SECTION 5
FRONT END

INDEX

BODY VENTILATION

VENTILATION SYSTEM COMPONENTS (Non-Air Conditioned)

(The following applies only to non-air conditioned styles) Body ventilation systems vary from one body style to another. Each ventilation system is comprised of a combination of components depending upon body style, as described in the following:

1. Air intake at front plenum chamber (all styles).
2. High level air outlets at instrument panel sides (all styles with vent-less front door windows; Buick and Oldsmobile "E" styles include a high level air outlet at the center of the instrument panel; high level ventilation system is optional on Buick and Oldsmobile "A-27, 77, 39 & 69" Styles).
3. Low level air outlets in shroud side panels (all styles).
4. Door ventilators ("A" and "X" Closed Styles; "A-39" and All "Z" Styles).
5. Pressure relief valves (air exhaust outlets) on body lock pillars (all styles with high level ventilation system except Oldsmobile & Buick "E", station wagons and Cadillac "C" air conditioned styles).
6. Pressure relief valve and air exhaust outlet at rear plenum chamber (Buick and Oldsmobile "E" styles).

DESCRIPTION (Non-Air Conditioning Styles)

Ventilating air enters the front plenum chamber through an air intake grille and/or screen. Air is directed through the plenum chamber to the high level air outlet doors at the shroud center panel and/or to the low level air outlet doors at the shroud side panels. When ventilation controls are operated, air enters past the respective doors and into the body (Fig. 5-1).

Water entering the plenum chamber is channeled to the base of the shroud side panels where it is drained through openings provided for that purpose.

On all styles with high level ventilation, except "E" and all station wagons, air passes through the body, under the rear seat, into the rear compartment and into both rear quarters. The air then leaves the body by passing through pressure relief valves located on the rear lock pillars (Fig. 5-1).

NOTE: Cadillac "C" styles with air conditioning do not use pressure relief valves at rear lock pillars.

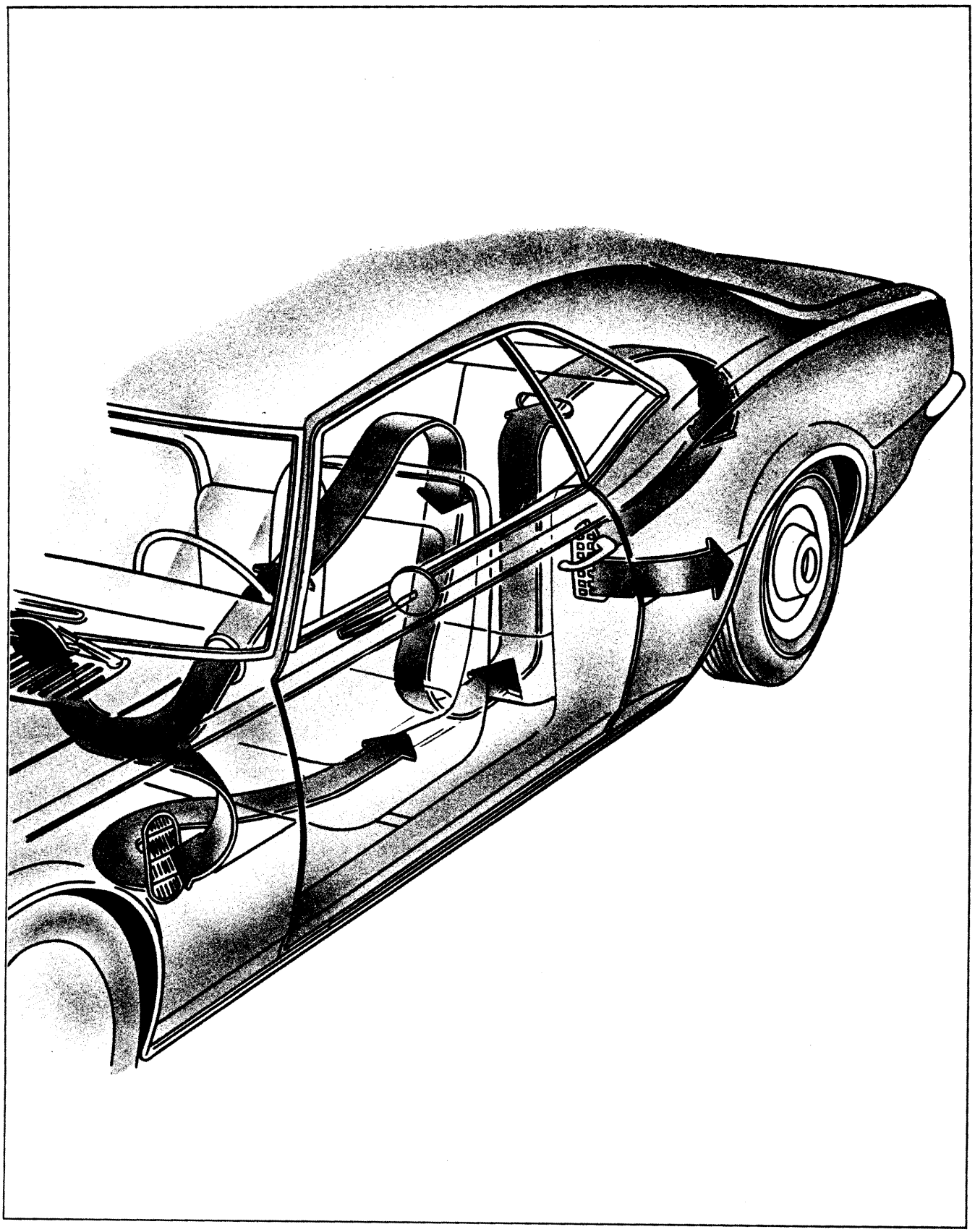

Fig. 5-1—High and Low Level Body Ventilation - "F" Styles Shown, "A, G, B, C" & Cadillac "E" Styles Simila-

On Buick "E" styles, air exhausts from the body by passing through a louvered grille in the rear shelf finishing panel, through a pressure relief valve, through the rear plenum chamber and through the rear exhaust grille (Fig. 5-2).

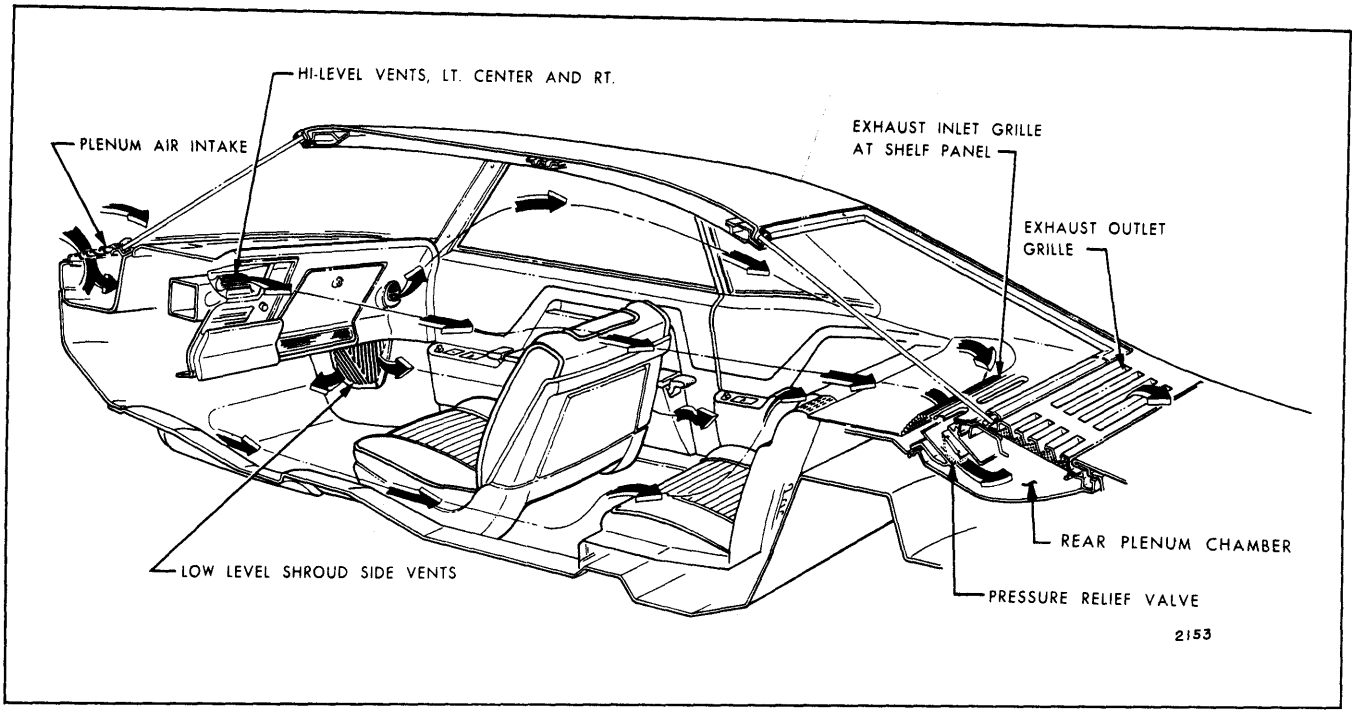

Fig. 5-2—Body Ventilation - Buick "E" Styles

On Oldsmobile "E" styles, air exhausts from the body by passing under the rear seat, through openings in the rear shelf panel, through a pressure relief valve, through the rear plenum chamber, and through the rear exhaust grille (Fig. 5-3).

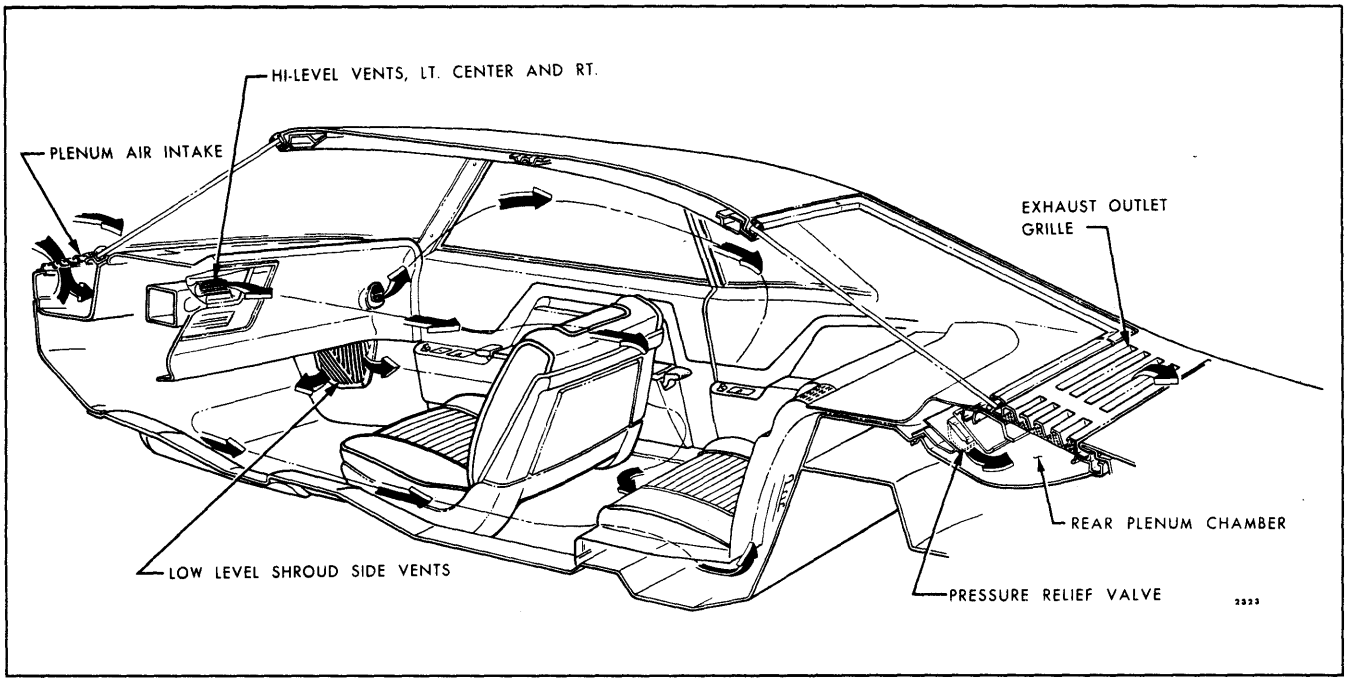

Fig. 5-3—Body Ventilation - Oldsmobile "E" Styles

Water entering the rear plenum chamber is channeled to drain hoses at the sides which drain the water at a location below the floor pan.

SHROUD CENTER DUCT UPPER AIR OUTLET AND DOOR—"B and C" Styles

The outlet, door and control cable attachment are shown in Figure 5-4.

Door removal requires removal of the door retaining clip and control cable attaching screw before the door can be disconnected from the control cable. Removal of the shroud side finishing panel requires removal of the door.

As shown, the duct outlet is sealed with a gasket at the attaching flanges and is secured to the center duct panel with screws.

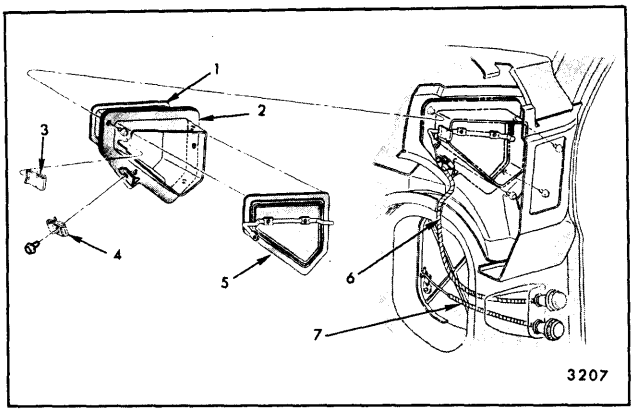

Fig. 5-4—Shroud Center Duct Upper Air Outlet and Door - "B & C" Styles

1. Gasket
2. Outlet
3. Door Retaining Clip
4. Cable Retaining Clip
5. Door
6. Upper Vent Control Cable
7. Shroud Side Vent Control Cable

SHROUD CENTER DUCT UPPER AIR OUTLET DOOR—"A and G" Styles

The door and control cable attachment are illustrated in Figure 5-5.

Door removal requires the removal of the retaining clip before the door can be disconnected from the control cable. Removal of the shroud side finishing panel requires removal of the door and cable retaining clips. The duct outlet is welded to the center duct panel.

SHROUD CENTER DUCT UPPER AIR OUTLET AND DOOR—"F" Styles

As shown in Figure 5-6, the door is sub-assembled to the outlet before the assembly is sealed with a gasket and attached to the center duct panel with

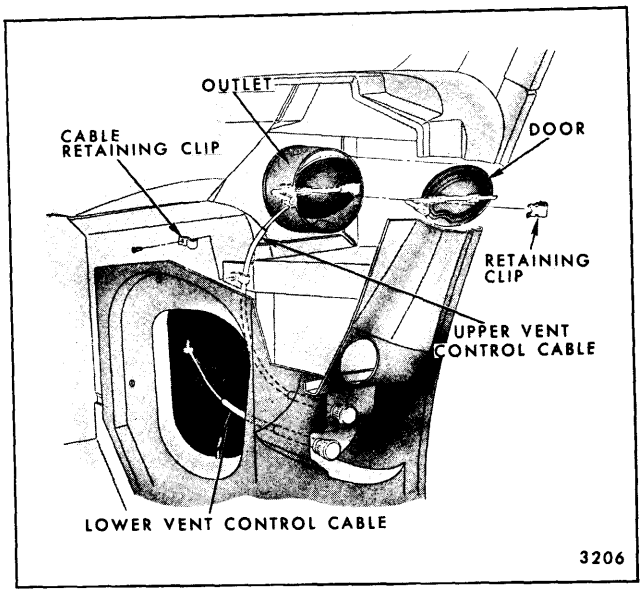

Fig. 5-5—Shroud Center Duct Upper Air Outlet Door - "A & G" Styles

screws. The door is secured to the outlet by a door hinge rod. The hinge rod is secured by a push-on retainer ring.

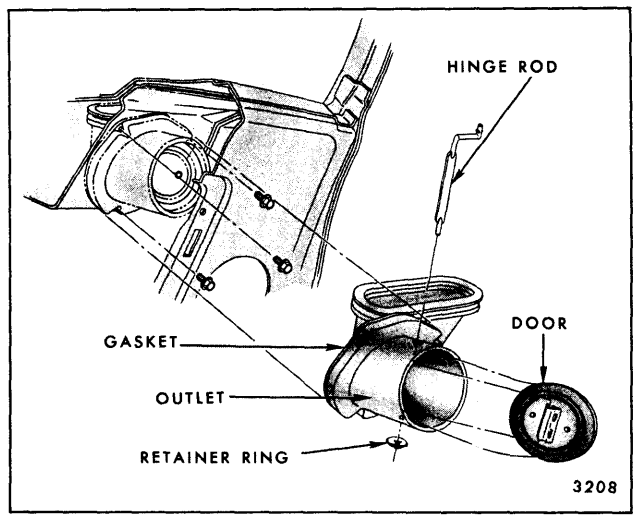

Fig. 5-6—Shroud Center Duct Upper Air Outlet and Door - "F" Styles

SHROUD SIDE FINISHING PANEL "A-G-B-C-X & Z-37" Styles

The shroud side finishing panel is designed with an integral air duct outlet and hinge pillar pinchweld finishing lace. The following are added to the finishing panel before installation: air outlet door; upper and/or lower vent control cables; and medium-bodied sealer (on attaching flanges). The finishing panel is secured by screws at the side panel and by one screw at the hinge pillar. A snap-in type grille completes the installation.

Removal of the door and/or lower vent control cable requires removal of the finishing panel. Removal of the upper vent control cable requires removal of the finishing panel and upper air duct outlet door (Figures 5-7, 5-8 and 5-9 depict types of finishing panels and their installation).

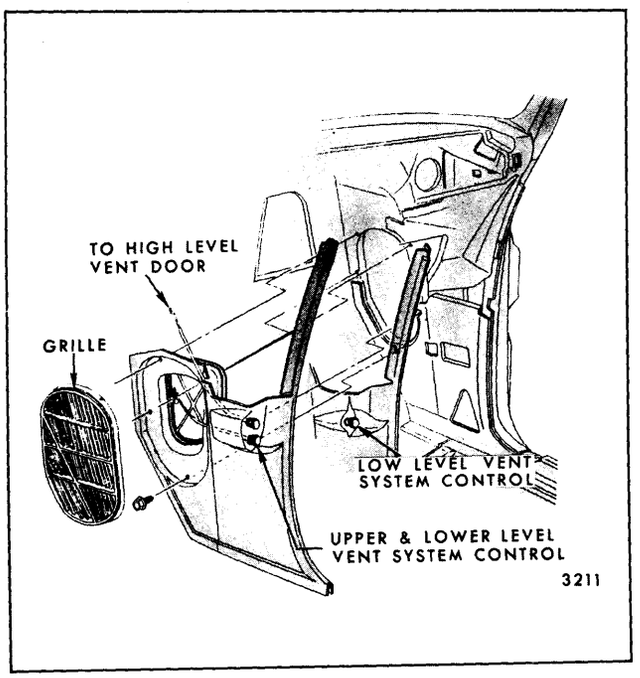

Fig. 5-7—Shroud Side Finishing Panel - "A, G, B, C, X" and "Z-37" Styles

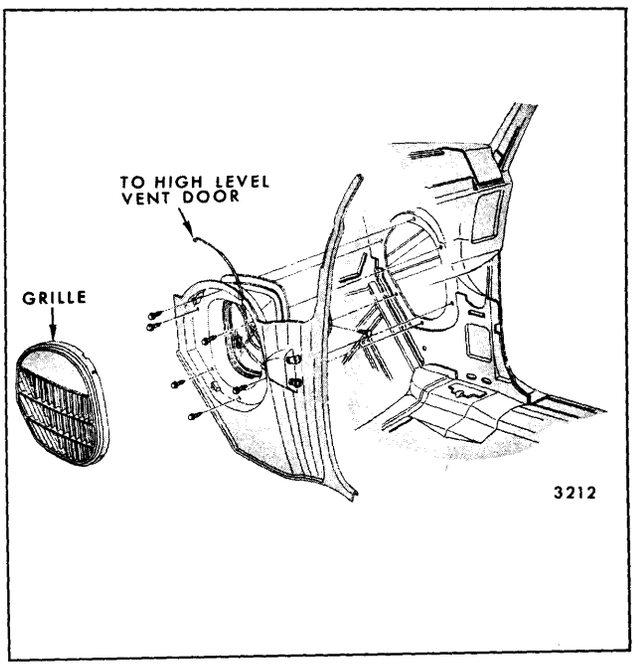

Fig. 5-8—Shroud Side Finishing Panel - "B & C" Styles

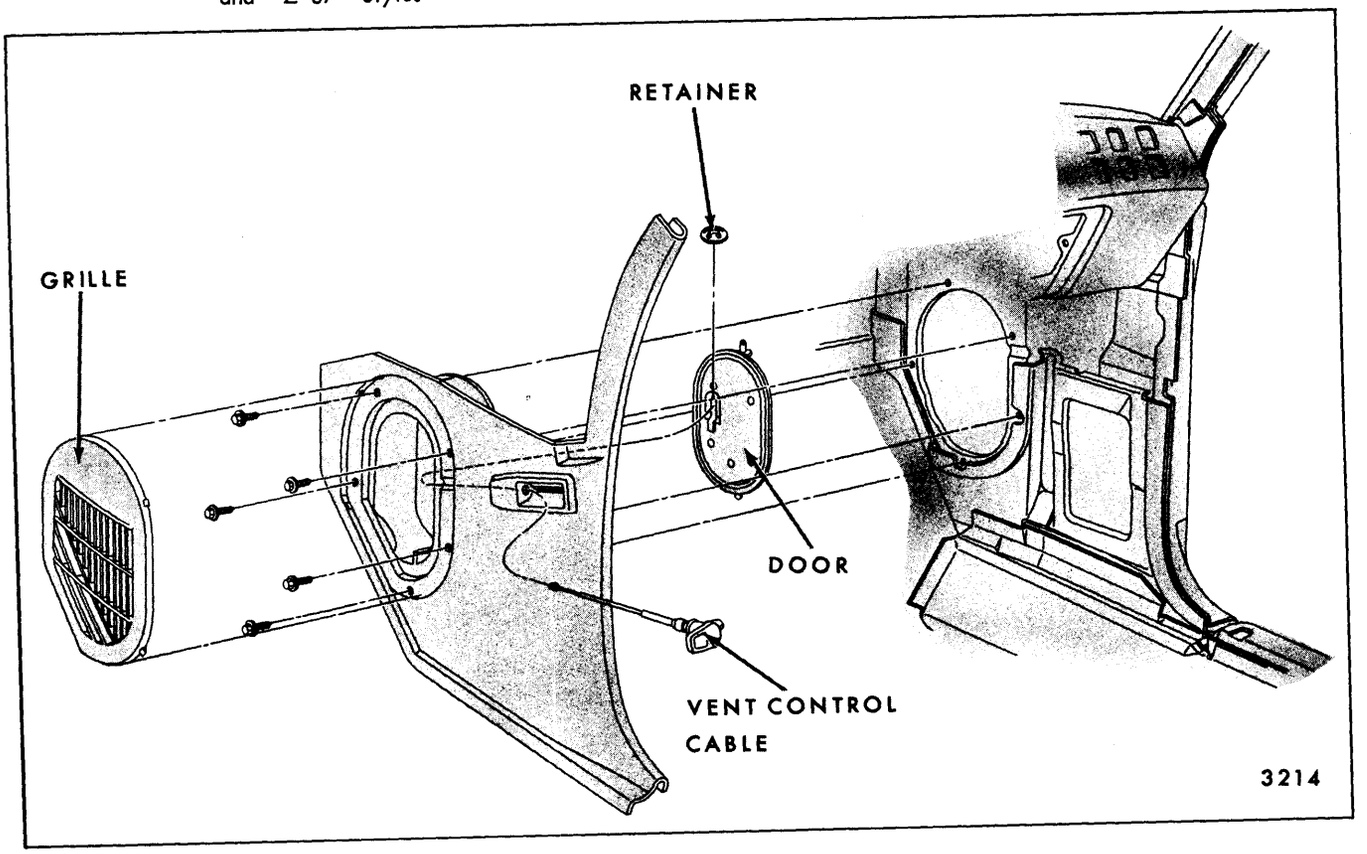

Fig. 5-9—Shroud Side Finishing Panel - "X" Styles

SHROUD SIDE FINISHING PANEL—"F" Styles

Figure 5-10 illustrates that, in addition to an integral air duct outlet and hinge pillar pinchweld finishing lace, the shroud side finishing panel consists of an integral air outlet grille. Attachment and sealing are typical of other styles (Fig. 5-11).

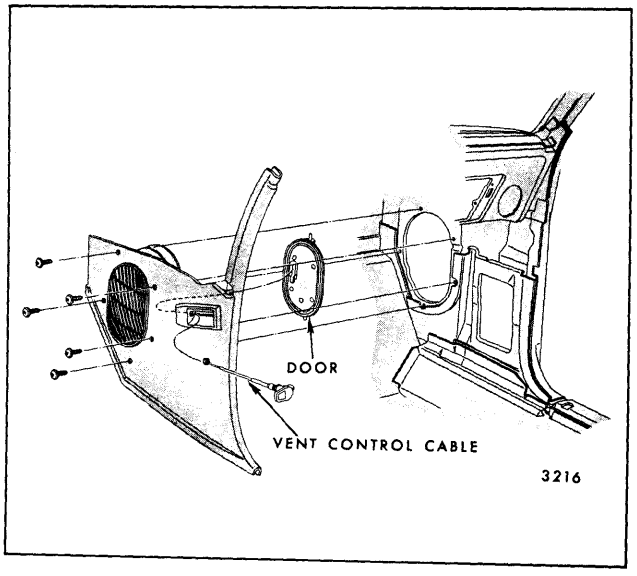

Fig. 5-10—Shroud Side Finishing Panel - "F" Styles

Figure 5-11 illustrates typical sealing of shroud side finishing panels prior to installation. When installing, apply a generous bead of medium-bodied sealer to attaching flanges of finishing panel as shown.

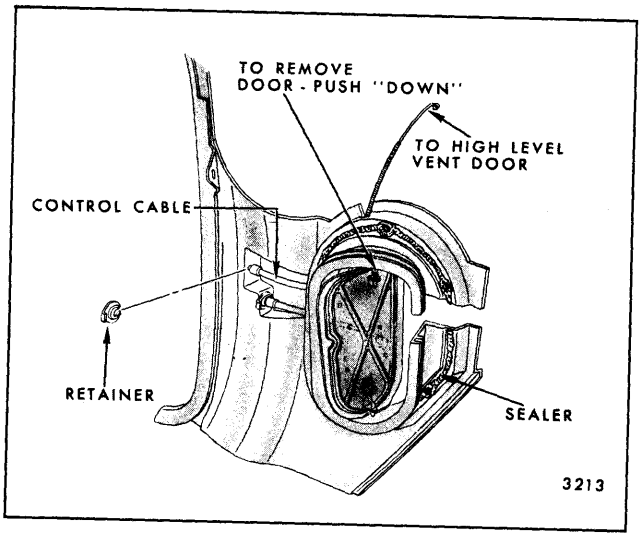

Fig. 5-11—Shroud Side Finishing Panel Sealing - All Styles Except "E" and "Z-67"

SHROUD SIDE FINISHING PANEL AND AIR DUCT OUTLET—"Z-67" Styles

Figure 5-12 illustrates the components and installation of the finishing panel and separate air duct outlet. Figure 5-13 further illustrates the attachment of components. When installing, apply a generous bead of medium-bodied sealer to attaching flanges of the finishing panel and duct outlet as shown (Fig. 5-13).

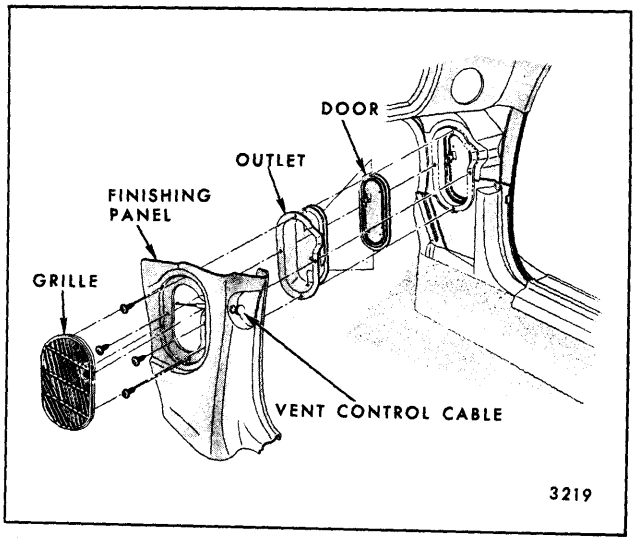

Fig. 5-12—Shroud Side Finishing Panel and Air Duct Outlet - "Z-67" Style

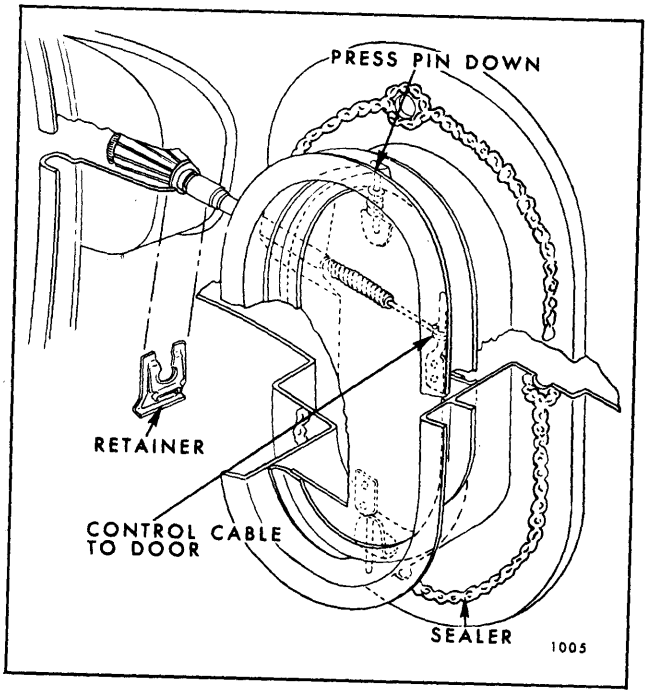

Fig. 5-13—Shroud Side Finishing Panel and Air Outlet - "Z-37" Styles

SHROUD SIDE AIR DUCT OUTLET AND DOOR—Buick and Cadillac "E" Styles

Figure 5-14 illustrates the components and installation of the air duct outlet and door. The door is secured to the outlet by a retainer, and the manual control cable is secured to the instrument panel.

SHROUD SIDE AIR DUCT OUTLET AND DOOR—Oldsmobile "E" Styles

Figure 5-15 illustrates the components and installation of the air outlet and door. The door is controlled by a vacuum actuator and link as shown.

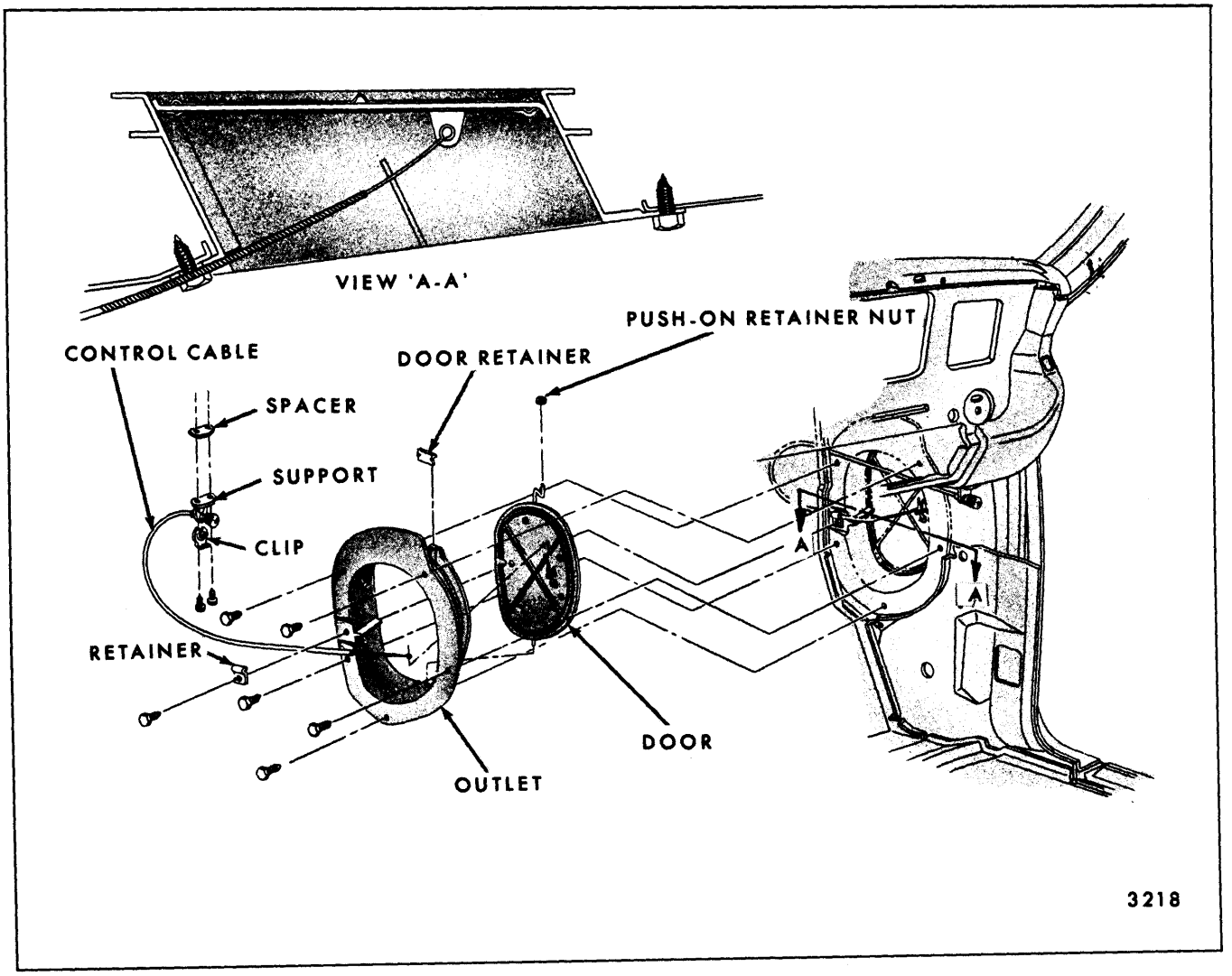

Fig. 5-14—Shroud Side Air Duct Outlet and Door - Buick & Cadillac "E" Styles

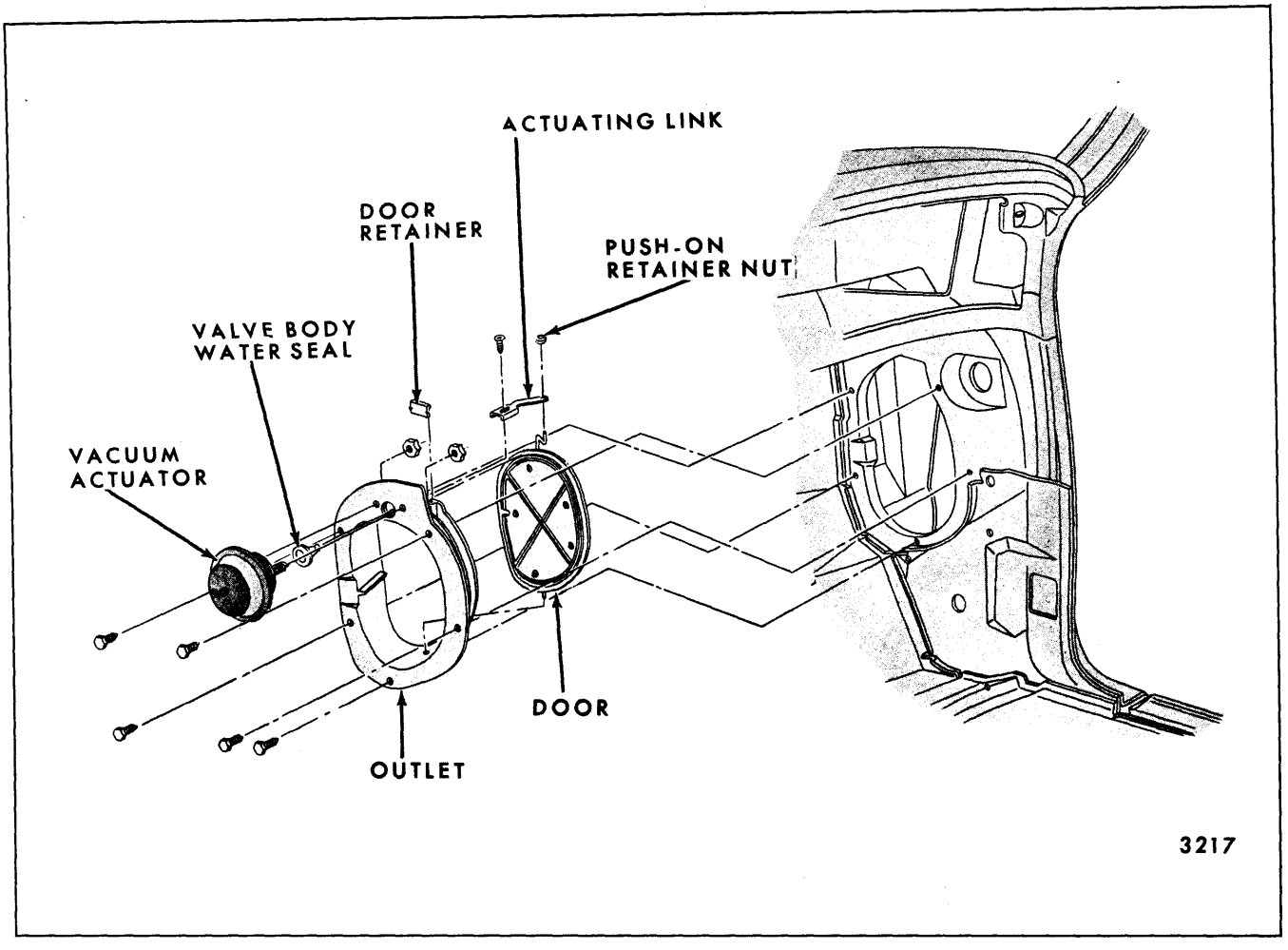

Fig. 5-15—Shroud Side Air Duct Outlet and Door - Oldsmobile "E"

PRESSURE RELIEF VALVE— "A-B-C-E-F and G" Styles

Used with high-level ventilation systems, pressure relief valves are attached to rear lock pillars with screws. Figure 5-16 shows the "A and G" style pressure relief valve installation. Figure 5-17 shows the "B and C" style pressure relief valve installation.

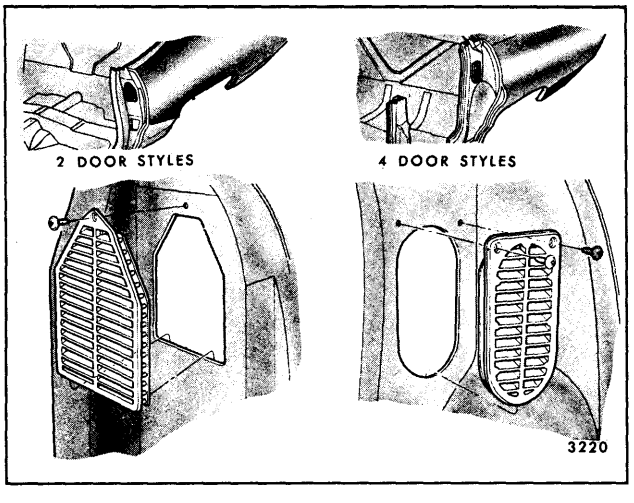

Fig. 5-16—Pressure Relief Valve - "A" Styles Shown

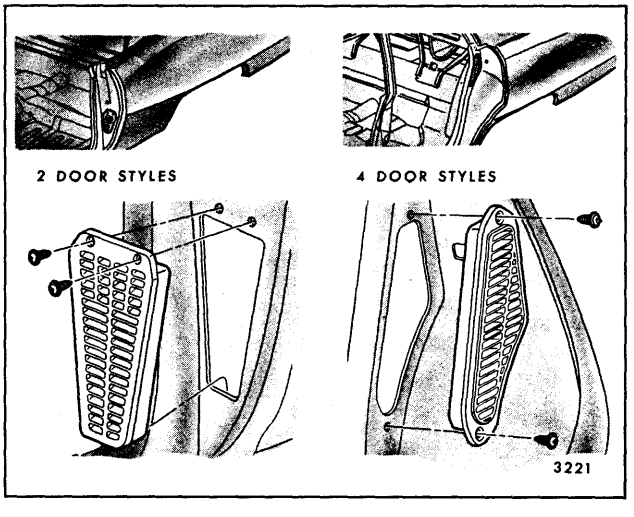

Fig. 5-17—Pressure Relief Valve - "B & C" Styles Shown

INSTRUMENT PANEL

INSTRUMENT PANEL COMPARTMENT DOOR—Buick "A & E" Styles

The instrument panel compartment door is secured to the instrument panel by a screw-attached hinge. A door stop holds the door in the open position (Figure 5-18).

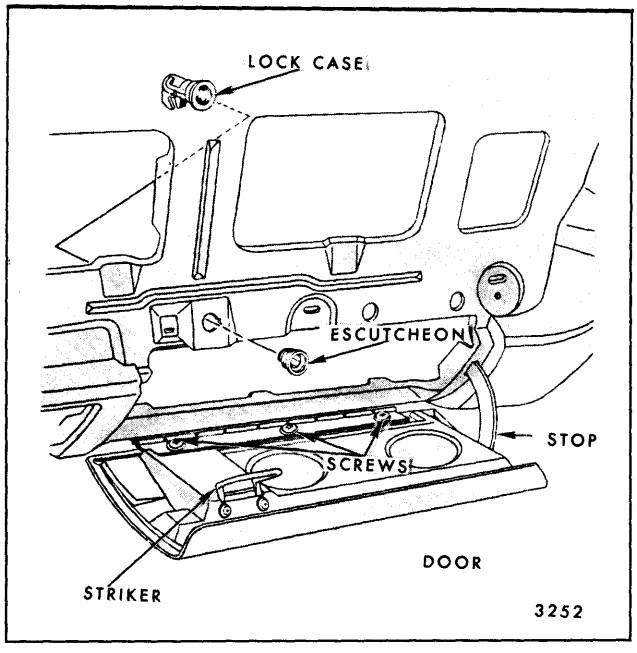

Fig. 5-18—Instrument Panel Compartment Door - Buick "A & E" Styles

Removal and Installation

To remove door, open door and remove attaching screws from door or from instrument panel. Rotate door stop counter-clockwise to disengage it from the instrument panel opening, and remove door. To install, reverse removal operations.

Adjustments

Provisions in door, hinge and instrument panel allow "Up and Down", "Lateral" and "Fore and Aft" adjustment of door. Adjustments can be made by loosening necessary hinge attaching screws. The lock striker (Fig. 5-18) is secured by screws. Adjustment of striker to desired position can be made by loosening attaching screws.

INSTRUMENT PANEL COMPARTMENT DOOR LOCK CYLINDER AND LOCK—Buick "A & E" Styles, Chevrolet—All Styles

Removal

1. With door open, set fork bolt in latched position.
2. Insert round head key into lock cylinder and turn to locked position. Cylinder retainer will come into view in lock case view slot (Fig. 5-19).
3. Withdraw key from cylinder.
4. Depress retainer with paperclip and reinsert key to hold retainer in retracted position (Fig. 5-19).
5. Squeeze latched fork bolt firmly to relieve pressure from lock cylinder and remove cylinder, with key inserted, from lock case.
6. Insert octagonal bar wrench, wide blade screwdriver or other suitable tool into lock escutcheon, unscrew and lift off case assembly.

Installation

1. Install case assembly with locating tang aligned with notch in opening.
2. Slide plastic washer over escutcheon and screw escutcheon into case firmly.
3. Depress cylinder retainer and insert key.
4. Push lock fork bolt to latched position. Align cylinder assembly with tumblers in lock case view slot. Slip cylinder assembly, key installed, into lock case assembly.
5. Remove and reinsert key into installed lock cylinder. This action locks retainer to lock case.
6. Before closing door, release latched fork bolt by turning key full right.

   CAUTION: Failure to unlatch fork bolt could result in damage to striker and lock if door is closed.

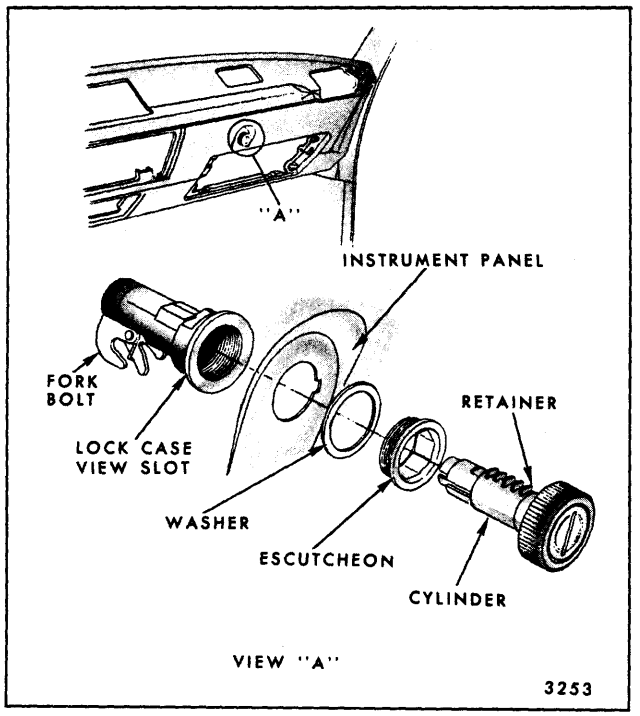

Fig. 5-19—Instrument Panel Compartment Door Lock and Cylinder - Buick "A & E" Styles, Chevrolet Typical

INSTRUMENT PANEL COVERS— Chevrolet "A-X & Z" Styles and Pontiac "F" Styles

The instrument panel cover is secured to the instrument panel by a combination of screws, stud and clip assemblies, clips, and stud and nut assemblies. The cover attachment locations are shown in Figures 5-20, 5-21, 5-22 and 5-23.

NOTE: For instrument panel covers of all other series and body styles, refer to the chassis service manuals.

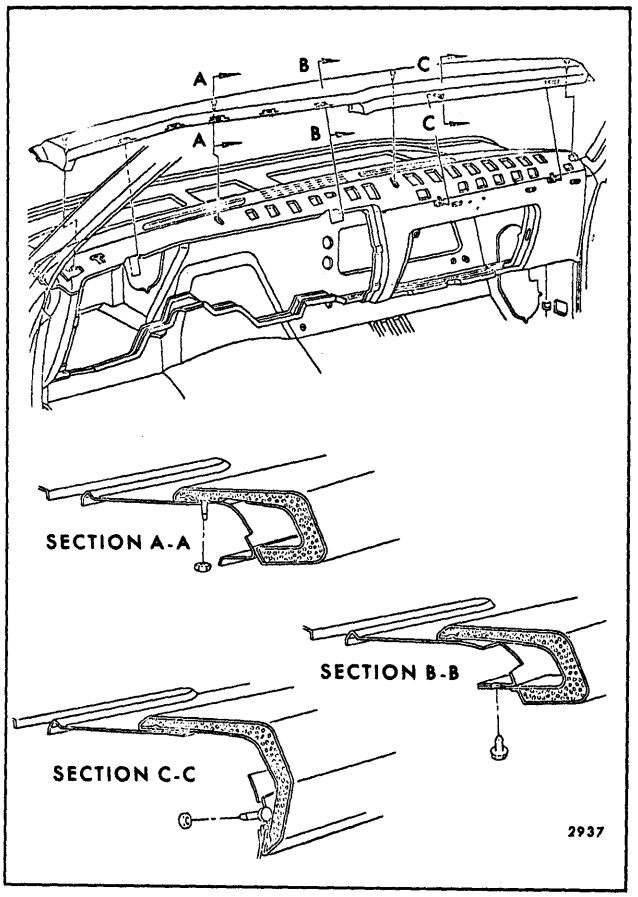

Fig. 5-20—Instrument Panel Cover - Chevrolet "A" Styles

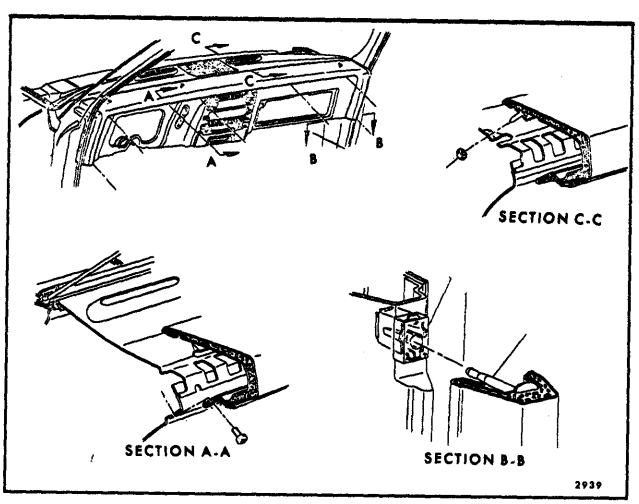

Fig. 5-21—Instrument Panel Cover - Pontiac "F" Styles

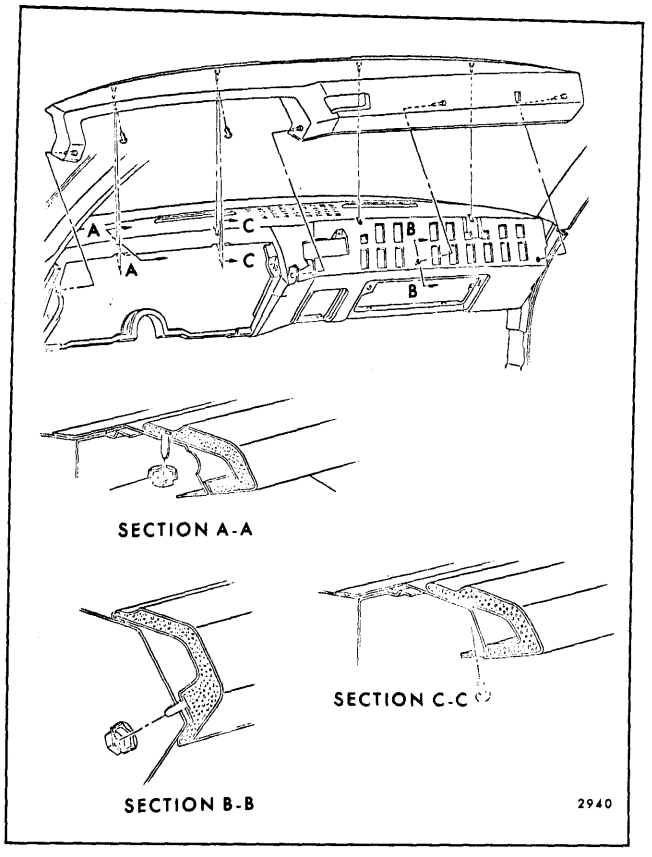

Fig. 5-22—Instrument Panel Cover - Chevrolet "X" Styles

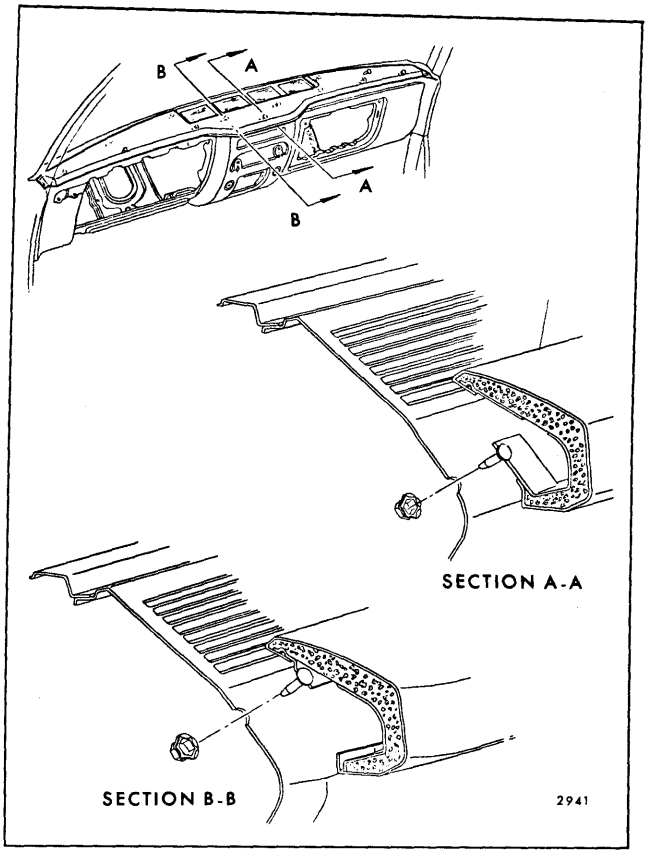

Fig. 5-23—Instrument Panel Cover - Chevrolet "Z" Styles

FRONT COMPARTMENT—CORVAIR

DESCRIPTION

Each front compartment lid hinge assembly employs the use of an individual torque rod which acts as a counterbalance and hold-open for the lid. Notches are provided in the torque rod retainer for adjustment of the rods.

The front compartment lid lock assembly consists of a side action snap-bolt mechanism equipped with a safety latch and is secured to a support on the front end panel. The end of the lock assembly acts as a guide by entering the striker when the lid is in a closed position.

A single section cement-on type front compartment weatherstrip is used on all styles.

FRONT COMPARTMENT LID

Removal and Installation

1. Open lid and place a protective cover over surfaces adjacent to front compartment opening to prevent damage to painted areas.
2. Mark (pencil) location of hinge straps on inner panel.
3. With the aid of a helper, remove hinge to lid attaching bolts from each hinge and remove lid. (See Fig. 5-24).

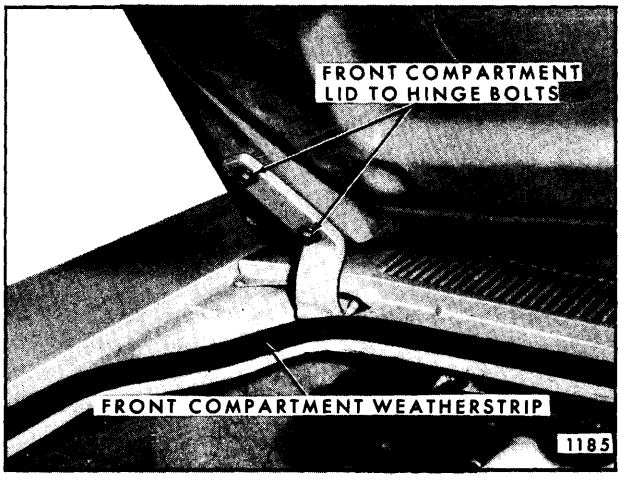

Fig. 5-24—Front Compartment Weather Strip and Lid to Hinge Bolts

4. To install, align lid to hinges within locating marks and reverse removal procedure.

Adjustments

1. The front compartment lid may be adjusted forward or rearward and side to side in body opening by loosening hinge to upper shroud attaching bolts at each hinge. Adjust hinge as required and secure bolts (See Fig. 5-25).

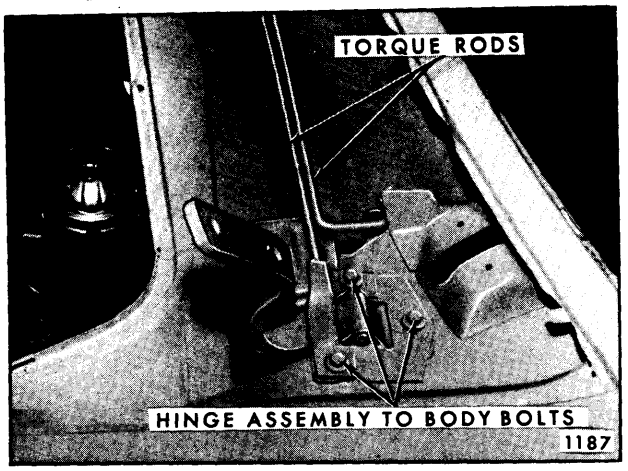

Fig. 5-25—Front Compartment Lid Hinge Removal

2. To adjust the lid up or down at one or both sides, install shims between the hinge strap and lid as follows:

   a. To raise rear edge of lid at hinge area, place shim between hinge strap and lid inner panel at rear attaching bolt (Fig. 5-24).

   b. To lower rear edge of lid at hinge area, place shim between hinge strap and lid inner panel at front attaching bolt (Fig. 5-24).

3. Check front compartment lid lock to insure proper engagement with striker.

FRONT COMPARTMENT LID TORQUE RODS

Tool J 21928 is designed to remove, install or reset tension for one or both rods without removal of the front compartment lid. The tool has a different design on each end for use on either the right or left side of the body.

Removal and Installation

1. Remove windshield wiper arms.

2. Open compartment lid and prop same in a full open position.

3. Remove shroud top air intake grille.

4. Install protective covering over compartment lid and lower part of windshield.

5. Remove torque rod clamp to shroud, located right of center of shroud (Fig. 5-26).

6. Install tool J 21928 (Fig. 5-26) to lid torque rod on right side of body. Securely grasp tool and move it toward windshield to disengage rod from retaining notch. Carefully disengage tool from rod.

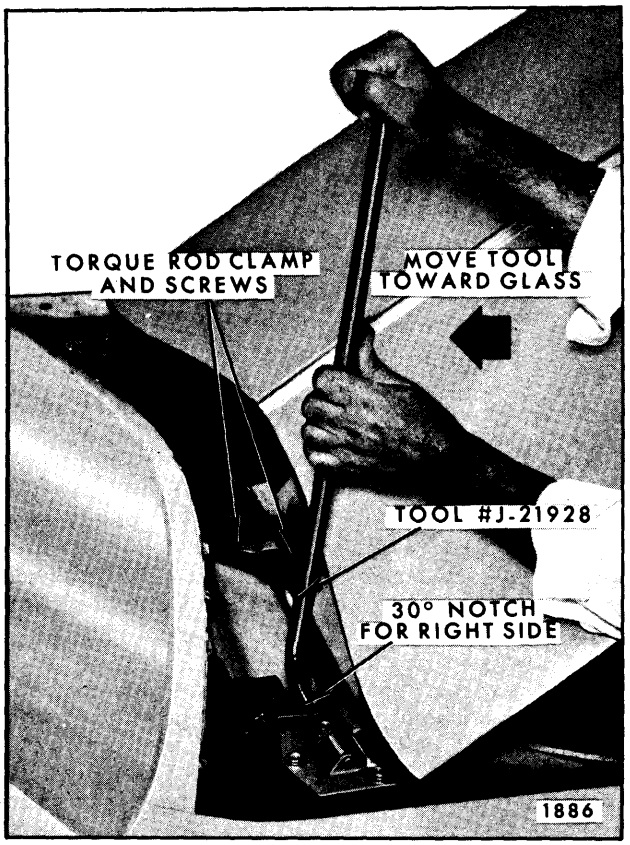

Fig. 5-26—Torque Rod Removal - Right Side

7. In like manner remove rod on left side of body (Fig. 5-27).

   NOTE: It is necessary to remove torque rods prior to removal of front compartment lid hinge assemblies.

8. To install, apply an approved lubricant to

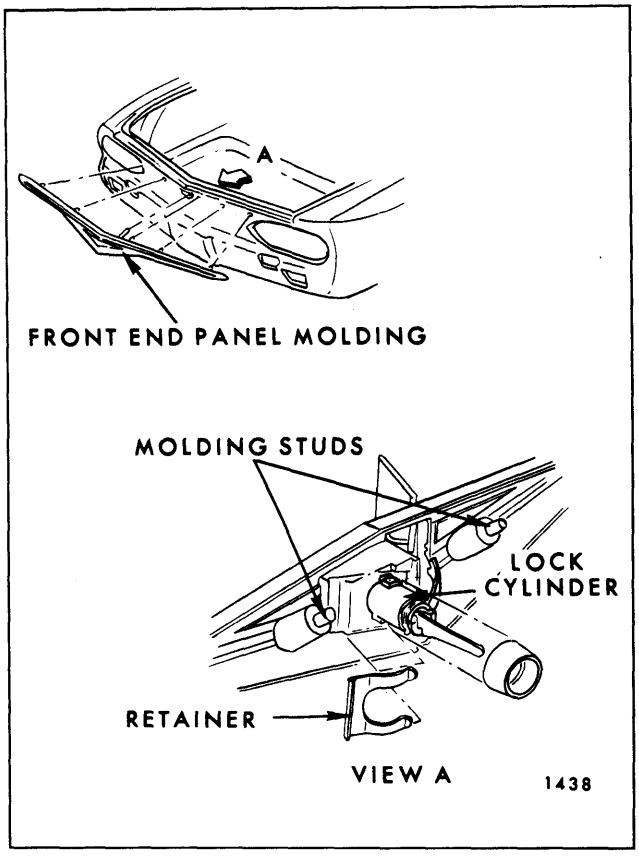

Fig. 5-27—Torque Rod Removal - Left Side

torque rod ends which contact hinge roller (see "Lubrication" section). Reverse removal procedure, placing torque rods in the same retainer notch as they were prior to removal. Check operating effort of compartment lid. Should operating effort be increased or decreased, relocate torque rods for proper operation.

FRONT COMPARTMENT LID LOCK CYLINDER ASSEMBLY

The front compartment lid lock cylinder is attached to the front end panel molding which is secured to the front end panel by studs and nuts. (See Fig. 5-28).

Removal and Installation

1. Remove front end panel molding assembly as explained in the "Exterior Molding" section of this manual (See Index).

2. Remove lock cylinder retainer and remove lock cylinder from molding.

3. To install, reverse removal procedure. Make certain that molding is properly sealed to front end panel.

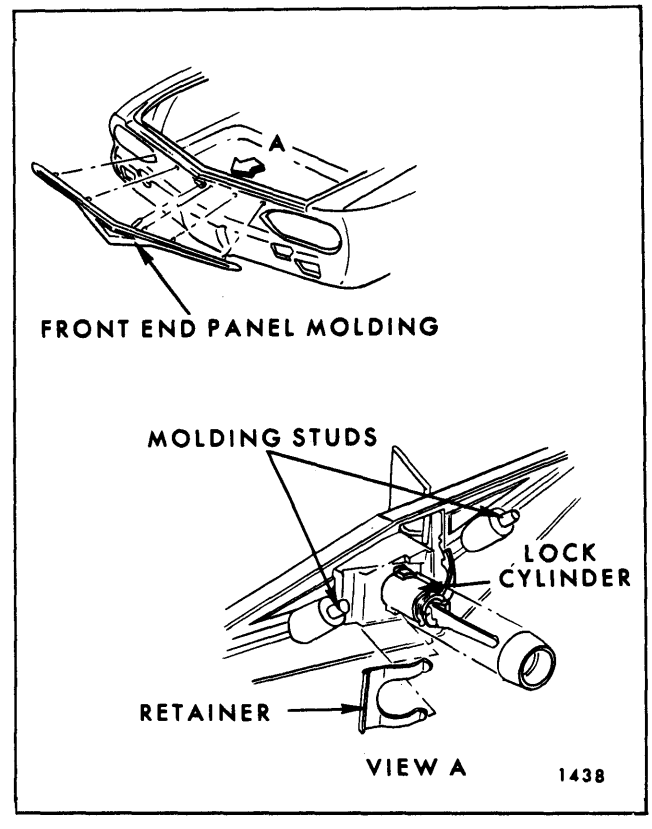

Fig. 5-28—Front Compartment Lid Lock Removal

FRONT COMPARTMENT LID LOCK ASSEMBLY

Removal and Installation

1. Remove front end panel molding and lid lock cylinder assembly.

2. Remove bolts (Fig. 5-29) securing lock to lid lock support and remove lock assembly.

3. To install, reverse removal procedure.

   NOTE: If lock does not properly engage in striker opening, the lock may be adjusted forward by installing emergency spacer(s) between lock and support.

FRONT COMPARTMENT LID LOCK STRIKER

Removal and Installation

1. Mark (pencil) location of front compartment lid lock striker on striker support.

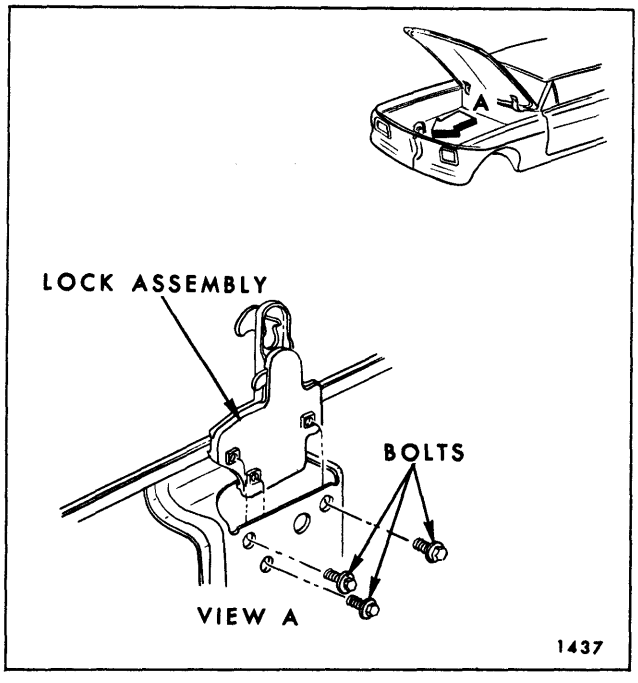

Fig. 5-29—Front Compartment Lid Lock

2. Remove striker retainer plate attaching screws and remove retainer plate and striker (Fig. 5-30).

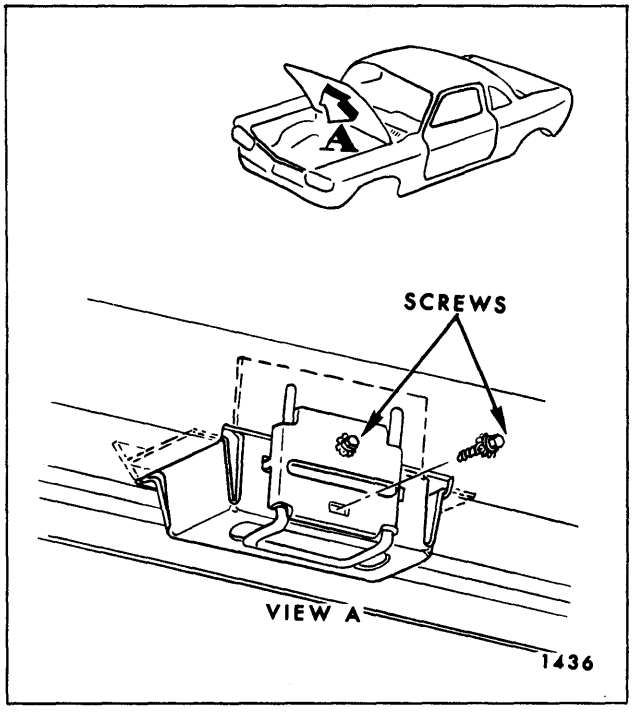

Fig. 5-30—Front Compartment Lid Lock Striker

3. To install, position striker within scribe marks and reverse removal procedure. Insure proper engagement of striker to lock.

Adjustments

1. To adjust striker up, down, right or left, loosen retainer plate attaching bolts (while holding plate in position). Adjust striker as required and tighten bolts.

   NOTE: Since the upper end of the lid lock acts as a guide by entering the striker when the lid is closed, align the front compartment lid properly in the body opening prior to making any striker adjustments.

FRONT COMPARTMENT LID GUTTER WEATHERSTRIP

Removal

1. Separate "butt" ends of weatherstrip at front of compartment opening.

2. With a flat-bladed tool, carefully disengage weatherstrip from its cemented foundation in gutter around entire perimeter of front compartment and remove weatherstrip.

Installation

1. Remove excess cement from gutter around entire front compartment opening to insure a smooth cementing surface.

2. Using a brush, apply approved sealer along the base and around the entire perimeter of gutter.

   NOTE: Apply a sufficient amount of weatherstrip cement along lower inboard corner of gutter so that after installation of weatherstrip, cement will spread and fill complete area.

3. Center weatherstrip at area between lid hinges using color or tape identification mark at center of weatherstrip as guide.

4. Using a flat-bladed tool, such as a putty knife with rounded corners, insert weatherstrip into gutter across top, down sides and across top front of compartment opening in that order. Roll or press weatherstrip to insure a good seal and proper retention of weatherstrip.

5. When a new weatherstrip is required, trim the ends to form a "butt" joint at front of opening. Using a brush, apply weatherstrip cement on both ends of new weatherstrip and secure ends together to form a matching joint.

6. Allow sufficient time for cement to set before closing front compartment lid.