

GROUP 13 BODY

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SECTION 13-A INTRODUCTION, CARE OF BODY, AND FRONT END

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13-1 INTRODUCTION

a. General Information

This Group contains the essential removal, installation, adjustment, and maintenance procedures necessary for ordinary servicing of the Fisher bodies on 1961 Buick models 4000 and 4100. These procedures can be performed by any competent mechanic without specialized experience in body repair work and can generally be accomplished using the tools and equipment available in any service shop. Special tools required are identified by tool numbers and are available through Kent-Moore Organization, Inc., General Motors Building, Detroit 2, Michigan.

All service procedures and illustrations used were furnished by Fisher Body Division, Product Service Activity. All changes and corrections will be published in Buick Product Service Bulletins. All issues of the BPS Bulletins should be kept readily available, as their information supersedes the corresponding information in the manual.

b. Fisher Body Number Plate

Complete identification of each body as required for service is provided by a plate riveted

to the cowl at left of center under the hood. See Figure 13-1. This plate should never be destroyed; if removed during body repairs it should be reinstalled in original location.

The Style Number and Body Number always should be furnished on every body parts order, and on warranty claims and Product Reports relative to bodies. In addition, the Trim Number or the Paint Number should be furnished if the subject relates to trim or paint.

The Style Number is a combination of the year, the division number, the series, and the

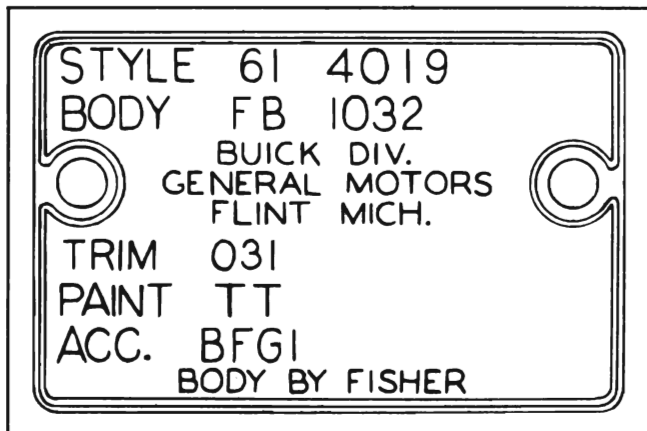


Figure 13-1—Fisher Body Number Plate

style of the body. In Figure 13-1, 61 represents the model year 1961; the first digit 4 indicates Buick Motor Division; the second digit 0 indicates the series; the last two digits indicate the body style. An X following the body style indicates that the body is equipped with electric power assists.

The Body Number is the production serial number of the body. The prefix letter denotes the plant in which the body was built. In Figure 13-1, G indicates the Flint plant.

The Trim Number furnishes the key to trim color and material. Trim colors and materials specified for each trim number are given in The Buick Master Parts List.

The Paint Number furnishes the key to the color combination and paint specifications. Paint colors and the manufacturer's numbers specified for each paint combination number are given in the Buick Master Parts List.

c. Body Style Numbers

In the service procedures given in Group 13 the last two digits of the body style numbers are used where necessary to distinguish differences between bodies. Body style numbers are as follows:

Special 4000 Series

4019 4 Door Sedan
4035 4 Door Station Wagon

Special 4100 Series

4119 4 Door Sedan
4135 4 Door Station Wagon

13-2 CARE OF BODY FINISH, PLATED PARTS, AND TRIM

a. Care of Paint

Care should always be used in applying polishes. Particular care should be observed when the car is new and in using preparatory cleaners which have abrasive properties, regardless of age of the car, because unskilled

application of such cleaners will result in rubbed through or thin spots in the paint. Polishes containing wax should be applied sparingly and thoroughly rubbed to remove any surplus. Excessive coatings of wax tend to cloud the paint and destroy its natural lustre, besides acting as a binder for the accumulation of dirt.

When retouching of paint is required in service the paint should be the same number as specified for the paint combination number on the body number plate (Fig. 13-1). Unless the new paint contains the same pigments in the same proportion as the original paint, the new paint may weather out off-color even though it appears to blend with the original paint at time of application.

b. Care of Chrome Plated Parts

Chrome plated parts rust or corrode because chemical agents present in road silt and traffic film seep through pores in the plating and attack the underlying base metal. A plating of nickel is applied underneath the chrome to seal the plating and protect the base metal.

Deterioration of chrome plated parts can be avoided by keeping the parts clean and by periodic application of a preservative which will aid in retarding seepage of destructive agents through the plating. Plated parts should be washed with clear water only, using a mild detergent such as Du Pont Car Wash when necessary. Do not use scouring powders, cleaning compounds, or stiff brushes. An application of Buick Chrome Preservative (group 8.800) every thirty days as instructed on the container will materially aid in maintaining lustre and retarding deterioration of chrome plated parts.

c. Cleaning Body Trim Fabric

The cloth headlining has a long nap, therefore, a great deal of care must be used to prevent damage when cleaning it.

A soft brush should be used to remove lint or threads from the headlining and the nap should be brushed in even strokes, brushing from the rear to the front.

It is not recommended that air under pressure be used for removing threads or lint because of the danger of matting and streaking the nap. If an air hose is used, however, it is extremely important to hold the nozzle at least 12 or 16 inches away from the headlining with a moderate air stream flowing from the rear to the front.

There are basically two different types of fabric cleaners on the market:

(1) Volatile cleaners such as naphtha, gasoline, carbon-tetrachloride and many others that are colorless liquids having great solvent powers for grease and oil.

(2) Alkaline cleaners, soaps and water mixtures which generally emulsify stains satisfactorily but at possible risk to the removal of the color or finish of the fabric.

For the removal of spots caused by ordinary soilage, we definitely recommend the "volatile type cleaner," preferably a mixture of carbon-tetrachloride and cleaner's naphtha.

Do not use any gasoline which is colored or which contains tetra-ethyl lead. Do not use volatile fire extinguisher fluid.

Careful application of the following procedure is a prime factor in obtaining satisfactory results, and if followed closely will prevent the appearance of unsightly rings. The evident slowness of the method is compensated for by the superior results obtained.

1. Obtain, cut and fold several small swatches of clean cheesecloth or other fabrics suitable for this purpose.

2. With a brush or whisk broom of medium stiffness, brush away all loose particles of dirt and soil.

3. Immerse the small cloth swatch in cleaning solution, wring out and allow medium evaporation.

4. Place cloth on soiled spot several times, using no friction and only slight tapping pressure. This will pick up loose particles which are too embedded to be removed in the brushing operation. This operation should be repeated several times -- in each instance using a new clean area of the cloth. Remember the solvent power of the cleaner does the work

and only a minimum of pressure should be applied.

5. Immerse a new cloth in cleaner, wring out thoroughly, open and allow to evaporate until barely damp. Apply increased pressure and rub soiled area in a backward and forward motion (not circular). The cleaning cloth should be reversed several times in this operation.

6. Immerse third cloth, wring out, allow evaporation and apply to both the soil and area surrounding same, using a light brisk motion.

7. Repeat brushing operation.

d. Care and Cleaning of Leather Seats

Care of genuine leather is a relatively simple but important matter. If dirt accumulates on the surface, this generates into a hard grit which under pressure will cut the finish and cause the leather to crack or bleed color. The surface should be gone over occasionally with a dry cloth and if dirt should accumulate, the following cleaning instructions should be used:

1. Using lukewarm water and a neutral soap, work up a thick suds on a piece of cheesecloth and apply it to leather surface.

2. Go over leather surface again using only a damp cloth and no soap.

3. Wipe leather dry with a soft cloth.

NOTE: Polishes and cleaners used for auto body finishes, volatile and other clear cleaners, naphtha, furniture polishes, oils, varnishes or household cleansing and bleaching agents should never be used on leather seats.

13-3 WINDSHIELD

a. Removal and Installation of Windshield Garnish Moldings

The windshield garnish moldings consist of upper right and left moldings, lower center molding and right and left lower outer

moldings. The lower outer moldings must be removed prior to removing the lower center molding. All moldings are secured by screws. See Figure 13-2.

1. Place protective coverings over front seat and instrument panel.
2. Remove rear view mirror support; then, remove upper garnish molding.
3. Remove lower end moldings.
4. Remove lower center molding.
5. To install, reverse removal procedure.

b. Removal and Installation of Rear View Mirror Support

1. Remove screws securing mirror support and remove support. See Figure 13-2.
2. To install, reverse removal procedure.

c. Removal and Installation of Sunshade Support Assembly

1. Remove screws securing assembly and remove assembly.

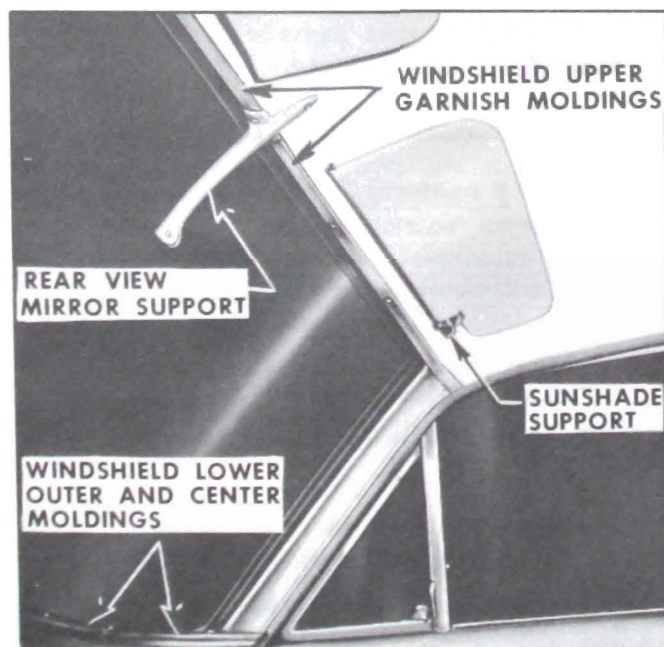


Figure 13-2—Garnish Molding Attachment

2. To install, reverse removal procedure.

d. Removal of Windshield Glass

1. Place protective covering over hood, front fenders, instrument panel and front seat assembly.
2. Remove rear view mirror support assembly.
3. Remove windshield garnish moldings.
4. Remove windshield wiper arms.
5. On inside of body loosen lip of rubber channel from pinchweld flange along top and sides of windshield as follows: With palm of hand, apply pressure to glass near edge. See Figure 13-3. At same time, use a blunt putty knife or other suitable tool and carefully assist rubber channel over pinchweld flange.
6. After windshield rubber channel is free from pinchweld flange, with aid of helper, carefully lift windshield assembly from body opening and place it on a protected bench.
7. Remove windshield reveal moldings from rubber channel on styles incorporating reveal moldings.
8. Remove rubber channel from glass.



Figure 13-3—Windshield Glass Removal

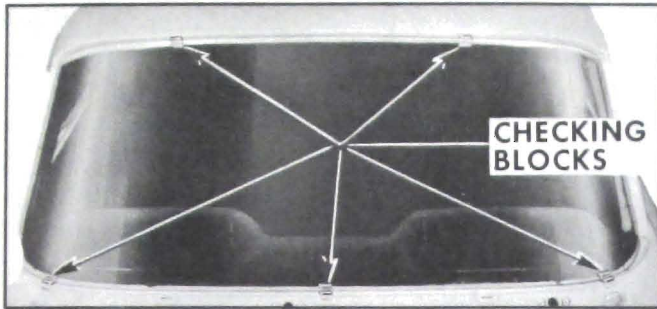


Figure 13-4—Windshield and Opening Check

e. Checking Body Windshield Opening

It is important that the body windshield opening be checked thoroughly before installation of a replacement windshield glass. The procedure below outlines the method which may be used to check the windshield opening.

1. Remove windshield from body.
2. Check windshield rubber channel for any irregularities.
3. Clean off old sealer around windshield opening and check entire body opening flange for any irregularities.
4. Install five (5) windshield checking blocks #J-8942 to pinchweld flange. See Figure 13-4. Position one block over lower pinchweld flange on each side of body approximately twelve inches (12'') inboard from the lower outer corner of the opening. Position final block on lower pinchweld flange in center of windshield opening. Position one block over upper pinchweld flange midway between center block and each outboard block on lower retaining flange.
5. With aid of helper, carefully position replacement glass on blocks in windshield opening.

CAUTION: Care should be exercised to make certain glass does not strike body metal during installation. Edge chips can lead to future breaks.

6. With windshield glass supported and centered in the body opening by checking blocks, check relationship of glass to body opening around entire perimeter of glass. Figure 13-5 shows a typical section taken through the glass channel and body opening. Check glass to body relationship as follows:

a. The inside surface of the glass should be uniform distance from pinchweld flange. The dimension should be from 1/4'' to 5/16''.

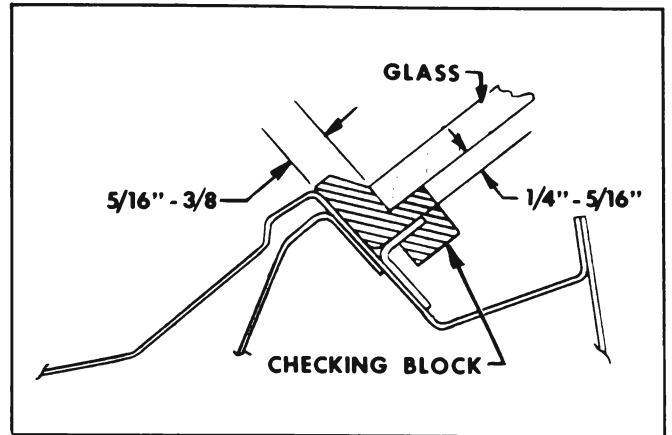


Figure 13-5—Windshield Opening Check

b. The outer edge of glass should be a uniform distance from body metal, measured in the plane of the glass. This dimension should be from 5/16'' to 3/8''.

7. Mark any sections of body to be re-formed, remove glass and re-form opening as required.

8. Recheck windshield opening as outlined above. Then mark the center line on the glass and body so that glass can be accurately centered in opening when installed.

f. Installation of Windshield Glass

1. Clean out old sealer in glass cavity of windshield rubber channel and around base of rubber channel.
2. Install rubber channel to glass.
3. Install reveal moldings in rubber channel on styles incorporating reveal moldings.
4. Insert a strong cord in pinchweld cavity of rubber channel completely around windshield. Tie ends of cord and tape to inside surface of glass at bottom center of glass. See Figure 13-6.

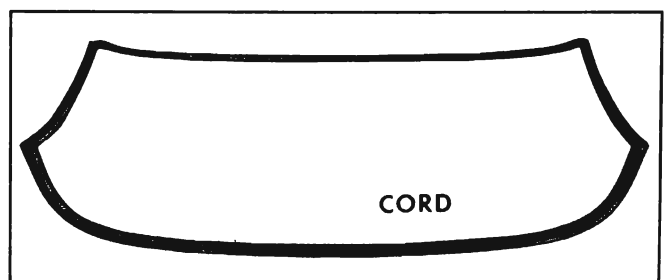


Figure 13-6—Windshield Installation

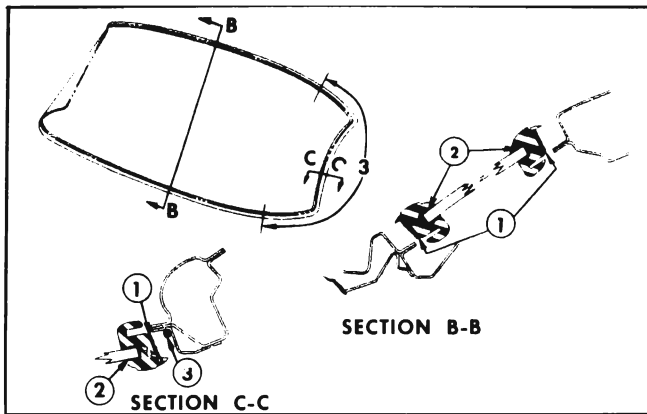


Figure 13-7—Windshield Sealing

5. Apply a ribbon of medium-bodied sealer completely around base of rubber channel as indicated by "1" in Figure 13-7.

6. Apply a bead of medium-bodied sealer, approximately 1/4" in diameter to corner of windshield opening rabbet around each side of windshield for distance indicated by "3" as shown in Figure 13-7.

7. With aid of helper, carefully position and center windshield assembly in windshield opening.

CAUTION: Do not position glass by tapping or hammering at any time.

8. When the glass and channel are properly positioned in opening, slowly pull ends of cord, starting at lower center of windshield, to seat lip of rubber channel over pinchweld flange. Cord should be pulled first across bottom of windshield, then up each side and finally across top of windshield.

9. Using a pressure type applicator, seal inner and outer lips of rubber channel to glass as indicated by "2" in Figure 13-7 with an approved weatherstrip adhesive. Seals are to extend completely around rubber channel.

10. Clean off excess sealer from windshield glass with mineral spirits.

11. Reinstall all previously removed parts and remove protective coverings.

g. Removal of Windshield Reveal Moldings (4119 and 4135 Styles)

The windshield reveal moldings are secured in a cavity of the windshield rubber channel. The moldings consist of an upper and lower

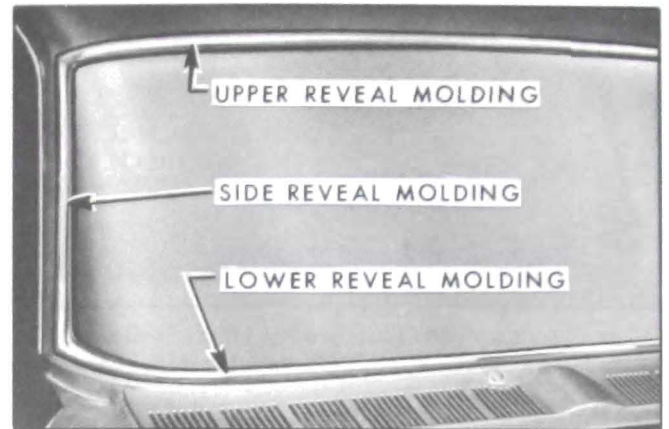


Figure 13-8—Windshield Reveal Molding

reveal molding and a right and left side reveal molding. The ends of the side reveal moldings overlap the upper and lower reveal moldings.

1. Mark center line on glass and body, remove windshield assembly and place it on a protected bench.

2. Locate and mark center of upper and lower reveal moldings.

3. Carefully remove side reveal moldings from cavity of rubber channel; then, remove upper and lower reveal moldings.

h. Installation of Windshield Reveal Moldings (4119 and 4135 Styles)

1. Install and center upper and lower reveal moldings in cavity of rubber channel; then, install side reveal moldings.

NOTE: To facilitate installation of the moldings, apply a mild soap solution to the cavity of the rubber channel prior to installing the moldings.

2. Install windshield assembly in body.

i. Removal and Installation of Windshield Pillar Drip Moldings

1. Remove screws securing drip molding and remove molding.

2. To install, apply medium-bodied sealer to screw attaching holes as indicated by #1 and to drip molding as indicated by #2 in Figure 13-9 and reverse removal procedure.

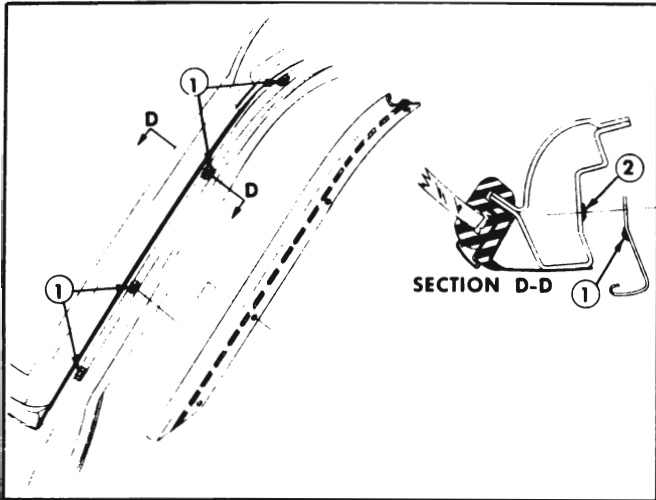


Figure 13-9—Windshield Pillar Drip Molding Sealing

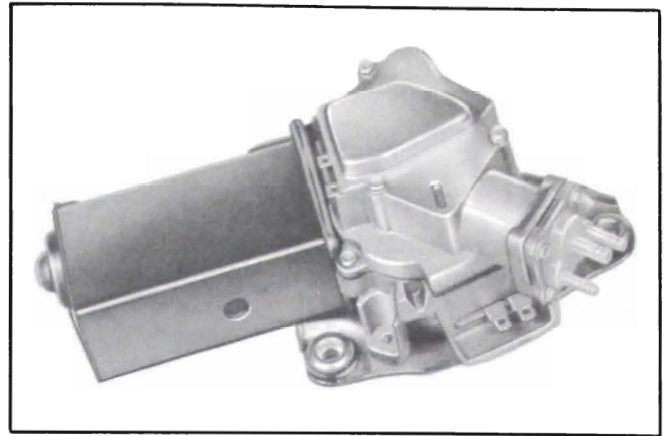


Figure 13-11—Wiper Assembly

13-4 WINDSHIELD WIPER

a. Description and Operation

Electric powered windshield wipers will be used on all 4000 and 4100 Models. See Figure 13-11. Single speed wipers without washers are standard on all Models, with washers of-

fered as an option. Washers may be dealer or Factory installed.

The wipers are operated by use of a switch which is mounted on the instrument panel. On wipers without washer there is no button on the instrument panel switch and operation is merely a rotary "off-on" motion. On wipers with washer, the washer is actuated by means of a button located in the middle of the switch

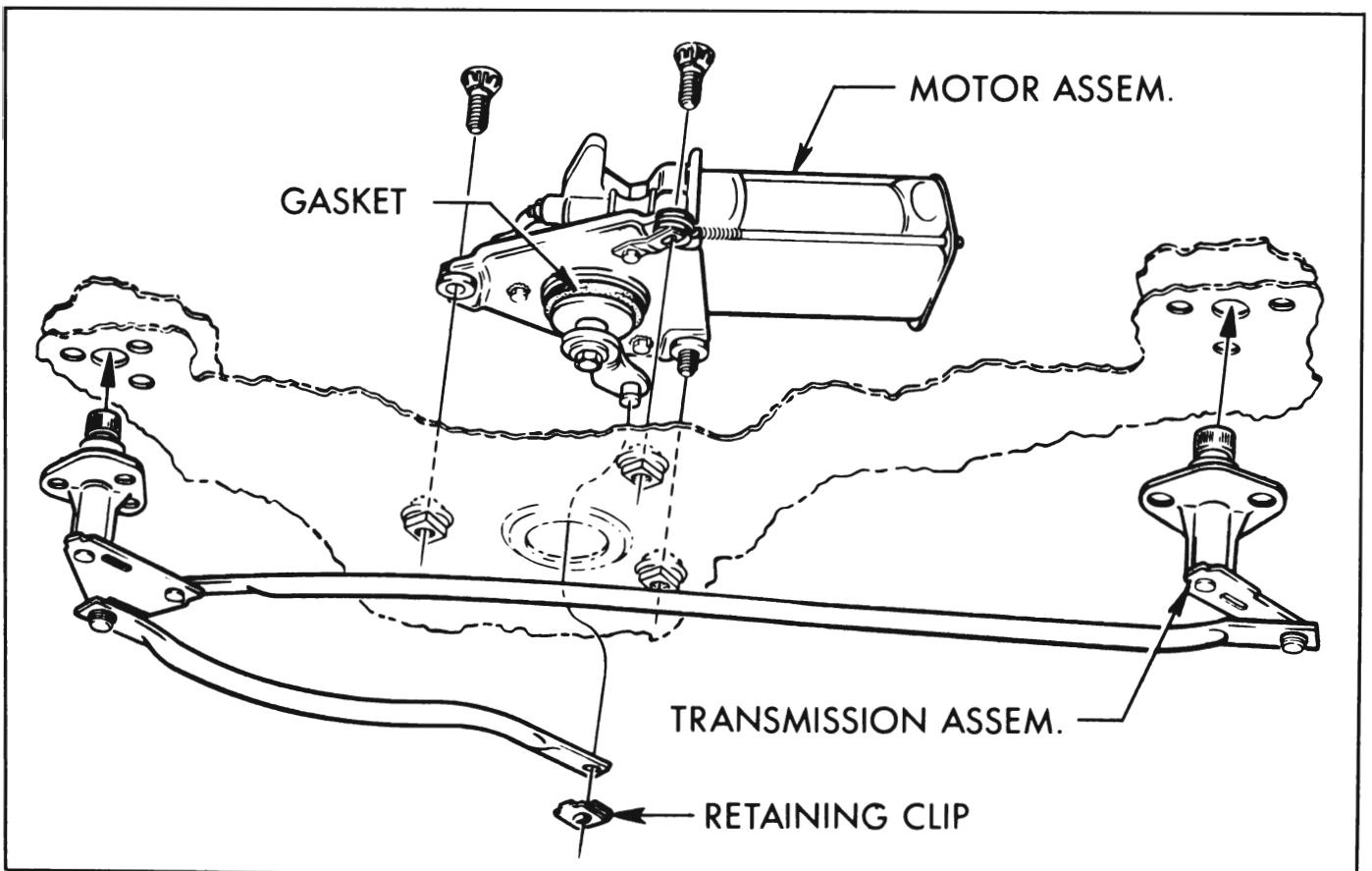


Figure 13-12—Single Speed Wiper Installation

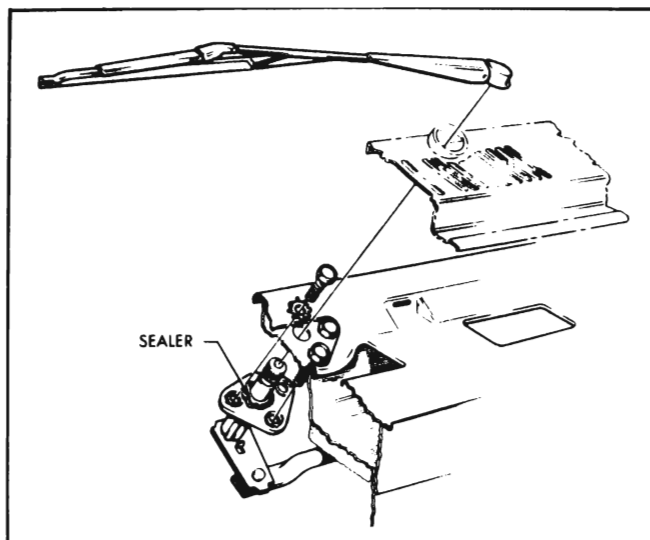


Figure 13-13—Wiper Transmission Installation

knob. To operate the washer, the button must be pushed in or forward. In so doing, the wiper switch knob is mechanically rotated by the button turning on the wiper motor. After the washer has stopped, the knob must be manually turned back to off position to stop the wiper blades. When the switch is turned to the off position, the blades do not return to a "full" park position, but approximately an inch from the moulding.

The washer pump for this unit is located on the wiper motor and is driven directly by the wiper motor.

All motors are held to the upper cowl by means of three (3) bolts which fasten through three (3) rubber bushings on the motor mounting plates and then into three (3) weld nuts which are located in the cowl. See Figure 13-12.

The wiper motor is located on the engine compartment side of the dash while the transmission arms are located on the passenger compartment side of dash directly forward of the instrument panel. See Figure 13-13.

One transmission assembly operates both the right and left side arms in a tandem wiper pattern.

The tubular drive link attaches to the drive crank arm on the wiper motor shaft by means of a special retainer clip.

The wiper assembly has a rectangular shaped shunt type 12 volt motor attached to a gear box containing a gear and shaft assembly and parking switch. The motor armature has a worm shaft which drives a gear and shaft assembly: a crank arm is attached to the gear and shaft assembly and drives the transmission as described above.

An automatic reset type circuit breaker located internally on the motor brush plate protects the motor windings from overheating.

Two switches, a dash switch and parking switch control the starting and stopping of the wiper unit. The parking switch contacts, which

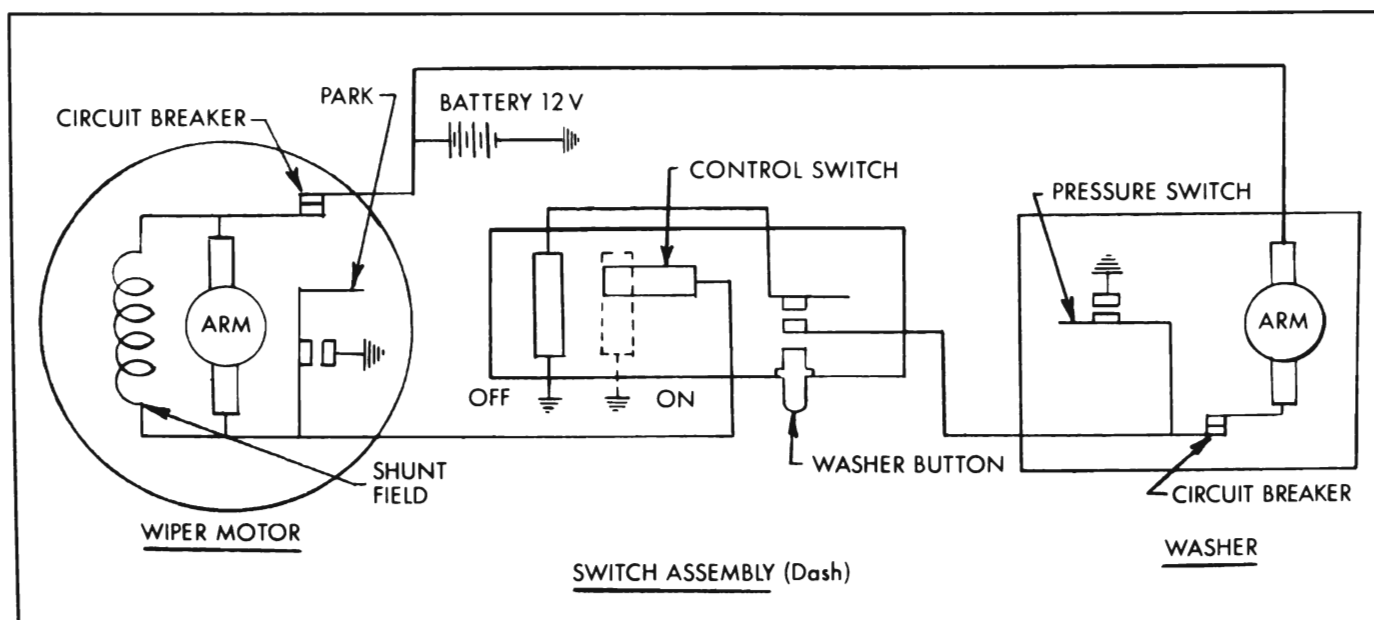


Figure 13-14—Wiring Diagram Single Speed System

are located internally on the wiper unit terminal board at the bottom of the wiper gear box, are actually connected across the dash switch and act as a set of holding contacts when the dash switch is turned "off." This keeps the wiper circuit closed so the wiper can keep operating until the blades reach their predetermined park position. When the blades reach the park position, the parking switch contacts, which are controlled through the wiper gear, are opened stopping the wiper. See Figure 13-14.

When the wiper is turned "on" current flows from the battery through the circuit breaker, through the motor field and armature to the dash switch to ground starting the wiper.

When the wiper is first turned "off" the wiper motor circuit is opened at the dash switch. However, current from the battery then passes through the circuit breaker, motor field and armature through the parking switch contacts to ground. When the wiper blades have reached the park position the parking switch contacts open stopping the motor.

b. Trouble Diagnosis

This section is divided into two parts: (1) Checking the wiper installed in the car, and (2) Checking the detached wiper.

1. Checking the Wiper and Washer Installed in the Car.

Checking an inoperative wiper in the car consists of first locating if the trouble exists in the dash switch, wiper unit or linkage. To check out the wiper system, follow the steps below until trouble is located.

(a) Connect a jumper wire from the wiper motor frame to ground and try operating wiper. If wiper operates a defective wiper unit ground claw connection is indicated.

(b) With ignition switch on check for 12 volts at feed wire terminal that connects to the No. 2 wiper terminal, Figure 13-14. No voltage reading indicates faulty car wiring.

(c) If correct voltage is obtained in Step 2, connect 12 volts to No. 2 terminal, Figure 13-14 and connect a jumper wire from the No. 1 terminal to ground. If wiper operates a defective dash switch is indicated.

(d) If wiper fails to operate in Step 3, remove body parts as necessary to gain access to wiper transmissions and linkages. Disconnect

transmission link arms from wiper crank arm and recheck if wiper will operate. If wiper operates correctly trouble is located in the transmissions. If wiper still fails to operate, remove wiper from car for bench check.

2. Checking the Detached Wiper.

There are three basic reasons for removing the wiper unit from the car for repairs: (a) Wiper Inoperative, (b) Wiper Blades Fail to Park (i.e., blades stop anyplace on glass when wiper is turned off), and (c) Wiper Fails to Shut Off.

(a) Checking an Inoperative Wiper

Loosen armature end play adjusting screw and check if wiper will operate. If wiper operates, adjust end play. If wiper fails to operate, disassemble the motor section of the wiper (see Disassembly Instructions), and inspect or check the following items as required until trouble is located.

(1) Circuit breaker contacts clean and closed.

(2) All solder connection -- tight and not grounding to frame.

(3) Brushes slide freely in their holders and brush springs are properly positioned. See Figure 13-15.

(4) Armature checks:

Open--Using a test lamp check from bar to bar. If lamp fails to light between any two consecutive bars an open armature is indicated.

Grounded--Using a test lamp check between armature lamina and the commutator. If lamp lights a grounded armature is indicated.

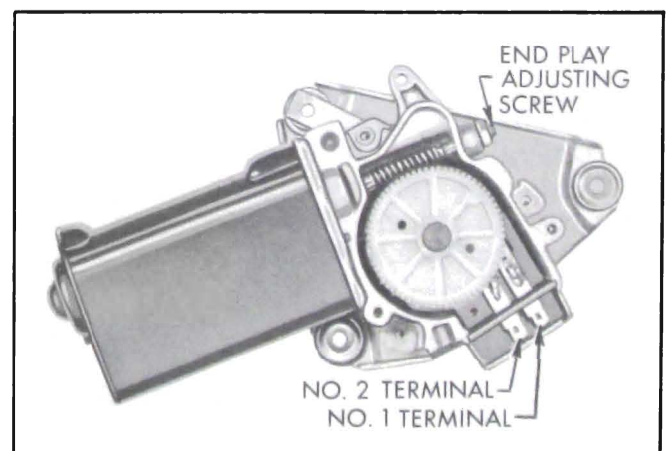


Figure 13-15—Checking Wiper Motor

(5) Field Checks:

IMPORTANT: Armature must be removed from motor and brushes must not be touching each other before making the following field checks:

Open--Using a test lamp check between terminals 1 and 2. See Figure 13-15. If lamp fails to light an open field is indicated.

Grounded--Unsolder motor lead from No. 1 terminal (Figure 13-15) and connect test lamp between disconnected lead and the motor frame. If test lamp lights a grounded field is indicated.

(6) Gear--Disassemble gear box section (see Disassembly Procedure) and visually inspect gear for broken or stripped teeth.

(b) Wiper Blades Fail to Park

This condition is caused by the parking switch contacts being dirty or broken. To inspect and/or clean contacts, remove gear box cover, baffle and terminal board. (See Disassembly Procedure.)

(c) Wiper Fails to Shut Off

(1) Check that wiper motor lead that connects to No. 1 terminal (Figure 13-15), is not grounding on motor frame.

(2) Remove gear box cover, baffle and terminal board and check that contacts are not frozen or burnt together.

c. Disassembly and Assembly Procedure

The motor section of the wiper unit may be disassembled independently of the gear box section and vice versa.

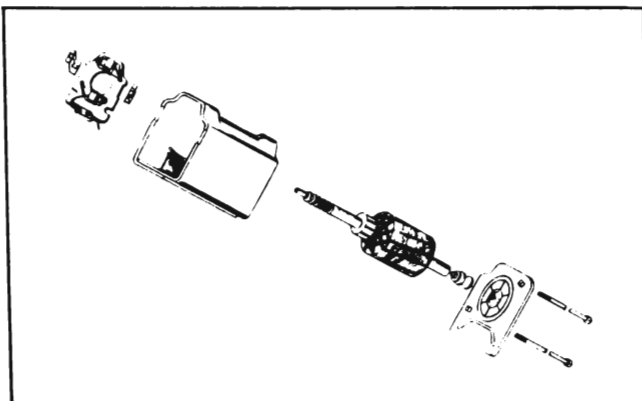


Figure 13-16—Single Speed Motor Disassembly

1. Motor Disassembly

(a) Unsolder motor leads from terminal board.

(b) Remove the two tie bolts; remove end plate assembly and pull armature out of motor.

(c) Tap the motor frame lightly to free it from the gear box.

(d) Lift brush plate and circuit breaker assembly away from frame and unsolder leads as required.

To assemble the motor section, reverse the disassembly procedure.

2. Gear Box Disassembly

(a) Remove crank arm retaining nut, crank arm, seal cap, retaining ring and end play washers.

(b) Remove gear box cover, terminal board and baffle and slide the gear and shaft assembly out of the gear box.

To reassemble the gear box, simply reverse the disassembly procedure.

3. Wiper Adjustments

(a) **Armature End Play--**Loosen end play adjusting screw lock-nut (Figure 13-15) and tighten the adjusting screw until finger tight. Back off 1/4 turn and tighten lock-nut.

(b) **Gear Shaft End Play--**Remove crank arm, seal cap and retaining ring and add end play washers as required to obtain .005" maximum end play.

13-5 WINDSHIELD WASHER**a. Description**

Any time that the motor is turning, a guide pin on the motor drive plate assembly turns a four lobe shaped nylon cam follower in the pump assembly. The cam follower contacts a roller on the ratchet pawl lever. See Figure 13-17. A torsion spring on the ratchet pawl lever pivot shaft makes the lever and roller follow the nylon cam follower and also puts the ratchet pawl under spring tension.

Two other shafts are located on the ratchet pawl lever, on the side opposite the roller. One of the shafts supports the ratchet pawl, while the shorter shaft actuates the pump slide lever. The pump slide lever is slotted at one end to receive the short shaft. The other end

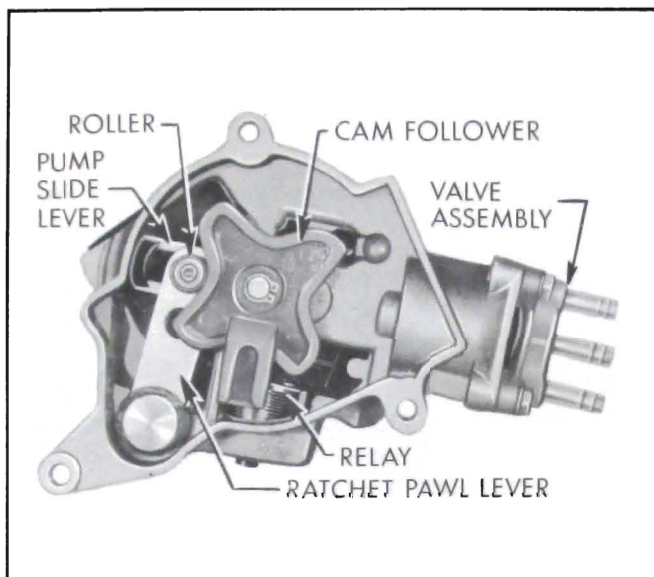


Figure 13-17—Washer Pump—Motor Side

of the pump slide lever is fitted with a rubber cup type pump diaphragm and a coil spring.

The ratchet pawl is slotted on the end opposite the pivot shaft. The slotted end contacts a nylon ratchet wheel which has 21 teeth. During pump operation, the slot in the ratchet pawl slips over one tooth on the ratchet wheel

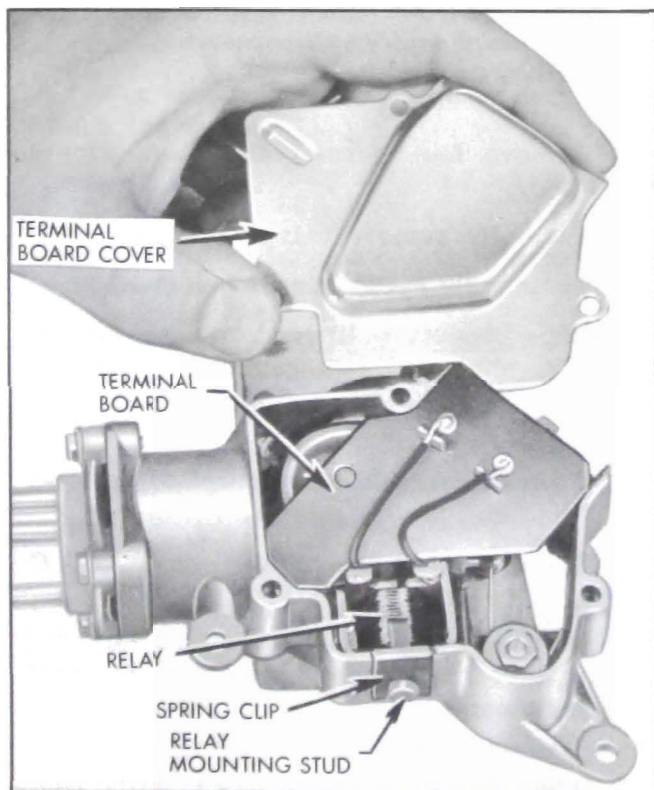


Figure 13-18—Washer Pump - Cover Side

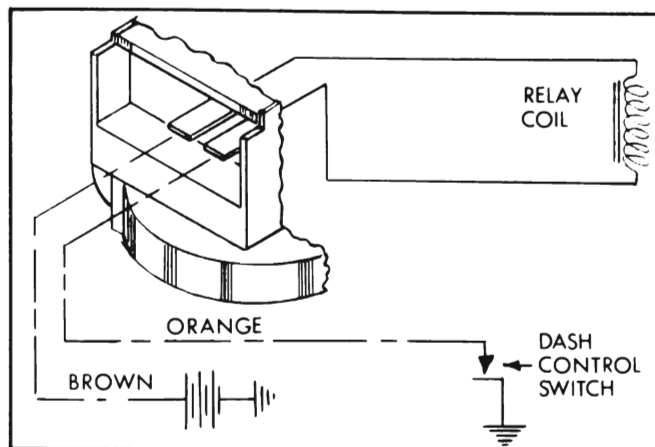


Figure 13-19—Washer Pump Wiring Circuit

and rotates the wheel one tooth at a time until the ratchet wheel has been rotated through all 21 teeth or one complete revolution.

The nylon ratchet wheel has a ramp on the side down toward the pump slide lever and also a notch on the top side. The ramp has two functions. First, as the ratchet wheel rotates, the ramp makes contact with a relay armature hair spring to move the spring from under the armature and allow it to drop toward the ratchet pawl. Secondly, it contacts a tang on the pump slide lever which allows the tang to climb up on the ramp and stop the pumping action.

A tang on the pump relay armature falls into the notch on the nylon ratchet wheel when the wheel has made one revolution. This allows the ratchet pawl to slide into a wide slot in the armature, lifting the ratchet pawl away from the teeth of the nylon ratchet wheel.

A relay within the pump housing is energized anytime the washer button is depressed. See Figure 13-19. When energized, the armature is pulled up against the relay to release the ratchet pawl from the armature, allowing the ratchet pawl to engage the ratchet wheel teeth. At the same time, the relay armature hair spring trips to a position under the armature, holding it away from the ratchet wheel and ratchet pawl.

b. Operation

Pump action remains the same regardless of whether wiper motor is on when washer button

is depressed or if button is depressed to start washer and motor at the same time.

1. Idling.

With wiper motor turning, the elliptical cam follower is rotated by the guide pin on the ratchet pawl lever. The tang on the pump slide lever is on the high portion of the ratchet wheel ramp, leaving the pump in a cocked position. The pump slide lever is spring loaded by a coil spring next to the rubber cup diaphragm.

With the wiper motor turning, the elliptical cam follower is rotated by the guide pin of the motor drive plate. The pump slide lever is held from pumping by the tang resting on the high portion of the nylon ratchet wheel ramp. The ratchet pawl does not engage the teeth of the ratchet wheel because it is held away from the wheel by the armature. The armature tang is engaged in the slot of the ratchet wheel. The rotating cam follower contacts the roller and moves the ratchet pawl lever back and forth. The ratchet pawl also moves, being connected to the ratchet pawl lever, but no ratchet wheel rotation takes place. The pump is idling.

2. Pumping.

When the washer button is depressed, the relay energizes. The armature tang moves out of the ratchet wheel slot and the armature hair spring trips under the armature. As the armature moves toward the relay, the ratchet pawl falls free of the armature and engages a ratchet wheel tooth, rotating the wheel one tooth. The distance moved is sufficient for the pump slide lever tang to fall off the ratchet wheel ramp and allow the spring loaded pump to pump the first stroke. The pump completes one pumping stroke for each ratchet wheel tooth movement. After the wheel has rotated approximately 1/2 turn the ramp engages the armature hair spring and moves it out from under the armature. The armature crops and the tang contacts the ratchet wheel but does not affect the ratchet pawl action. After another 1/8 to 1/4 turn of the ratchet wheel, the pump slide lever tang contacts the ramp with a resulting shorter pump stroke. Each succeeding stroke becomes shorter until the nylon ratchet wheel has made one complete revolution and returned to the starting position. At that point, the armature tang drops into the ratchet wheel slot, with the ratchet pawl entering the large slot in the armature and lifting away from the ratchet wheel teeth. The pump is then returned to idling and has completed one pumping cycle.

c. Removal and Replacement of Relay and Terminal Board

1. Remove relay terminal board cover. See Figure 13-18.

2. Slide spring clip off relay mounting stud. See Figure 13-18.

3. Rotate nylon rotor cam to free ratchet arm from relay armature and lift out relay and terminal board as an assembly.

CAUTION: Whenever it is necessary to solder connections on either the wiper or the pump rosen core solder should be used. Do not use acid core solder.

NOTE: Terminal insulator must be saved for reinstallation.

4. To reinstall hold relay armature in against the coil pole and position the relay mounting stud in the slot provided in the pump body casting.

5. Install spring clip on relay mounting stud.

6. Assemble terminal insulator over terminals and position terminal board.

7. Manually rotate washer pump through a complete cycle to check if pump is operating properly.

d. Removal and Replacement of Valve Assembly

1. Remove four screws attaching valve to pump body.

2. Carefully remove valve assembly.

3. To install, reverse removal procedure.

NOTE: Be certain that bellows is positioned properly when valve assembly is installed.

e. Removal and Replacement of Bellows

1. Remove valve assembly.

2. If pump is in idling position, release it as follows: push relay armature toward relay coil so that wire stop spring engages relay armature, then manually rotate nylon rotor cam until pumping action is felt.

3. When plunger is all the way in on the pump stroke place a block of wood between the pump slide lever and pump body to prevent slide

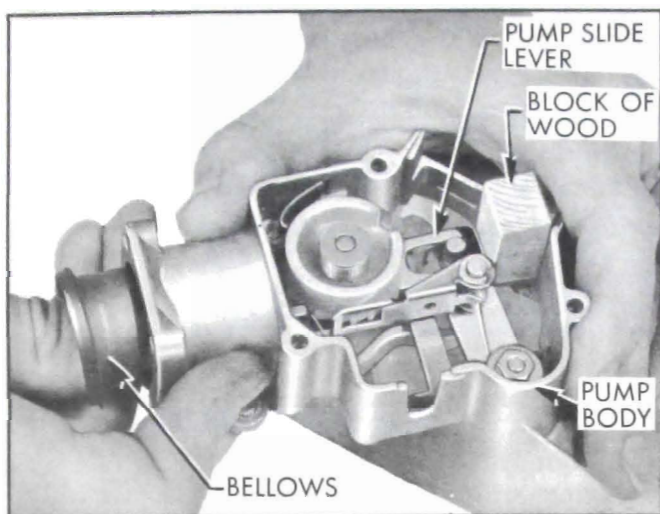


Figure 13-21—Bellows Removal

lever from being pushed back in next step. See Figure 13-21.

4. Push in against bottom of bellows and turn bellows approximately 90° . This should release bellows unit from pump plunger.

5. To install, reverse removal procedure.

13-6 INSTRUMENT PANEL

a. Removal and Installation of Instrument Panel Compartment Door

1. Mark location of compartment door hinge on door inner panel.

2. Remove hinge stop attaching screws from door inner panel.

3. Remove door hinge attaching screws from door inner panel and remove door.

4. To install, position door within locating lines and install attaching screws. Install hinge stop and adjust as necessary.

b. Adjustments to Instrument Panel Compartment Door

1. To reposition compartment door up or down in its opening, loosen hinge and hinge stop attaching screws at door inner panel and shift door in desired direction.

NOTE: A slight up or down adjustment may also be obtained at hinge-to-instrument panel attachment.

2. To position the door right or left, loosen hinge-to-instrument panel attaching screws lo-

cated on underside of instrument panel and shift door to desired position. Adjust stop assembly accordingly on door inner panel.

3. The door lock striker may be adjusted by loosening attaching screws and moving striker forward or rearward.

c. Removal and Installation of Instrument Panel Compartment Door Hinge Stop Assembly

1. Remove hinge stop attaching screws and remove from body.

2. To install, reverse removal procedure. Check for proper alignment of hinge stop to door inner panel.

d. Removal and Installation of Instrument Panel Cover Assembly

The instrument panel cover assembly is a two piece soft molded "Nose" design applied to the formed surface of the instrument panel and is attached by studs and nuts as indicated by #1 in Figure 13-22. The left end is separate

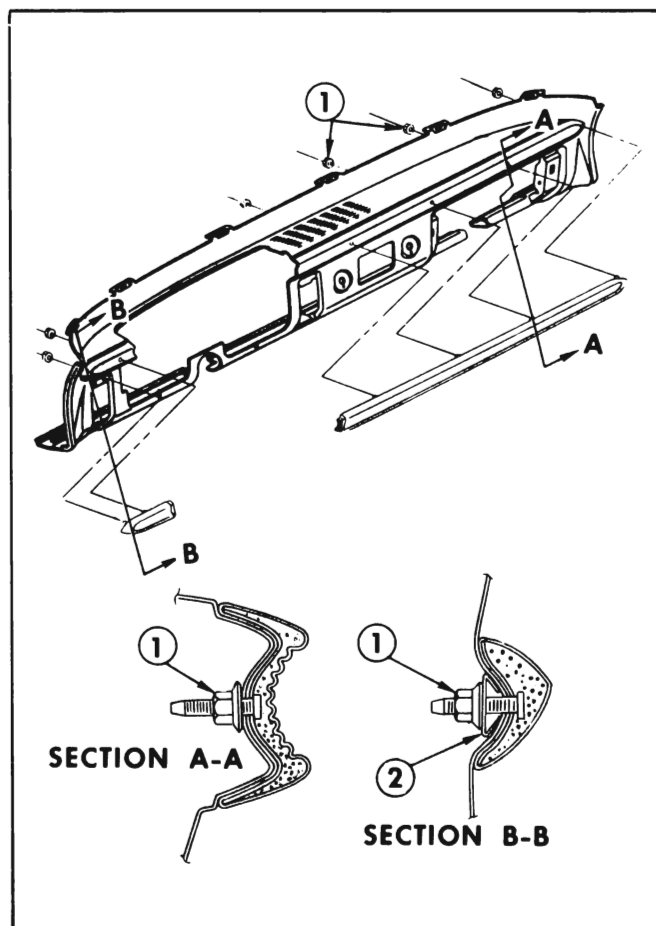


Figure 13-22—Instrument Panel Cover

from the right side and may be removed separately.

1. From underside of instrument panel remove attaching nuts and spacer shims as indicated by #1 in Figure 13-22 and remove either cover.

2. To install, make certain that spacer shims on the left end are installed before the attaching nuts as indicated by #2 in Figure 13-22, Section "B-B" and reverse removal procedure.

13-7 BODY VENTILATING SYSTEM

The body ventilating system incorporates the use of an air intake grille located on top of the shroud panel. The air entering the shroud top ventilator grille flows through a duct which guides the air into the body through a shroud side duct panel air outlet assembly. The door in the outlet assembly regulates the flow of air and is adjusted by the use of a cable and knob control. Water entering the air inlet grille flows down the shroud side duct panel and is discharged through an opening in the shroud side panel.

a. Removal and Installation of Shroud Top Ventilator Grille

1. Place protective coverings over hood and fenders.

2. Remove windshield wiper arms, spanner nuts and escutcheons.

3. Raise hood, remove screws securing grille to shroud. See Figure 13-23.

4. Carefully raise front edge of grille and slide grille forward to disengage tabs along rear edge of grille from slots in shroud; then, remove grille.

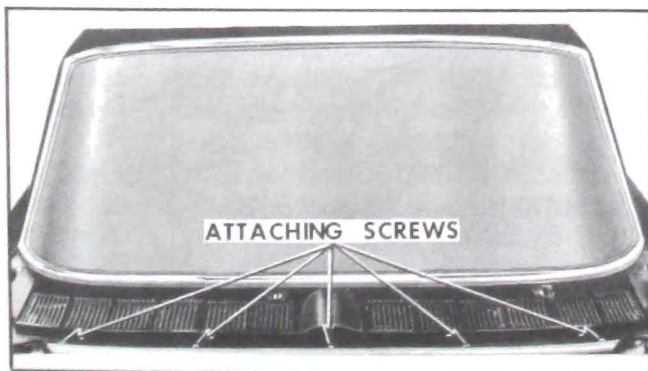


Figure 13-23—Air Intake Grille

5. To install, apply medium-bodied sealer around screw attaching holes and grille retaining slots. See Figure 13-23.

6. Insert retaining tabs along rear edge of grille in slots in shroud panel and reverse removal procedure.

NOTE: Exercise care so that grille does not contact hood.

b. Removal and Installation of Shroud Side Foundation

1. Remove screws indicated in Figure 13-24 securing upper and lower end of air inlet grille.

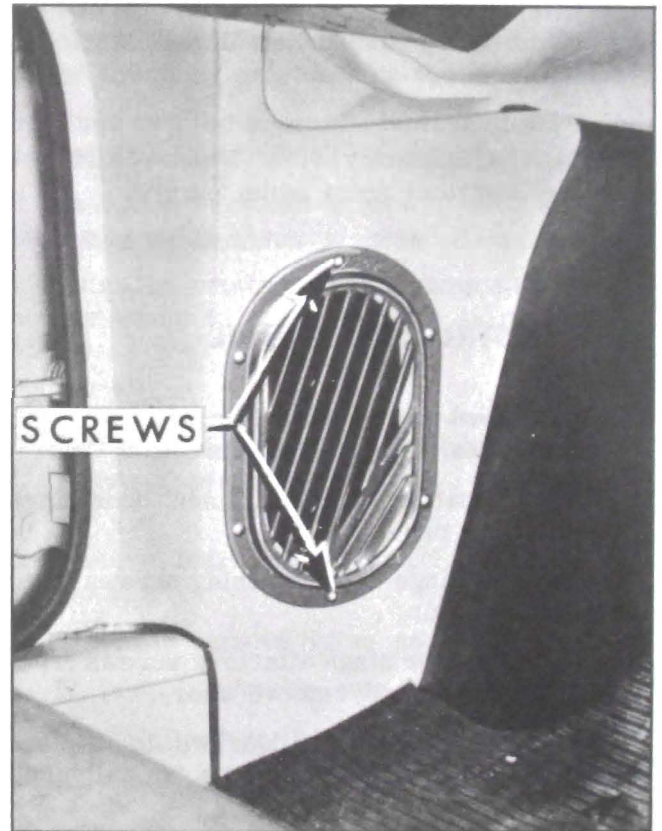


Figure 13-24—Shroud Side Foundation

2. Slide foundation forward to disengage rear edge of foundation from retainer and remove foundation.

c. Removal and Installation of Shroud Side Vent Duct Air Outlet

1. Remove shroud side foundation.

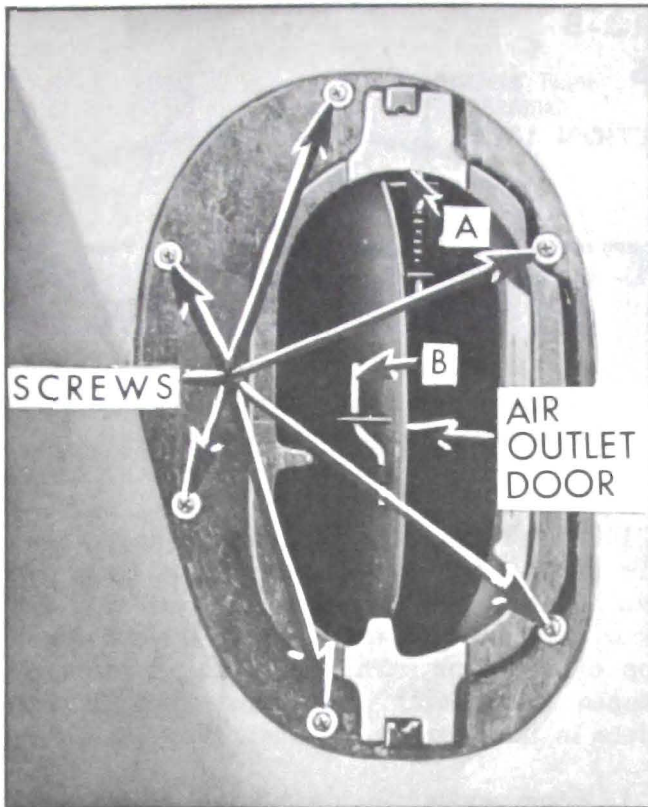


Figure 13-25—Air Outlet Door

2. Remove screws securing outlet to shroud panel, disengage cable from pin on door and remove outlet. See Figure 13-25.

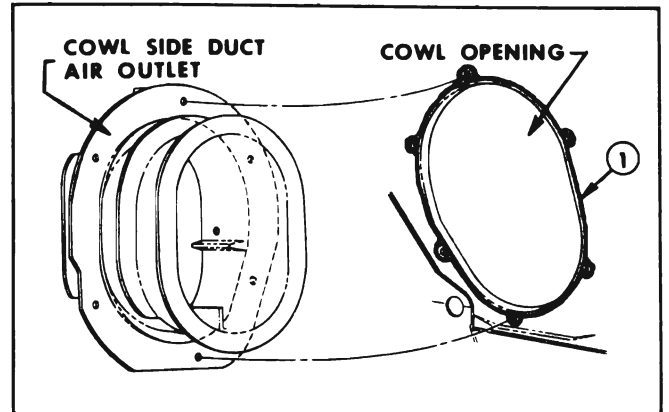


Figure 13-26—Cowl Side Duck Air Outlet Sealing

3. To install, apply a bead of medium-bodied sealer to shroud panel at areas indicated by #1 in Figure 13-26 and reverse removal procedure.

d. Removal and Installation of Shroud Side Duct Panel Air Outlet Door

1. Remove shroud side foundation.
2. Remove end of control cable from pin indicated at "B" in Figure 13-25.
3. Pry hinge pin at "A" downward and remove door.
4. To install, reverse removal procedure.