

SECTION 4

STATIONARY GLASS

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ADHESIVE CAULKED GLASS ALL STYLES

DESCRIPTION

The stationary windows on all 1969 model passenger vehicles, excluding the Cadillac Limousine Landau option back window, are bonded to the body opening with a synthetic, self-curing, rubber adhesive caulking compound.

To replace a window installed with this material requires either partial or complete replacement of the caulking compound. Partial replacement of the material is referred to as the "short method". Complete material replacement is known as the "extended method".

The "short method" can be used in those situations where the original adhesive caulk material remaining on the window opening pinchweld flanges after glass removal can serve as a base for the new glass. This method would be applicable in cases of cracked windshields or the removal of windows that are still intact. In these situations, the amount of adhesive that is left in the window opening can be controlled during glass removal.

The "extended method" is required when the original adhesive caulking compound remaining in the window opening after glass removal cannot serve as a base for the replacement glass. Examples of this latter situation would be in cases requiring metal work or paint refinishing in the opening, or where there is a considerable loss of adhesion between the original caulk and the body metal. In these cases, the original caulk is removed and replaced with fresh material during window installation.

Adhesive Caulking Kit #4226000 contains some of the materials needed to remove and replace an adhesive caulked glass. This kit can be obtained through regular service parts channels. Other materials that may be required are available as service parts or can be readily obtained through local supply shops.

The components of adhesive caulking kit #4226000 are as follows:

- a. One tube of Adhesive Caulking material.

- b. One dispensing nozzle (cut for "short method" but can be notched-out for "extended method").
- c. Steel music wire (.020 diameter).
- d. Adhesive Caulking Primer (for priming original adhesive material in window opening).

Additional materials required:

- a. Caulking gun - standard household cartridge type reworked as follows:
 1. Widen end-slot to accept dispensing end of adhesive caulking tube.
 2. Reduce diameter of plunger disc on rod so that disc can enter large end of adhesive caulking tube.
- b. Two pieces of wood for wire handles.
- c. Black weatherstrip adhesive.
- d. Paint Finish Primer - available as service part #4226001 or equivalent - use only with "extended method".
- e. Rubber glass spacers - for "extended method".

NOTE: When the glass is originally installed, a rubber sealing strip "dam" is used around the edges of the window to prevent excessive squeeze-out of the adhesive caulk material. Service installations do not utilize this part. By applying masking tape around the inner perimeter of the glass prior to window installation, excess squeeze-out material is picked-up and removed with the tape.

ADHESIVE CAULKED WINDOW REMOVAL

The window removal procedure is the same for both the "short" and "extended" installation methods with one exception. If the "short method" installation is to be used, more care must be used during removal to make certain that an even, uniform bead of adhesive caulk material remains on the window opening to serve as a base for the replacement glass. Also, make certain that the glass lower support spacers are not disturbed.

1. Place protective coverings around area where glass is being removed.
2. Remove all trim and hardware immediately adjacent to glass being removed. Depending on the area of the body, this could involve window reveal moldings, garnish moldings or finishing lace, rear view mirror support, windshield wiper arms and front fender mounted antenna.

NOTE: Reveal molding removal is covered in the Exterior Molding Section 17.

3. On styles equipped with rear window electric grid defogger (heating elements in glass), disconnect wire harness connectors located at right and left upper inside corners of glass from connectors located behind quarter upper trim panels. On Pontiac "G" and Oldsmobile "E" styles, also disconnect wire connectors at lower left inside corner of glass. If glass is to be reinstalled, tape leads to inside surface of glass to protect them during handling (See Figure 4-1).

NOTE: For quarter upper trim removal, refer to "Rear Quarter Trim", Section 14.

4. On styles equipped with radio antenna built into windshield glass, disconnect antenna lead at lower center of windshield. If glass is to be reinstalled, fold and tape lead wire back onto outer surface of windshield to protect it during glass removal and installation.
5. Secure one end of steel music wire to a piece of wood that can serve as a handle (Fig. 4-2). Using long nose pliers, insert other end of wire through caulk material at edge of glass; then, secure that end of wire to another wood handle.

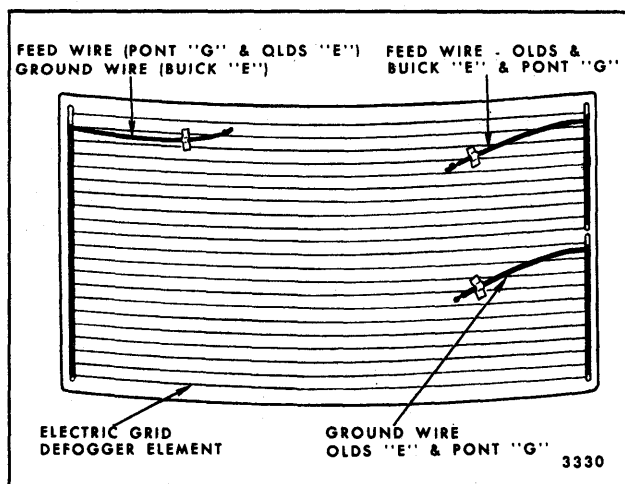


Fig. 4-1—Back Window Electric Grid Defogger (View From Inside Looking Rearward).

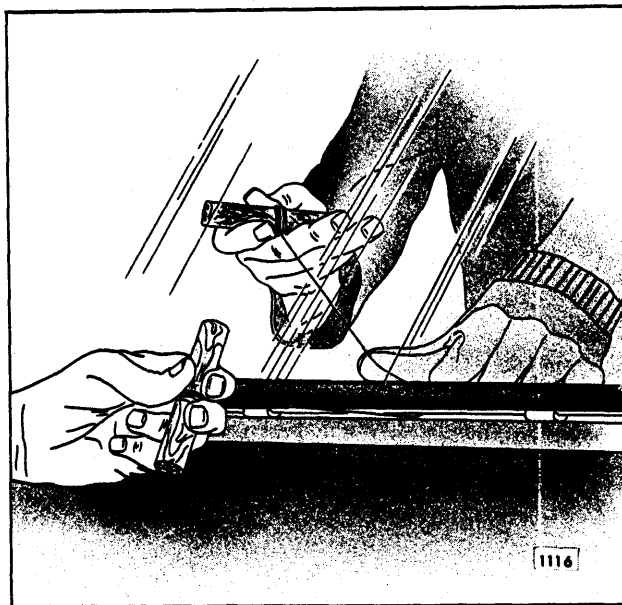


Fig. 4-2—Cutting Adhesive Caulk Material

6. With the aid of a helper, carefully cut (pull wire) through caulk material around entire perimeter of window (Fig. 4-2). If "short method" will be used to install new glass, hold wire close to inside plane of glass to prevent cutting an excessive amount of adhesive caulking from the window opening. Keep tension on wire throughout cutting operation to prevent wire from kinking and breaking.

NOTE: Optional methods of glass removal which require only one man are: (1) the electric hot-knife (Fig. 4-3) and (2) pulling the cutting wire through upper and lower edges of glass simultaneously (Fig. 4-4). For the latter

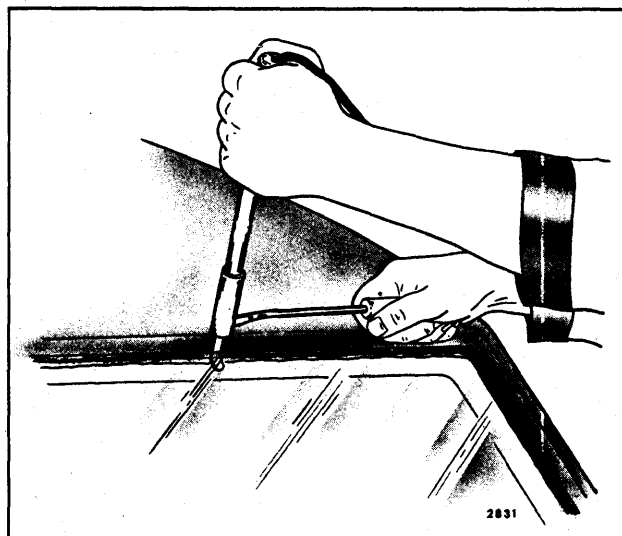


Fig. 4-3—Electric Hot-Knife Removal Method

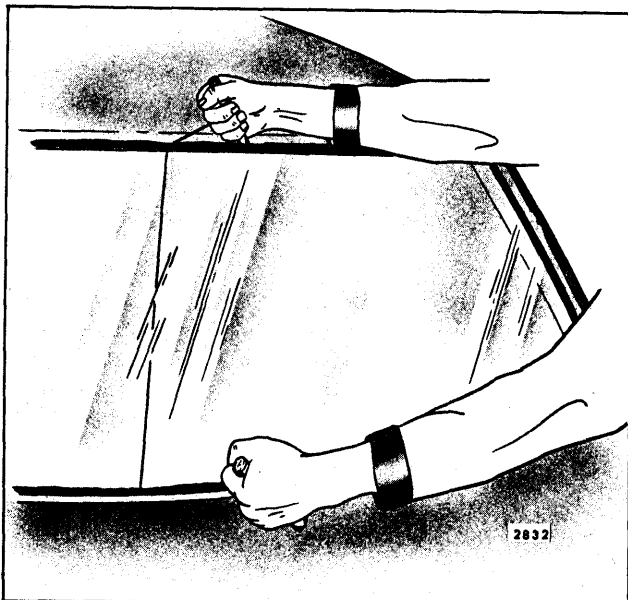


Fig. 4-4—One Man Wire Removal Method

optional method, insert one end of wire through caulking material at inner upper edge of glass and the other end of wire through caulking material at inner lower edge. Attach handles to both wire ends outside of body.

7. If the glass being removed is to be re-installed, place it on a protected bench or holding fixture; remove old caulking material using a razor blade or sharp scraper. Any remaining traces of caulk can be removed with a toluene or thinner dampened cloth.

CAUTION: When cleaning laminated glass, avoid contacting edge of plastic laminate material (on edge of glass) with a volatile cleaner. Contact may cause discoloration and deterioration of plastic laminate by "wicking" action.

IMPORTANT: DO NOT use a petroleum base solvent such as kerosene or gasoline. The presence of oil will prevent adhesion of new caulking material.

ADHESIVE CAULKED GLASS INSTALLATION—"Short" Method

The "short" method of glass installation can be used if the original adhesive caulk material remaining on the window opening flanges after glass removal can serve as a base for the replacement glass. If there is substantial loss of adhesion between adhesive caulk material and body metal, or the window opening must be reworked or refinished, the "extended" method of replacement will be required.

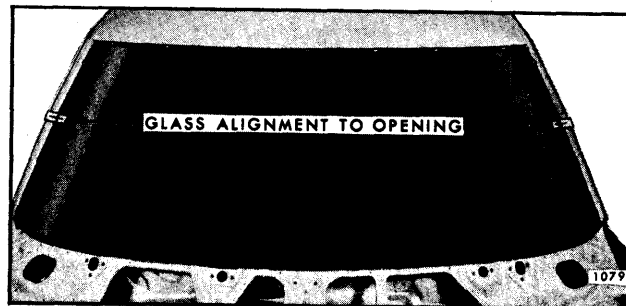


Fig. 4-5—Aligning Glass in Opening

Installation—"Short" Method

1. Inspect reveal molding retaining clips. Replace or re-shape clips which are bent away from body metal $1/32$ " or more. Where clips are retained by screws, make certain screws are sealed against waterleaks.
 2. Position glass in the window opening. If new glass is being installed, check relationship of glass to adhesive caulk material on pinch-weld flange. Gaps in excess of $1/8$ " must be corrected by shimming or by applying more adhesive caulk material than specified in Step 7.
 3. When glass is in proper position in the opening, apply a piece of masking tape over each side edge of glass and adjacent body pillar (Fig. 4-5). Slit tape vertically at edge of glass. During installation, tape on glass can be aligned with tape on body to guide window into desired position.
 4. Using a clean lint-free cloth liberally dampened with Adhesive Caulking Primer (furnished in Kit #4226000) or equivalent, briskly rub Primer over original adhesive material remaining on pinchweld flange. Perform the following steps while allowing Primer to dry for 5 to 10 minutes.
- CAUTION:** Use care so as not to spill or drip Primer on painted or trimmed surfaces.
5. Apply 1" wide masking tape to inside of windshield glass $1/4$ " inboard from edge of glass, across the top and down each side, to facilitate clean-up after installation.
 6. Wipe surface of glass to which adhesive caulking material will be applied (around edge of inside surface) with a clean, water-dampened cloth. Dry glass with a clean cloth.
 7. Apply a smooth continuous bead of adhesive caulking material around entire inside edge of glass as shown in Figure 4-6. Material should be $1/8$ " to $3/16$ " in diameter.

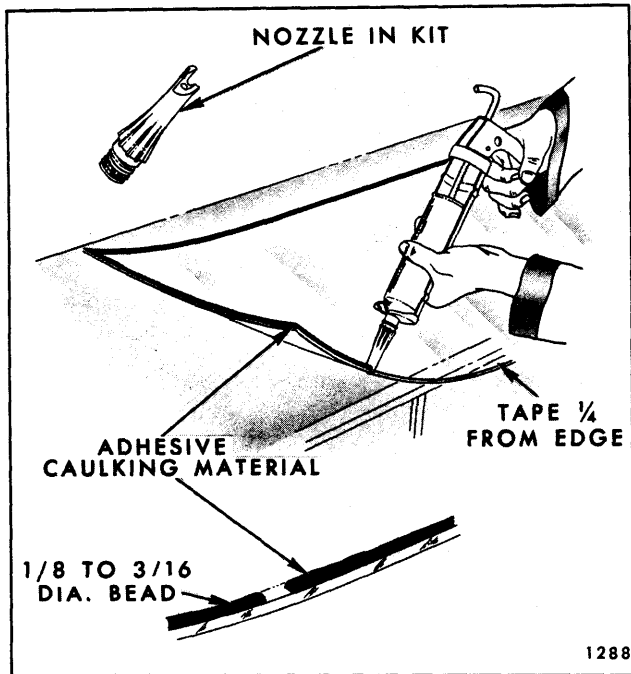


Fig. 4-6—Adhesive Material Application - Short Method

IMPORTANT: Due to the fast curing characteristics of adhesive caulk material, glass installation should be completed within 15 minutes from start of application of material to glass.

8. With the aid of a helper, lift glass into window opening. On back window installations it will be necessary to use suction cups to position glass in opening. On windows with narrow body pillars at the side edges of glass, the glass can be positioned without the aid of carrying devices. As shown in Figure 4-7, carry glass with one hand on inside of glass and one hand on outside. At the window opening, put glass in horizontal position. While one man holds glass in this position, the second man can reach one arm around the body pillar and support the glass while the other man assumes the same position.

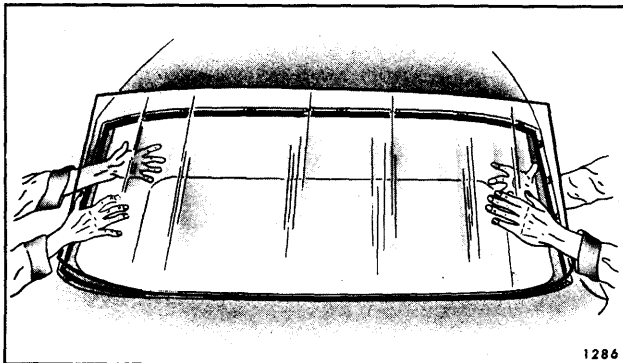


Fig. 4-7—Glass Installation

9. Using the tape guides applied in Step 3, carefully position glass in window opening making certain glass is properly centered and positioned on lower supports (metal or rubber).
10. Press glass firmly to "wet-out" and "set" caulking material. Use care to avoid excessive squeeze-out which would cause an appearance problem.
11. Watertest car immediately using a cold water spray. Do not direct a hard stream of water at fresh adhesive material. If any leaks are encountered, paddle-in extra adhesive material at leak point using a stick or flat-blade tool.
12. Install window reveal moldings. Remove clean-up masking tape from inner surface of glass and install remaining parts.

ADHESIVE CAULKED GLASS INSTALLATION—"Extended" Method

If the adhesive caulk material remaining in the window opening after window removal is damaged, or must be removed to permit refinishing of the window opening, or has insufficient adhesion to body metal to serve as a base for the replacement glass, it will be necessary to use the "extended" installation method.

Installation—"Extended" Method

1. On styles using screw-retained lower glass supports, remove supports.
2. Using a sharp scraper or chisel, remove major portion of old caulking material from window opening flanges around entire opening. It is not necessary that all traces of the material be removed, but there should not be any mounds or loose pieces left.
3. Inspect reveal molding retaining clips. If upper end of a clip is bent away from body metal more than $1/32$ ", replace or reform clip. Tighten all loose clip screws and reseal as required.
4. Using black weatherstrip adhesive or adhesive caulking material, cement flat rubber spacers #4459429 or equivalent to window opening pinchweld flanges. As shown in Figure 4-8, location "B", spacers should be positioned to provide equal support around entire perimeter of glass.

NOTE: If weatherstrip adhesive is used, apply sufficient material to obtain a watertight seal beneath spacer, however, do not allow excessive squeeze-out. Weatherstrip adhesive is not compatible with the replacement adhesive

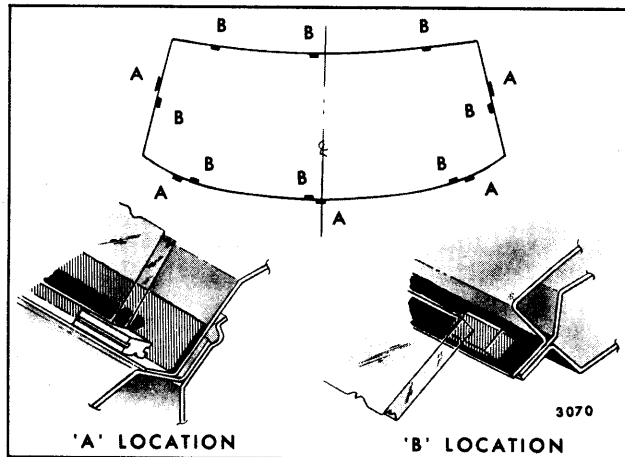


Fig. 4-8—Glass Spacer Installation

caulking material and waterleaks may develop at locations where these two materials are used together to form a seal.

5. Using black weatherstrip adhesive or adhesive caulking material, cement rectangular spacers #4871330 (.34 x .44 x 1.0) or equivalent to window opening rabbet to support lower edge of glass and restrict lateral movement. Figure 4-8, location "A", illustrates rectangular spacers positioned in a typical windshield installation. On smaller glasses, only 2 rectangular support spacers are required across the bottom.
6. With the aid of a helper, lift glass into window opening. On back window installations it will be necessary to use suction cups to position glass in opening. On windows with narrow body pillars at the sides, the glass can be positioned without the aid of carrying devices as described in step 7 and shown in Figure 4-7.
7. With one hand on each side of glass, put window in vertical position and support it on lower center glass support spacer. While one man holds glass in this position, the second man can reach one arm around the body pillar and support the glass while the other man assumes the same position.
8. With glass positioned in the opening, check relationship of glass to pinchweld flange around entire perimeter. Overlap of pinchweld flange should be equal with a minimum overlap of 3/16". Overlap across top may be varied by changing lower glass support spacers. Both thinner (#4404196 or equivalent) and thicker (#4534314 or equivalent) rectangular spacers are available as service parts.
9. Check relationship of glass contour to body

opening. Gap space between glass and pinchweld flange should be no less than 1/8" nor more than 1/4". If difficulty is encountered staying between these limits, correction can be made by any one of the following methods:

- a. Reposition flat spacers.
 - b. Apply more caulking material than is specified at excessive gap areas. Material can be applied to pinchweld flange or by allowing bead on glass to exceed 3/8" height at gap areas.
 - c. Change glasses - another glass may fit opening better.
 - d. Rework pinchweld flange.
10. After final adjustments have been made and glass is in proper position, apply pieces of masking tape over edges of glass and body (Fig. 4-5 or 4-9), depending on window being installed). Tape on glass can be aligned with tape on body to guide glass into opening during installation.
 11. Remove glass from opening and apply one-inch masking tape around inner surface of glass 1/4" inboard from outer edge (Fig. 4-10). On windshield installations, apply tape to top and sides only. Do not use tape across bottom. Removal of tape after glass installation will aid in clean-up and give a smooth, even edge to adhesive material.
 12. Using a clean lint-free cloth liberally dampened with Adhesive Caulking Primer or equivalent (supplied in Kit #4226000), briskly rub primer over original adhesive material remaining on pinchweld flange. Perform the following steps while allowing primer to dry for 5 to 10 minutes.

NOTE: If the pinchweld flange has been repainted, prime pinchweld flange with Paint

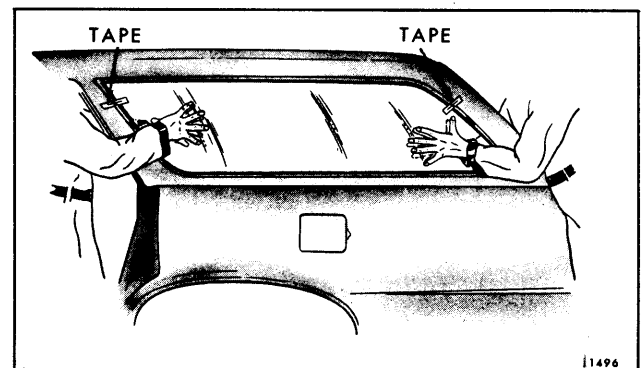


Fig. 4-9—Stationary Quarter Window Installation

Finish Primer #4226001 or equivalent. Paint Finish Primer is available as a service part.

CAUTION: Use extreme care to avoid spilling either primer solution on trim or painted surfaces. Wipe any spills immediately as primers will etch trim or painted surfaces on prolonged contact.

13. Nozzle furnished in kit is designed for "short" method. For the "extended" method, enlarge nozzle opening by removing material within score lines as indicated in Figure 4-10. Do not notch nozzle beyond score lines.
14. Wipe surface of glass to which bead of adhesive caulking material will be applied (between masking tape and edge of glass) with a clean water-dampened rag. Dry glass with a clean cloth.
15. With caulking gun and nozzle positioned as illustrated in Figure 4-10, carefully apply a smooth continuous bead of caulking material $3/8$ " high by $3/16$ " wide at base completely around inside edge of glass.

NOTE: Adhesive caulk material begins to cure after fifteen minute exposure to air; therefore, install glass in the opening as quickly as possible.

16. Install glass in opening as described in steps 6

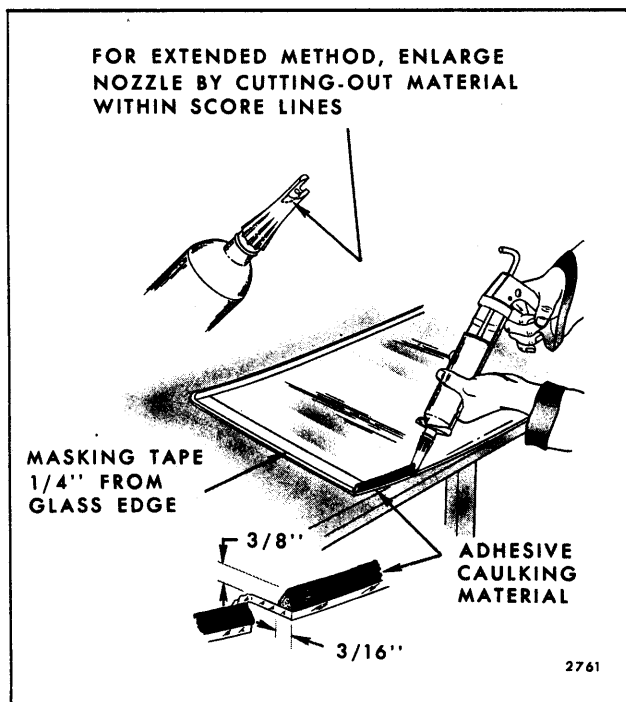


Fig. 4-10—Adhesive Material Application - Extended Method

and 7. Apply light hand pressure to "wet-out" adhesive material and obtain a bond to body opening.

17. Watertest immediately using a cold water spray. Do not direct stream of water at fresh adhesive material. Allow water to spill over edges of glass. If waterleak is encountered, use a flat-blade tool to work-in additional caulking material at leak point.
18. Install window reveal moldings. Then, carefully remove masking tape from around inner periphery of window. Pull tape toward center of glass to give a clean-cut edge to adhesive caulk, and to prevent excess squeeze-out material on tape from creating an additional clean-up problem.
19. Install all other previously removed parts and clean-up.

WATERLEAK CORRECTION OF ADHESIVE CAULKED GLASS

Adhesive caulked glass installation waterleaks can be corrected in the following manner without removing and reinstalling the glass.

NOTE: The following procedure is applicable only with the use of adhesive caulking material

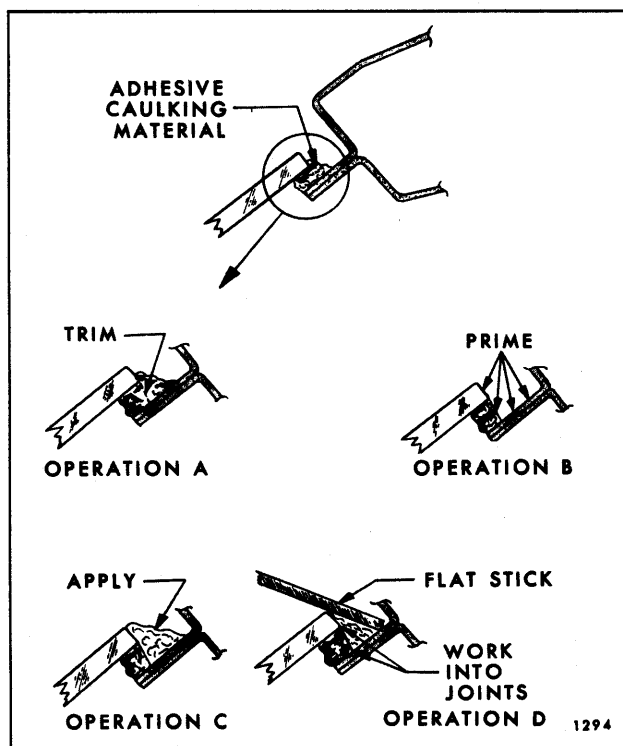


Fig. 4-11—Adhesive Caulked Glass Waterleak Correction

and primer furnished in Kit Part #4226000 or equivalent.

1. Remove reveal moldings in area of leak. In some cases, it may become necessary to remove garnish moldings or finishing lace to locate the source of a leak.

2. Mark location of leak(s).

IMPORTANT: If leak is between adhesive caulking material and body or between material and glass, carefully push outward on glass in area of leak to determine extent of leak. This operation should be performed while water is being applied to leak area. Mark extent of leak area.

3. From outside body clean any dirt or foreign material from leak area with water; then dry area with air hose.
4. Using a sharp knife, trim off uneven edge of adhesive caulking material (see Operation "A" Fig. 4-11) at leak point and 3 to 4 inches on

both sides of leak point or beyond limits of leak area.

5. Using a small brush, apply adhesive caulking material primer over trimmed edge of adhesive caulking material and over adjacent painted surface (see Operation "B" Fig. 4-11).
6. Apply adhesive caulking material, as shown in Operation "C" (Fig. 4-11), at leak point and 3 to 4 inches on both sides of leak point or beyond limits of leak area.
7. Immediately after performing step 6, use flat stick or other suitable flat-bladed tool to work adhesive caulking material well into leak point and into joint of original material and body to effect a watertight seal along entire length of material application (See Operation "D" Fig. 4-11).
8. Spray watertest to assure that leak has been corrected. DO NOT run a heavy stream of water directly on freshly applied adhesive caulking material.