealed into a metal lower sash channel. A channel-shaped cam or track attached to the sash channel is engaged by knobs on the main and idler arms of the window regulator assembly mounted on door inner panel. A knob on the opposite end of regulator idler arm slides in a channel-shaped regulator cam or track mounted on door inner panel. The cams cause the arms of window regulator to apply evenly distributed pressure on lower sash channel to raise or lower the glass without tilting and binding in glass run channels.

b. Replacement of Glass Run Channel

1. Remove door trim pad (par. 13-20). Remove inspection hole cover from door inner panel.

2. On *1948 models,* release the channel retaining clips in window opening by inserting a thin-bladed tool between door window reveal and channel to compress clip and pry it out. On *1949 Series 50-70,* pry the retaining clips away from the pinch-weld flange of window opening and remove the header section of glass run channel.

3. On *1948 models,* loosen the retaining screw at lower end of channel. On *1949 Series 50-70,* the lower end of channel is attached by a spring clip on channel which engages a hole in channel support on door pillar.

4. Carefully pull glass run channel up to disengage retaining clip at belt and remove channel from door.

5. Install glass run channel by reversing procedure for removal, using care to engage clips at belt in slotted holes in door inner panel.

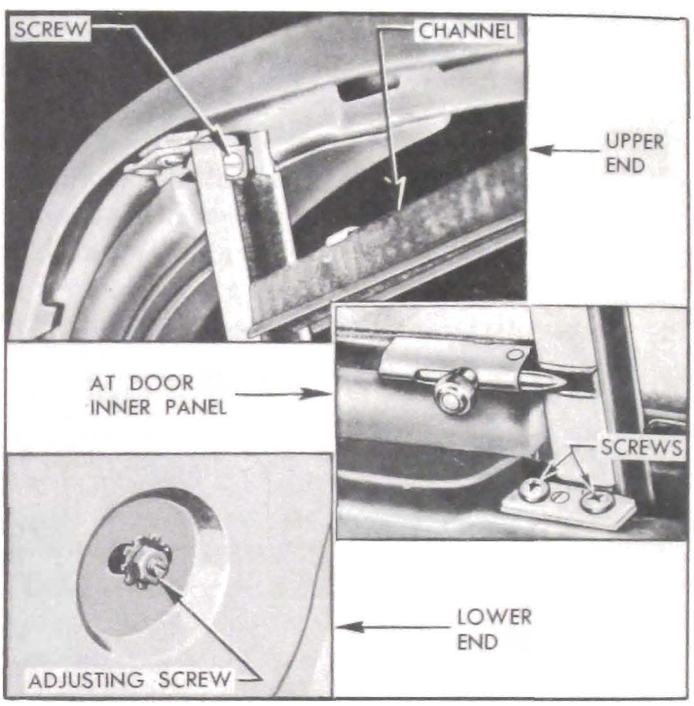

Figure 13-37—Window Division Channel Attachments

c. Replacement of Window Division Channel

1. Remove door trim pad (par. 13-20) and release the clips in the glass run channel adjacent to the window division channel and drop it down out of position.

2. Remove the retaining screw holding upper end of division channel to door header and remove the two self-tapping screws attaching division channel to the top edge of door inner panel. See figure 13-37.

3. Remove nut and adjusting screw at the bottom of division channel, noting before removal the length of the screw projecting out from inner panel. This will aid proper adjustment when installing channel. On rear doors having a division channel, this nut and screw are accessible through the inspection hole in the door inner panel.

4. With the door ventilator open, swing division channel out of position, pull up and remove through the window opening of door.

5. When division channel is installed by reversing procedure for removal, adjust the screw

at lower end of channel to same length as it was before removal. Operate the door window and the ventilator to see whether the division channel is properly positioned for smooth operation of window glass and full closing of ventilator.

If channel is not properly positioned, adjust the lower end in or out, forward or rearward at the screw as required to obtain free movement of window glass. In exceptional cases it may be necessary to slot the holes in bracket where attached to edge of door panel to reduce edgewise play of window glass and obtain proper alignment with ventilator glass.

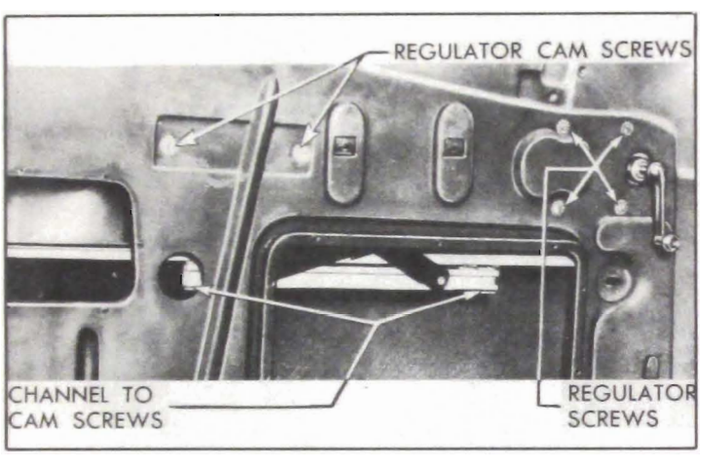

Figure 13-38—Window Regulator and Cam Attaching Screws

d. Replacement of Window Regulator

1. Remove trim pad (par. 13-20). Remove inspection hole cover from door inner panel.

2. With glass in lowered position, remove screws attaching the cam to lower sash channel and remove the cam. See figure 13-38.

3. Remove four screws attaching window regulator, and two screws attaching regulator cam to door inner panel. Remove regulator and cam through inspection hole, using care to avoid scratching window glass.

4. To install regulator and cam, set regulator in place, install cam over knob on idler arm and install regulator and cam attaching screws. The hole in inner panel for cam screw nearest lock pillar is slotted vertically. Set the screw at top of slot when tightening it.

5. After installation of lower sash channel cam, raise and lower window glass several times to check for smooth operation of glass in run channels. If glass binds or has excessive edgewise play it will be necessary to adjust the window division channel (subpar. *b*). If glass tilts edgewise, adjust the regulator cam at slotted screw hole as required. If screw hole nearest lock pillar is not slotted, it may be slotted with a small round file.

6. Install inspection hole cover and door trim pad (par. 13-20).

e. Replacement of Door Window Glass

1. Remove glass run channel (subpar. *b*) and window division channel (subpar. *c*).

2. With glass in lowered position, remove screws attaching the cam to lower sash channel. See figure 13-38.

3. Carefully raise the glass to an almost closed position and tilt inward using care to work out one lower corner at a time to avoid damage.

4. Install glass by reversing removal procedure.

13-19 DOOR VENTILATORS—CLOSED BODIES

Ventilators are located in the V-shaped area of the window openings forward of window glasses in front doors of all models, and to rear of window glasses in rear doors of models 51 and 71. Each ventilator has a safety plate glass sealed into a metal channel which is pivoted vertically.

Front and rear door ventilators in 1948 models and front door ventilators in 1949 Series 50-70 are operated by a regulator mounted on the door inner panel. A bolt type lock riveted to the glass channel provides a lock for the ventilator. See figure 13-40.

Rear door ventilators in 1949 models 51, 59, 71, 79 have a friction mechanism to hold ventilator in desired position and an inside locking handle. The friction mechanism is a part of the ventilator frame and consists of a heavy coil spring mounted on the frame spindle to exert frictional force against the mounting support. See figure 13-41.

When a ventilator is closed it is sealed against passage of wind, water and dust by contact with a molded rubber weatherstrip attached to the door and the window division channel.

a. Ventilator Regulator Adjustments

Excessive play at ventilator lower pivot may be corrected by tightening the clamp screw which attaches the glass channel T-shaft to ventilator regulator. See figure 13-39.

Excessive looseness or tightness in operation of the ventilator regulator may be corrected by adjusting the screw which controls the brake

or friction clamp on the regulator. See figure 13-39.

To tighten the clamp screw or adjust the brake screw it is necessary to remove the garnish molding and loosen door trim pad sufficiently to provide access to these screws (par. 13-20).

If ventilator glass does not fit evenly, up and down, against molding on window division channel, or ventilator lock does not slide to locked position with moderate pressure, it is usually necessary to adjust the division channel. This adjustment, however, should be limited so as not to cause a looseness or binding in the fit of the door window. See paragraph 13-18.

In some cases of misalignment of ventilator in door opening it may be necessary to loosen the ventilator frame and the weatherstrip and shift these parts slightly. When proper alignment is secured the frame must be tightened securely and the weatherstrip must be cemented to window reveal with 3-M Rubber Adhesive (par. 13-4).

If the ventilator frame does not properly contact the weatherstrip at lower rear section, resulting in a water leak, this may be corrected by loosening the ventilator frame lower screws (fig. 13-40) and inserting shims under the frame as required to move the weatherstrip up into contact with ventilator frame. If weatherstrip is loose at reveal molding it must be securely cemented in place with 3-M Rubber Adhesive.

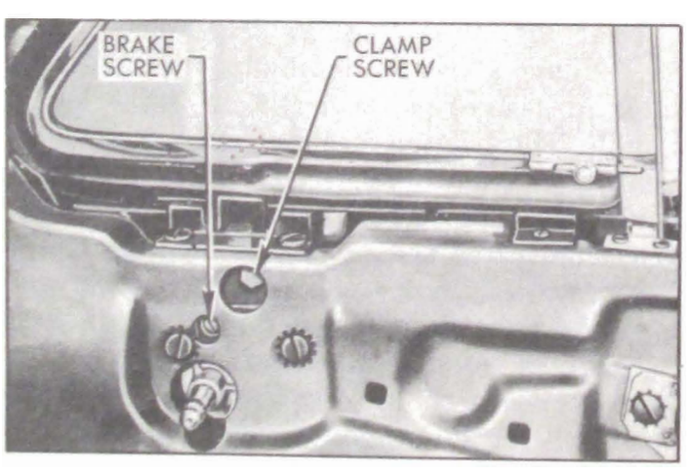

Figure 13-39—Ventilator Regulator Adjustments

b. Replacement of Ventilator Regulator

1. Remove garnish molding and door trim pad (par. 13-20) and remove inspection hole cover located below ventilator.

2. Remove clamp screw which attaches glass channel T-shaft to regulator, also the regulator attaching screws. See figure 13-40.

3. Remove regulator through inspection hole in door inner panel.

4. Install regulator by reversing the removal procedure. Adjust the brake screw (fig. 13-39) to provide proper operating tension on regulator before attaching trim pad.

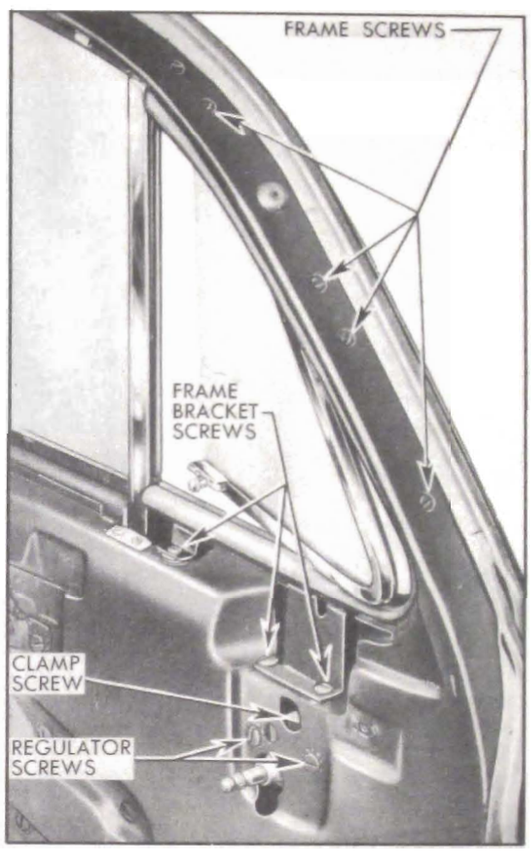

Figure 13-40—Ventilator and Regulator Attaching Screws

c. Replacement of Ventilator Assembly—Regulator Type

1. Remove ventilator regulator (subpar. *b*, above).

2. On *1949 Series 50-70*, remove the window division channel (par. 13-18).

3. Remove screws which attach ventilator frame to door at pillar face and inner panel. See figure 13-40.

4. Carefully loosen weatherstrip where cemented to window reveal, then remove ventilator assembly.

5. When ventilator assembly is installed by reversing removal procedure, cement the weatherstrip to window reveal with 3-M Rubber Adhesive.

d. Adjustment of Rear Door Ventilator—1949 Friction Type

The friction type rear door ventilator should move with moderate pressure and should remain in any position in which it is manually

set. The spring which controls the friction on the ventilator is set at the factory to give the best possible balance between ease of operation and resistance to closing under wind pressure, and usually will not require further adjustment.

If the ventilator does not remain in set position when car is in motion, the spring pressure and friction may be increased by pulling back the door trim pad (par. 13-20) and tightening the nut at lower end of ventilator frame spindle. Always lock the nut with cotter pin after adjustment is completed. See figure 13-41.

If the ventilator operates too hard the spring pressure may be decreased; however, this condition also may be caused by the ventilator glass frame rubbing on the rubber molding. The ventilator may be difficult to close for the same reason. The ventilator glass and frame assembly may be adjusted vertically when there is insufficient clearance between the frame and rubber molding, as follows:

1. Pull back the trim pad (par. 13-20) to expose friction mechanism.

2. Straighten the tongue of lock washer which locks the adjusting sleeve nut on the frame spindle and turn sleeve nut as required to move ventilator in desired direction. See figure 13-41.

3. Since this adjustment will change the tension of the friction spring, turn the nut at lower end of spindle the same amount and in the same direction as the sleeve nut is turned, in order to maintain the original spring tension.

4. After adjustments are completed, lock the spindle nut with a cotter pin, and bend a tongue of lock washer up to lock the sleeve nut.

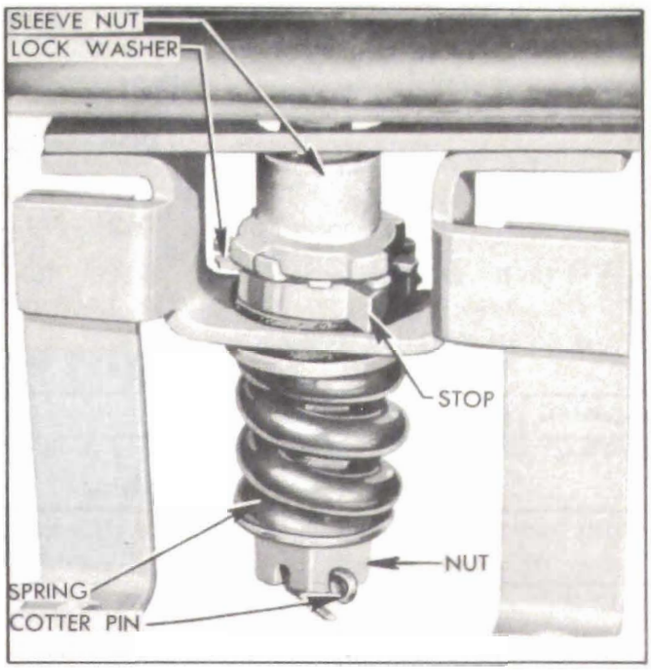

Figure 13-41—Adjustments of Friction Type Rear Door Ventilator—1949 Series 50-70