

## SECTION 2-B FRONT DOORS

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### 2-5 FRONT DOOR ASSEMBLY AND HINGES

#### a. Description

Figure 2-11 is typical of sedan and station wagon style front doors with the trim assembly and inner panel water deflector removed. This illustration identifies the component parts of the front door assembly, their relationship and various attaching points.

Figure 2-12 is typical of the hard top coupe and sedan style front doors with the trim assembly and inner panel water deflector removed. This illustration identifies the component parts of the front door assembly, their relationship and various attaching points.

The front door hinges are the swing-out type with an integral door check on top hinge assembly and a two position hold open on lower hinge assembly. The hinges are attached to the front body hinge pillar and to the door assembly with bolts and anchor plates. Either of two (2) methods may be used to remove the door from the body.

The door and hinges can be removed as an assembly from the body hinge pillar or the door can be removed from the hinge straps.

#### b. Removal of Door Assembly and Hinges

1. Place protective covering over front fender at door opening to protect paint finish.
2. If door and hinges are to be removed from body pillar, additional access may be obtained at lower hinge by loosening front fender lower rear attaching bolt.
3. Mark hinge locations on door or hinge pillar depending on method of removal being used.
4. On bodies equipped with electrically powered window regulators and/or ventilators, proceed as follows:
  - a. Remove door trim assembly and detach inner panel water deflector sufficiently to gain access to wire connector(s) at motor(s).
  - b. Detach wire harness from inner panel as required and disconnect motor(s) from harness at connector(s).
  - c. Remove electric conduit from door and remove wire harness from between door panels through opening in door hinge pillar.

5. With door properly supported, remove bolts securing upper and lower hinges to front body hinge pillar or door hinge pillar. Then with aid of helper remove door assembly from body (see Figure 2-13).

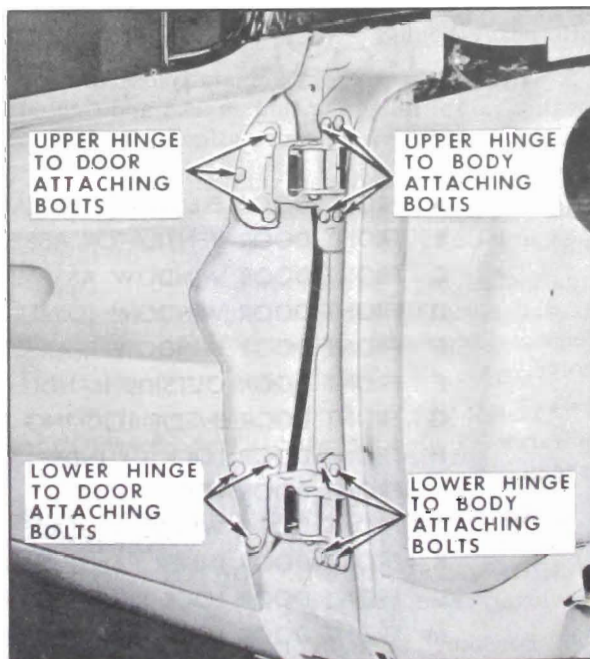


Figure 2-13—Door Hinge Attachment

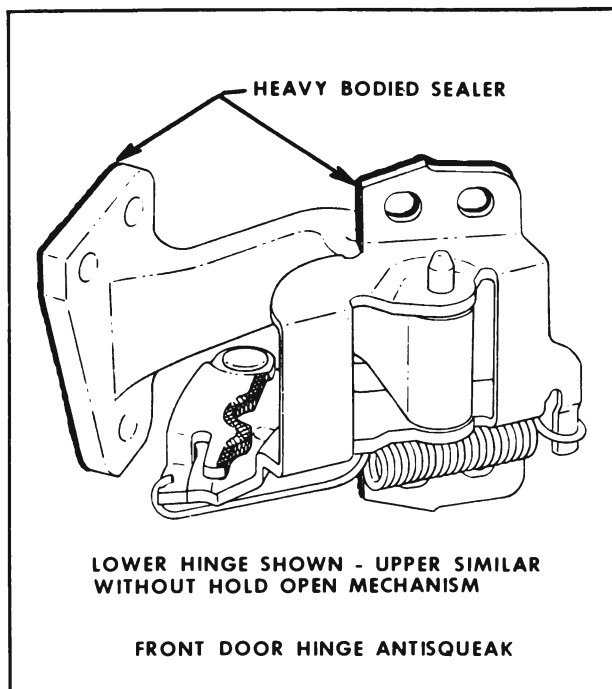


Figure 2-14—Front Door Hinge Anti-squeak

### c. Installation of Door Assembly and Hinges

1. As an anti-squeak precaution, before installing door, coat attaching surface of hinge with heavy-bodied sealer (see Figure 2-14).

2. With aid of helper, reinstall door to body opening, align hinges within marks and tighten bolts. Check door for proper alignment.

3. On bodies equipped with electrically-operated window regulator and/or ventilator, proceed as follows:

a. Install wire harness in between door panels and reinstall harness to door inner panel. Connect regulator motor and/or ventilator motor.

b. Install conduit to door inner panel. Check operation of electric window and/or ventilator assembly.

4. Where required, seal door inner panel water deflector as specified in "DOOR INNER PANEL WATER DEFLECTOR" and reinstall previously removed parts.

5. For lubrication information see "LUBRICATION SECTION".

### d. Adjustments of Door Assembly and Hinges

In and out or up and down adjustments are

provided at door hinge pillar. Fore and aft adjustments are provided at front body hinge pillar.

**NOTE:** After performing any door adjustments on "29", "37", "39", "67" and "99" styles, the front door ventilator and window should be checked for proper alignment with the side roof rail weatherstrip and adjusted, where required. In addition, the door lock extension-to-striker engagement should be checked, and if necessary, adjusted as described under "DOOR LOCK STRIKER ADJUSTMENTS".

1. For in and out or up and down adjustments, loosen hinge to door pillar attaching bolts (see Figure 2-13). Adjust door as required and tighten bolts.

**NOTE:** When performing in and out adjustments, adjust one (1) hinge at a time so as not to lose up and down adjustment.

2. To adjust door fore or aft, loosen hinge to body pillar attaching bolts (see Figure 2-13). Adjust door as required and tighten bolts.

## 2-6 FRONT DOOR LOCKS

### a. Removal and Installation of Front Door Outside Handle Assembly

1. Raise door window. Remove door trim assembly and detach inner panel water deflector

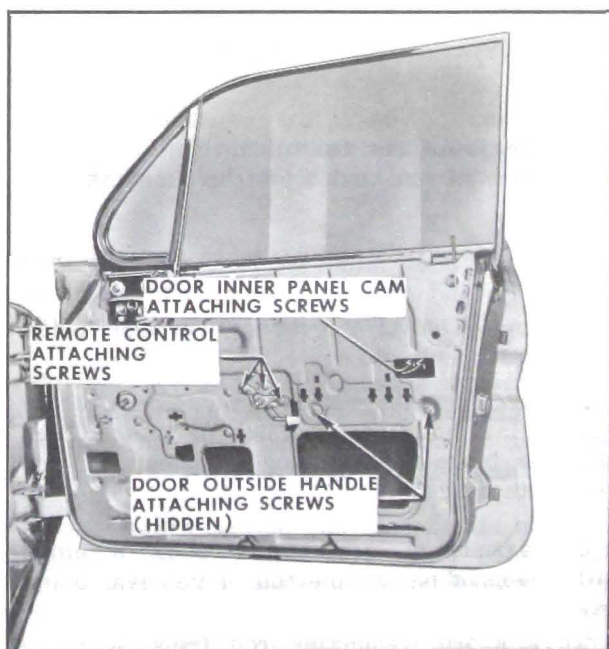


Figure 2-15—Front Door Outside Handle Attachment

sufficiently to expose large inner panel access hole.

2. Through access hole, remove screws securing outside handle to door outer panel and remove handle and gaskets (see Figure 2-15).

3. To install, reverse removal procedure.

#### b. Disassembly and Assembly of Front Door Outside Handle Assembly

1. Remove door outside handle assembly.

2. Depress retainer slightly and turn retainer one quarter turn. Remove retainer, spring and push button and shaft from handle (see Figure 2-16).

3. To install, reverse disassembly procedure.

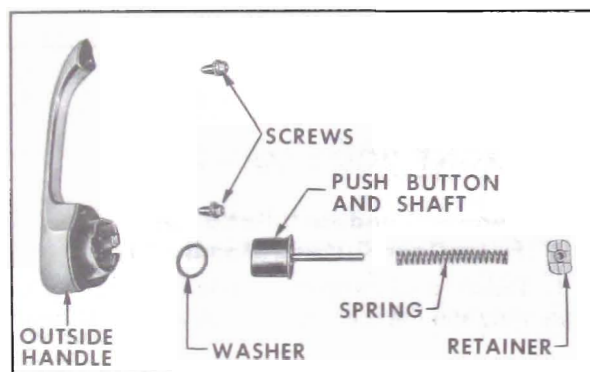


Figure 2-16—Front Door Outside Handle Assembly

#### c. Removal and Installation of Front Door Lock Cylinder Assembly

1. Raise door window. Remove door trim assembly and detach inner panel water deflector sufficiently to expose large access hole.

2. Through access hole, with a screwdriver or other suitable tool, disengage door lock cylinder to lock connecting rod from door lock (see "DOOR LOCK SPRING CLIP").

3. On all except "39" styles, with a suitable flat-bladed tool, slide lock cylinder retaining clip forward from door lock pillar facing sufficiently to permit removal of lock cylinder with attached connecting rod from door. On "39" styles, disengage spring clip from inside of door.

NOTE: Door lock cylinder connecting rod may be removed from lock cylinder as a bench operation or prior to removing cylinder.

4. To install, reverse removal procedure. Check operation of lock cylinder and lock prior to installing inner panel water deflector.

#### d. Disassembly and Assembly of Front Door Lock Cylinder Assembly

1. Remove lock cylinder assembly from door.

2. Remove pawl retaining clip, pawl and lock cylinder retaining clip (see Figure 2-17).

3. To assemble, reverse disassembly procedure.

NOTE: The lock cylinder housing scalp used in production is usually damaged when removed and must be replaced by a new scalp which is available as a service part. The service lock cylinder housing scalp is secured by tabs.

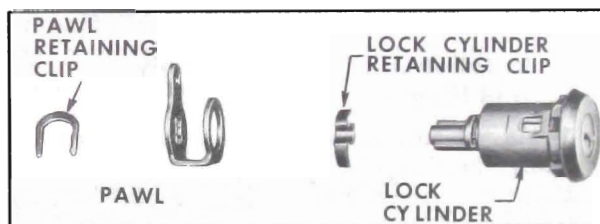


Figure 2-17 Front Door Lock Cylinder Assembly

#### e. Removal and Installation of Door Inner Panel Cam Assembly

1. Raise door window. Remove door trim assembly and detach inner panel water deflector.

2. Remove screws securing door inner panel cam assembly, then disengage cam from window regulator balance arm and remove from door (see Figure 2-15).

3. To install, reverse removal procedure. Prior to installation, lubricate entire length of cam with 630AAW Lubriplate or equivalent.

#### f. Adjustments of Door Inner Panel Cam Assembly

1. To correct a condition where the glass is cocked in the glass run channels, loosen



inner panel cam attaching screws, adjust either end of cam up or down as required and tighten screws.

### g. Removal and Installation of Front Door Lock Assembly

All locks are the rotary bolt type lock with the safety interlock feature. With the safety interlock feature it is important that the lock extension and housing engages properly in the door lock striker and that, where necessary, striker emergency spacers of the proper thickness are used to obtain proper engagement.

1. Raise door window. Remove door trim assembly and detach inner panel water deflector.

2. Through access hole, disengage spring clips securing lock cylinder connecting rod, remote control connecting rod and inside locking rod to lock and disengage rods from lock (see "DOOR LOCK SPRING CLIPS").

3. On "29", "37", "39", "67" and "99" styles remove door window rear glass run

channel lower attaching screw and loosen upper attaching screws on lock pillar facing of door and at top of door inner panel to permit removal of lock. On "11", "19", "35" and "69" styles from inside door, remove rear glass run channel lower attaching nut or screw and pull channel forward.

4. Remove door lock attaching screws from lock pillar facing of door and remove lock assembly from door (see Figure 2-18).

5. To install, reverse removal procedure. Prior to installation of lock assembly on "11", "37" and "67" styles, apply a ribbon of medium bodied sealer (approximately 1/4" in diameter) across face of lock frame. Check all for proper operation, and where loosened, adjust glass run channel for proper alignment prior to installing inner panel water deflector (see Figure 2-19).

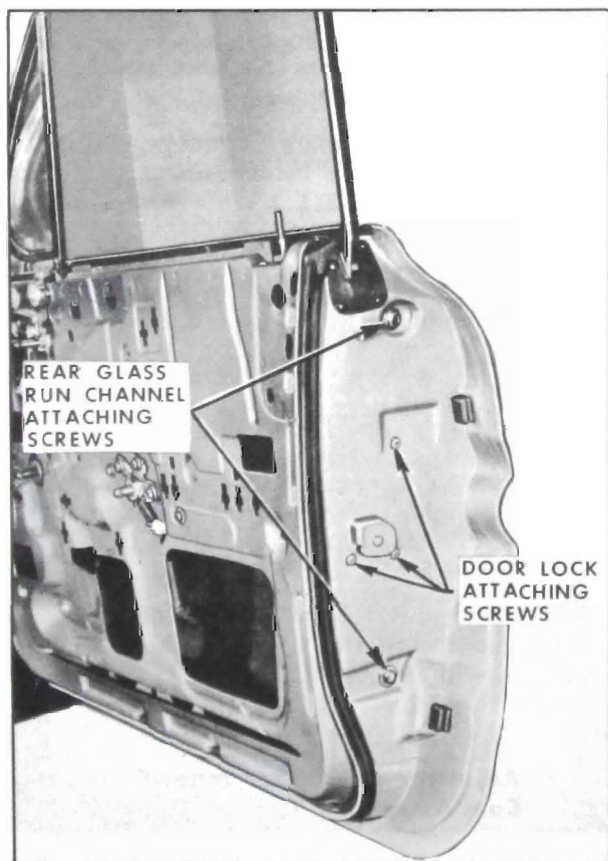


Figure 2-18—Front Door Lock Attachment

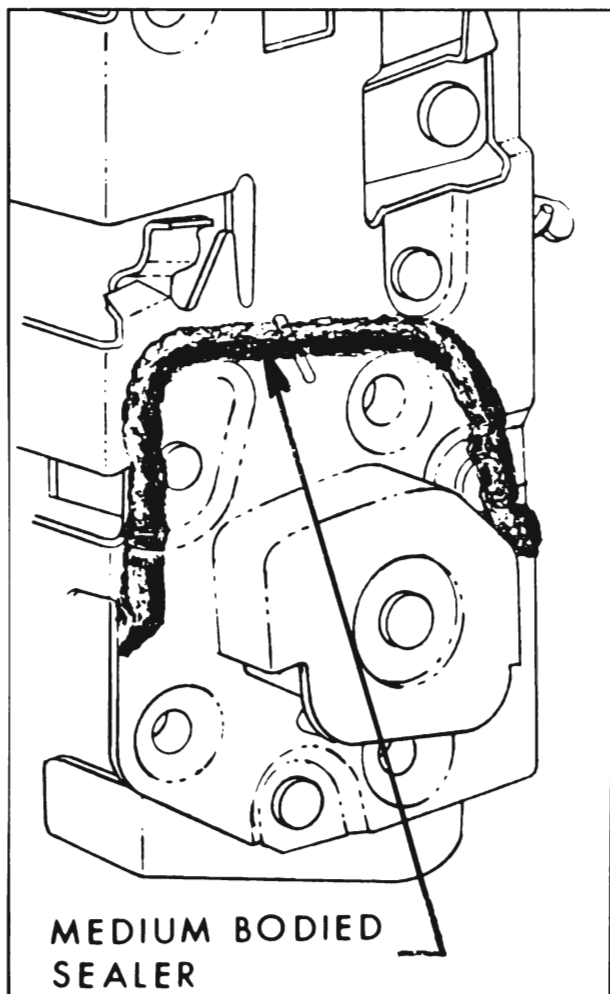


Figure 2-19—Front Door Lock Assembly

### h. Removal and Installation of Front Door Remote Control Assembly and Connecting Rod

1. Raise door window. Remove door trim assembly and detach inner panel water deflector.

2. Remove remote control attaching screws and disengage remote control from connecting rod (see Figure 2-15).

3. To remove remote control connecting rod, carefully disengage spring clip securing rod to lock and remove rod from lock. Disengage rod from spring clip on door inner panel where necessary, and remove rod.

4. To install, reverse removal procedure. Check door lock and remote control assemblies for proper operation prior to installing inner panel water deflector.

3. Remove ventilator tee shaft attaching bolt and ventilator regulator attaching screws (see Figure 2-20).

4. Disengage ventilator regulator shaft from ventilator tee shaft and remove regulator and motor assembly from door through access hole.

5. To install, reverse removal procedure. Check operation of ventilator assembly prior to installing inner panel water deflector.

### b. Adjustments of Front Door Ventilator Regulator

1. Excessive "play" (flutter) of ventilator at pivot shaft when ventilator is in open position, can be corrected by tightening ventilator tee shaft to regulator shaft attaching bolt (see Figure 2-20).

NOTE: Bolt should be tightened carefully to avoid stripping threads in regulator spiral gear shaft.

## 2-7 FRONT DOOR VENTILATOR

### a. Removal and Installation of Front Door Ventilator Regulator—Manual and Electric

1. Raise door window. Remove door trim assembly and detach inner panel water deflector sufficiently to gain access to regulator attaching screws.

2. On styles equipped with electric ventilator regulators, disconnect regulator motor wires at connector.

### c. Front Door Ventilator Assembly—Manual and Electric—"29", "37", "39" and "67" Styles

1. Remove door trim assembly and detach inner panel water deflector.

2. Lower door window. Remove ventilator to door outer panel return flange attaching screw (see Figure 2-21).

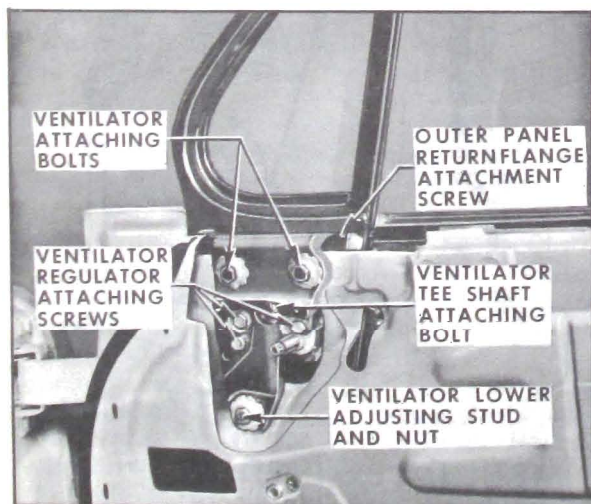


Figure 2-20—Front Door Ventilator Attachment (Sedans)

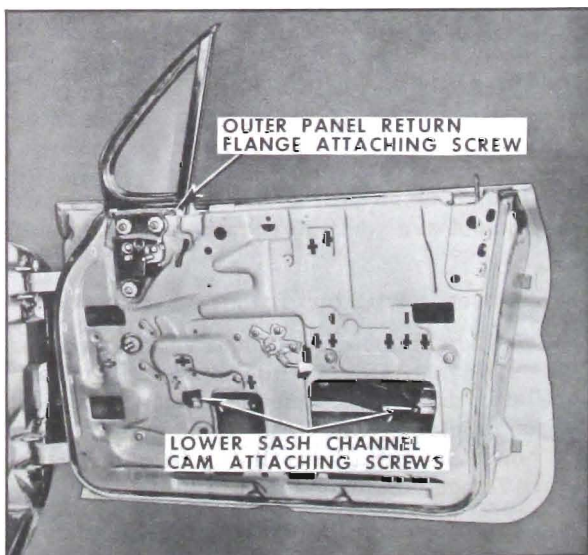


Figure 2-21—Front Door Ventilator Attachment (Hardtop & Convertibles)



3. At front of ventilator assembly, break cement bond securing front door hinge pillar sealing strip (at belt) to ventilator assembly.

4. Remove ventilator division channel lower adjusting stud and nut (see Figure 2-21).

5. Loosen ventilator frame adjusting stud nut and remove ventilator attaching bolts (see Figure 2-21); then carefully lift ventilator assembly upward and rearward and remove from door.

6. To install, reverse removal procedure. Prior to installation of ventilator assembly, apply a bead of body caulking compound to door outer panel return flange along area contacted by ventilator assembly. Adjust ventilator assembly as described under "FRONT DOOR VENTILATOR ADJUSTMENTS".

#### d. Front Door Ventilator Adjustments— "29", "37", "39" and "67" Styles

The front door ventilator assembly can be adjusted up or down in or out at the top for alignment in the door opening and proper weatherstrip contact in the ventilator area. The lower portion of the ventilator division channel can be adjusted in or out and fore and aft for alignment with the door window glass. The ventilator assembly can also be adjusted fore or aft for alignment with the body windshield pillar.

To adjust the ventilator assembly, proceed as follows:

1. Remove door trim assembly and detach inner panel water deflector.

2. Remove ventilator frame to outer panel attaching screw (see Figure 2-21).

3. Loosen ventilator division channel adjusting stud nut and ventilator frame adjusting stud nut.

4. Loosen ventilator frame attaching bolts.

a. To adjust upper portion of ventilator in or out, turn ventilator frame adjusting stud and ventilator division channel adjusting stud in or out as required, then tighten stud nuts, attaching bolts and install ventilator to outer panel return flange attaching screw.

b. To adjust ventilator assembly up or down or fore or aft, position entire ventilator assembly, as required, then tighten all attaching bolts, stud nuts and ventilator to outer panel return flange attaching screw. Check door

window for proper alignment and where required, adjust window as described under "FRONT DOOR WINDOW ADJUSTMENT".

NOTE: In some cases, it may be necessary to relocate ventilator to outer panel attaching screw.

5. Seal water deflector to door inner panel and install door trim and inside hardware.

#### e. Removal and Installation of Front Door Ventilator Assembly—"11", "19" and "69" Styles

1. Remove door trim assembly and detach inner panel water deflector.

2. Remove ventilator regulator assembly.

3. Lower door window. Remove ventilator to door outer panel return flange attaching screw (see Figure 2-22).

4. Remove ventilator division channel lower adjusting stud and nut (see Figure 2-22).

5. Remove ventilator upper attaching screws along window frame (see Figure 2-22).

6. Lower ventilator assembly sufficiently to tilt assembly inward; then lift ventilator assembly upward and remove from door.

7. To install, reverse removal procedure.

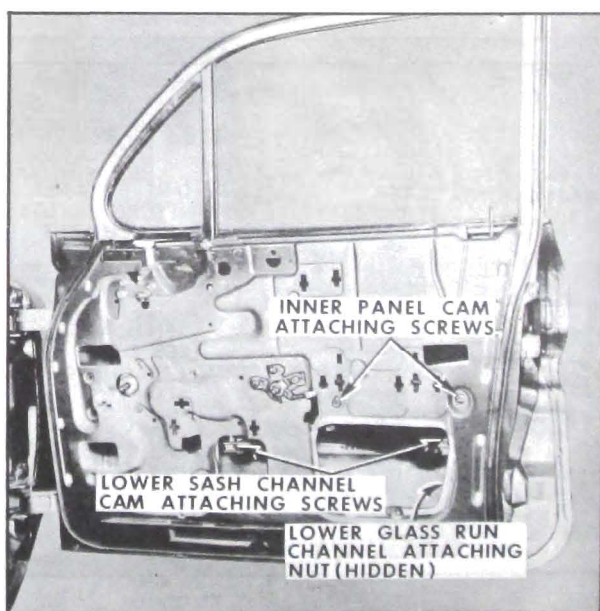


Figure 2-22—Front Door Regulator Attachment

**f. Front Door Ventilator Adjustments—  
“11”, “19” and “69” Styles**

To adjust ventilator division channel in or out or fore or aft, remove door trim assembly and detach inner panel water deflector sufficiently to loosen division channel lower adjusting stud nut. Adjust stud in or out as required or position channel fore or aft as required; then tighten stud nut.

## 2-8 FRONT DOOR WINDOWS

**a. Removal and Installation of  
Front Door Window Assembly—  
Manual and Electric—“29”, “37”, “39”  
and “67” Styles**

1. Raise door window. Remove door trim assembly and detach inner panel water deflector.

2. Through holes in inner panel, remove screw securing window assembly front and rear stops to lower window sash channel. Then lower window slightly and remove stops (see Figure 2-23).

3. Lower door window to expose window lower sash channel cam attaching screws. Then on styles equipped with electric window regulators, disconnect wiring harness feed wires from regulator motor at connector.

4. Remove window lower sash channel cam attaching screws and disengage cam from window sash channel. Then lift window assembly upward and remove from door (see Figure 2-21).

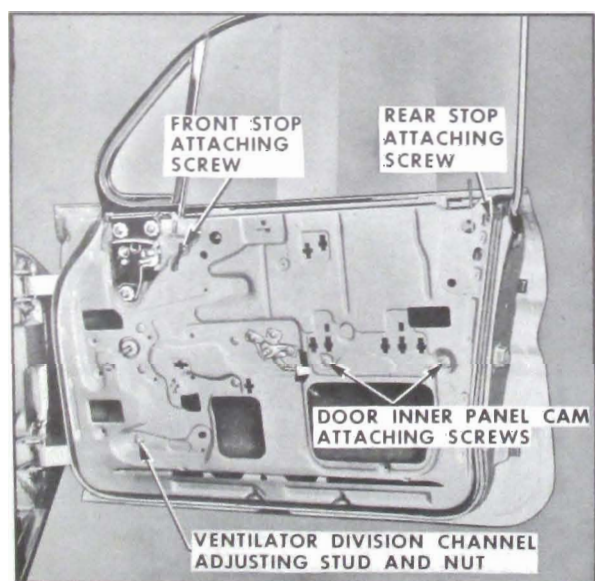


Figure 2-23—Door Window Attachment

**CAUTION: DO NOT OPERATE REGULATOR MOTOR after window assembly is disengaged from regulator. Operation of motor with load removed may damage unit.**

5. To install, reverse removal procedure. Before installing window lower sash channel cam, lubricate entire length of cam with 630-AAW Lubriplate or equivalent. Check window for proper operation prior to installing inner panel water deflector.

**b. Front Door Window Adjustments—  
Manual and Electric—“29”, “37”, “39”  
and “67” Styles**

The door window glass may be adjusted to provide proper contact with the side roof rail weatherstrip. Adjustments have also been provided to relieve a binding door glass due to misalignment of the glass run channels. To perform the following adjustments, remove door trim assembly and detach inner panel water deflector, where necessary, to gain access to hardware attaching points; then proceed as follows:

1. To correct a condition where glass is “cocked” in glass run channels, loosen inner panel cam attaching screws, adjust cam up or down as required and retighten screws (see Figure 2-23).

2. To adjust upper front portion of window assembly in or out for proper contact with side roof rail weatherstrip, adjust ventilator assembly in or out as described under “Front Door Ventilator Adjustments”.

3. To adjust lower portion of ventilator division channel for alignment with window assembly, lower door window and loosen ventilator division channel adjusting stud nut. Turn adjusting stud in or out or position lower end of channel fore or aft, as required; then, retighten adjusting stud nut (see Figure 2-23).

4. To adjust upper rear of window assembly in or out for proper contact with side roof rail weatherstrip, or to adjust rear of window assembly in or out at belt line, loosen rear glass run channel attaching screws at lock pillar facing of door and screw at top of door inner panel. Position channel in or out as required and tighten screws (see Figure 2-18).

**NOTE: Adjustments 2, 3 and 4 must be coordinated in provide a properly operating front door window.**



5. To adjust limit of "up" travel of window assembly for proper contact with side roof rail weatherstrip, raise door window and through inner panel access holes loosen door window front and rear stop assembly attaching screws. Adjust stops up or down as required, then tighten attaching screws (see Figure 2-23).

### c. Removal and Installation of Front Door Window Assembly—Manual and Electric—"11", "19", and "69" Styles

1. Lower door window. Remove door trim assembly and detach inner panel water deflector.

2. Remove door ventilator assembly as previously described under "Front Door Ventilator - Removal and Installation".

3. On styles equipped with electric window regulators, disconnect wiring harness feed wires from regulator motor at connector.

**CAUTION: DO NOT OPERATE REGULATOR MOTOR after window assembly is disengaged from regulator. Operation of motor with load removed may damage unit.**

4. Remove screws securing window lower sash channel cam to window assembly and carefully disengage cam from window lower sash channel (see Figure 2-22).

5. Rotate rear edge of window assembly upward and remove window assembly from between inner and outer panels.

6. To install, reverse removal procedure. Check window for proper operation before installing inner panel water deflector. Prior to installation, lubricate entire length of lower sash channel cam with 630AAW Lubriplate or equivalent.

### d. Front Door Window Adjustments—Manual and Electric—"11", "19" and "69" Styles

1. To correct a condition where glass is "cocked" in glass run channels, loosen inner panel cam attaching screws, adjust cam up or down as required and tighten screws (see Figure 2-22).

2. To adjust lower portion of ventilator division channel for proper alignment with door window assembly, lower door window and loosen ventilator adjusting stud nut. Turn adjusting

stud in or out or position lower end of channel fore or aft as required; then tighten adjusting stud nut (see Figure 2-23).

3. To adjust lower portion of window glass run channel in or out for proper alignment with door window, raise door window. From inside door, loosen glass run channel lower attaching nut or screw, adjust channel as required and tighten nut or screw (see Figure 2-22).

### e. Removal and Installation of Door Window Glass Run Channel Assembly—"29", "37", "39" and "67" Styles

1. Remove door window assembly.

2. Remove two (2) screws securing channel to lock pillar facing of door and screw at upper flange of door inner panel. Then remove channel assembly through large access hole (see Figure 2-18).

3. To install, reverse removal procedure. Check window for proper alignment before installing door trim.

### f. Front Door Window Regulator Assembly

1. Remove door trim assembly and detach inner panel water deflector.

2. Remove ventilator division channel lower adjusting stud and nut (see Figure 2-24).

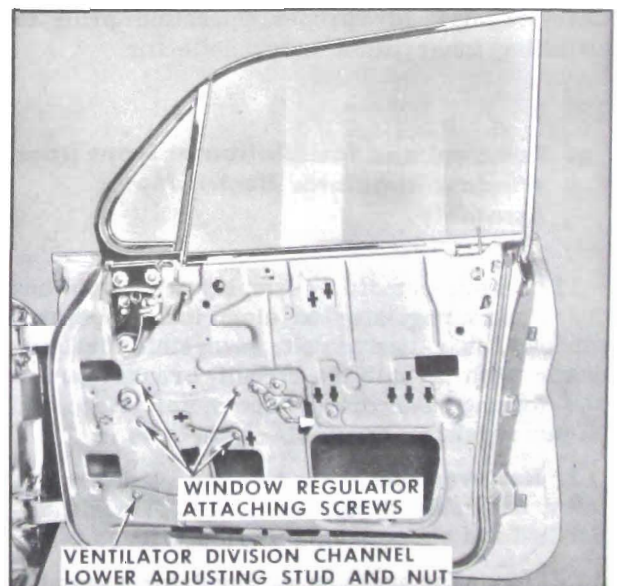


Figure 2-24—Door Window Regulator Attachment



3. On styles equipped with manual window regulators, lower window. Remove window lower sash channel cam attaching screws and disengage sash channel cam from window lower sash channel; then raise window and prop in full up position. Disengage sash channel cam from window regulator arm rollers (see Figure 2-24).

4. On "29", "37", "39" and "67" styles equipped with electrical window regulators, remove door ventilator assembly and door window, remove screws securing window lower sash channel cam to window sash channel and disengage cam from window sash channel and remove cam. On remaining styles prop window in up position.

5. On styles equipped with electric window regulators, disconnect wire harness feed wires from regulator motor at connector.

**CAUTION:** DO NOT OPERATE REGULATOR MOTOR after window assembly is disengaged from regulator. Operation of motor with load removed may damage unit.

6. Remove window regulator attaching screws. Disengage regulator balance arm from inner panel cam and carefully remove regulator assembly from door.

**NOTE:** On some styles only one end of inner panel cam is open sufficiently to permit removal of regulator arm roller.

7. To install, reverse removal procedure. Check window for proper operation prior to installing inner panel water deflector.

#### g. Removal and Installation of Front Door Window Regulator Electric Motor Assembly

The electric motor assembly which powers the window regulator on electrically operated windows, is a twelve volt, reversible direction motor with a built-in circuit breaker and a self-locking gear drive. The motor is secured to the regulator assembly by screws.

1. Remove front door electric window regulator assembly from door as previously described and clamp it in a vise (see Figure 2-25).

**2 NOTE:** The position of regulator assembly in vise will vary with type of regulator and position of lift arm.

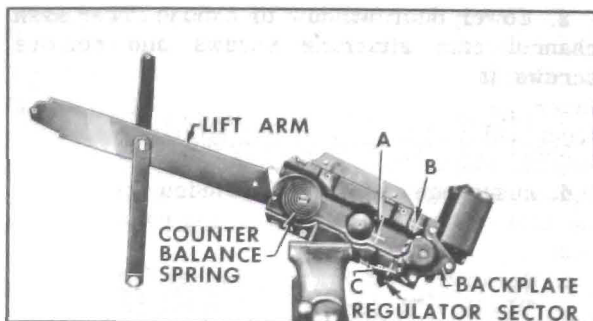


Figure 2-25—Door Window Regulator and Motor Assembly

**CAUTION:** BE SURE TO PERFORM STEPS 2 AND 3 BEFORE ATTEMPTING TO REMOVE MOTOR FROM REGULATOR. The regulator lift arm, which is under tension from the counter-balance spring, can cause serious injury if motor assembly is removed without locking the sector in position with a nut and bolt.

2. Drill a 1/4" hole through back plate and sector at location indicated at either A, B, or C, depending on position of lift arm.

**NOTE:** Do not drill into motor housing, part of which is indicated by dotted line. In addition, locate hole a sufficient distance from edge of sector to insure proper retention of the sector.

3. Insert 3/16" bolt through hole in back plate and sector and install nut to bolt. Do not tighten nut.

4. Remove motor attaching bolts and remove motor assembly from regulator (see Figure 2-25).

**NOTE:** Clean off steel chips from regulator sector and motor pinion gear.

5. To install, reverse removal procedure. If difficulty is encountered when trying to line up motor attaching holes, the regulator lift arm may be moved up or down manually so that motor pinion gear will mesh with teeth on regulator sector and regulator attaching holes will line up.

**NOTE:** Be sure to remove temporary nut and bolt from regulator before installing it in door.

#### h. Removal and Installation of Door Window Lower Sash Channel Cam

1. Remove door trim assembly and detach inner panel water deflector.

2. Lower door window to expose lower sash channel cam attaching screws and remove screws (see Figure 2-21).

3. Disengage cam from window lower sash channel and prop window in up position.

4. Disengage cam from window regulator, lift and balance arm rollers and remove from door.

5. To install, reverse removal procedure. Prior to installation, lubricate entire length of lower sash channel cam with 630AAW Lubriplate or equivalent.

**i. Removal and Installation of  
Door Window Glass Run Channel Outer  
Strip Assembly—All 44-4600 Styles**

1. Lower door window and remove door trim assembly.

2. On all except "37" and "67" styles, detach inner panel water deflector; then disengage window from lower sash channel cam and carefully lower window to bottom of door.

3. Remove screws securing each end of strip assembly; then press down on strip assembly at clip locations to disengage attaching clips

from return flange of door outer panel. Remove strip assembly.

4. To install, reverse removal procedure.

**j. Removal and Installation of  
Front Door Window Glass Run Channel  
Assembly "11", "19" and "69" Styles**

1. Lower door window. Remove door trim assembly and detach inner panel water deflector.

2. Remove front door ventilator assembly and slide window forward slightly to expose lock pillar portion of glass run channel.

NOTE: Exercise care so that exposed front edge of glass does not come in contact with body metal.

3. Through inner panel access hole loosen nut or screw securing lower end of glass run channel (see Figure 2-27).

4. Squeeze glass run channel together along upper and lock pillar sections of window frame and pull or carefully pry channel assembly from window frame. Remove channel assembly from door.

5. To install, reverse removal procedure.