SECTION 6

DOORS

INDEX

FRONT AND REAR DOORS

INTRODUCTION

This section of the manual contains the service operations that are necessary for the removal, installation, adjustment and sealing of door assemblies and individual door hardware components. The procedures are arranged in the sequence that they would be performed when servicing a door. To locate specific procedures, refer to the "Door Index".

Hardware items are divided into three categories. Those which are common to all doors are found under "Front and Rear Doors" which also includes door and side roof rail weatherstrips. Items which are peculiar to front or rear doors are found under "Front Doors" or "Rear Doors" respectively.

Door trim service procedures are covered in Section 14 of this manual (See index).

Body series or style references in the procedures are explained under "General Information" in Section 1 of this manual.

FRONT AND REAR DOOR WEATHERSTRIPS—

Both the front and rear doors use nylon fasteners to retain the door weatherstrips. The fasteners are a component part of the weatherstrip and secure the weatherstrip to the door by engaging piercings in the door panels. The serrations of the fastener retain the fastener in the piercing and also seal the openings from water entry (See Fig. 6-1).

On "B" Body Sedan Styles, nylon fasteners are used around the entire perimeter of the door. On "A" and "X" Closed Styles, nylon fasteners are used below the belt line only. Weatherstrip adhesive retains the weatherstrip around the door upper frame above the beltline (Fig. 6-2).

In addition to the nylon fastener, "B" Body Sedan Styles use a limited amount of weatherstrip adhesive at the beltline. All styles other than closed styles use plastic fasteners at the belt.

To disengage nylon fasteners from door panel piercings use tool J 21104 or equivalent (Fig. 6-1). This tool permits removal of the weatherstrip without damaging the serrations on the fasteners so that the weatherstrip can be reinstalled if desired.

Although a replacement door weatherstrip will include the nylon fasteners, individual fasteners are available as a service part.

Removal

1. On all hardtop and convertible styles, remove exposed plastic fasteners at belt line. On all "E" body styles, all "B" body hardtop and convertible styles and "C-39 and 69" styles (front and/or rear doors), remove door trim assembly to gain access to weatherstrip fastener (See Fig. 6-3).
2. On sedan styles, use a flat-bladed tool to break cement bond between door and weatherstrip. On "B" Body Sedan Styles, weatherstrip adhesive is used for a distance of 9" at beltline (See Figs. 6-4 and 6-5). On "A" and "X" sedan styles, weatherstrip is retained by weatherstrip adhesive completely around door upper frame (See Fig. 6-2).
3. On all styles, use tool J 21104 or equivalent to disengage weatherstrip from door where weatherstrip is retained by nylon fasteners. Nylon fastener usage is below the beltline on all styles, and above the belt only on "B" Body Sedan Styles.

Installation

1. If previously removed weatherstrip is to be

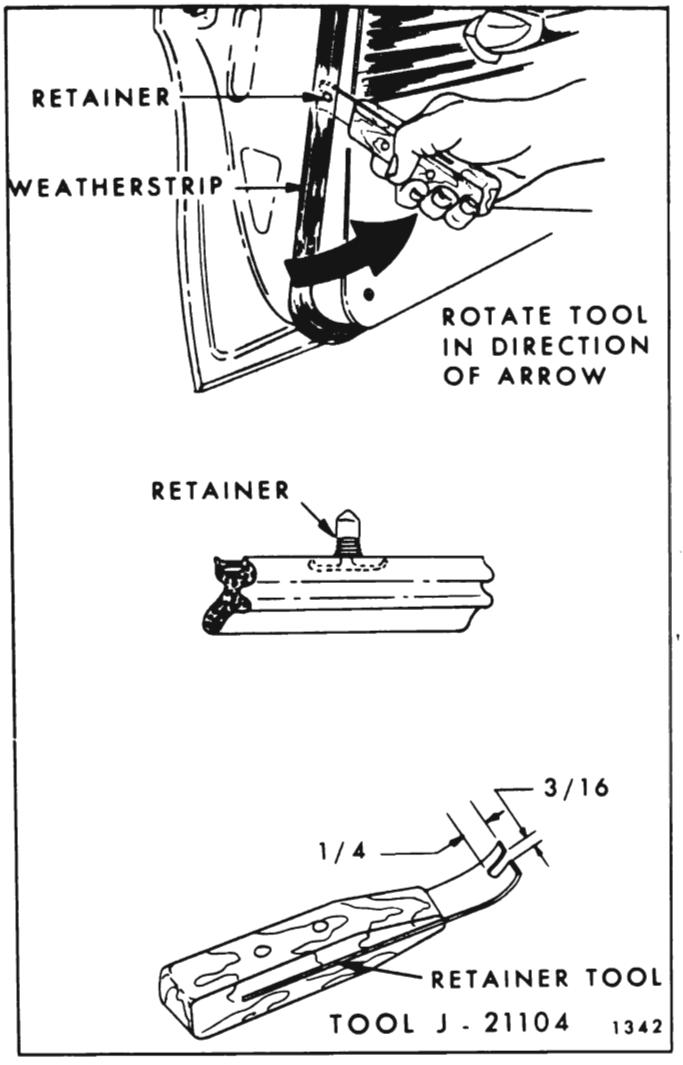


Fig. 6-1 — Door Weatherstrip Removal

reinstalled, inspect nylon fasteners and replace those that are damaged.

2. Clean off all old weatherstrip adhesive from door.

3. On styles without door upper frames, position weatherstrip to door and install plastic fasteners at front and rear ends of weatherstrip.

4. On sedan styles with door upper frames, position color-coded section of weatherstrip to door as follows:

   a. On front doors, color code should be located at rear upper corner of door upper frame (Fig. 6-4).

   b. On rear doors, color coded section should begin at beltline of door lock pillar and extend upward (Fig. 6-5).

5. Tap nylon fasteners into door piercings using a hammer and blunt caulking tool.

6. On "A" and "X" Sedan Styles, apply a bead of black weatherstrip adhesive to gutter of door upper frame as shown in section "A-A", Figure 6-2. Allow adhesive to become tacky, then, install weatherstrip.

7. After all fasteners have been installed on sedan styles, apply weatherstrip adhesive between door and weatherstrip outboard surface at the following locations:

   a. For 5" around rear upper corner of front door upper frame (Circle "A", Figure 6-4) and 9" down door lock pillar starting at beltline.

   b. On sedan rear doors, 9" down both door lock pillar and door hinge pillars starting at beltline (Fig. 6-5).

   c. On door lock pillar on hardtop styles starting at beltline and extending down 2".

   NOTE: If weatherstrip becomes damaged at fastener location and will not retain fastener, remove fastener and secure weatherstrip to door with weatherstrip adhesive. If more than two consecutive fastener locations become damaged, replace weatherstrip.

Although weatherstrip adhesive is specified only at specific locations, it can be used at any point where additional retention is required.

DOOR BOTTOM DRAIN HOLE SEALING STRIPS

Door bottom drain slot sealing strips (dust barriers) are attached to door inner panels over door bottom drain slots to prevent entry of dust and cold air at these locations (Fig. 6-6).

To remove sealing strips, use a flat-bladed tool to pry retaining plugs from door inner panel piercings.

To install, insert a blunt pointed tool such as dull ice pick or scratch awl into strip retaining plugs and push plugs into door panel piercings.

DOOR BOTTOM AUXILIARY SEALING STRIP—All Pontiac "B" Styles, All 16600 Series, All Cadillac Styles and All "E" Body Styles

The door bottom auxiliary sealing strip is secured to the door inner panel with weatherstrip adhesive. The strip is installed after water deflector installation and prior to trim installation. As shown in

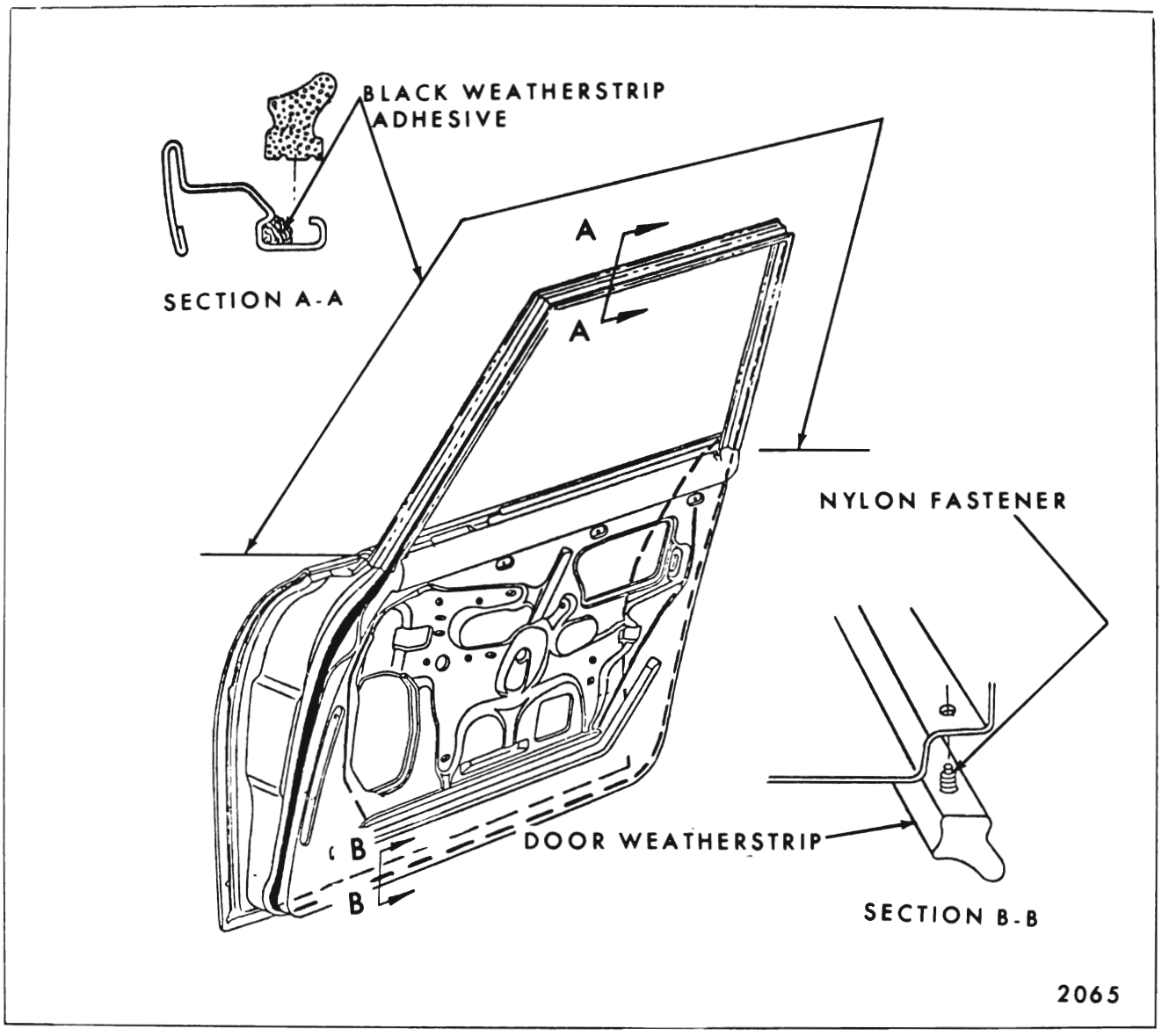


Fig. 6-2—Door Weatherstrip - "A & X" Closed Styles

section "A-A", Fig. 6-7, the upper edge of the strip is aligned with the water deflector drain slot. The rolled, semi-bulbular section of the sealing strip extends down below the door trim pad when the trim is installed and fills the opening between the door and door sill plate.

FRONT AND REAR DOOR WATER DEFLECTORS

A waterproof deflector is used to seal the door inner panel and prevent entry of water into body. The deflector is secured by a string loaded sealing material along both front and rear edges and by the application of waterproof sealing tape at front and rear lower corners. Whenever work is performed on front or rear doors where the water deflector has been disturbed, the deflector must be properly sealed and taped to the inner panel to prevent serious waterleaks. It is important that all service personnel performing door hardware adjustments or sealing operations be aware of the importance of using the specified material and recommended removal and installation or replacement procedures. For service sealing, body caulking compound is recommended if additional sealing material is required.

When access to the inner panel is required to perform service operations, the deflector may be completely or partially detached from the inner panel. If the existing water deflector is damaged,

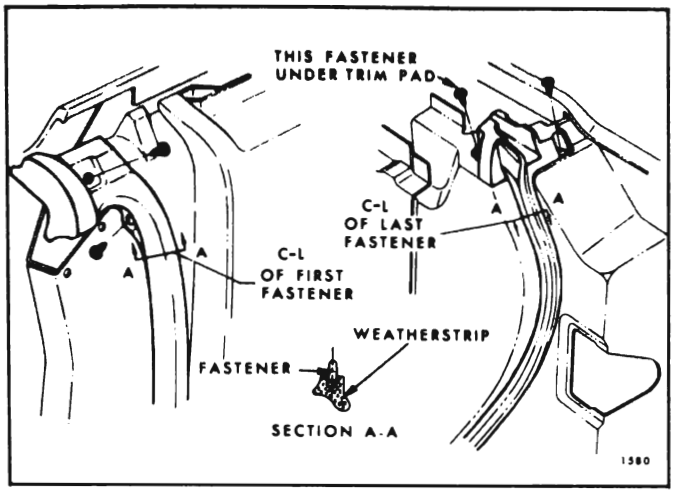


Fig. 6-3 — Door Weatherstrip - Attachment Under Trim Assemblies

so that it will not properly seal the door, replacement of the deflector is required.

The following procedure covers complete removal and installation of the water deflector. If only partial removal of the deflector is required, perform only those steps which are necessary to expose the required area of the door inner panel.

Removal

1. Remove door trim assembly.
2. Remove waterproof body tape securing top of water deflector to door inner panel.
3. Using a flat-bladed tool such as a putty knife, carefully break cement bond between water deflector and door inner panel down both sides of deflector. Make certain tool blade is between inner panel and string that is imbedded in sealer (Fig. 6-7).

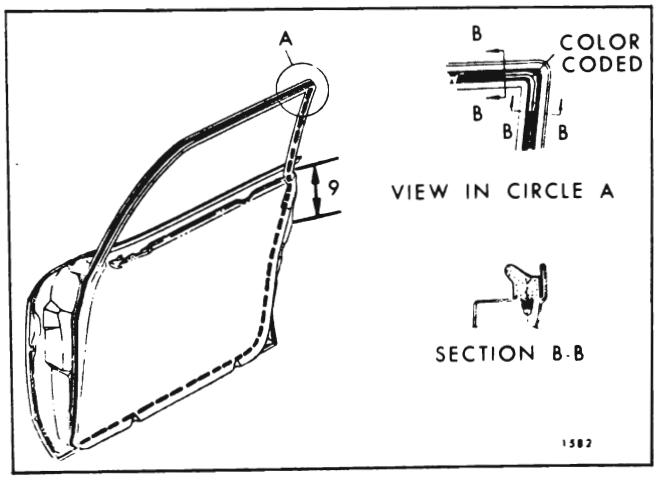


Fig. 6-4 — Front Door Weatherstrip

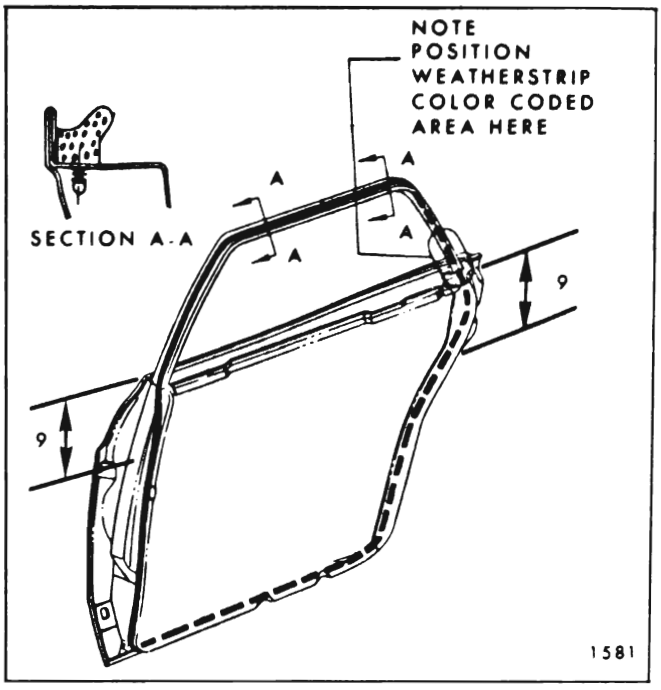


Fig. 6-5 — Rear Door Weatherstrip

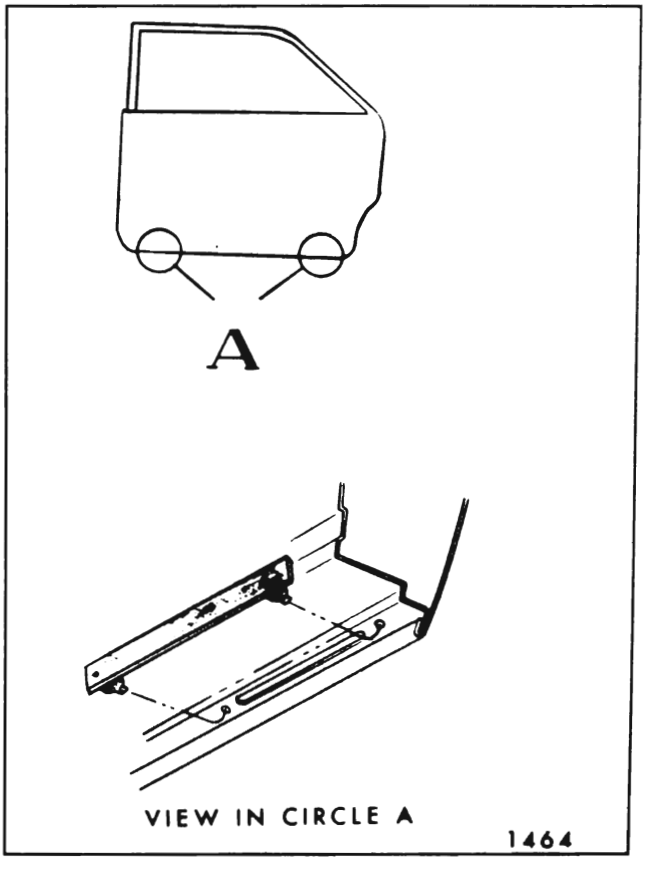


Fig. 6-6 — Door Bottom Drain Hole Sealing Strips

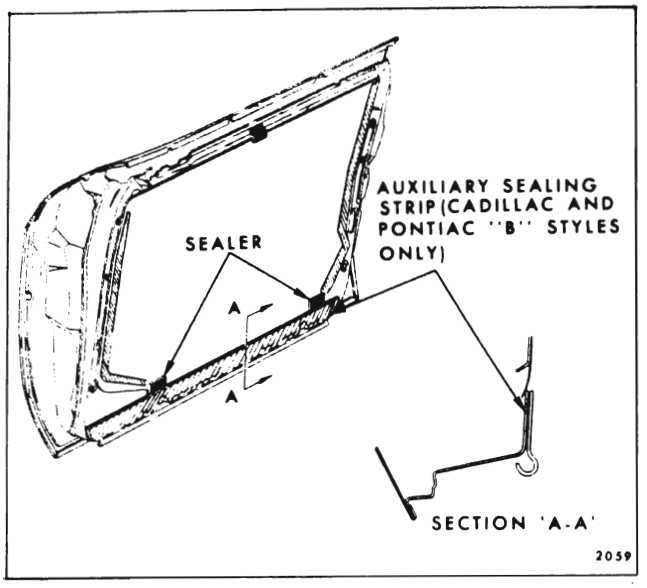


Fig. 6-7—Door Inner Panel Sealing

4. When seal has been broken down both sides of deflector, carefully remove tape from inner panel at lower corners of water deflector. Disengage water deflector from inner panel drain slot and remove deflector. On styles so equipped, it will be necessary to partially remove door bottom auxiliary sealing strip to permit removal of tape at bottom of deflector (Fig. 6-7).

Installation

1. Inspect water deflector and, where necessary, repair any tears or holes with waterproof body tape applied to both sides of deflector.

2. If a new water deflector is to be installed, use old water deflector as a template. Trim new deflector to proper size and cut holes for door inside hardware. If old sealer does not effect a satisfactory seal, apply a bead of body caulking compound (approximately 3/16" diameter) to inner panel at unsealed areas.

3. Position water deflector to door inner panel and insert lower edge of deflector in retaining slot. Then firmly roll or press edges of deflector to obtain a good bond between deflector and door inner panel.

   NOTE: On styles using polyethylene coated paper, black shiny side should be against inner panel.

4. Seal lower corners of deflector by re-applying previously removed tape or new pieces of 2" or 2-1/2" waterproof body tape.

5. On styles with door inner panel hardware attachments that are outboard of water deflector, seal attaching bolt head and panel piercing with body caulking compound.

SPRING CLIPS

A spring clip is used to secure remote control connecting rods and inside locking rod connecting links to door lock levers. A slot in the clip provides for disengagement of the clips, thereby facilitating detachment of linkage.

To disengage a spring clip, use a screwdriver, or other suitable tool, to slide clip out of engagement (See Fig. 6-8).

FRONT AND REAR DOOR OUTSIDE HANDLE ASSEMBLY—All Styles

Removal and Installation

1. Raise door window. Remove door trim assembly and detach upper rear corner of inner panel water deflector sufficiently to gain access to door outside handle attaching screws (Fig. 6-9).

2. Remove screws through access hole and remove door handle and gaskets from outside of body.

   NOTE: On 68069 and 68169 Styles it is necessary to remove rear door ventilator regulator as described in the rear door section in order to remove rear door outside handle.

   To install, reverse removal procedure.

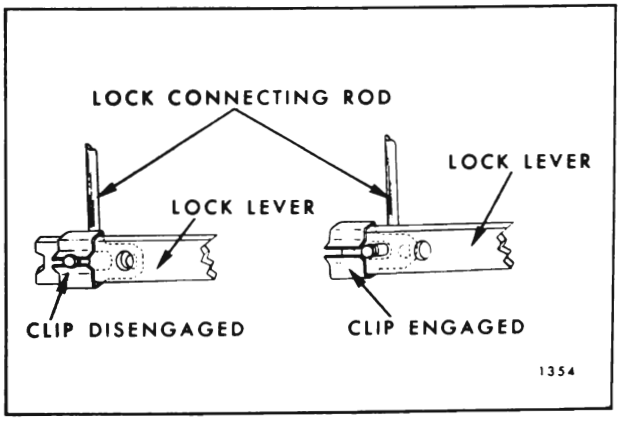


Fig. 6-8—Door Lock Spring Clip

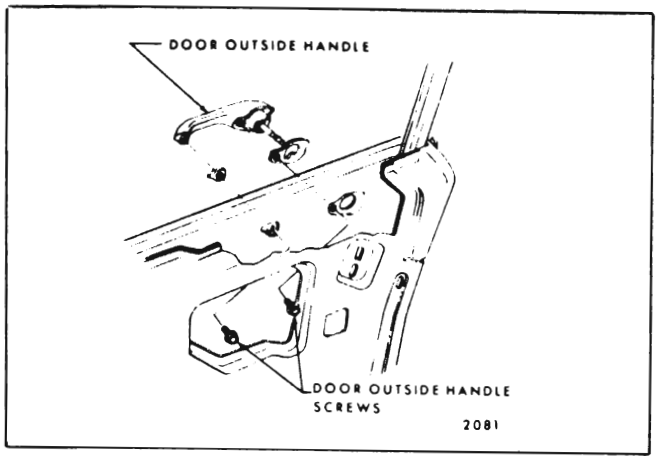


Fig. 6-9—Door Outside Handle Removal

DOOR OUTSIDE HANDLE DISASSEMBLY AND ASSEMBLY—All Styles

1. Remove door outside handle as previously described.

2. Depress retainer slightly and rotate 1/4 turn in either direction. Remove retainer, spring, push buttom and shaft and sealing washer from handle (See Fig. 6-10 for front door handles and Fig. 6-11 for rear door handles).

   NOTE: Parts are serviced as shown in the illustrations; separate components for the front door handle, and a push button, spring, and retainer assembly for the rear door handle except on "E" Body Styles. On "E" Styles the front door push button, spring, and retainer are serviced as an assembly.

3. To assemble, reverse disassembly procedure.

FRONT AND REAR DOOR LOCK STRIKERS—All Styles Except "X" Body

The front and rear door lock striker consists of a single metal bolt and washer assembly that is threaded into a tapped, floating cage plate located in the body lock pillar. With this design, the door is secured in the closed position when the door lock fork-bolt snaps-over and engages the striker bolt.

Removal and Installation

1. Mark position of striker on body lock pillar using a pencil.

2. Insert a 5/16" wrench into hex-head fitting in head of striker bolt and remove striker (Fig. 6-12).

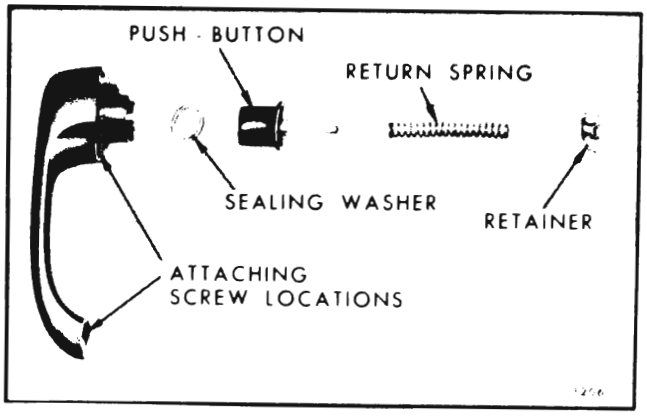


Fig. 6-10—Front Door Outside Handle

3. To install, reverse removal procedure. Make certain striker is positioned within pencil mark. Also, make certain that paint protecting plastic washer is installed (Fig. 6-12).

   IMPORTANT: Whenever a door has been removed and reinstalled or realigned, the door should not be closed completely until a visual check is made to determine if lock fork-bolt will correctly engage with striker.

Adjustments

1. To adjust striker up or down, or in or out, loosen striker bolt and shift striker as required, then tighten striker.

2. To determine if striker fore or aft adjustment is required, proceed as follows:

   a. Make certain door is properly aligned.

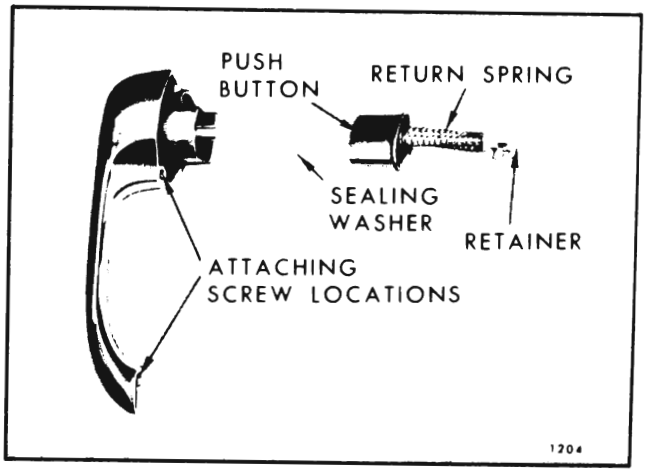


Fig. 6-11—Rear Door Outside Handle

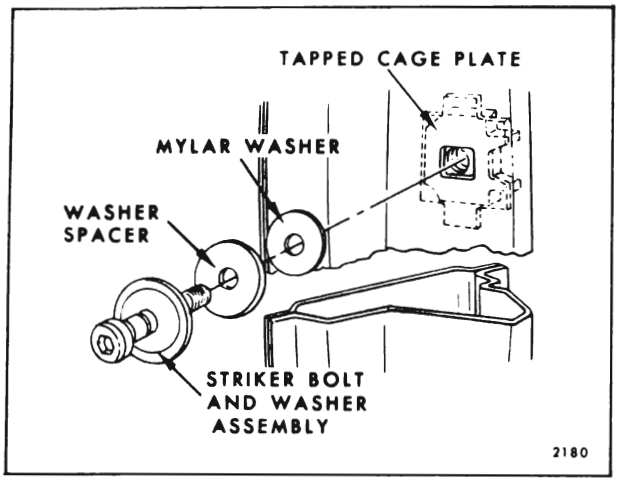


Fig. 6-12 — Door Lock Striker Installation

b. Apply modeling clay or body caulking compound to lock bolt opening as shown in Fig. 6-13.

c. Close door only as far as necessary for striker bolt to form an impression in clay or caulking compound as shown in Fig. 6-13.

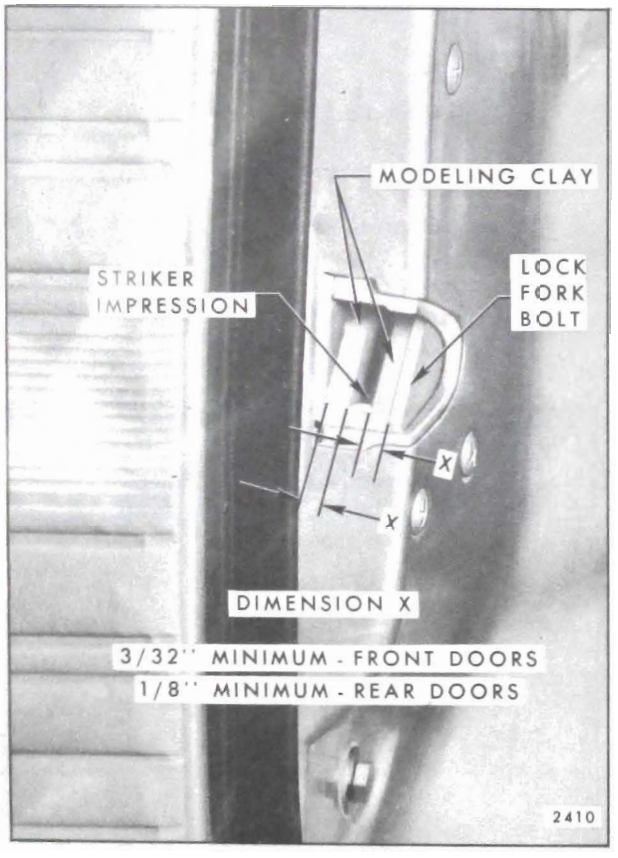


Fig. 6-13 — Lock to Striker Engagement

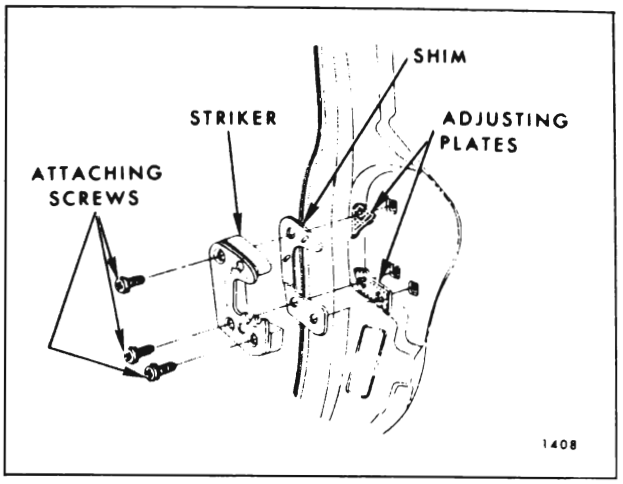


Fig. 6-14 — Door Lock Striker Installation

CAUTION: Do not close door completely. Complete door closing will make clay removal very difficult.

d. Measure striker impression as follows:

Striker head should be centered fore and aft as shown, however, some tolerances are allowed. In any alignment, it is important that minimum dimensions, as outlined in Figure 6-13, be strictly maintained. The following spacers are available as service parts and can be used individually or in combination to achieve the desired alignment.

5/64" spacer - Part #4469196

5/32" spacer - Part #4469197

1/4 " spacer - Part #44 ' 4

5/16" spacer - Part #4469195

FRONT AND REAR DOOR LOCK STRIKERS—"X" Body Styles

As shown in Figure 6-14, the door lock striker is secured to the center pillar or body lock pillar by cross-recessed attaching screws. By loosening the screws the striker can be adjusted up-or-down and in-or out. By adding or subtracting shims, the striker can be adjusted fore or aft.

Removal and Installation

1. With a pencil, mark position of striker on body pillar.

2. Remove door lock striker attaching screws and

remove striker and adjusting plates from pillar (Fig. 6-14).

3. Prior to installation, seal all striker plate attaching screw holes with body caulking compound.

4. Apply a 1/8" bead of body caulking compound around entire back surface of striker plate.

5. Place striker and adjusting plates within scribe marks on pillar and install striker plate attaching screws.

   CAUTION: Whenever a door has been removed and installed or realigned, the door SHOULD NOT be closed completely until a visual check is made to determine if lock extension will engage in striker notch. A single shim is installed behind the striker assembly in production (Fig. 6-14).

This shim can be removed or additional shims (available as service parts) can be installed if required. Removal or addition of shims provides fore or aft adjustment of the striker. To adjust striker up or down and in or out, proceed as follows:

Loosen striker plate attaching screws and shift striker and adjusting plates as required and tighten attaching screws (Fig. 6-14).

FRONT DOOR WINDOW GLASS RUN CHANNEL INNER AND OUTER STRIP ASSEMBLIES (DRAFT STRIPS)

Draft strips are used to form a belt seal between door inner and outer panels and glass assembly. The construction and attachment of these strips vary with the body style involved, as follows:

"B & C" Hard Top and Convertible Styles - Inverted lip inner ("J" strip) - Rubber outer

"B & C" Closed Styles - Multifilament pile inner (pile) - Rubber outer

"A-07-17-39 and 67" Styles - "J" strip inner - pile outer

"A-11-69-35-55-65 and 80" Styles - pile inner - rubber outer

"X-37" styles - "J" Strip inner - pile outer

"X-11-69 and 35" Styles - pile inner - rubber outer

"E" - All Styles - "J" strip inner - pile outer

"Z" - All Styles - pile inner - pile outer

"F" - All Styles - pile inner - "J" Strip outer

On all "B & C", "E & A" bodies equipped with deluxe trim, the inner draft strip is attached to the door trim pad. All "B & C" outer draft strips are attached with screws but need not be removed to facilitate door window removal. All "X-E" and the remaining "A" body style inner draft strips are attached by clips. All "A-F-X-E and Z" outer draft strips are attached with a combination of clips and screws (usually one at each end, front and rear).

On those styles equipped with a rubber lip outer draft strip, only the inner draft strip need be removed to facilitate door glass removal. On all other styles, however, both inner and outer draft strips must be removed preceding door glass removal.

Removal and Installation

NOTE: This procedure covers only draft strips attaching directly to either the door inner or outer panels. When the draft strip is attached to a trim pad, it is removed as part of the trim assembly.

1. The door window must be low enough to provide adequate clearance between top edge of glass and draft strip to be removed. If simply lowering window will not accomplish this needed clearance, proceed as follows:

   a. On styles equipped with a bolted-on lower stop, or rubber stop in guide cam, remove stop and lower window to bottom of door.

   b. On styles equipped with a welded-on lower stop, remove stop bumper to gain the required clearance.

   c. If additional clearance is still needed, remove door window lower sash channel cam and lower glass to bottom of door.

2. Remove draft strip attaching screws.

   NOTE: On most outer draft strips, the forward attaching screw is hidden beneath the ventilator division channel. This will require either removal or loosening of ventilator assembly to gain access.

3. Apply cloth-backed tape as a protective cover to painted surfaces adjacent to strip assembly to be removed.

4. Insert a flat-bladed tool (slotted to fit over tang of clip) between door panel return flange and strip assembly at clip locations (Fig. 6-15). Carefully pry clips from slots in panel and remove strip assembly.

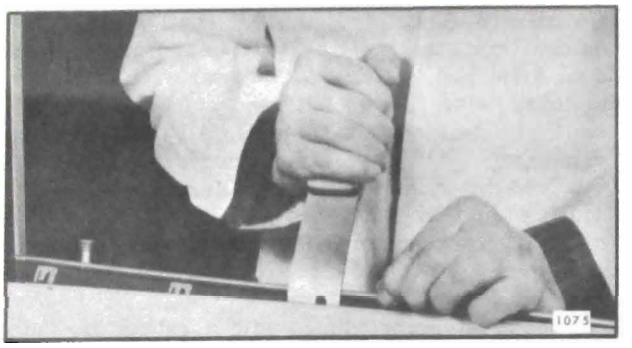


Fig. 6-15—Glass Run Channel Inner - Outer Strip Assembly Removal - "A-X-Z" Styles

5. To install, position strip assembly so that tang of clips start into slots in door panel, then press at each clip location and engage clips.

   Prior to installing strip assembly, reform clip tangs to assure positive retention when installed.

   NOTE: To make strip assembly removal tool, make a 1/4" wide by 3/8" deep slot in a J-2772 headlining inserting tool or equivalent.

SIDE ROOF RAIL WEATHERSTRIP AND RETAINER

The side roof rail weatherstrip is cemented to a side roof rail weatherstrip retainer, which, in turn, is secured with screws to the side roof rail. The adhesive that retains the weatherstrip also protects against water entry between the retainer and weatherstrip. A saturated polyurethane foam sealing strip prevents water entry between the retainer and side roof rail.

Removal—(All "17-37-39-57" Styles, "B-87" Styles and "C-69" Styles)

1. Remove plastic fasteners at front and screw at rear of side roof rail weatherstrip. On "C-69" styles, plastic fasteners are used at front of front door side rail weatherstrip and screw at rear of rear door side rail weatherstrip (See Fig. 6-16 for "17-37-39-57" and "B-87" styles and Fig. 6-17 for "C-69" Styles).

2. While carefully pulling weatherstrip out of retainer, simultaneously break cement bond between weatherstrip and weatherstrip retainer using a flat-bladed tool.

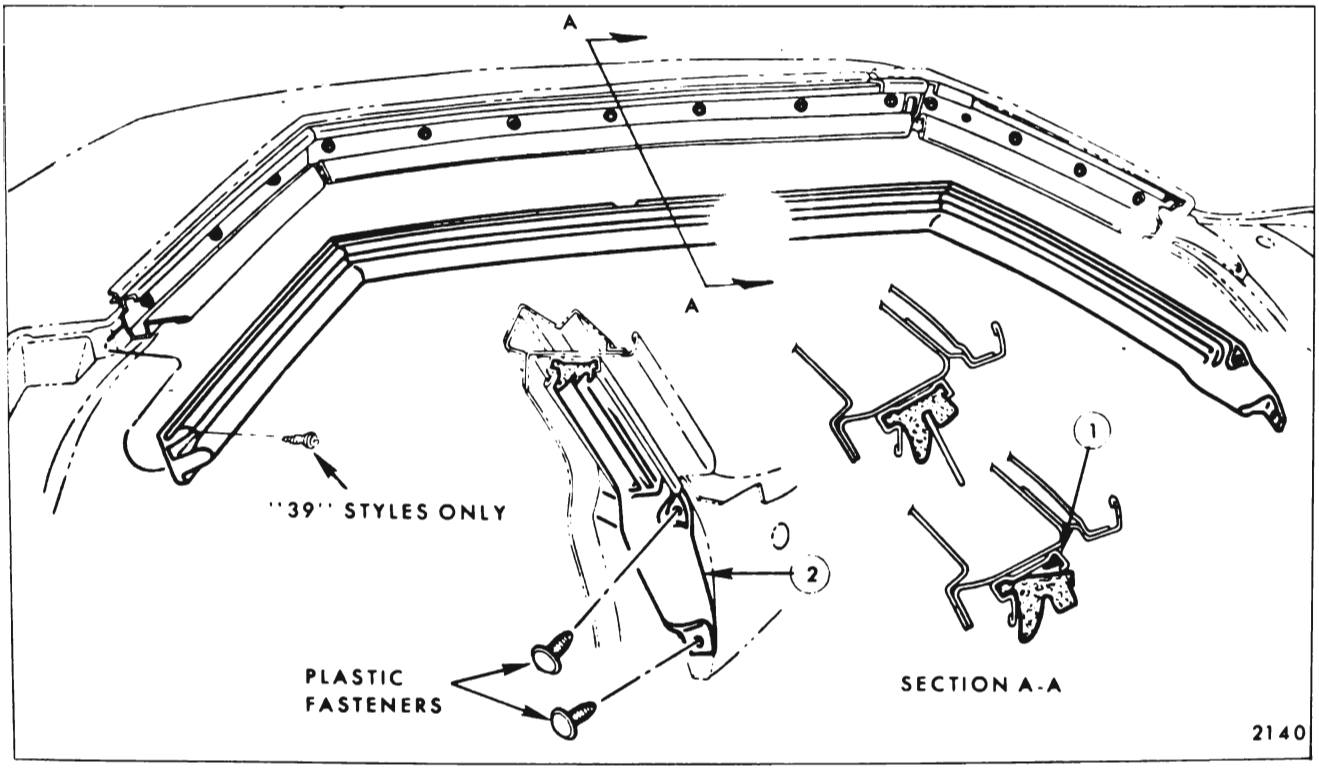


Fig. 6-16—Side Roof Rail Weatherstrip - All "17-37-39-57" Styles and "B-87" Styles

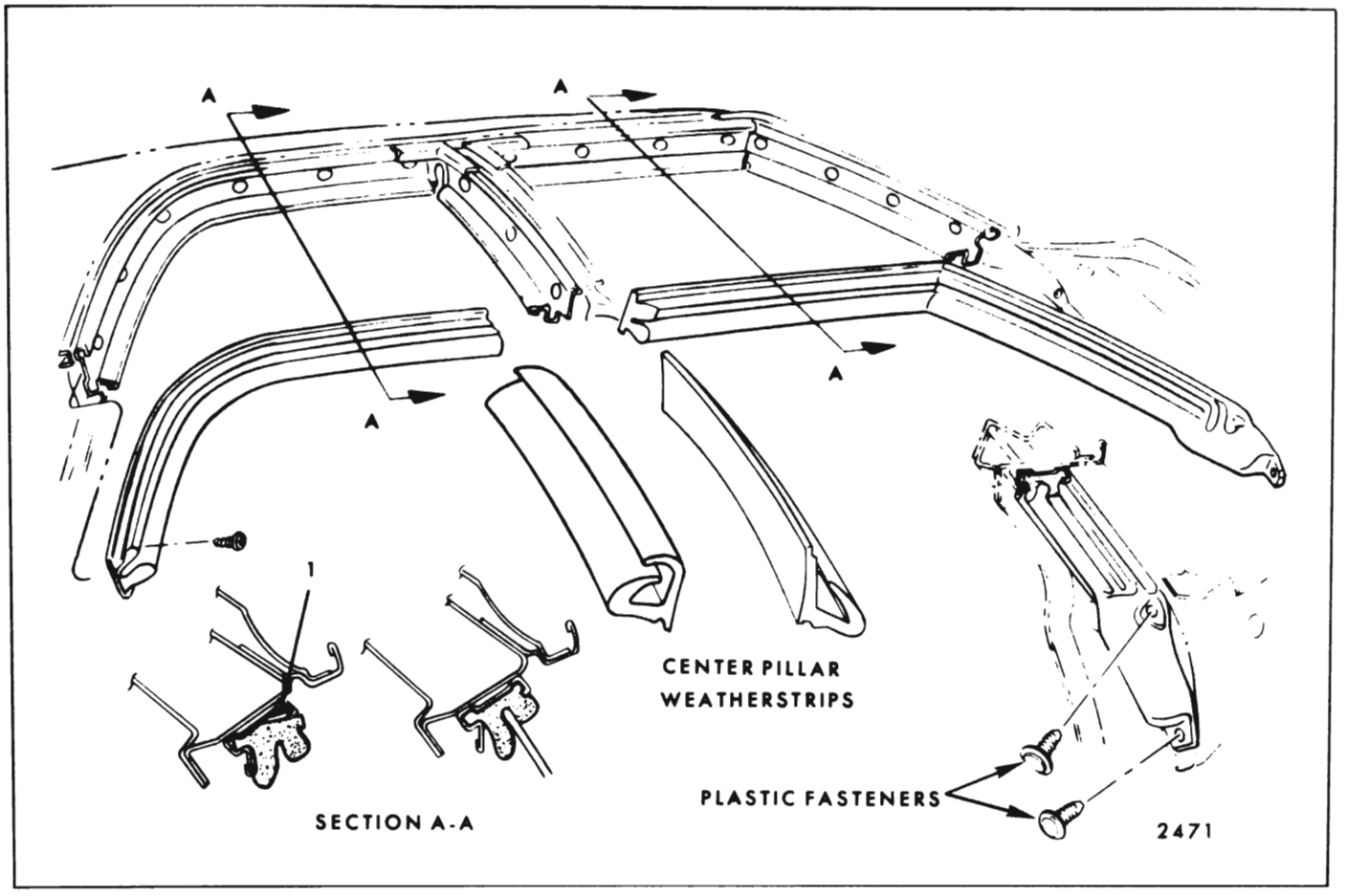


Fig. 6-17 — Side Roof Rail and Center Pillar Weatherstrips - "C-69" Styles

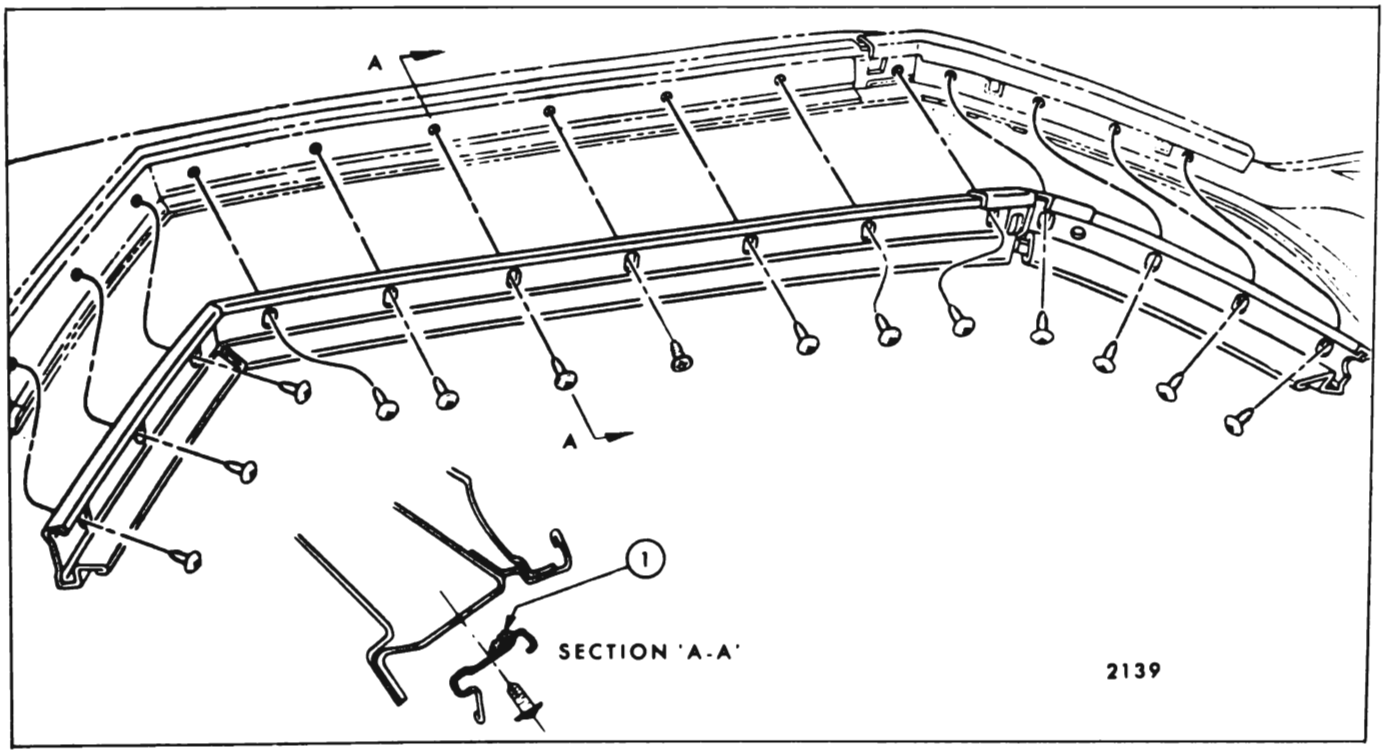


Fig. 6-18 — Side Roof Rail Weatherstrip Retainer - All "17-37-39-57" Styles & "B-87" Styles

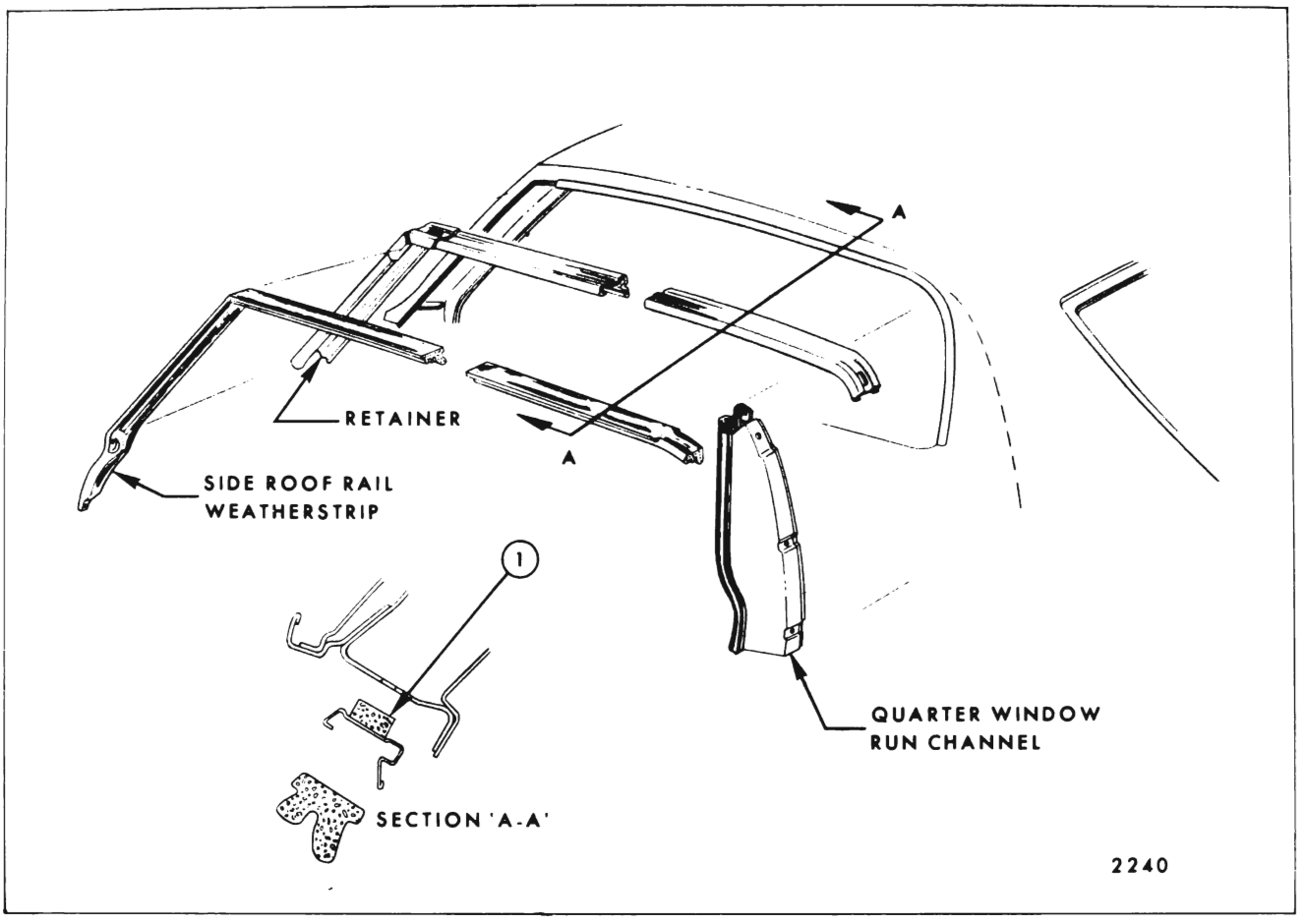


Fig. 6-19—Side Roof Rail Weatherstrip & Retainer - "B & C-47" Styles

3. With weatherstrip removed, screws securing weatherstrip retainer to side roof rail are exposed. Remove screws to remove side roof rail weatherstrip retainer (Fig. 6-18).

Removal—(Chevrolet "B-47" Styles and Cadillac "C-47" Styles)

1. At front of weatherstrip, disengage plastic fasteners from front body hinge pillar (Fig. 6-19).

2. Remove screw inserted through weatherstrip into side roof rail at rear of weatherstrip where it joins quarter window run channel.

3. Starting at front body hinge pillar, carefully pull weatherstrip out of retainer while simultaneously using a flat-bladed tool to break cement bond between retainer and weatherstrip.

4. If retainer is to be removed, remove attaching screws and pull retainer forward.

Removal—(Buick and Oldsmobile "F-87" Styles)

1. Remove plastic fasteners at rear of weatherstrip (See Fig. 6-20).

2. Remove rear quarter courtesy light lens. If attaching screws securing rear section of side roof rail weatherstrip are accessible, remove screws. If not, proceed as follows:

   a. Remove rear seat cushion, rear seat back and rear quarter upper trim assembly (See Trim Index).

   b. Remove screw(s) securing side roof rail weatherstrip (rear section) to side roof rail (See Fig. 6-20), and rear quarter panel.

3. While carefully pulling weatherstrip out of retainer, simultaneously break cement bond between weatherstrip and retainer using a flat-bladed tool.

4. With weatherstrip removed, screws securing weatherstrip retainer to side roof rail are

exposed. Remove screws to remove side roof rail weatherstrip retainer (see Fig. 6-20).

NOTE: The following procedure outlines the recommended process of servicing side roof rail weatherstrips on "E-87" styles when only that portion over the door glass requires replacement.

The side roof rail weatherstrip consists of two sections connected by a vulcanized joint. The front section (over door glass) can be serviced separately from the rear section (over rear quarter window). Replacement of the rear section requires replacement of the entire side roof rail weatherstrip. Replacement of front section, however, can be accomplished individually by utilizing the following procedure.

1. With a sharp implement, sever the vulcanized joint and remove front section of side roof rail weatherstrip as outlined in the preceding procedure.

2. Obtain a service replacement weatherstrip:

Part No. 7646017 - Right

Part No. 7646018 - Left

NOTE: The service weatherstrip is equipped with a nylon patch, half of which is cemented in place (See Fig. 6-21). The other half is to be cemented over the rear section of side roof rail weatherstrip (over quarter window) as directed in step #3.

3. Install replacement weatherstrip in the normal manner and form a butt joint to quarter run channel (see illustration). Use an approved weatherstrip adhesive (preferably black) to form butt joint.

4. With an approved neoprene cement, install remainder of nylon patch (see Fig. 6-21) to cover butt joint.

Removal—(Cadillac "E-47" Styles)

1. At front of weatherstrip, disengage plastic fasteners from front body hinge pillar (See Fig. 6-22).

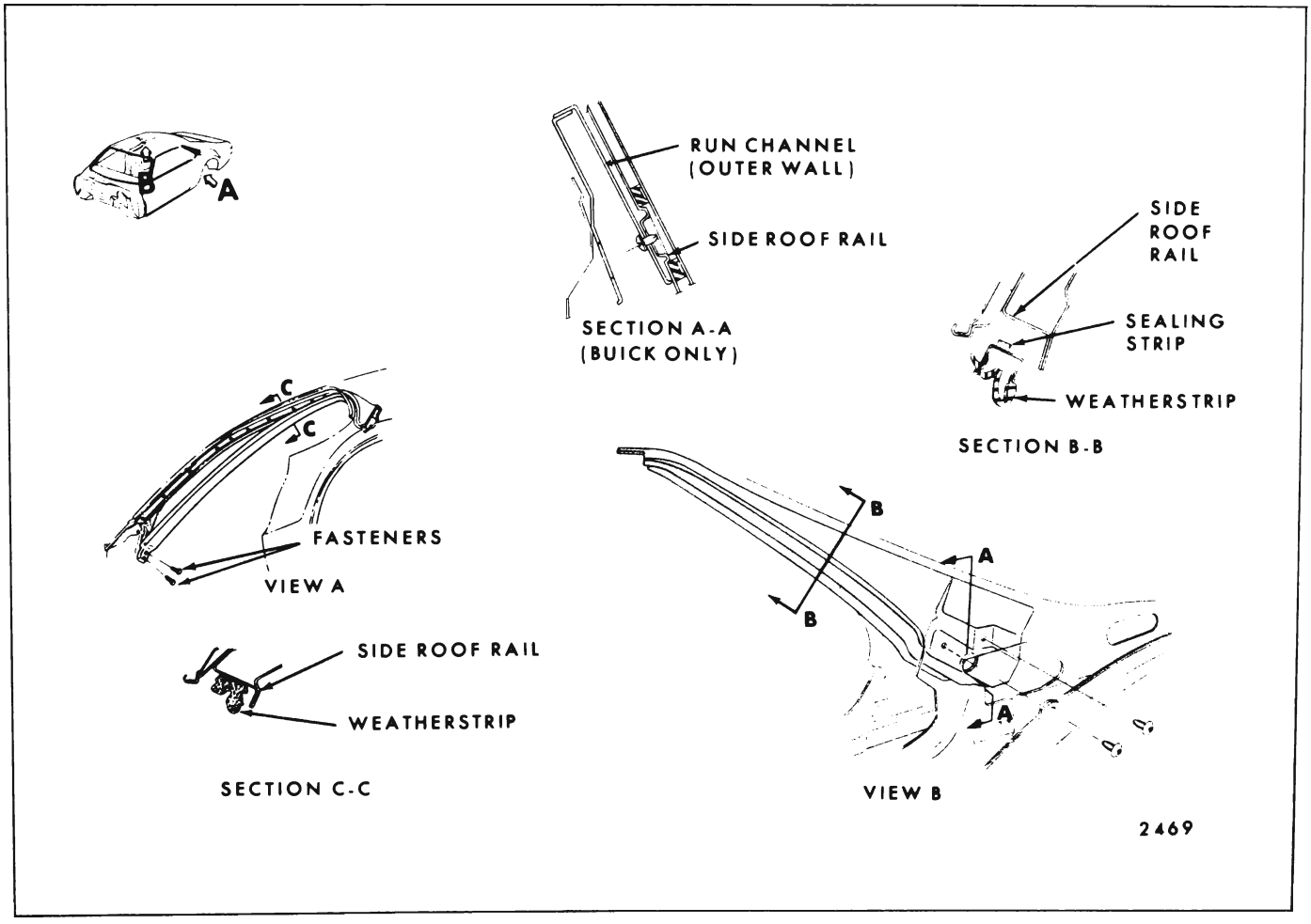


Fig. 6-20 — Side Roof Rail Weatherstrip Assembly - "E-87" Styles

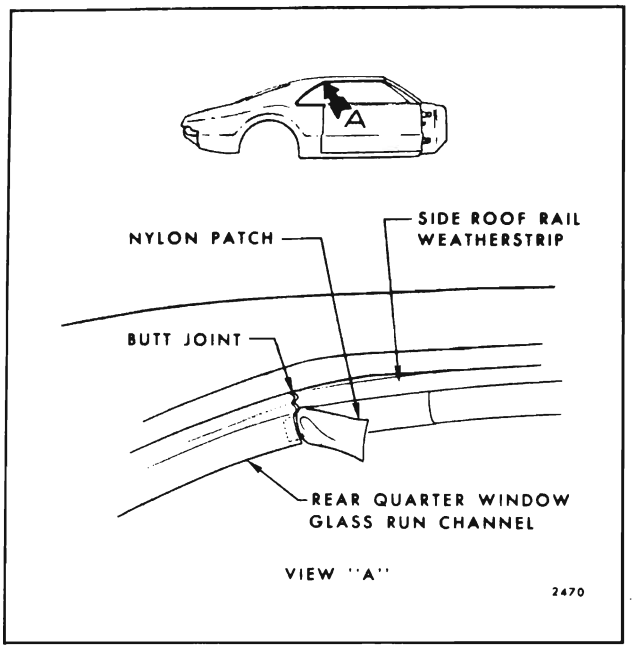


Fig. 6-21 — Side Roof Rail Weatherstrip Repair - "E-87" Styles

2. Lower rear quarter window and remove screw at rear of side roof rail weatherstrip (See Fig. 6-22).

3. While carefully pulling weatherstrip out of retainer, simultaneously break cement bond between weatherstrip and retainer, using a flat-bladed tool.

4. With weatherstrip removed, screws securing weatherstrip retainer to side roof rail are exposed. Remove screws to remove side roof rail weatherstrip retainer (See Fig. 6-22).

Installation (All Styles)

1. If retainer were removed, remove and discard saturated polyurethane foam sealing strip from side roof rail weatherstrip retainer and/or side roof rail (See Fig. 6-20).

2. Scrape off any excess black weatherstrip adhesive from weatherstrip retainer.

3. Apply a continuous bead of a "pumpable" type body caulking compound to surface of retainer that mates with side roof rail ("1", Fig. 6-18). Apply bead outboard of attaching screw holes.

4. Position retainer to body and install attaching screws.

5. Apply a bead of black weatherstrip adhesive to outboard flange of weatherstrip retainer ("1", Figs. 6-16 and 6-17). Extend adhesive down front body hinge pillar to seal lower front end of weatherstrip that is retained with plastic fasteners.

6. Position front end of weatherstrip to body and install plastic fasteners. Then, using a flat-bladed tool, begin engaging weatherstrip with retainer as shown in Section "A-A", Figures 6-16 and 6-17. Engage inboard lip of weatherstrip first, then, outboard lip.

7. After weatherstrip has been installed along length of retainer, install screw at rear end of weatherstrip where so equipped.

SIDE ROOF RAIL WEATHERSTRIP ADJUSTMENT

The side roof rail weatherstrip can be adjusted either inboard or outboard to effect a proper seal with the door or quarter window. To reposition the weatherstrip, disengage the inboard edge of weatherstrip from retainer and loosen retainer attaching screws. Adjust retainer as required and tighten screws. For proper relationship of weatherstrip to door window, refer to "Front Door Window Adjustments".

CENTER PILLAR WEATHERSTRIPS— "C-69" Styles

The center pillar weatherstrips are retained with adhesive in retainers that are screwed to the center p[illar]. In addition, the weatherstrips are retained top by a barb in the reta[iner] that engages t[he] eatherstrip. Due to the presence of the barb, a center pillar weatherstrip cannot be removed by sliding it out at the bottom of the retainer. Instead, it must be worked out of the retainer with a flat-bladed tool. Starting at the lower end and working upward, disengage weatherstrip from retainer outboard flange.

Although the weatherstrip cannot be slid out of the retainer, it is installed by engaging the upper end of the strip with the lower end of the retainer and sliding the strip upward. Prior to installing weatherstrip, apply a bead of black weatherstrip adhesive to outboard flange of retainer to secure weatherstrip when it is installed.

NOTE: The center pillar weatherstrips can be adjusted inboard or outboard to achieve a better seal with the door window. To reposition the weatherstrip, remove weatherstrip from retainer and adjust retainer in or out as required.

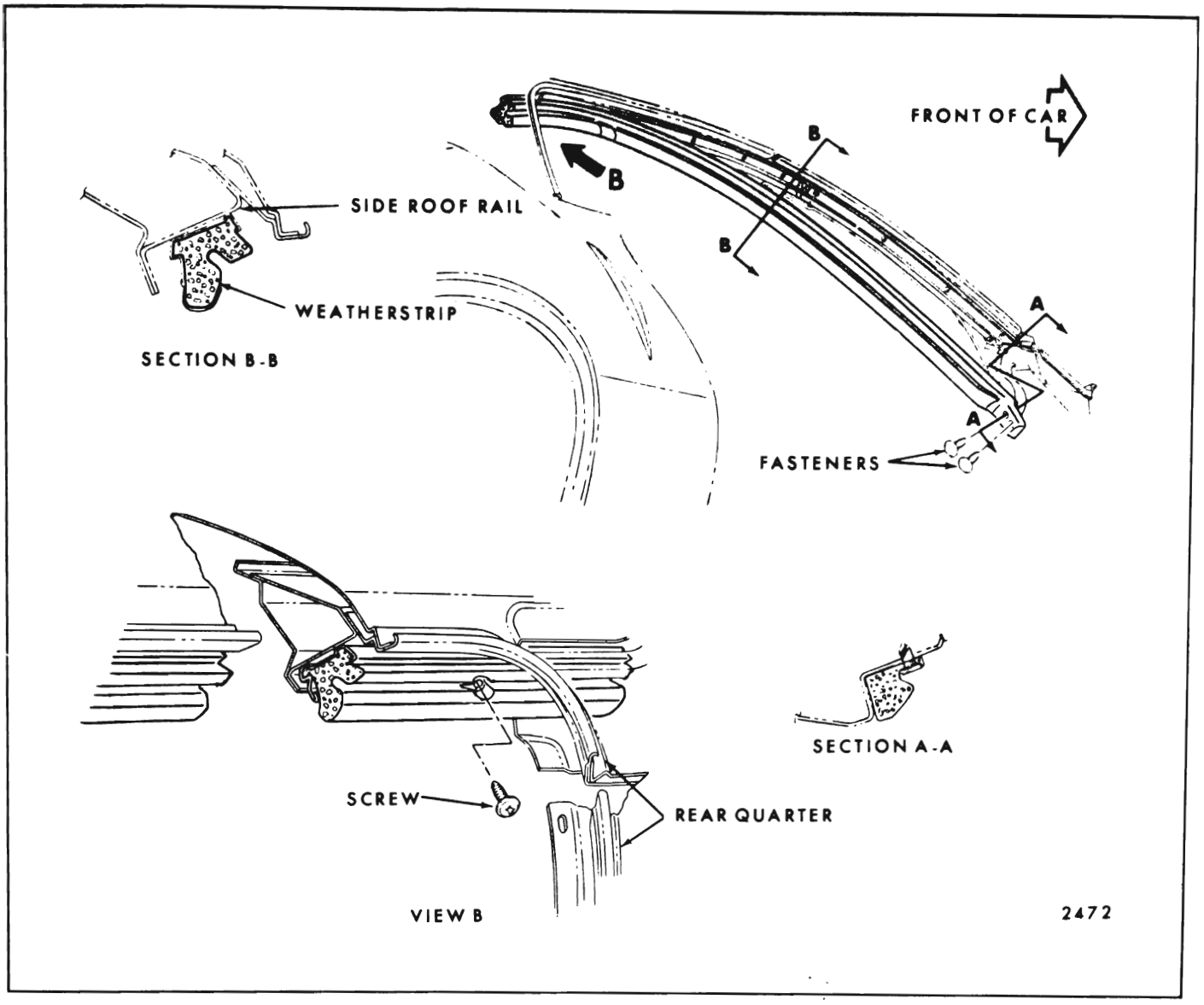


Fig. 6-22 — Side Roof Rail Weatherstrip Assembly - "E-47" Styles

SPECIFIED BODY OPENING CLEARANCE TOLERANCES—All Styles

Figures 6-23, 6-24, 6-25, 6-26, 6-27 and 6-28 show specified body opening gap spacing tolerances and deviations from flush alignment permissible between fender and front door and front to rear door on all 1967 body styles.

Deviations from flush alignment are required at those locations where a swing-in type hinge is used and the leading edge of the door swings inboard of adjacent body metal.

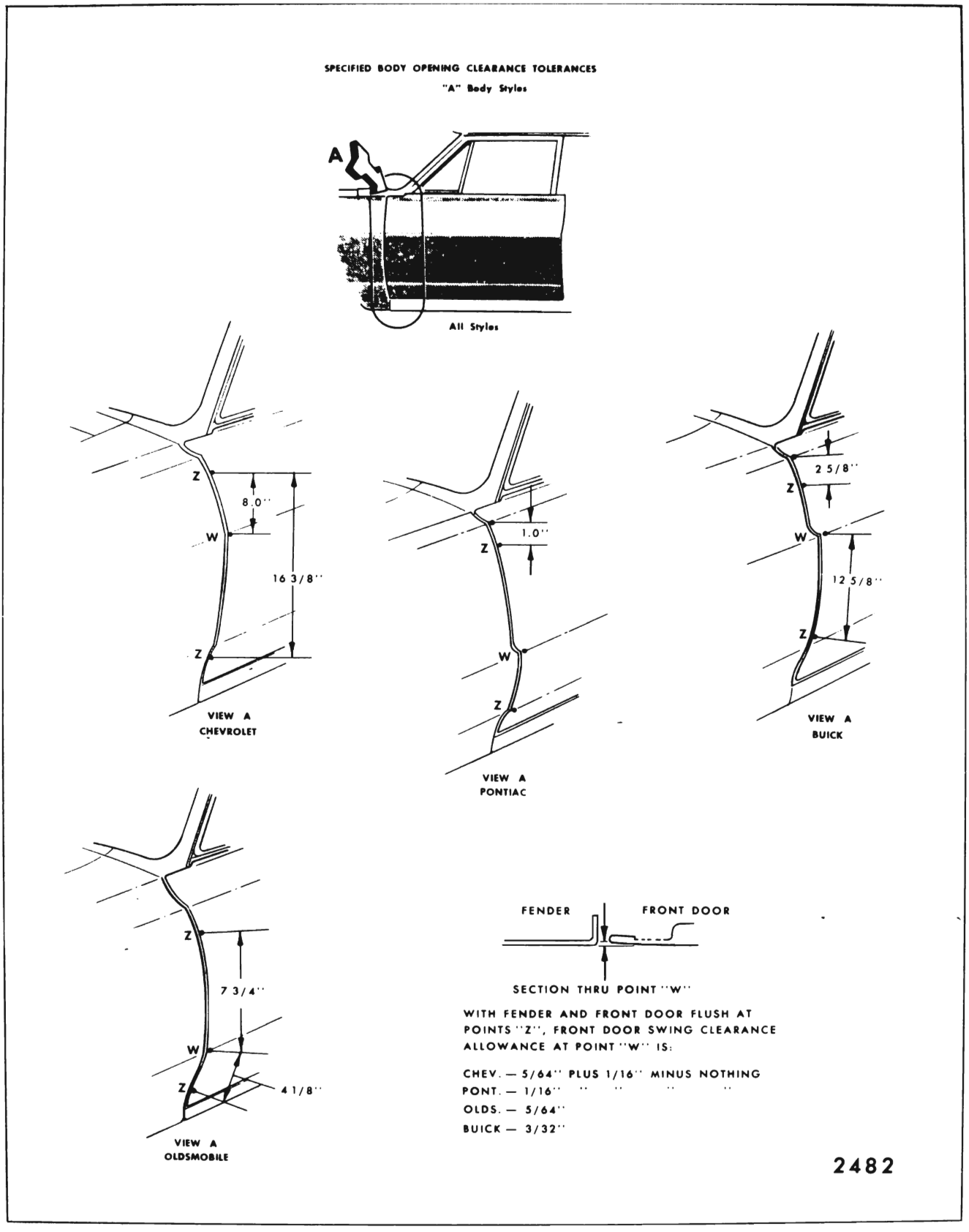
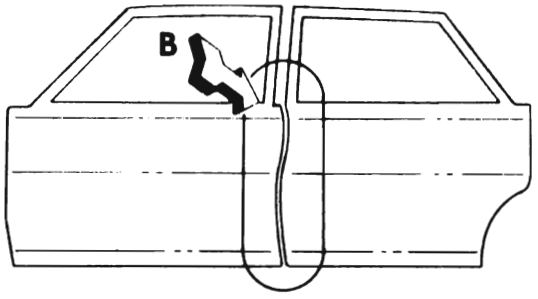


Fig. 6-23 — Specified Body Opening Clearance Tolerances - "A" Body Styles

SPECIFIED BODY OPENING CLEARANCE TOLERANCES
"A" Body 4 Door Styles

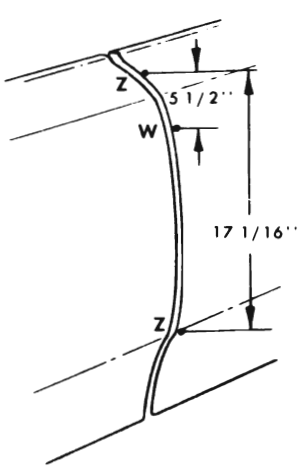


FRONT TO REAR DOOR RELATIONSHIP
IS FLUSH TO 1/16" OUTBOARD AT
POINTS "Z"

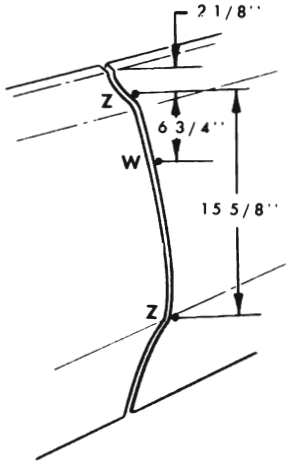
FRONT TO REAR DOOR GAP SPACING
IS 3/16" PLUS 1/32" MINUS 1/16"

SEE DIMENSIONS SHOWN UNDER
VIEW OF EACH SERIES

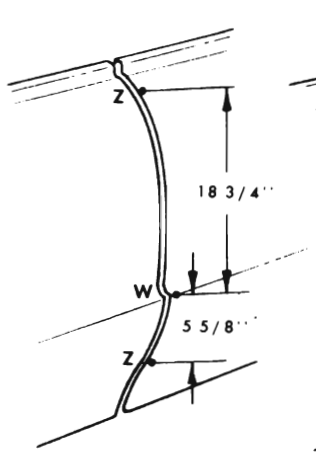
SECTION SHOWING CLEARANCE BETWEEN FRONT AND REAR DOOR



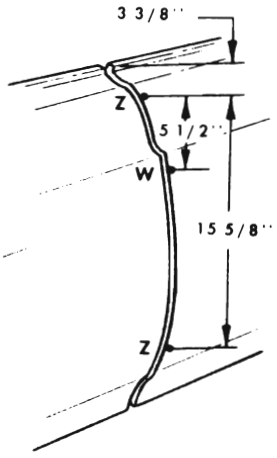
VIEW B
CHEVROLET



VIEW B
PONTIAC



VIEW B
OLDSMOBILE



VIEW B
BUICK

1966
WITH FRONT AND REAR DOOR FLUSH AT POINTS "Z"
REAR DOOR SWING CLEARANCE ALLOWANCE AT POINT "W" IS:

CHEV. — 5/64" PLUS 1/32" MINUS NOTHING
PONT. — 1/16" " " " "
OLDS. — 3/32"
BUICK — 3/32"

2483

Fig. 6-24 — Specified Body Opening Clearance Tolerances - "A" Body - 4-Door Styles

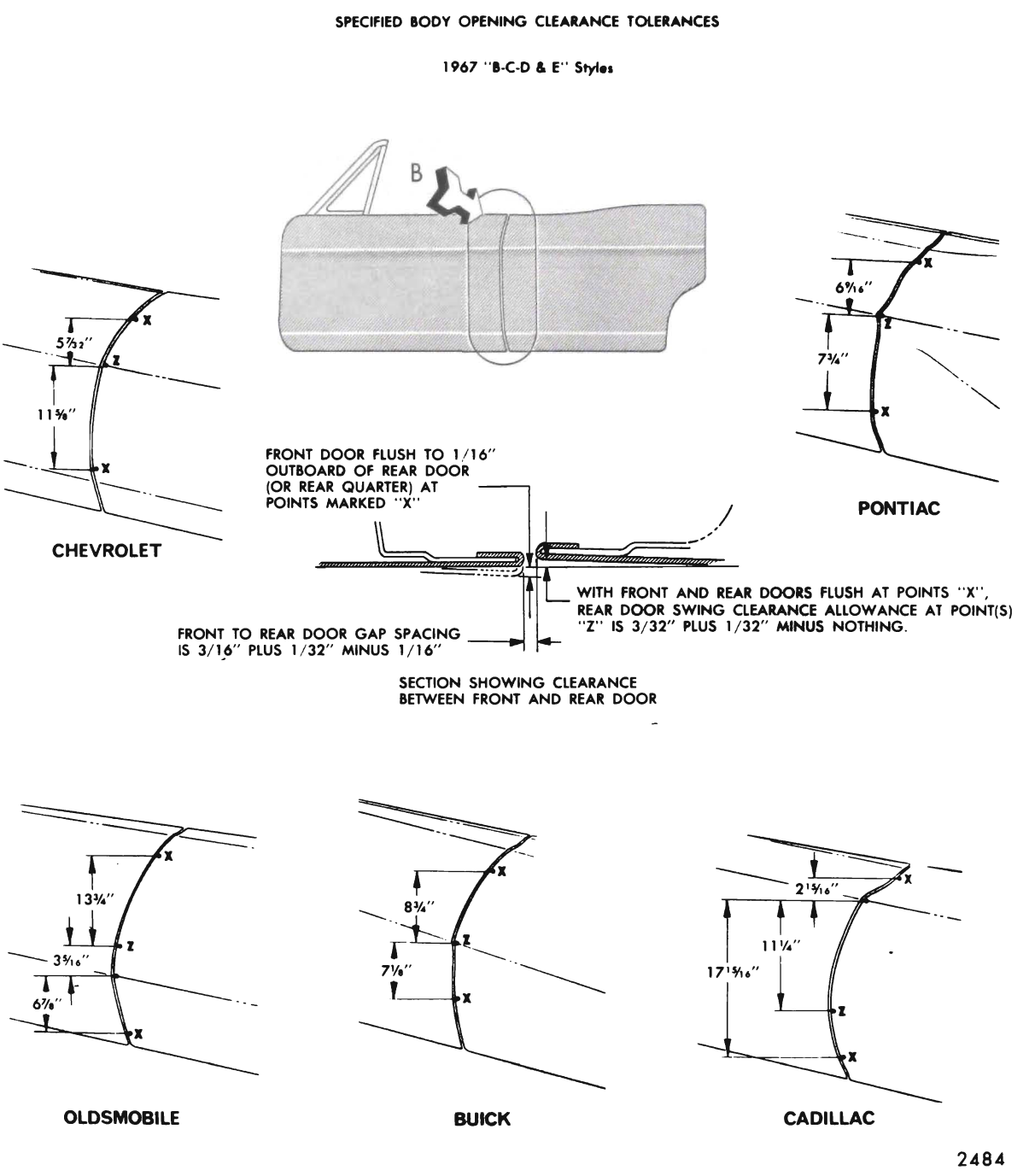
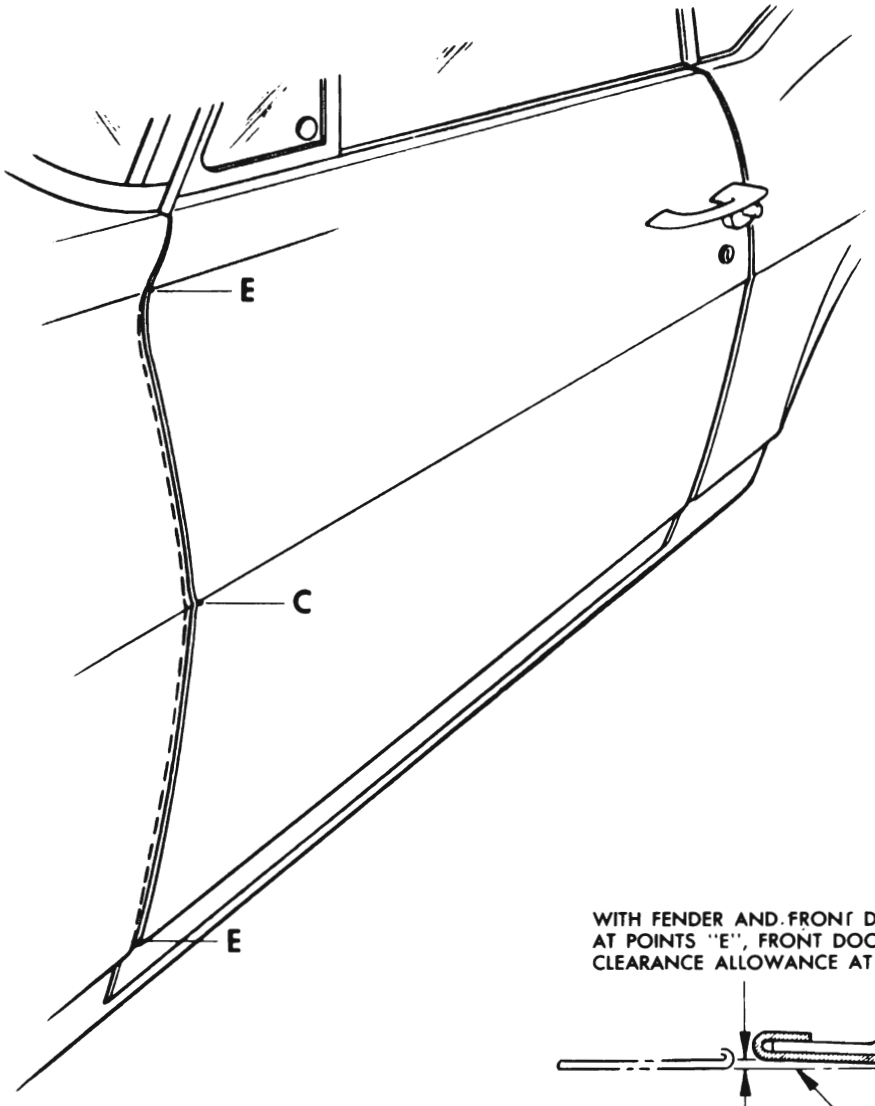


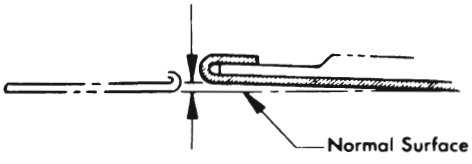
Fig. 6-25 — Specified Body Opening Clearance Tolerances - "B-C-D-E" Styles

SPECIFIED BODY OPENING CLEARANCE TOLERANCES

1967 "F" Body



WITH FENDER AND FRONT DOOR FLUSH AT POINTS "E", FRONT DOOR SWING CLEARANCE ALLOWANCE AT POINT "C" IS 3/32"



Section showing clearance between fender and front door

2485

Fig. 6-26 — Specified Body Opening Clearance Tolerances - "F" Body Styles

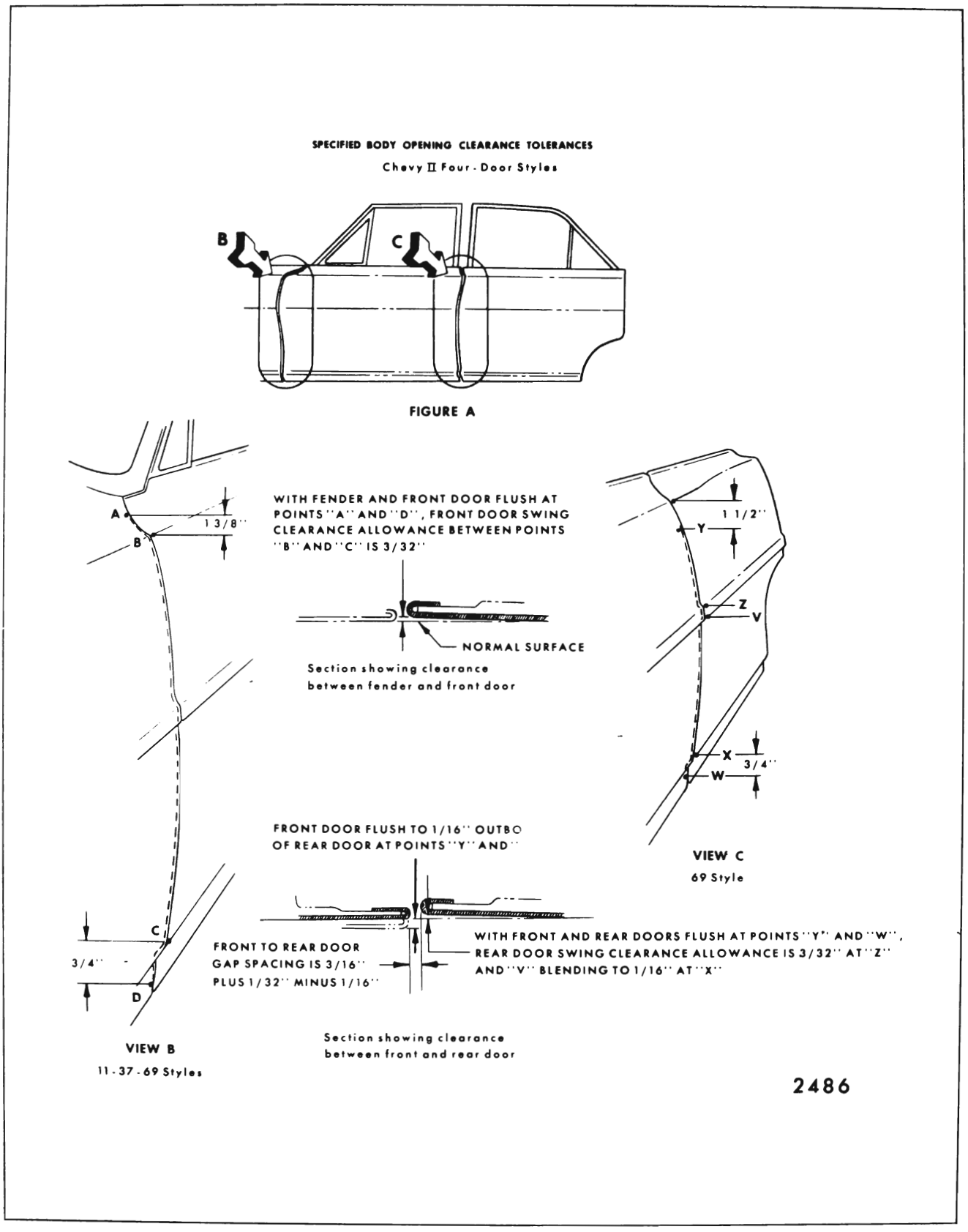
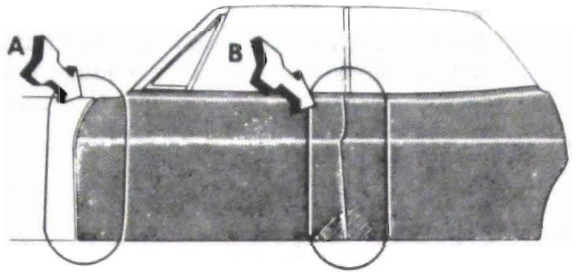
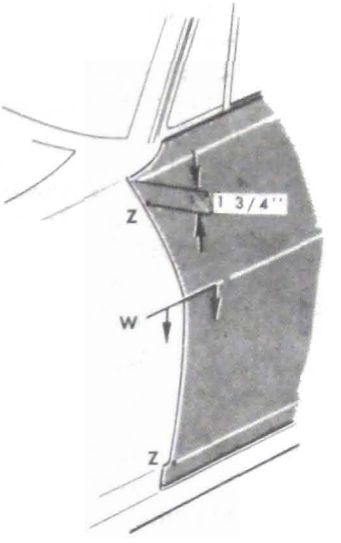


Fig. 6-27 — Specified Body Opening Clearance Tolerances - Chevy II 4-Door Styles

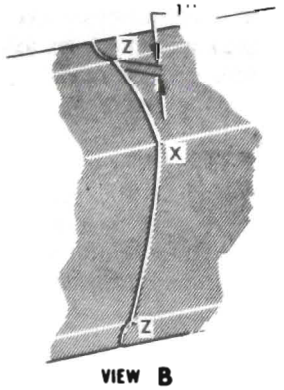
SPECIFIED BODY OPENING CLEARANCE TOLERANCES

Corvair Body Styles



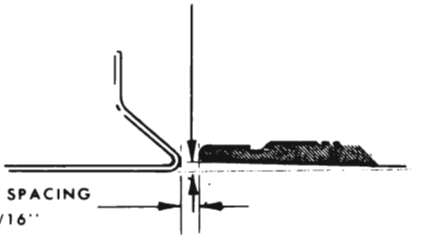


VIEW A



VIEW B

WITH FENDER AND DOOR FLUSH AT POINTS "Z", FRONT DOOR SWING CLEARANCE ALLOWANCE AT POINT "W" IS 3/32" PLUS 1/16" MINUS NOTHING



FENDER TO FRONT DOOR GAP SPACING IS 3/16" PLUS 1/32" MINUS 1/16"

Section "W" of View A

FRONT TO REAR DOOR RELATIONSHIP IS FLUSH TO 1/16" OUTBOARD AT POINTS "Z"

FRONT TO REAR DOOR GAP SPACING IS 3/16" PLUS 1/32" MINUS 1/16"

WITH FRONT AND REAR DOOR FLUSH AT POINTS "Z", REAR DOOR SWING CLEARANCE ALLOWANCE AT POINT "X" IS 3/32" PLUS 1/32" MINUS NOTHING

Section through "X" in View B

2487

Fig. 6-28 — Specified Body Opening Clearance Tolerances - Corvair Styles

FRONT DOORS

DESCRIPTION

All doors fall into two basic categories, closed styles (those with door upper frames) and hard top or convertible styles (those without door upper frames). Although front doors utilize similar hardware, the presence or lack of a door upper frame usually determines the removal or installation sequence of any particular part.

Any work performed on door hardware usually requires removal of trim pad and inner panel water deflector. The procedures for water deflectors are covered in "Front and Rear Doors", section 6. Trim Procedures are in section 14 (see index).

Unless otherwise stated, the front door service procedures listed here pertain to all body styles.

Figures 6-29, 6-30, 6-31, 6-32, 6-33, 6-34, 6-35, 6-36, 6-37, 6-38, 6-39, and 6-40 are typical of front doors with the trim assembly and inner panel water deflector removed. The figures identify the component parts of the front door assembly (by style), their relationship and various attaching points.

FRONT DOOR HINGES

All hinges for all styles are constructed of either steel or malleable iron. A one or two stage hold-open feature is incorporated in all lower hinges. The front door is mounted to the front body hinge pillar with an upper and lower hinge (Fig. 6-41). On "B-C" Styles, the hinges are the "swing-out" type which means that the leading edge of the door swings outboard of the front fender when the door is opened.

Although the door can be removed from the body with or without the hinges attached to the door, it is recommended that when removing the door only, remove the door from the hinges. Accessibility to the door side hinge bolts is better than to the body side bolts.

When servicing both door hinges, remove the door from the hinges, then the hinges from the body. When servicing only one hinge, however, make replacement while supporting the door in the open position.

Door Removal and Installation

1. Prior to loosening any hinge bolts, mark position of hinge on door to facilitate adjustment when reinstalling door or hinge.
2. On doors equipped with power operated windows and/or vacuum door locks, remove trim pad and detach inner panel water deflector sufficiently to disconnect harness assembly(ies) and remove same from door.

   NOTE: On Pontiac, Oldsmobile and Buick Styles equipped with electric ventilators, disconnect door wire harness at jumper wire connector, not at motor. On Cadillac Styles, disconnect harness at vent motor.

3. With the aid of a helper to support door, remove upper and lower hinge to door attaching bolts (Fig. 6-41) and remove door from body. Also refer to Figures 6-42, 6-43 and 6-44.

   NOTE: On all styles, removal of door from body (without hinges attached) can be accomplished without loosening front fender. On "A", "E", "F" and "X" Body Styles, however, removal of hinges necessitates loosening of front fender. On some Corvair front doors, a 6 point bolt is used at all hinge to door and hinge to body attaching locations. Tool J-22675 or equivalent, should be used when servicing these spline-head bolts.

4. To install door, reverse removal procedure. Prior to installation, apply a coat of heavy body sealer to surface of hinge that contacts door for protection against corrosion.

Hinge Removal

1. If both hinges are to be removed, remove front [illegible] as previously described. If only one hinge is to be removed, support door and remove door side hinge bolts of hinge being replaced.
2. Mark position of hinge on body hinge pillar.
3. On Cadillac 68000 Series, remove cowl air intake grille to make upper hinge upper attaching bolts accessible.
4. On "B & C" styles, remove hinge to body attaching bolts (Fig. 6-41) and remove hinge from body. On "A, E, F & X" body styles, loosen front fender as required.

   NOTE: The following illustrations demonstrate workable methods of loosening front fenders for hinge removal and adjustment. Car Division publications should, however, be referenced prior to any movement of front end sheet metal.

(Continued on Page 6-35)

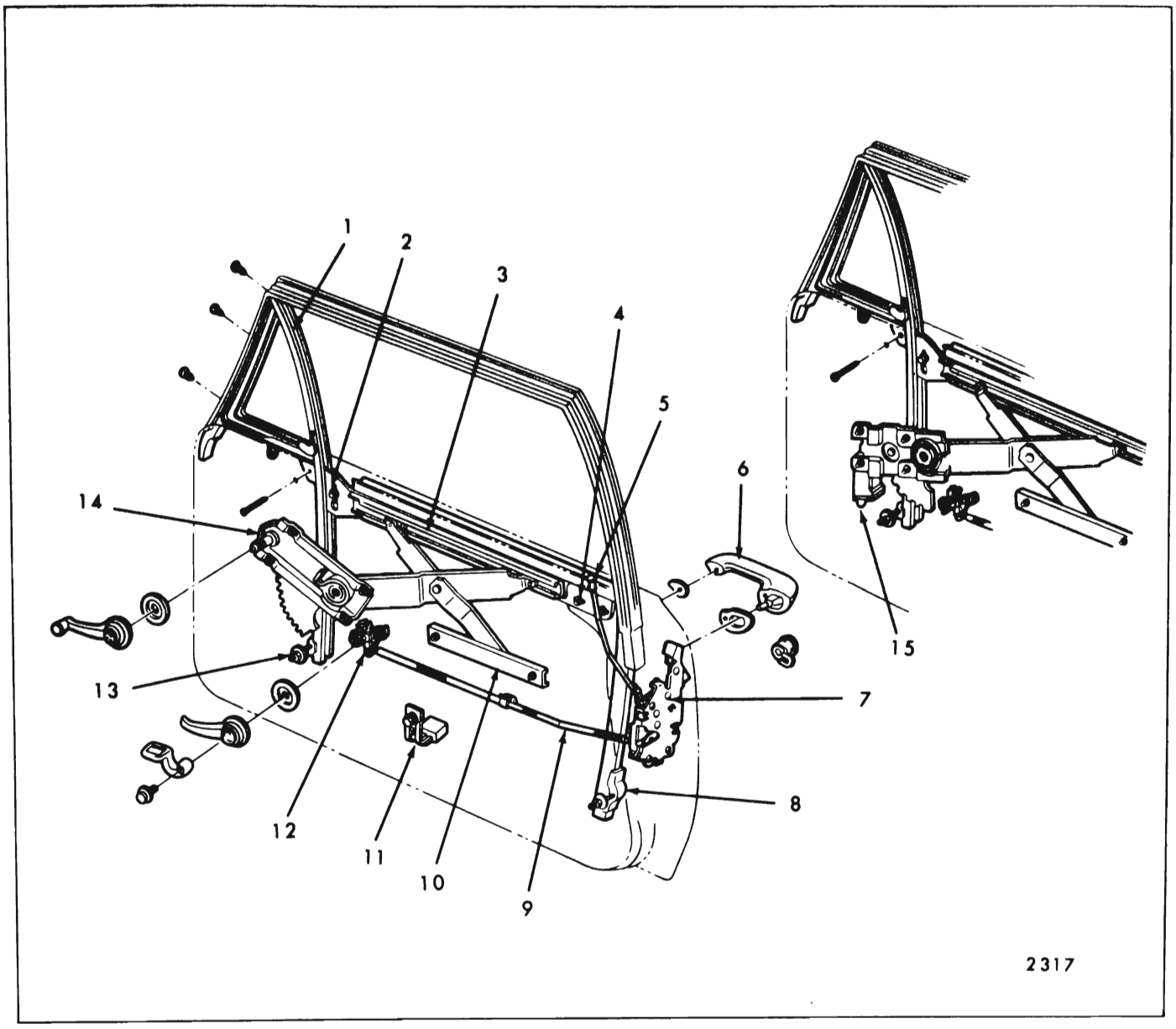


Fig. 6-29—Front Door Hardware - "A-07" Styles

1. Ventilator Assembly
2. Window Front Up-Stop
3. Sash Channel Cam
4. Rear Guide
5. Lock to Locking Lever Rod
6. Outside Handle and Sealing Gaskets
7. Lock
8. Rear Glass Run Channel
9. Remote Control Connecting Rod
10. Inner Panel Cam
11. Window Lower Stop
12. Remote Control
13. Ventilator Division Channel
14. Window Regulator (Manual)
15. Window Regulator (Electric)

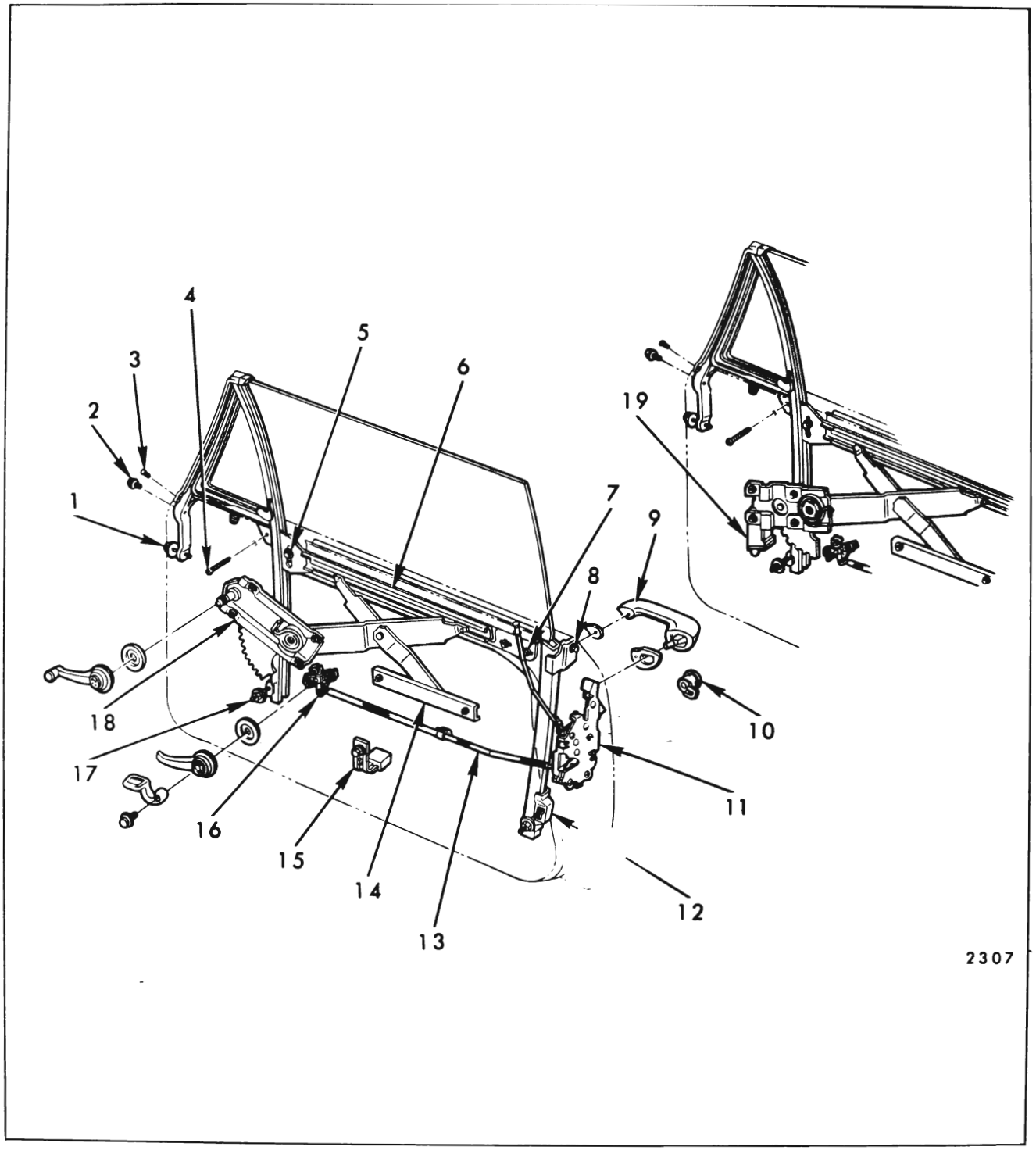


Fig. 6-30 — Front Door Hardware - "A 17-67" Styles

1. Ventilator Frame Lower Adjusting Stud and Nut
2. Ventilator Frame Upper Attaching Bolt
3. Ventilator Frame to Inner Panel Screw
4. Ventilator to Door Inner Panel Attaching Screw
5. Window Front Up-Stop
6. Window Sash Channel Cam
7. Window Rear Guide
8. Glass Rear Run Channel Upper Bolt
9. Outside Handle Assembly
10. Lock Cylinder
11. Lock
12. Glass Rear Run Channel Lower Adjusting Stud and Nut
13. Lock to Remote Control Connecting Rod
14. Inner Panel Cam
15. Window Lower Stop
16. Remote Control
17. Ventilator Division Channel Lower Adjusting Stud and Nut
18. Window Regulator (Manual)
19. Window Regulator (Electric)

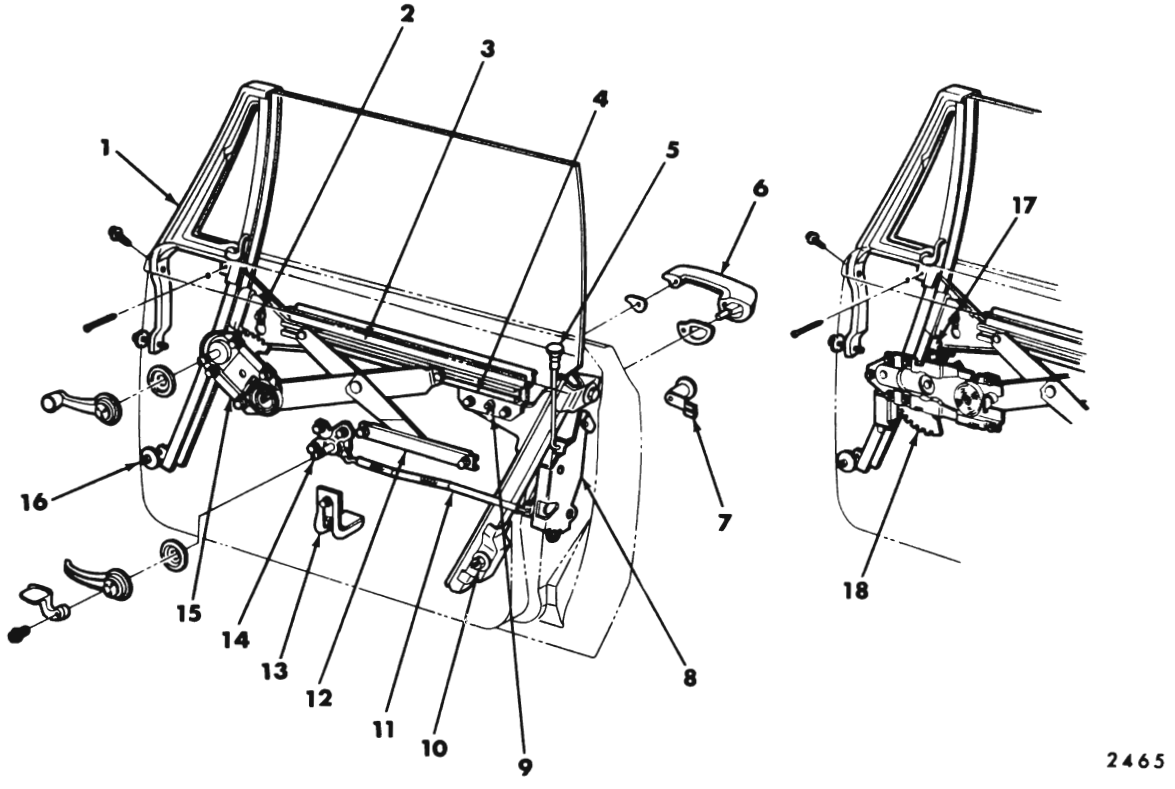


Fig. 6-31 — Front Door Hardware - "A-39" Styles

1. Ventilator Front Frame
2. Window Front Up-Stop
3. Sash Channel Cam
4. Rear guide
5. Lock to Locking Lever Rod
6. Outside Handle and Sealing Gaskets
7. Lock Cylinder
8. Lock
9. Window Rear Up-Stop
10. Rear Glass Run Channel
11. Remote Control Connecting Rod
12. Inner Panel Cam
13. Window Lower Stop
14. Remote Control
15. Window Regulator (Manual)
16. Ventilator Division Channel
17. Regulator Sector Gear Stop (Electric Only)
18. Window Regulator (Electric)

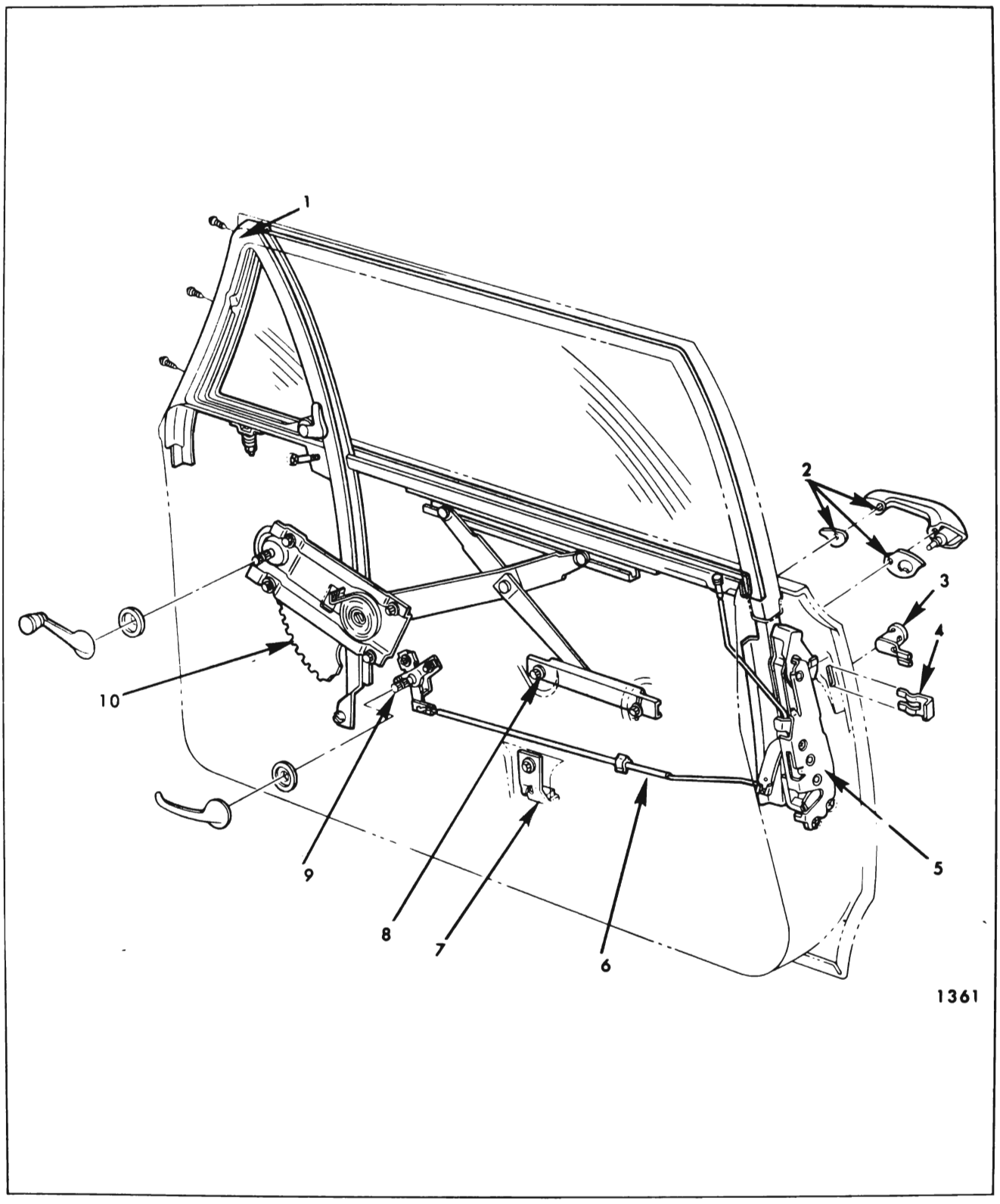


Fig. 6-32—Front Door Hardware - "A" Closed Styles, "X" Similar

1. Ventilator
2. Outside Handle and Sealing Gaskets
3. Cylinder
4. Lock Cylinder Retainer
5. Lock
6. Remote Control Connecting Rod
7. Window Lower Stop
8. Inner Panel Cam
9. Remote Control
10. Window Regulator

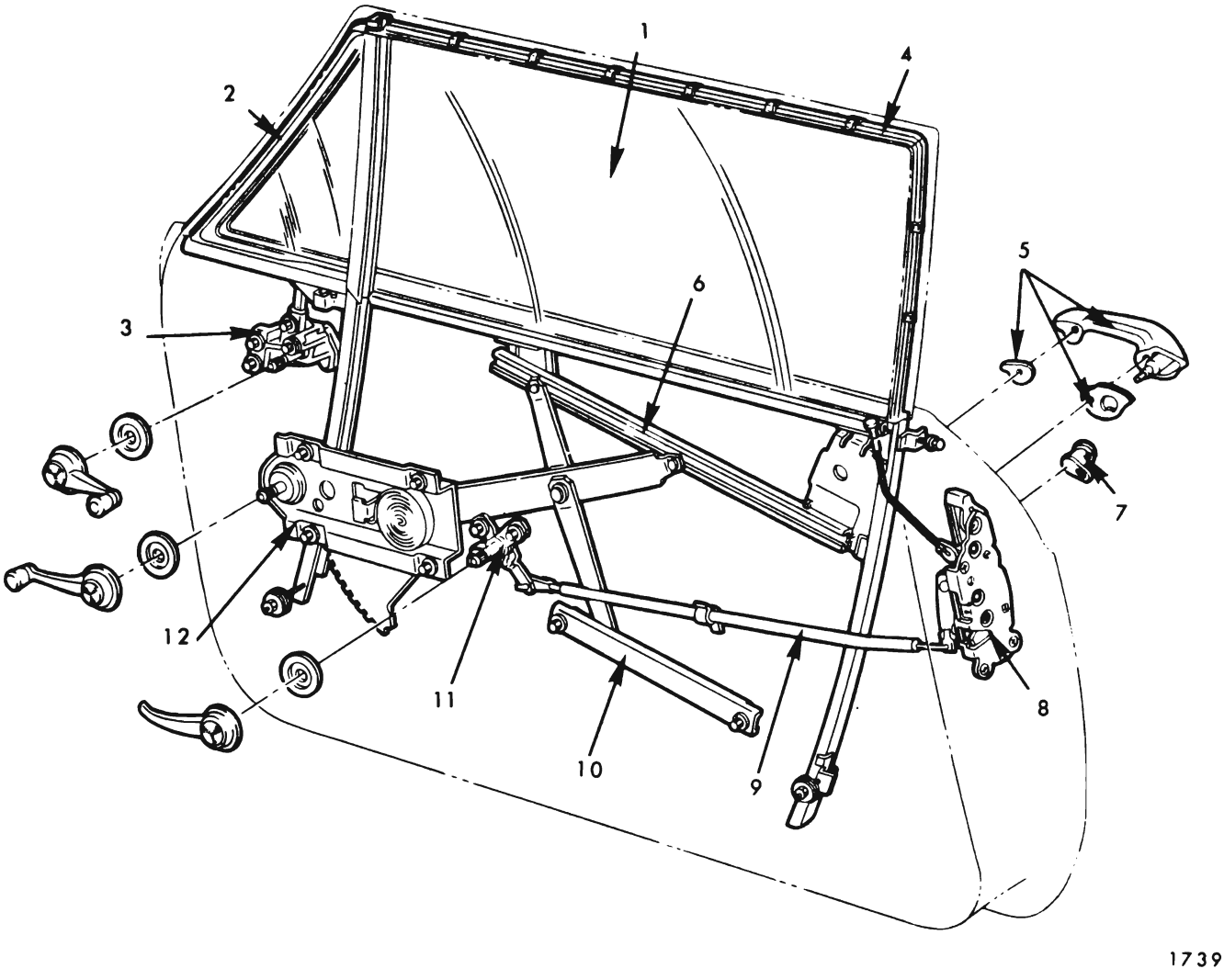


Fig. 6-33 — Front Door Hardware - "B" Closed Styles

1. Window Assembly
2. Ventilator Assembly
3. Ventilator Regulator
4. Window Glass Run Channel
5. Door Outside Handle and Sealing Gaskets
6. Lower Sash Channel Cam (Part of Window Lower Sash Channel)
7. Lock Cylinder
8. Door Lock
9. Remote Control Connecting Rod
10. Inner Panel Cam
11. Remote Control
12. Window Regulator

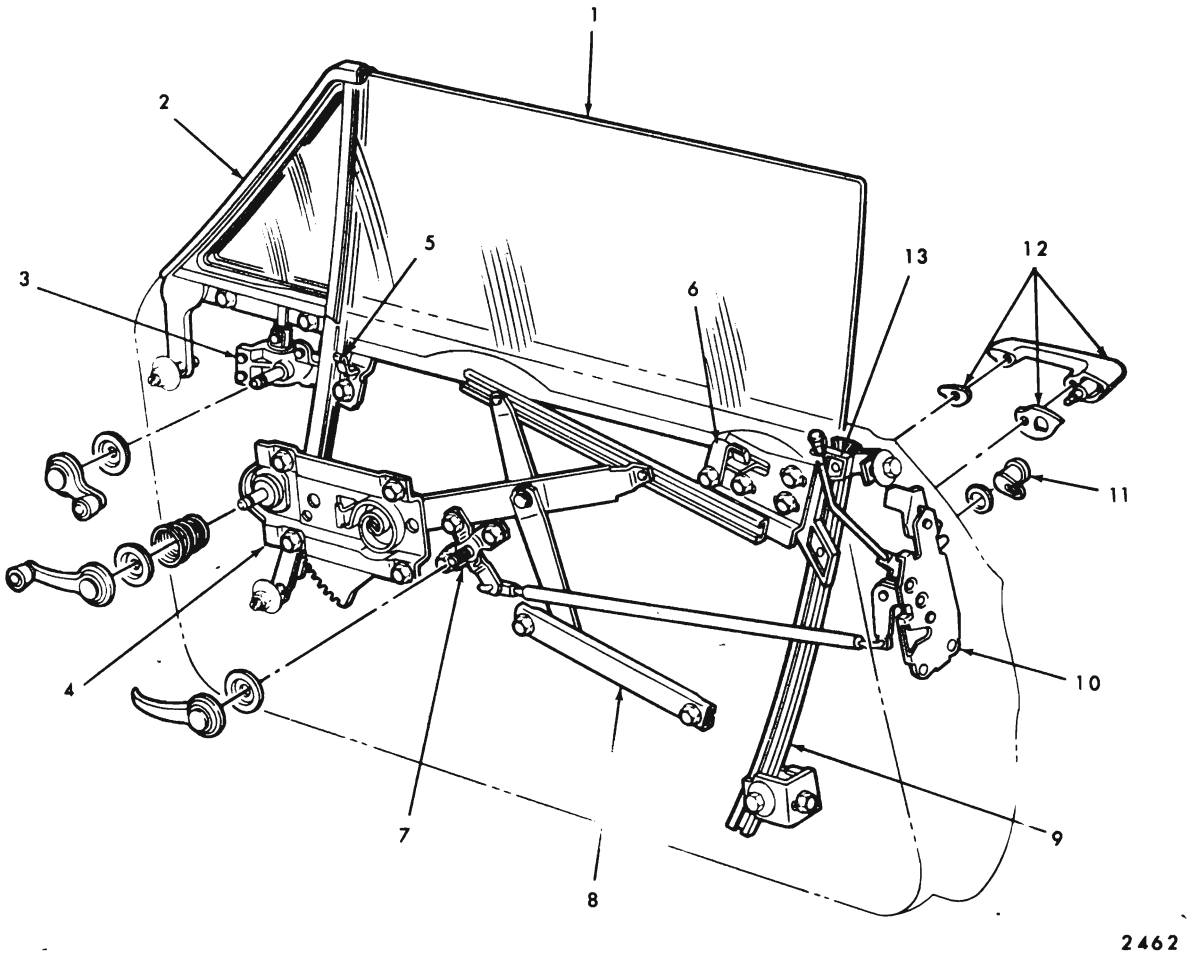


Fig. 6-34—Front Door Hardware - "B-C 39-47-57-67-87" Styles Except 26657

1. Front Door Window Assembly
2. Ventilator
3. Ventilator Regulator
4. Window Regulator
5. Window Front Upper Stop
6. Window Rear Upper Stop
7. Door Lock Remote Control
8. Inner Panel Cam
9. Window Rear Guide
10. Door Lock
11. Door Lock Cylinder
12. Outside Handle and Gaskets
13. Front Door Window Guide Rear Plate Assembly

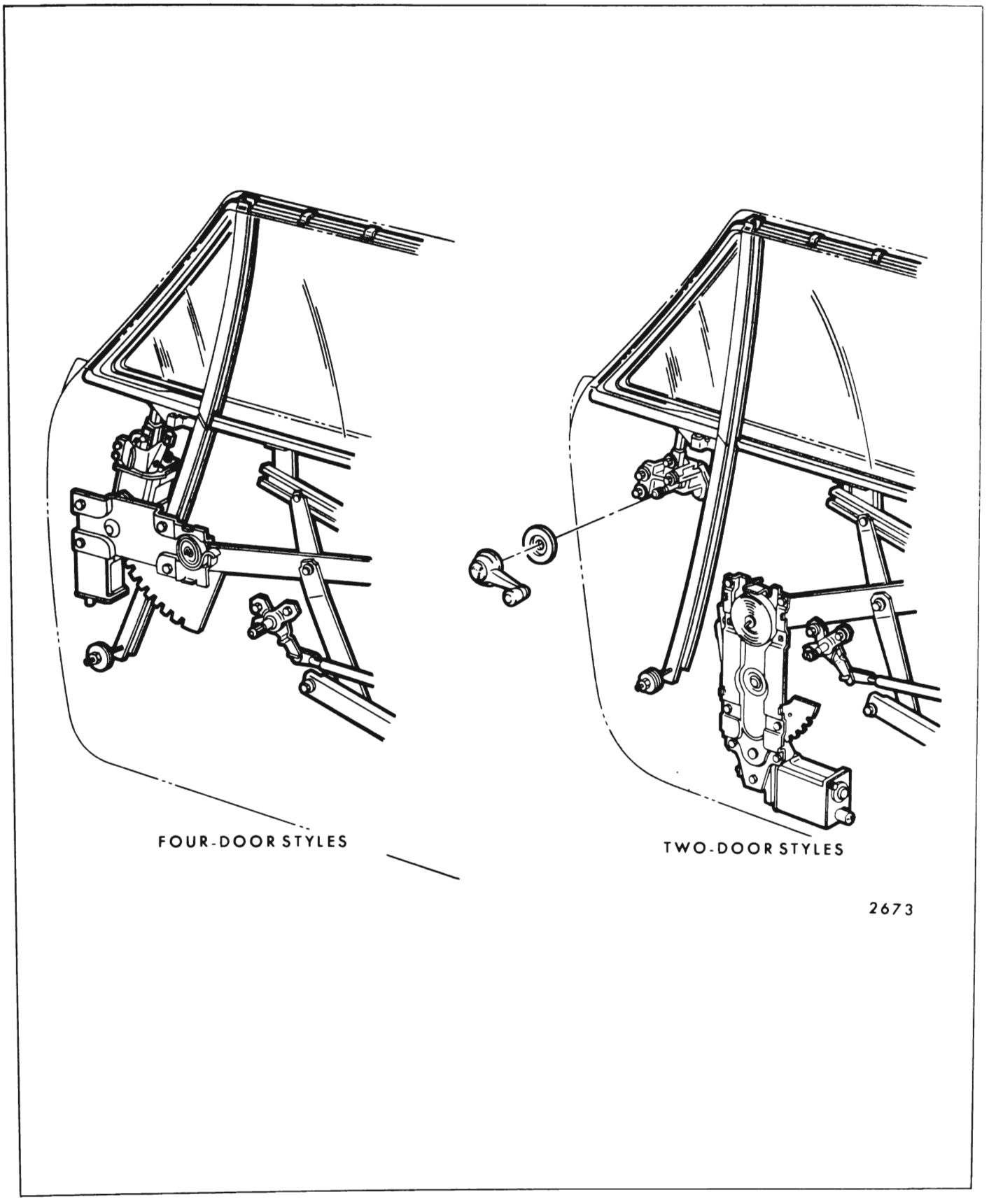


Fig. 6-35 — Front Door Hardware Electric Options - "B & C" Styles

NOTE: Electric Ventilator available on both closed and hardtop styles, but not on all styles or all models

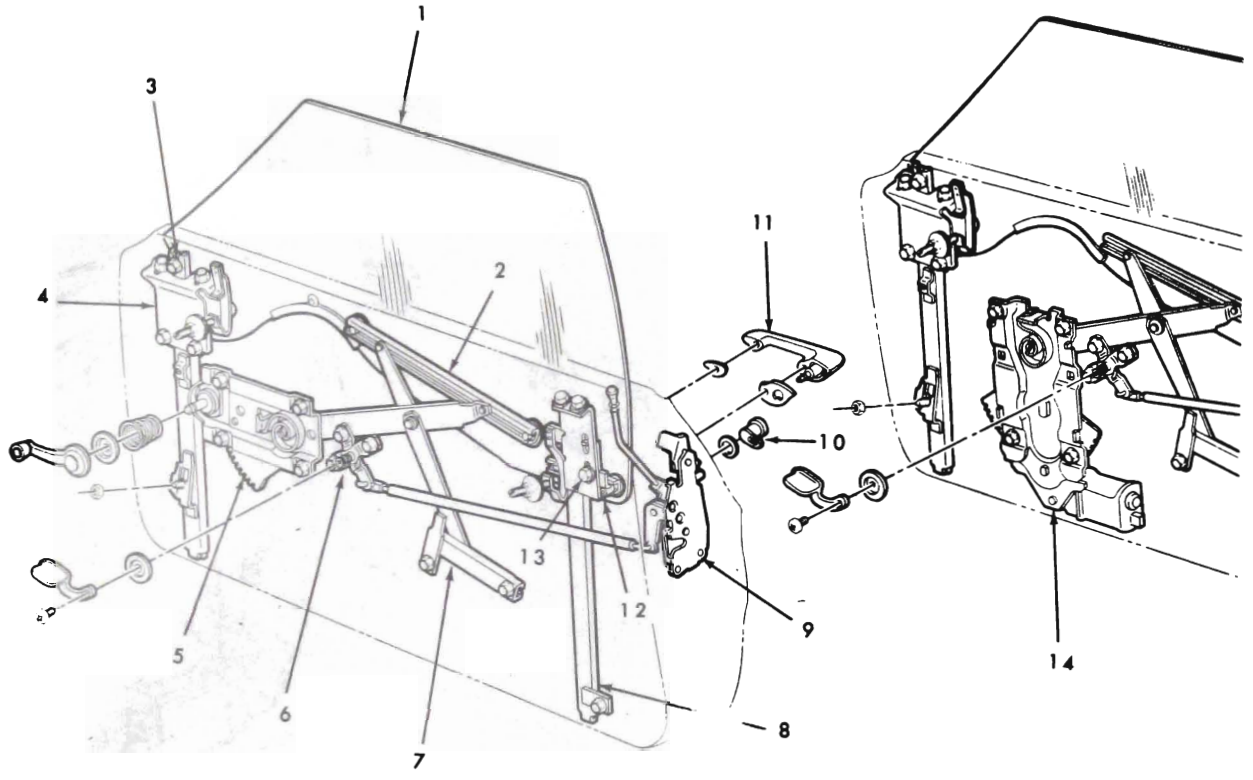


Fig. 6-36 — Front Door Hardware - 26657 Style

1. Front Door Window Assembly
2. Lower Sash Channel Cam
3. Window Front Upper Stop
4. Front Guide
5. Window Regulator - Manual
6. Door Lock Remote Control
7. Inner Panel Cam
8. Rear Guide
9. Door Lock
10. Door Lock Cylinder
11. Door Outside Handle
12. Window Rear Upper Stop (on window)
13. Window Rear Upper Stop (on guide)
14. Window Regulator - Electric

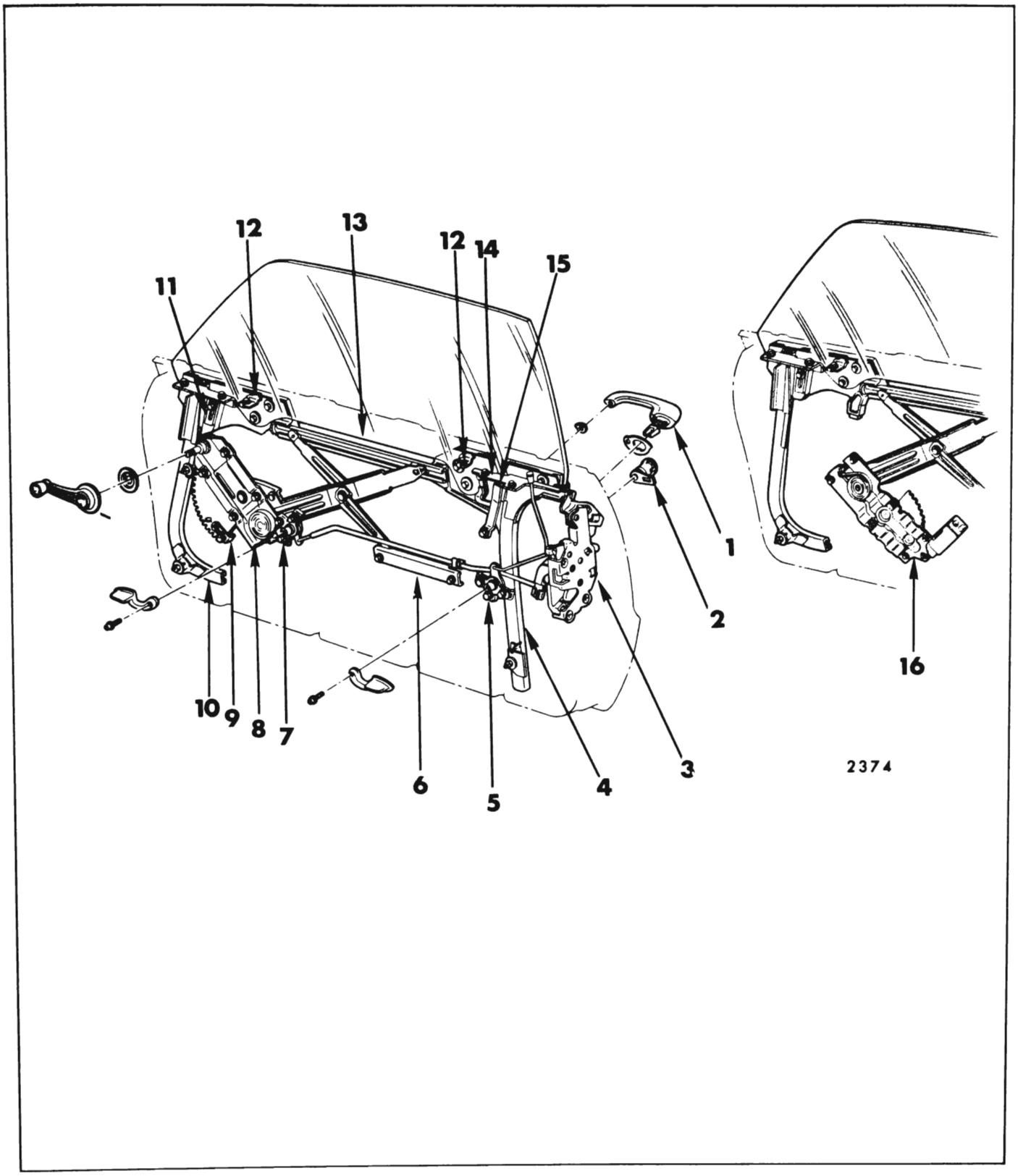


Fig. 6-37 — Front Door Hardware - "E" Styles

1. Outside Handle
2. Lock Cylinder
3. Lock
4. Window Rear Guide Channel
5. Rear Remote Control (Optional)
6. Inner Panel Cam
7. Front Remote Control (Standard)
8. Window Regulator (Manual)
9. Regulator Sector Stop (manual only)
10. Front Guide Channel
11. Window Front Up-Stop
12. Trim Pad Adjusting Plates
13. Glass Sash Channel Cam
14. Window Stabilizer
15. Window Rear Up-Stop
16. Window Regulator (Electric)

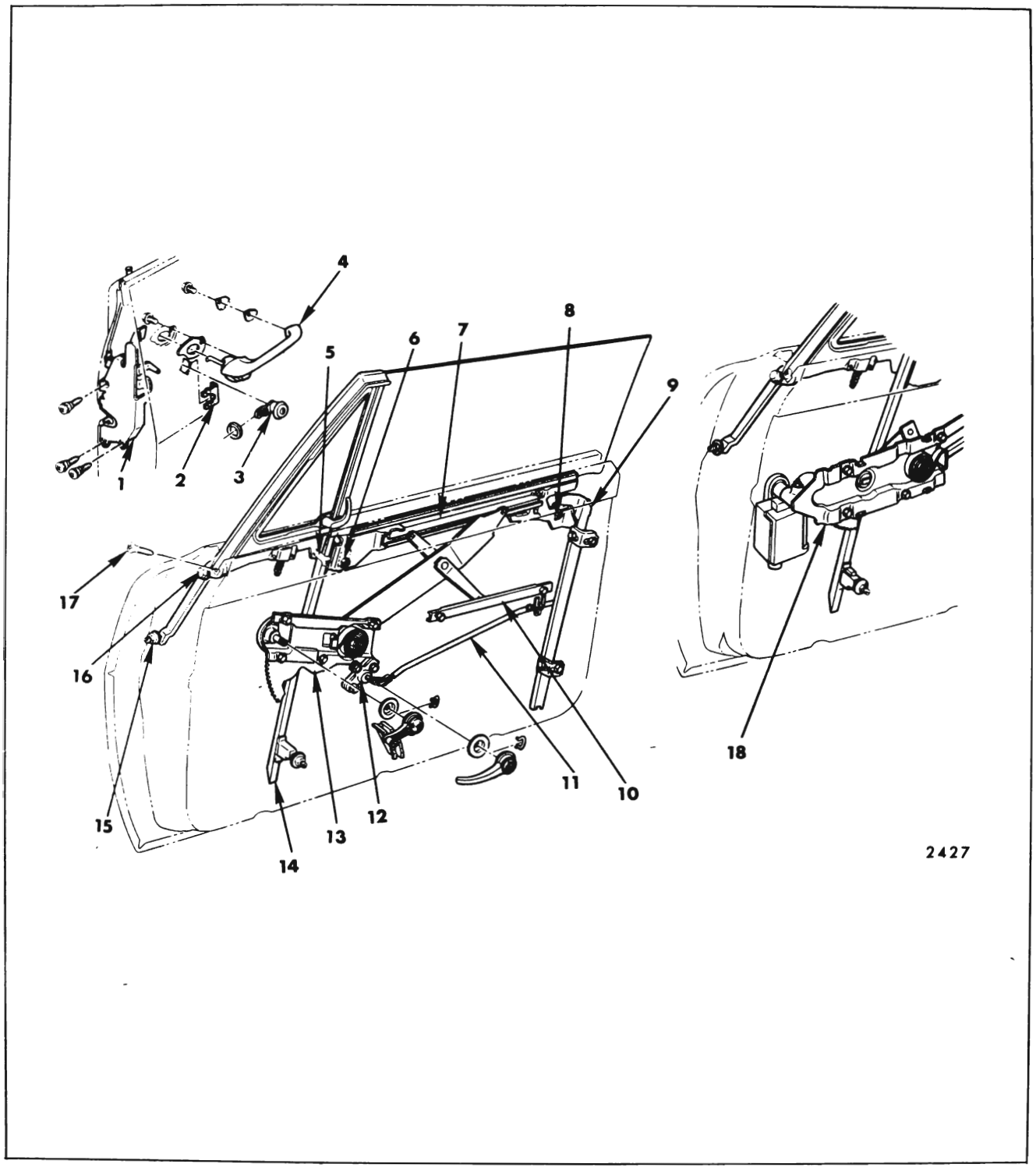


Fig. 6-38—Front Door Hardware - All "F" Bodies

1. Lock Assembly
2. Lock Cylinder Retainer
3. Lock Cylinder and Sealing Gasket
4. Outside Handle
5. Ventilator to Inner Panel Attaching Screw
6. Window Front Up-Stop
7. Lower Sash Channel Cam
8. Window Rear Up-Stop
9. Window Rear Guide
10. Inner Panel Cam
11. Remote to Lock Connecting Rod
12. Remote Control Assembly
13. Window Regulator (Manual)
14. Ventilator Division Channel
15. Ventilator Front Frame Adjusting Stud and Nut
16. Ventilator Front Frame Attaching bolt
17. Ventilator Front Frame to Hinge Pillar Panel Attaching Screw
18. Window Regulator (Electric)

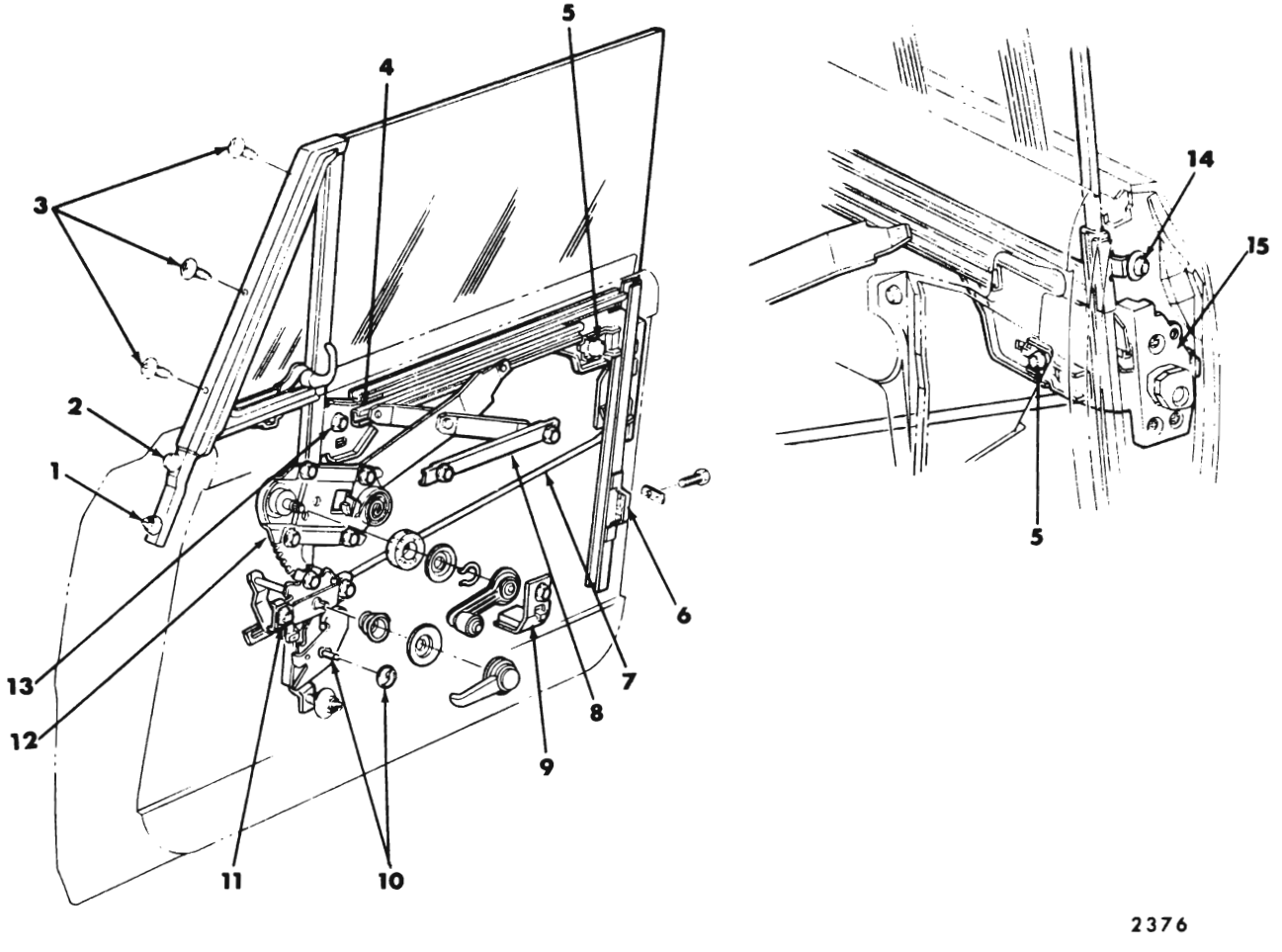


Fig. 6-39—Front Door Hardware - "X-37" Styles

1. Ventilator Front Frame Adjusting Stud and Nut
2. Ventilator Front Frame Attaching Bolt
3. Ventilator Front Frame Attaching Screws
4. Sash Channel Cam
5. Window Rear Up-Stop
6. Glass Run Channel Lower Attachment
7. Remote Control Connecting Rod
8. Inner Panel Cam
9. Window Lower Stop
10. Remote Control Lock-out and Button
11. Remote Control
12. Window Regulator
13. Window Front Up-Stop
14. Glass Run Channel Upper Attachment
15. Lock

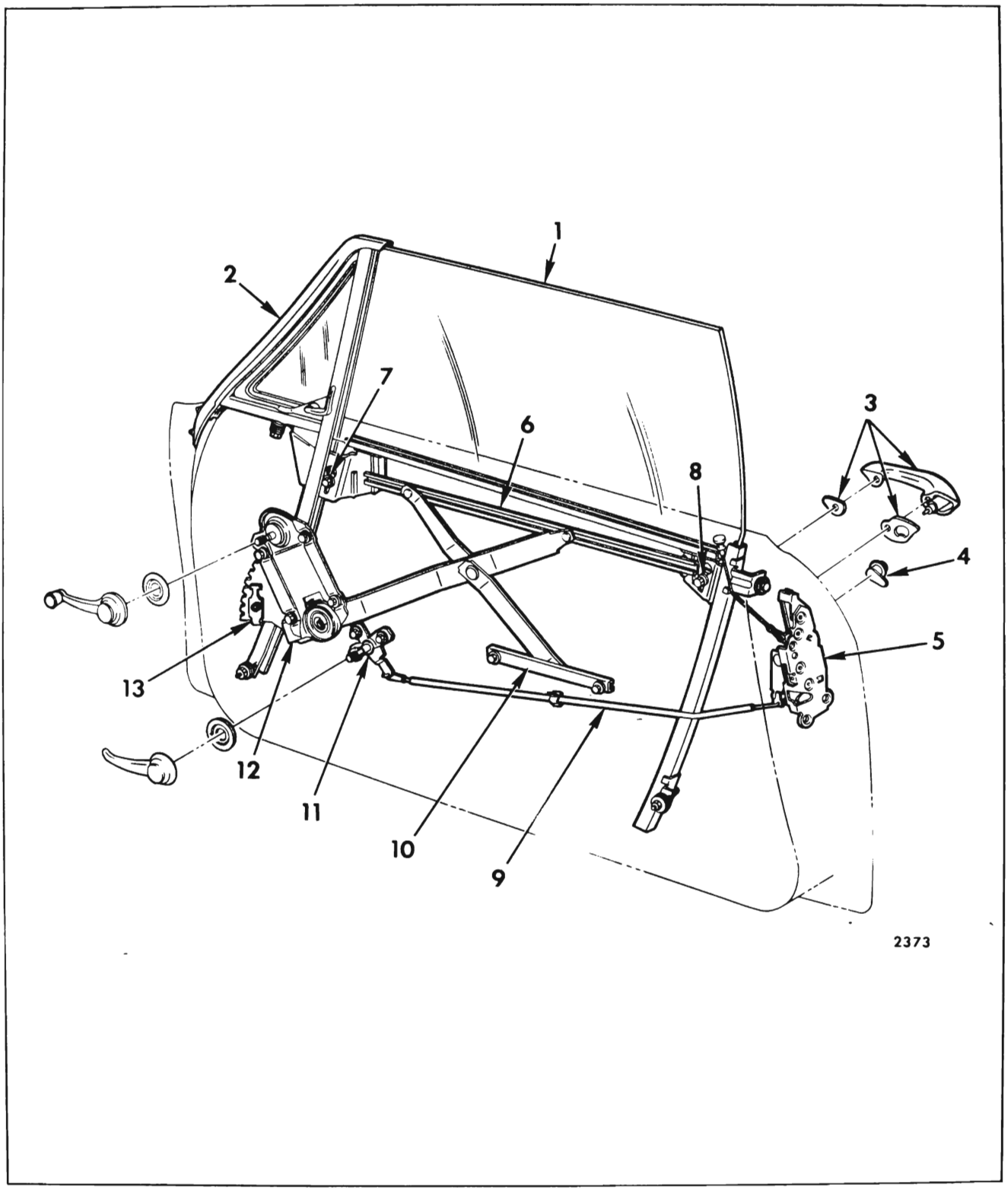


Fig. 6-40 —Front Door Hardware - "Z-37" Styles - "39" Style Similar

1. Window Assembly
2. Ventilator Assembly
3. Outside Handle & Sealing Gaskets
4. Lock Cylinder
5. Lock
6. Sash Channel Cam
7. Window Front Up-Travel Stop
8. Window Rear Up-Travel Stop
9. Remote Control Connecting Rod
10. Inner Panel Cam
11. Remote Control
12. Window Regulator
13. Sector Gear Up-Stop

Figure 6-45 illustrates an "A" body with front fender loosened at top and bottom and held outboard by placement of wooden blocks.

Figure 6-46 illustrates an "E" body with lower attachment (only) of fender loosened and propped outboard. This permits usage of a wrench.

NOTE: All "E" body doors are equipped with a torque rod to ease door opening effort. This torque rod is secured under the upper hinge lower rearward bolt, body side, on right and left front doors. The lower end of rod is retained by the lower hinge box. No torque applies when door is fully open. Removal and Installation of this rod usually requires loosening of front fenders.

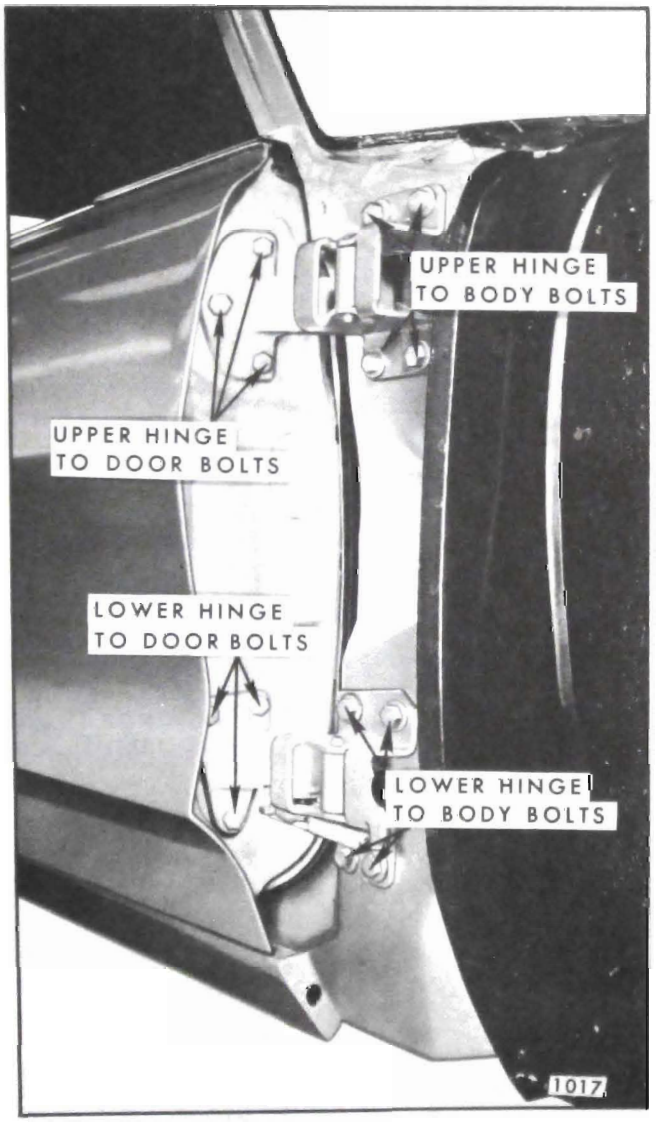


Fig. 6-41 — Front Door Hinge Attachment - "B-C and E" Styles

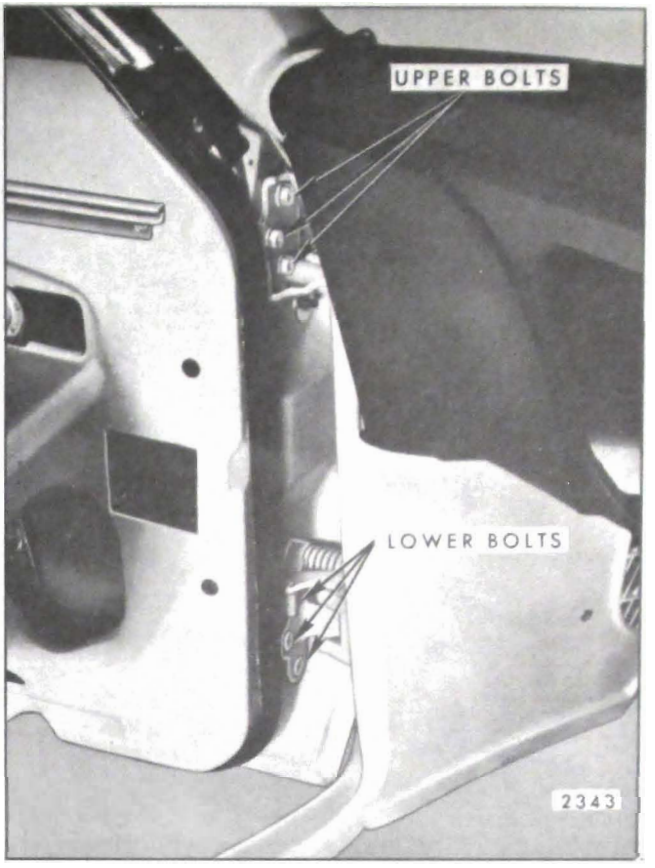


Fig. 6-42 — Front Door Hinge to Door Attaching Bolts - "F" Styles

Figures 6-47 and 6-48 show acceptable methods of loosening front fenders on "X" body styles.

NOTE: Tool J-21550 (Fig. 6-49) is designed for adjustment of front door hinge to body attaching bolts on "A" & "F" body styles. Usage of this tool alleviates the need of loosening front fenders. In addition, top hinge can be loosened as shown in Figure 6-50. In this figure, a 1/2" open-end wrench is inserted through back opening of upper hinge.

5. To install hinge, reverse removal procedure. Prior to installation, apply a coat of heavy body sealer to body mating surfaces of hinges for protection against waterleaks and corrosion.

Front Door Hinge Adjustment

Door adjustments are provided through the use of floating anchor plates in the door and front body hinge pillars. When checking the door for alignment, and prior to making any adjustments, remove door lock striker from body to allow door to hang freely on its hinges. Loosen front fender where required.

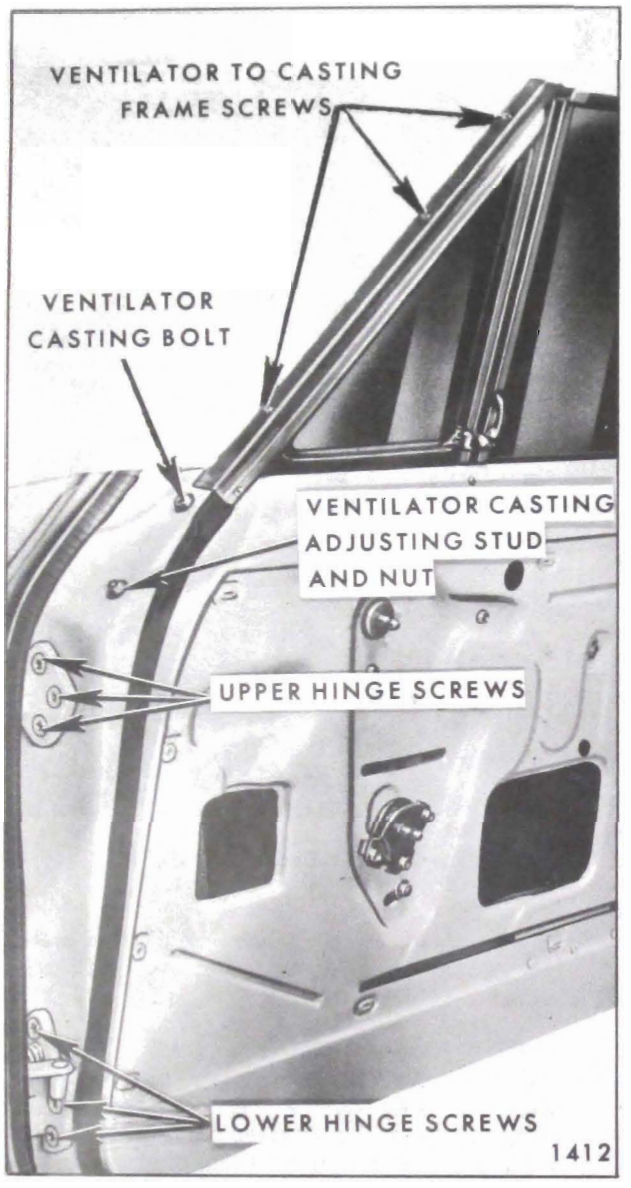


Fig. 6-43—Front Door Hinges and Ventilator - "X" Styles

1. Adjustment provided at body hinge pillars:

   Up or down on all body styles, in or out on "X" and "Z" Body Styles and fore or aft on "A", "A", "B & C" & "F" Body Styles.

2. Adjustment provided at door hinge pillars:

   Fore or aft on "X" & "Z" Body Styles, in or out on "A", "B & C", "E" & "F" Body Styles and a slight amount of up or down on "A", "B & C" & "F" Body Styles.

   When making door adjustments, refer to the door gap spacing and lock striker engagement specifications in the "Front and Rear Door" section of this manual.

FRONT DOOR INNER PANEL CAM

Removal and Installation

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

2. With window in raised position, remove cam attaching bolts ("1", Fig. 6-52) and slide cam off regulator balance arm roller.

   NOTE: Figure depicts "B & C" styles - other style similar.

3. To install, reverse removal procedure.

   NOTE: One end of the cam has provisions for up and down adjustment to correct a "cocked" window (not parallel with top of door upper frame or side roof rail weatherstrip).

FRONT DOOR LOCK REMOTE CONTROL AND CONNECTING ROD

The remote control is secured to the door inner panel by three attaching bolts. On some styles the remote is attached to the inboard surface of the inner panel and on other styles, to the outboard surface. The removal and installation is similar, however, for either method of attachment (see Figure 6-53).

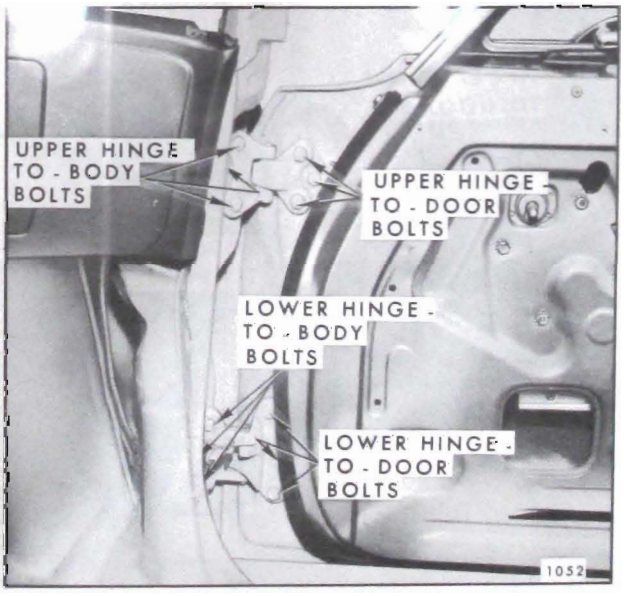


Fig. 6-44—Front Door Hinges - "Z" Styles

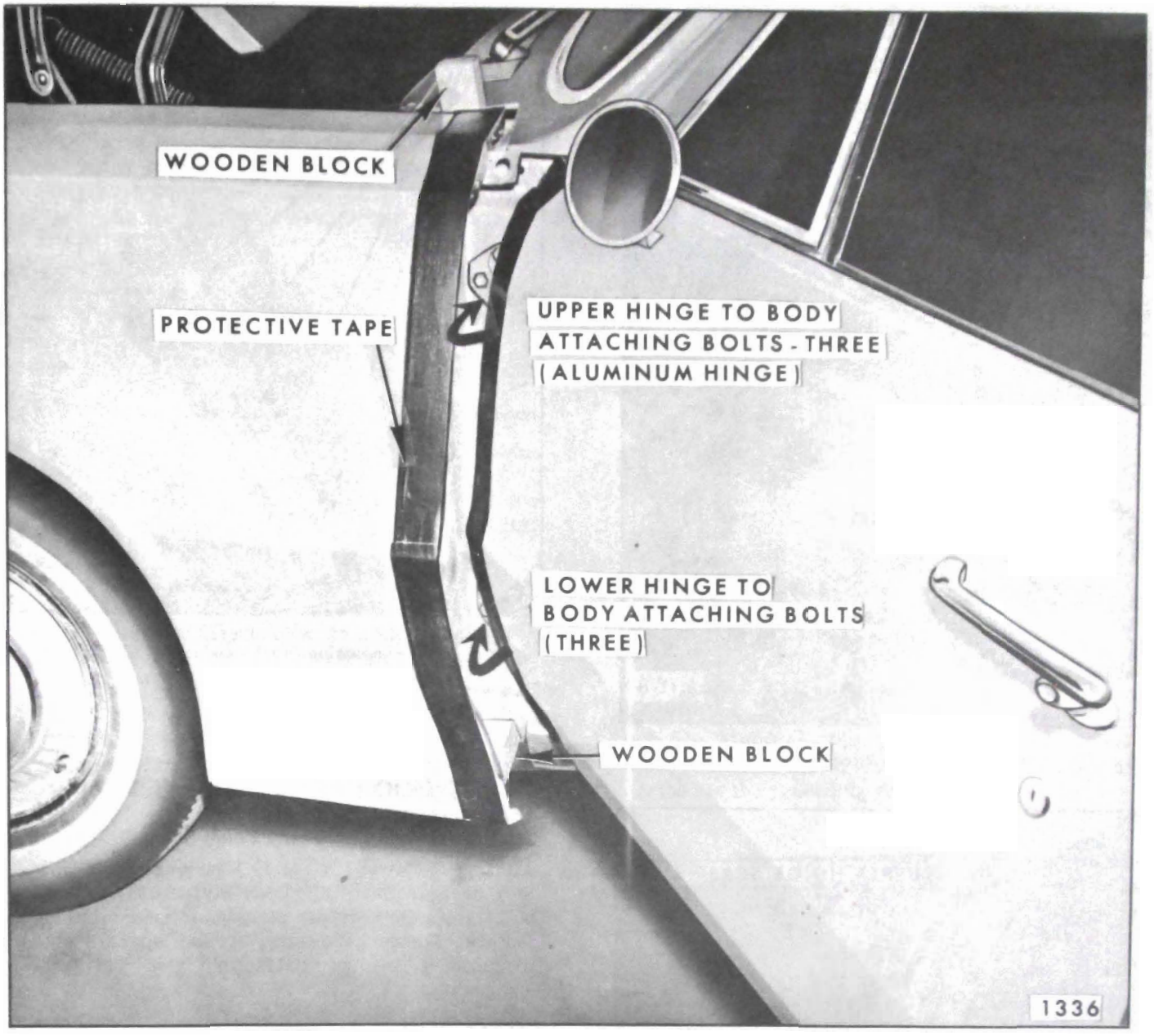


Fig. 6-45 — Front Door Hinge Attachment - "A" Styles

Removal and Installation

1. Raise door window, remove door trim pad and detach inner panel water deflector.

   NOTE: Some "E" Body Styles are equipped with two remote controls, one front and one rear. Attachment of both is the same; however, removal procedures differ in that the forward remote (standard equipment) is located in such close proximity to the window regulator that regulator must first be loosened. This can be accomplished by removing three of the four regulator to inner panel attaching bolts and pivoting regulator to a position that remote can be removed (see Figure 6-37). On 26657 styles, remove window regulator two rear attaching bolts and loosen front attaching bolts ("3", Fig. 6-52).

2. Remove bolts securing remote control to door inner panel ("2", Fig. 6-52).

3. Inside of door, pivot remote control to disengage lock connecting rod and remove remote through access hole.

4. If remote control to lock connecting rod is to be removed, refer to "Front and Rear Door" section for method of disengaging spring clip at lock end of rod.

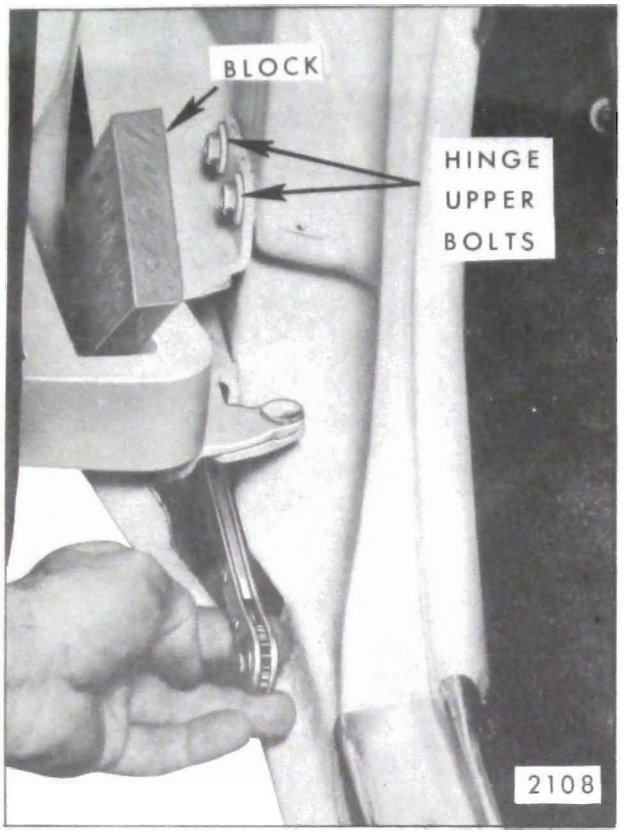


Fig. 6-46 — Door Hinge Attachment - "E" Styles

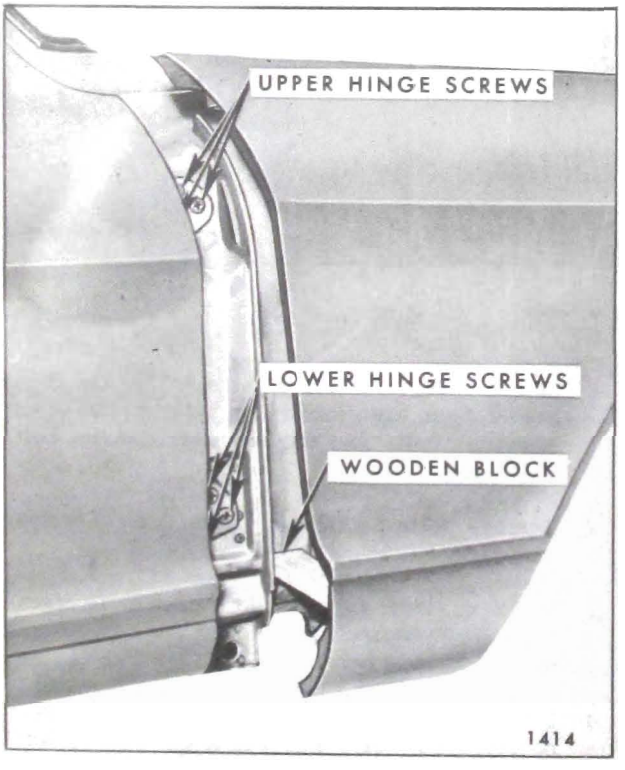


Fig. 6-47 — Front Door Hinge Removal - "X" Styles

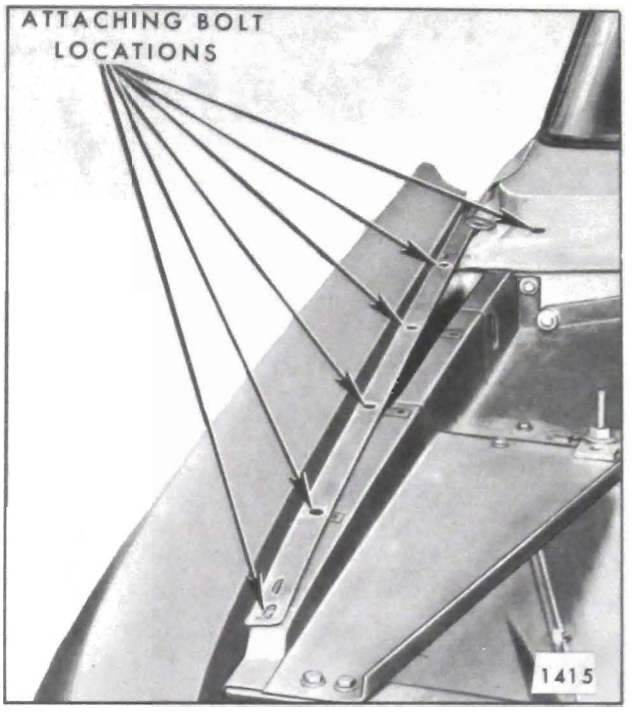


Fig. 6-48 — Loosening Front Fender - "X" Styles

5. To install, reverse removal procedure.

FRONT DOOR LOCK ASSEMBLY AND VACUUM ACTUATOR

All styles except "X" Body Styles use the fork bolt lock design. The "X" Body Styles use the rotary bolt type. Both types include a safety interlock ...e Where necessary, strike... spacers should ...ed to insure satisfactory ... and striker ...gement.

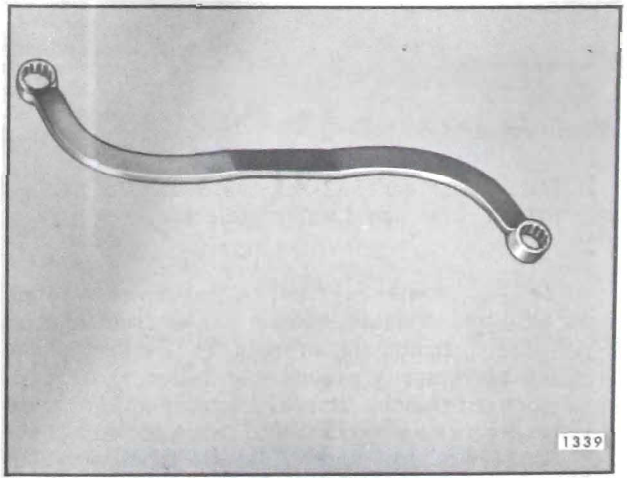


Fig. 6-49 — Front Door Hinge Tool J-21550 - "A & F" Body

Removal and Installation

1. Raise door window, remove trim pad and detach inner panel water deflector.

2. Working through large access hole, disengage remote control to lock connecting rod at lock as specified under "Door Lock Spring Clips" in the preceding "Front and Rear Door" section.

   NOTE: On some styles, it may be necessary to loosen the rear glass run channel to gain sufficient clearance to remove lock.

3. On styles with vacuum lock actuators, disconnect vacuum hoses from actuators.

4. Remove three screws securing lock to door lock pillar ("4", Fig. 6-52) and remove lock assembly from door.

   NOTE: On Chevrolet "B" Series four-door styles, disconnect lock to lock cylinder connecting link after removing lock screws ("B", Fig. 6-54).

   NOTE: The design of the lock to inside locking rod attaching clip does not allow disengagement of rod from lock with lock in an installed position. This rod can be removed from lock in a bench operation after removal of lock assembly.

5. To install, reverse removal procedure.

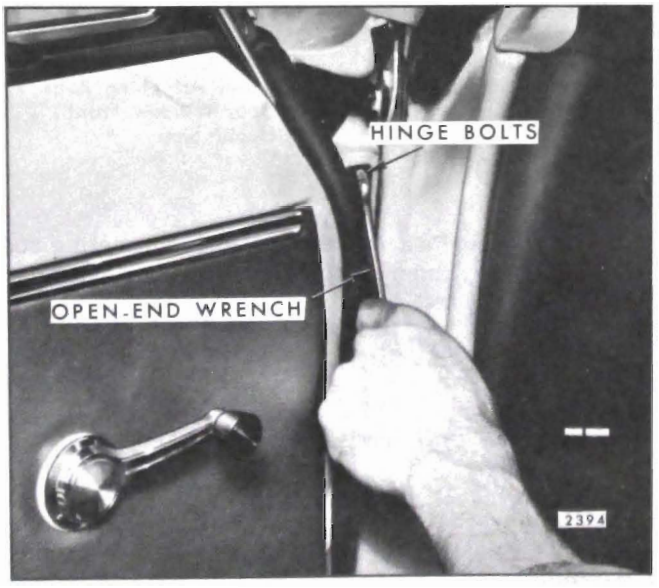


Fig. 6-50 — Front Door Hinge Attachment - "F" Styles

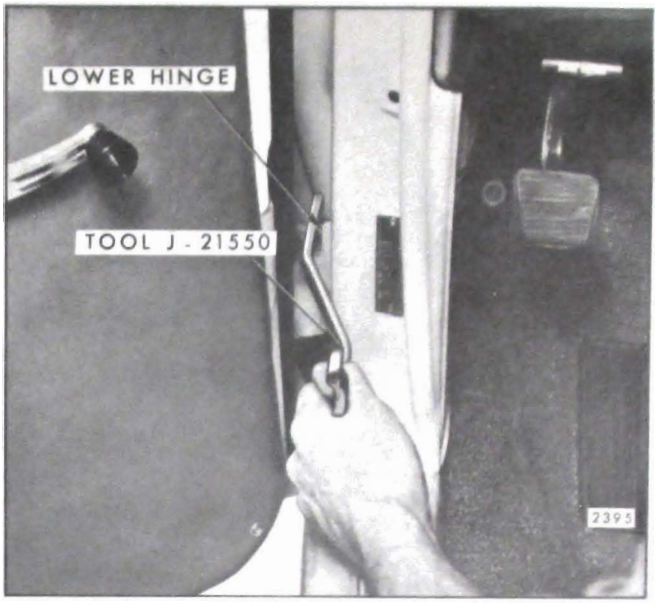


Fig. 6-51 — Front Door Hinge Attachment - "F" Style

FRONT DOOR LOCK VACUUM ACTUATOR

The vacuum lock actuator is attached to the door lock frame with screws that are inaccessible with the lock installed (Fig. 6-55). Therefore, to remove the actuator, remove the door lock as described in the preceding procedure.

NOTE: The vacuum system trouble-shooting procedure is covered in this section. Refer to index for page numbers.

FRONT DOOR LOCK CYLINDER ASSEMBLY—All Except Chevrolet "B" Four-Door Styles

Removal and Installation

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

2. With a screwdriver or other comparable tool, slide lock cylinder retaining clip (on door outer panel) out of engagement and remove lock cylinder from door (Fig. 6-56).

3. To install, reverse removal procedure.