

Roof Seal Sealants Guide

"Attention: The information contained in this sealant guide was created by Winnebago Industries, Inc. for manufacturing purposes. Sealing processes and the type of sealant used can change depending upon a variety of circumstances. Duplication of a sealing process used by manufacturing may be difficult on a completed motor home. This information should be used as a reference tool. Please contact Winnebago Industries Technical Service for assistance."



SELF LEVELING SEALANT PARAMETERS

VENT PIPE COVER

RADIO OR CB ANTENNA

SATELLITE DISH

SPOT LIGHT

ROOF VENT

REFRIGERATOR ROOF VENT

TV ANTENNA

SKYLIGHT

ROOF MOUNTED AIR HORNS

ROOF LADDER

CABINET ANCHOR SCREWS THROUGH ROOF

PLASTIC REAR ROOF CAP - ROOF TO BACKWALL JOINT

RECESSED CLEARANCE LIGHT

FULL BACKWALL FIBERGLASS BACK CAP

FRONT ROOF CAP

AWNING SEALING

ROOF TO SIDE WALL JOINT

SOLAR PANEL

FIBERGLASS REAR ROOF CAP SEALING

ROOF PANEL SEALANT PROCEDURES

VOLKSWAGON C BODY ROOF

AWNING WIND SENSOR

SELF LEVELING SEALANT PARAMETERS

Revision Date: 10/21/02

Ref-1

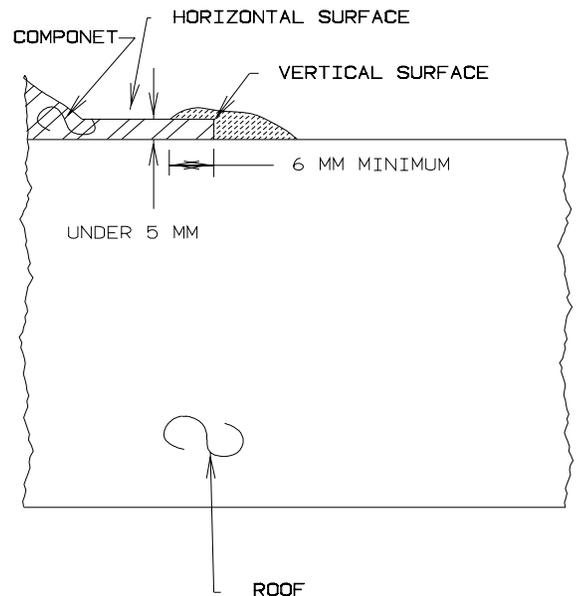
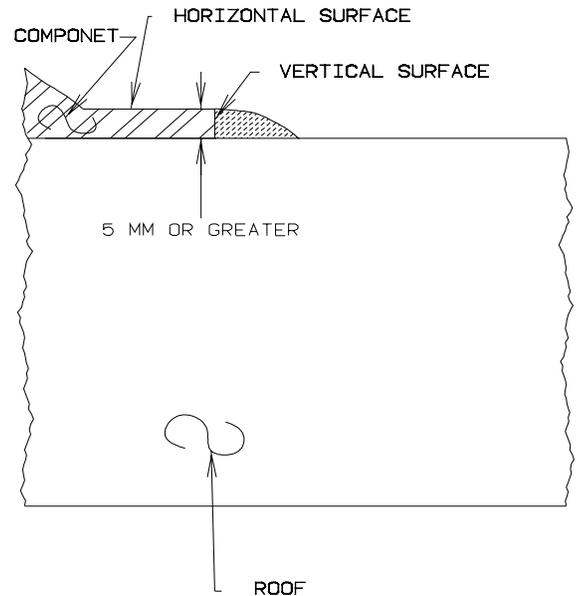
NOTE: Wipe all areas where self-leveling material is to be used with isopropyl alcohol before hand. No dirt or debris should be present. Allow isopropyl alcohol to flash off before applying self-leveling sealant.

For roof component edge sealing, self-leveling material should contact a minimum of 5 mm's of the components vertical surface. Profiles 5 mm or higher do not need self-leveling material on the horizontal surface of the component for sealing purposes.

Profiles less than 5-mm high need self-leveling material on the horizontal surface of the component. The material should cover the first 6-mm of the surface from the vertical surface of the component.

These are minimum requirements.

Additional material may be necessary per cosmetic requirements or in conjunction with other sealing procedures.

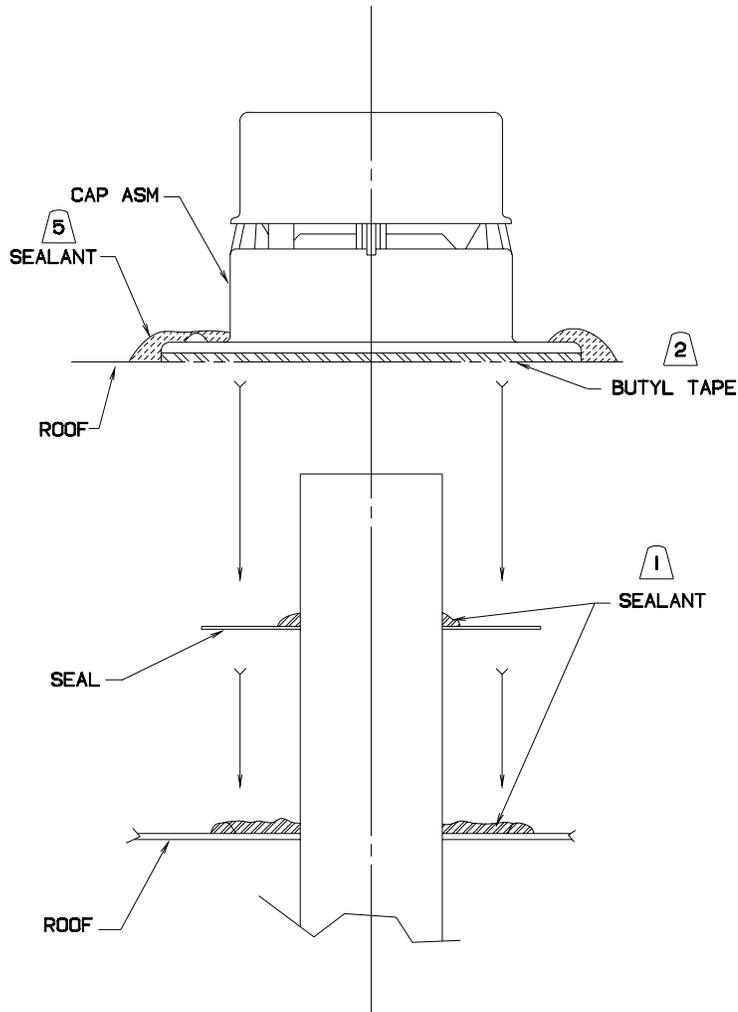


VENT PIPE COVER

Revision Date: 11/9/00

ref-3

1. Apply silicone (131264-01) to the roof around the vent pipe hole. Slide the seal over the vent pipe and seat it in the silicone that was placed on the roof. Apply silicone around the vent pipe and on top of the seal.
2. Apply butyl tape (69640-03 or -19) to the cover base, insuring that all screw holes are covered and butyl does not overlap the base more than 1/4 inch.
3. Install with fasteners
4. Verify butyl squeeze-out around the entire perimeter of the base.
5. Apply sealant (131264-03) to the perimeter of the vent and over the fasteners.



RADIO OR CB ANTENNA

Revision Date: 11/28/00

1. Apply a bead of silicone (131264-01) around the bottom edge of the base (base to mounting surface, exterior) before installing.
2. After installation apply silicone (131264-03) on the base of the antenna. Insure it levels down to the mounting surface all around the antenna base. **NOTE:** If the base is too close to the roof edge, urethane sealant (72889) can be used. Trowel per aesthetic requirements.

SATELLITE DISH

Revision Date: 05/30/02

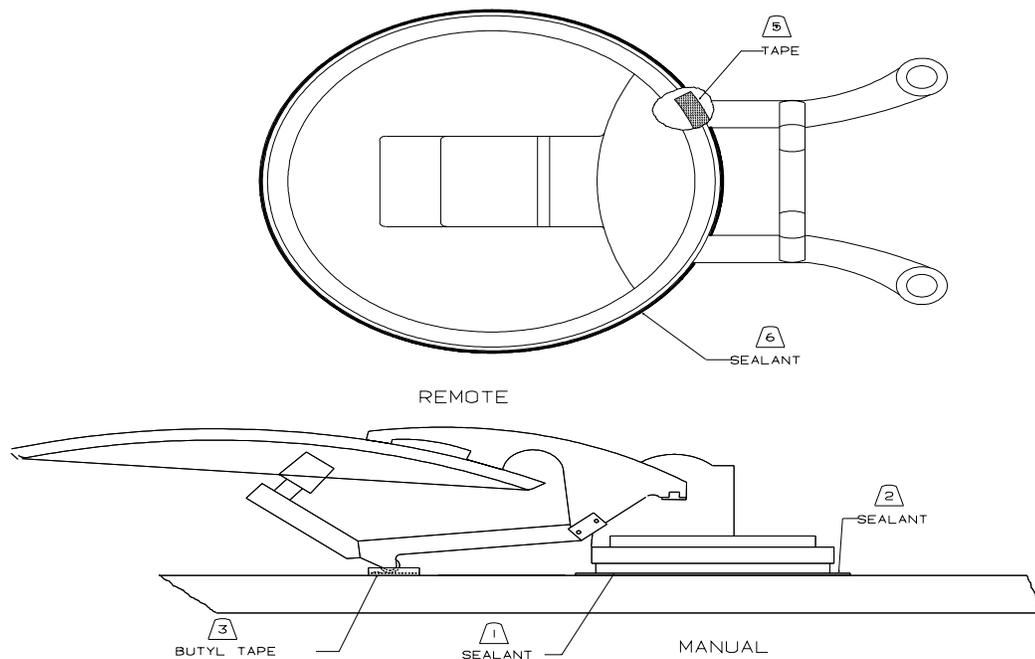
ref-7

1. Apply silicone (131264-01) to the bottom side of the unit covering the screw holes and heavy enough to assure squeeze-out around the entire perimeter and screw holes. Attach the unit to the roof and assure silicone squeeze-out around perimeter and screw holes.
2. Apply sealant (131264-03) around the perimeter of the dish and cover any dish fasteners.
3. Apply butyl tape (69640-03 or -19) to the bottom of the arm bracket covering the screw holes. Do not apply self-leveling to the screw heads on the arm bracket.
4. Apply butyl tape (69640-03) around the perimeter of the coax wire cover, insuring that the screw holes are covered. Apply silicone (131264-01) under the coax wire where it goes between the cover and the roof before fastening the cover.

NOTE: Self leveling silicone (131264-03) can be applied around the perimeter of the antenna base, over the attachment screws and over the separate roof entry of the coax cable. The separate entry plate must have silicone primer (900680-01) applied for a minimum of 30 minutes before the self-leveling silicone application. Exterior application of self-leveling silicone is strictly for cosmetic purposes, not leak control, and the specific parameters of application are controlled by quality and production. This procedure **DOES NOT** replace any sealing steps.

REMOTE CONTROL DISH

5. Apply butyl tape (69640-03) under the support arms on the dish perimeter.
6. Apply sealant (131264-03) around the perimeter of the dish up to the arms, covering any exposed butyl tape.
7. On dishes with multiple wires connecting the dish to the unit, hold the wires apart where they travel under the wire cover and extrude sealant (131264-03) between and around all wires to ensure no gaps remain.

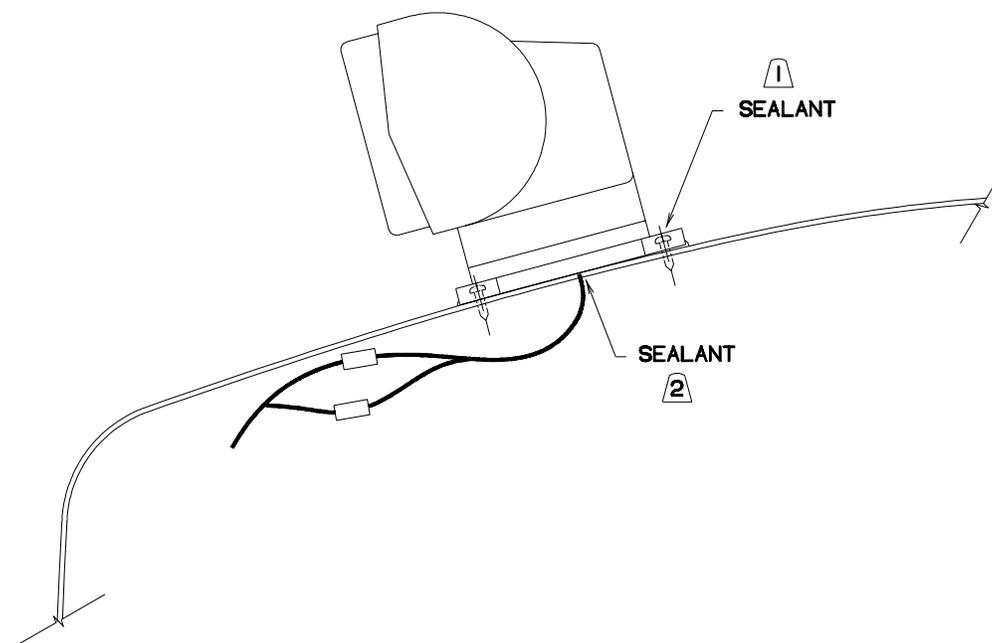


SPOT LIGHT

Revision Date: 5/13/98

ref-9

1. Apply sealant (72889) to the screw hole before attaching the light. The screw should carry the sealant with it as it attaches the light.
2. After the light is attached apply sealant (72889) sealing the hole the wires go through.



ROOF VENT

Revision Date: 11/1/99

INJECTION MOLDED FANTASTIC POWER VENT

1. Apply primer (900680-01) to both surfaces of the mounting flange using the same parameters as the skylight application.
2. Apply silicone (131264-01) to the base of the roof vent, insuring that any fastener holes are covered.
3. Attach the unit to the roof and assure silicone squeeze out around perimeter and any screw holes.
4. Apply silicone (131264-03) around the perimeter and cover the head of the fasteners attaching the roof vent.

CLAMP RING ROOF VENT

1. Apply butyl tape (112864-02) to the bottom flange of the vent. No more than a 6mm gap should be between the edge of the tape and the edge of the vent flange. The ends of the tape must be butted together to form a continuous bead of seal. The splice side should be closest to the outside of the coach.
2. After installation apply sealant (131264-03) around the edge of the vent. Be sure the sealant is on the flange.

REFRIGERATOR ROOF VENT

Revision Date: 08/25/00

1. To the top flange, outside surface of the vent apply primer (900680-01). Use the same primer parameters that are call out on the skylight procedure.
2. Apply butyl tape (69640-19) to base of vent at the perimeter assuring coverage over all screw holes.
3. Install vent with fasteners.
4. Assure that butyl tape is visible around the entire perimeter of the base of the roof vent.
5. Apply silicone (131264-03) around the perimeter of the vent. The silicone can also be applied to the fasteners for cosmetic purposes only.

TV ANTENNA

Revision Date: 1/31/02

1. Apply glue (81377-01) to the aluminum boss for the cable entry. Slide the rubber boot over the boss, gluing the boot to the boss. Allow 30 minutes minimum for the glue to dry. Apply silicone (131264-01-02) from the bottom of the base, into the boss and boot to seal the coax cable.
2. Apply silicone (131264-01-02) to the bottom side of the unit covering the screw holes and heavy enough to assure squeeze-out around the entire perimeter and screw holes.
3. Attach the unit to the roof and assure silicone squeeze-out around perimeter and screw holes.
4. Trowel silicone to aesthetic requirements.

For "C" & "D" series that use a separate entry through the roof for the coax cable, install the coax cable bracket using the same method as on the antenna base.

1. Apply silicone in the rubber boot. Slide the boot on the cable bracket. Insure the silicone is around the boot to bracket joint.
Steps 2 and 3 from above.
4. Fill the non-used cable boss with silicone (131264-01)
5. Trowel silicone to aesthetic requirements.

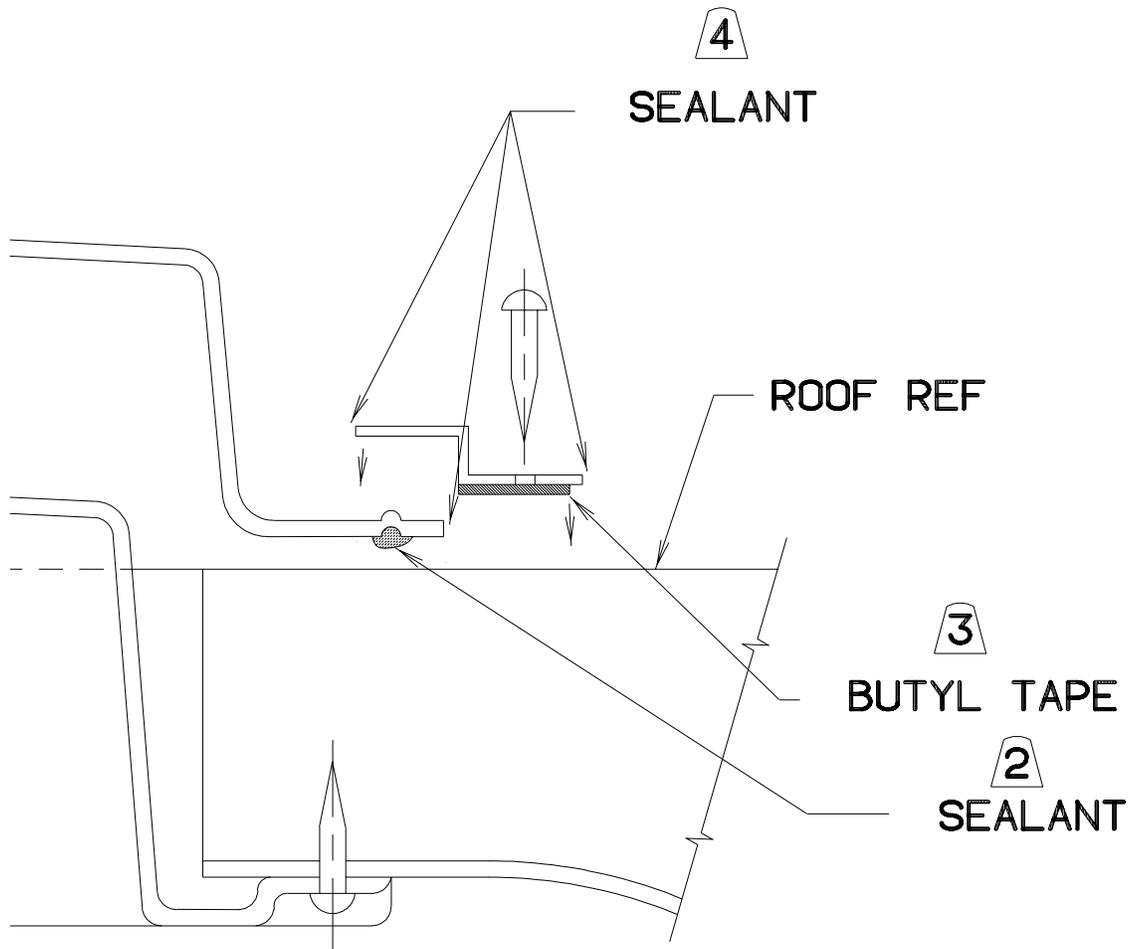
NOTE: Self leveling silicone (131264-01) can be applied around the perimeter of the antenna base, over the attachment screws and over the separate roof entry of the coax cable on "C" body. The top surface of the antenna and the separate entry plate must be wiped with silicone primer (900680-01). Application of the silicone is strictly for cosmetic purposes, not leak control, and quality and production control the specific parameters of application. This procedure **DOES NOT** replace any sealing steps.

SKYLIGHT

Revision Date: 11/07/02

ref-14

1. Apply primer (900680-01) to the top and bottom sides of the skylight-mounting flange.
Note: The primer must have a 30-minute cure before applying sealant. It can have sealant applied anytime after the cure. Keep the container covered because the material degrades in a few days in an open container.
2. Apply silicone (131264-04) in the bottom groove of the skylight flange heavy enough to assure **continuous contact** around the entire perimeter. To assure contact a **minimum** of a **5/16 dia. bead** must be applied to the bottom flange. Ooze out should be observed.
3. Place butyl tape (69640-14) on underside of skylight retaining clips over the screw holes. Attach skylight to roof using retaining clips, making sure to screw through butyl tape.
4. Apply silicone (131264-03) around the perimeter over the skylight flange. Also ensure that the entire retaining clip is covered including all edges and fastener heads for each retaining clip.



ROOF MOUNTED AIR HORNS

Revision Date: 9/3/98

1. Place a layer of butyl tape (69640-03) on the base of the mounting plate. Assure all screw holes are covered and that butyl tape meets outside perimeter of mounting base.
2. Install air horns.
3. Assure butyl tape has squeeze-out around entire perimeter of mounting base.

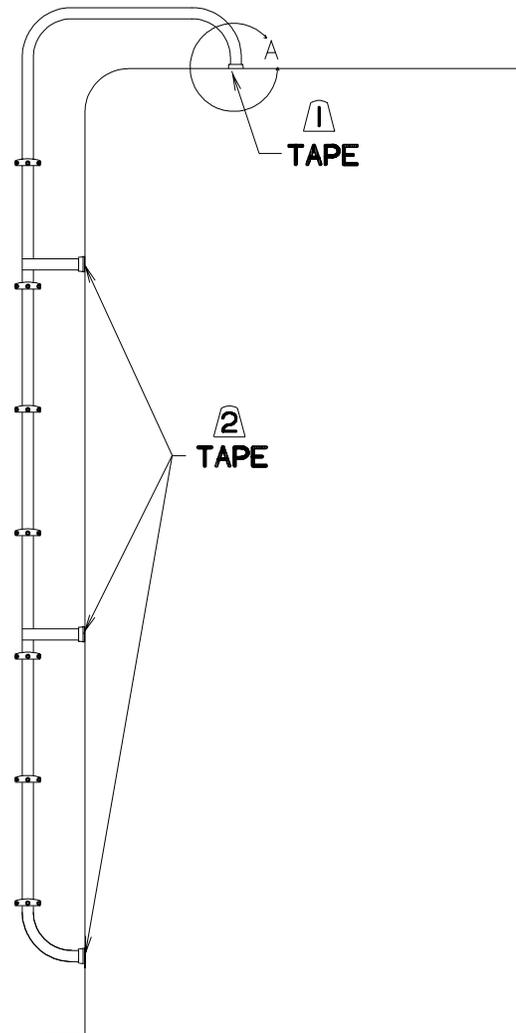
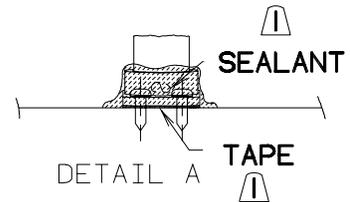
NOTE: Self-leveling silicone (131264-03) can be applied around the perimeter of the mounting plate, and over the attachment screws. Application of this material is strictly for cosmetic purposes, not leak control, and quality and production control the specific parameters of application. This procedure **DOES NOT** replace any sealing steps.

ROOF LADDER

Revision Date: 2/25/99

ref-17

1. Apply butyl tape (69640-03) to the base of the top stanchion assuring coverage over all fastener holes. Apply self-leveling silicone (131264-03) starting above the bracket to tube joint and covering the entire base and fastener heads. (Detail A) **Note:** Units with the vinyl roof use self-leveling sealant (132947-01).
2. Apply butyl tape (69640-21) to the backwall stand-offs assuring coverage of all fastener holes.
3. Assure that butyl tape is visible around stand-offs. The tape should initially be cut flush to the stand-off with a 1/8 in of maximum squeeze-out allowed.
6. Apply foam pad (112384) in place of butyl tape to the ladder stand-offs on the L & M that are attached through the fiberglass rear cap.



CABINET ANCHOR SCREWS THROUGH ROOF

Revision Date: 9/3/98

1. Apply self-leveling silicone (131264-03) to screw heads. Insure the screw head is completely covered.

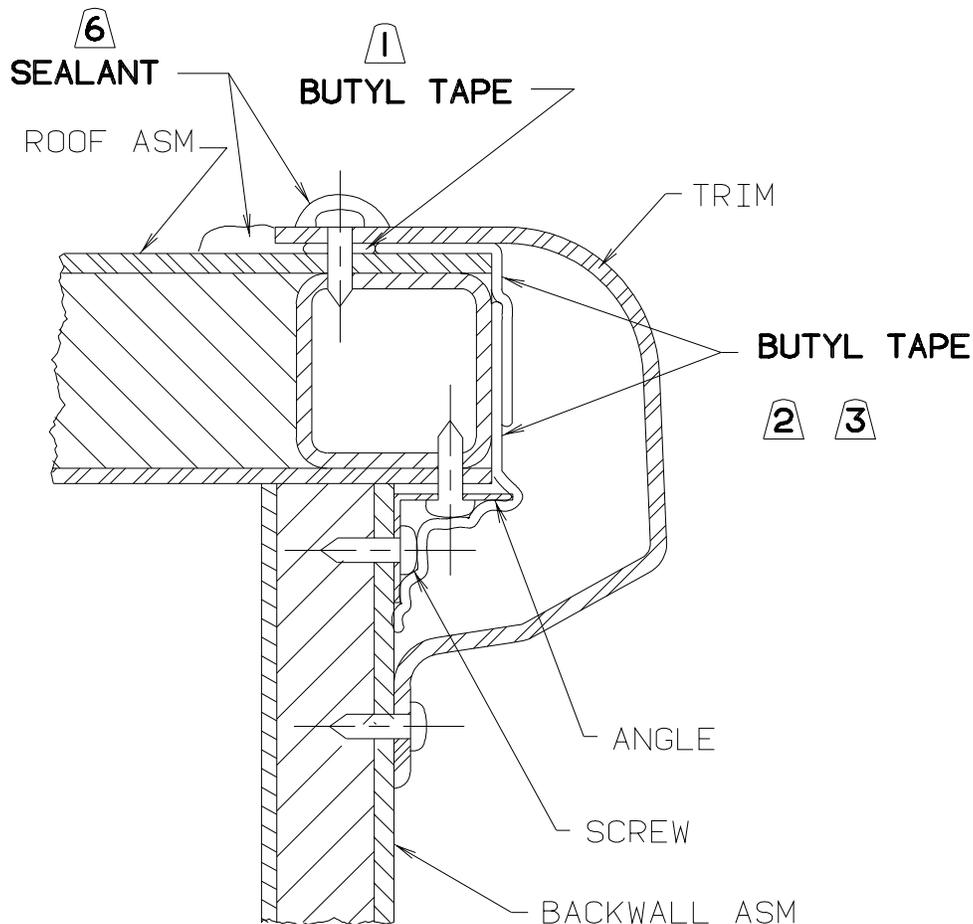
PLASTIC REAR ROOF CAP - ROOF TO BACKWALL JOINT

Revision Date: 11/9/00

ref-26

1. Apply butyl (69640-02) to the inside top edge of the plastic trim. Insure the screw holes are covered with the butyl.
2. Apply butyl (69640-09) to the top edge of the roof wrapping it around the back edge along the roof tube. Leave the end loose so the end can be applied over the second piece of butyl.
3. Apply a second piece of butyl (69640-09) to the back edge of the roof and down to cover the roof to backwall attachment angles.
4. Insure that the top butyl overlaps the second piece all along the tape joint.
5. Push the trim to the roof before applying the fastener to help prevent the butyl from bunching up under the trim.
6. Apply silicone (131264-03) to the roof to trim edge after it has been fastened and over the trim fasteners.

NOTE: this application is cosmetic only and does not reduce or eliminate any previous sealing procedures.

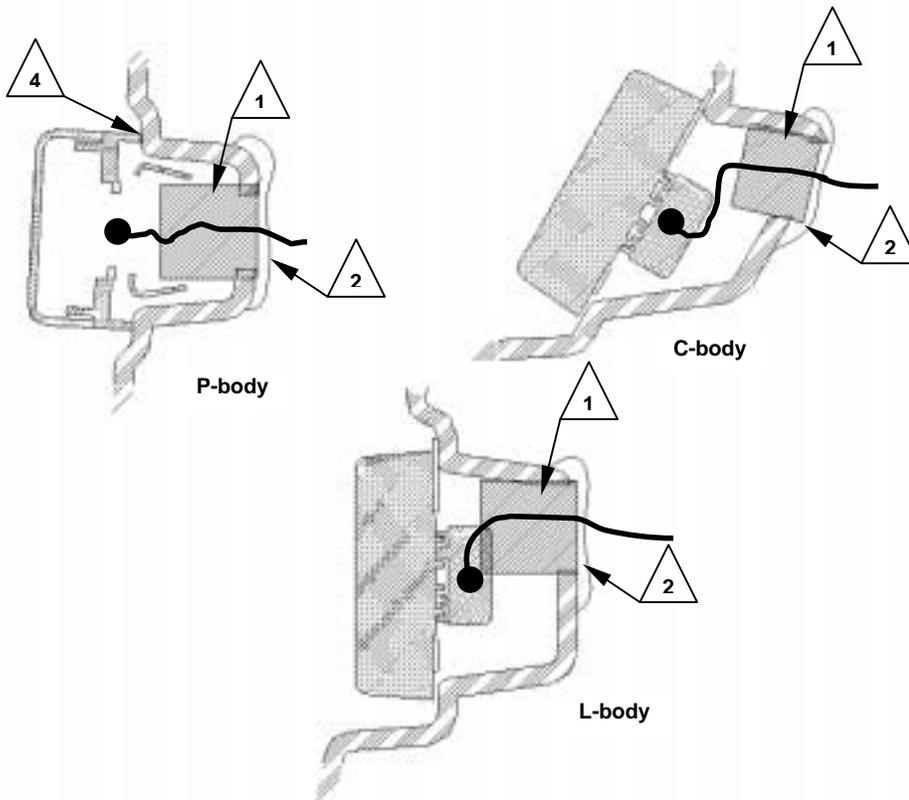


RECESSED CLEARANCE LIGHT

Revision Date: 06/05/02

ref-27

1. The foam plug fills the opening for the light wires.
2. Use sealant (072889 or 131264-01) to seal the wire hole and styrofoam plug. Cover the plug and hole completely with sealant. Ensure the wires are completely encapsulated with sealant where they exit the foam plug
3. Urethane foam covers the inside of the roof cap.
4. A gasket provides dust and wind protection on certain lights.

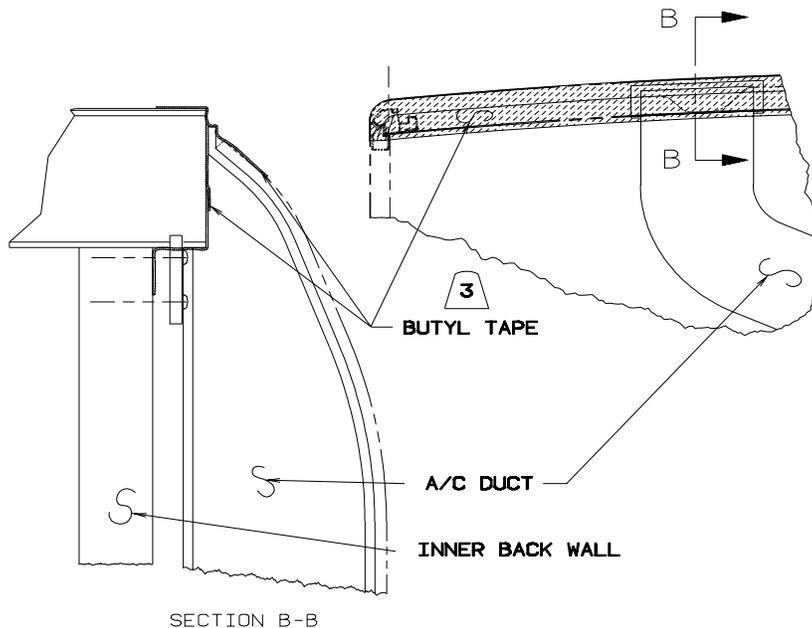


FULL BACKWALL FIBERGLASS BACK CAP

Revision Date: 9/3/98

ref-34

1. Apply foam seal (104692-01) to the inner back wall in the window cutout area when a window is not installed. Seal all joints on the steel transition piece between the trunk opening in the inner back wall and the trunk door in the fiberglass back wall.
2. Apply butyl tape (69640-09) to the side wall and inner back wall from top to bottom of the sidewall.
3. Wrap butyl tape (69640-09) around the back edge of the roof sealing against the inner back wall. If air ducts are installed, form the tape around the ducts keeping in mind the tape seals the end of the roof from water.
4. Plug the ends of the extrusions with foam and cover them with sealant (72889).
5. Apply butyl tape (69640-02) to the side trim insuring that the screw holes are covered.
6. Apply butyl (69640-02) to the roof to back cap trim insuring that the screw holes are covered.
7. Attach the trim insuring that the butyl is compressed.
8. Apply sealant (131264-03) to the front and back edges of the rear cap trim.
9. Apply sealant (72889) to the radius and edge of the rear cap, from the side trim to the roof trim.
10. Apply sealant (72889) to the ends of the rear cap trim.



FRONT ROOF CAP

Revision Date: 10/22/02

1. Apply sealant (72889) to the inside front and rear edges of the roof cap and along the sides.
2. Apply sealant (72889) to the steel header, covering the entire header-sealing plane for the roof cap. Continue the sealant up the edge of the sidewall between the sidewall and the steel cab structure. Complete application of the sealant by covering the ends of the roof extrusion.
3. Install the cap using the following attachment procedure:
 - a. Place the cap in position assuring it overlaps the header
 - b. Attach the cap to the header brackets taking care not to push the cap up as it is attached.
 - c. Attach the roof to the rear roof cap edge
 - d. Attach the end header brackets and side A post brackets.
 - e. Finish attaching brackets and check the header to roof cap joint for any voids. Trowel sealant squeeze out per aesthetic requirements.
 - f. At the bottom outside corners apply sealant in the hole for the screw and hat fastener, then install the screw with the hat.

IMPORTANT! When leaving units with over the roof paint unsealed, a temporary moisture barrier such as tape or a suitable substitute must be applied to the seams until the unit can be painted.

1. Cap seal with sealant (72889) the roof cap to roof seam per aesthetic requirements. Maintain enough volume of sealant to insure adequate surface contact with the roof cap. For units with over the roof paint, leave areas to be painted unsealed.
2. Cap-seal the sidewall to side of the roof cap with sealant (72889). Trowel per aesthetic requirements. **For units with over the roof paint or painted roof cap to sidewall seams,** leave areas to be painted unsealed. Any sealant that oozes from under the roof cap in this area must be troweled off level with the edge of the roof cap. **Any excess sealant or sealant residue must be cleaned off the roof cap and sidewall using cleaning solvent (048769). No residue should remain.**
3. **For units with over the roof paint,** cap seal with sealant (094401-04) the roof cap to roof seam to provide a moisture barrier. Maintain enough volume of sealant to insure adequate surface contact with the roof cap
4. **For units with over the roof paint or painted roof cap to sidewall seams,** cap seal the sidewall to side of the roof cap with sealant (094401-04). Trowel per aesthetic requirements.

IMPORTANT! When applying and tooling sealant 094401-04, take care to leave sufficient sealant so that an adequate amount remains for sealing purposes.

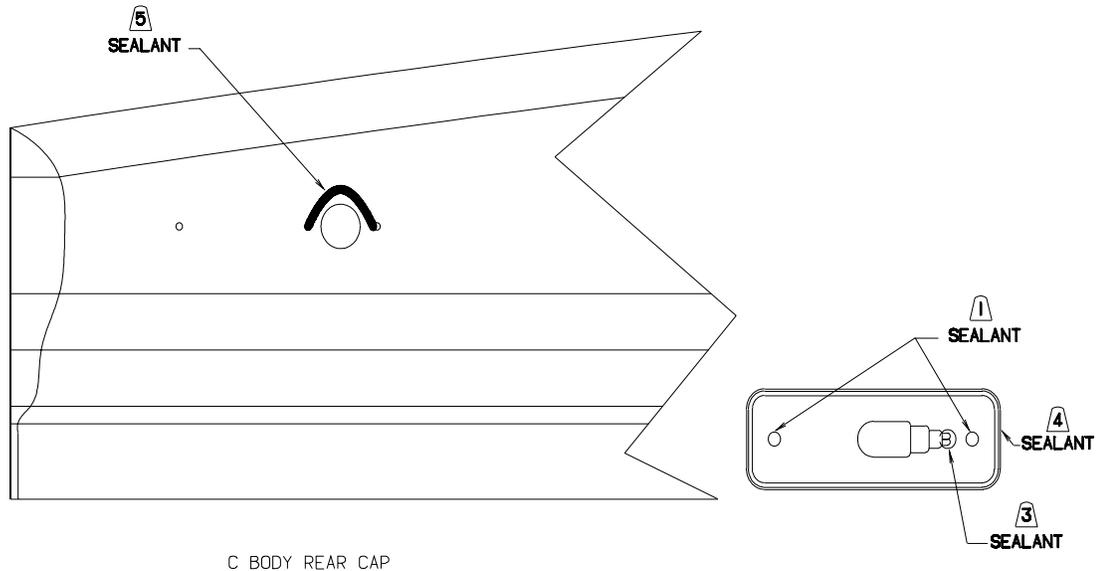
CLEARANCE LIGHT SEALING

Revision Date: 07/09/02

ref-46

1. Apply sealant (131264-01 or 72889) around the perimeter of the base and to the screw holes on the inside of the base. Option: On panel construction the wires can be connected, placed in the hole and then sealant applied in the hole and around the perimeter of the hole. Sealant still must be place over the screw holes before the screw is used to attach the light.
Note: Sealant (102352-02) can be used in place of the silicone in areas were silicone is not allowed.
Note: H bodies with the base gasket do not need step 1.
2. Install the light with no 8 screws.
3. Apply sealant (131264-01 or 72889) to the light wires where they go through the base. (If the option is used the light wires do not need sealant applied to the inside) Then finger trowel the sealant around the screw heads and wires to insure coverage.
4. Apply sealant (131264-01 or 72889) around the perimeter of the light base after installation and trowel to aesthetic requirements.

Note: In areas were water infiltration is not an issue, plastic trim etc., this procedure need not be followed.

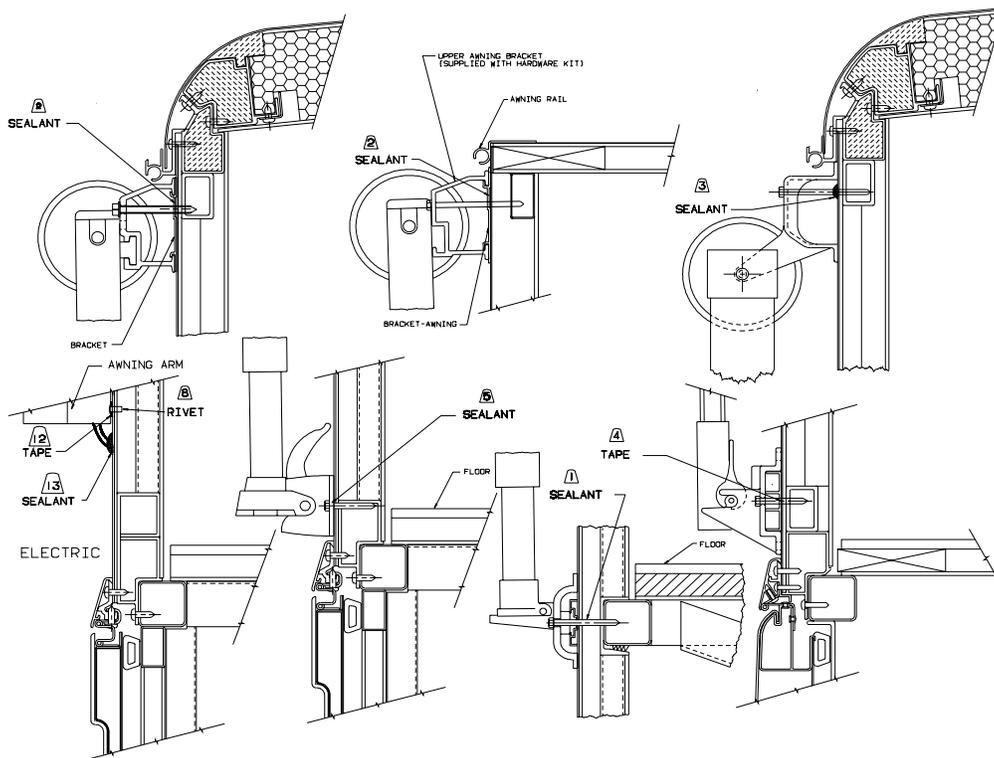


AWNING SEALING

Revision Date: 10/9/00

ref-61

1. After the hole for the attachment screws are drilled, fill the hole with sealant (72889) leaving sealant around the hole before attaching the mounting bracket. When installed, sealant should be visible around the fastener as it enters the sidewall.
2. Apply butyl tape (69640-21) to the awning bracket. Be sure the tape covers the holes the mounting screws will pass through.
3. After the hole for the attachment screws are drilled, fill the hole with sealant (72889 or 102352-02). After installing the bolt apply a generous bead of sealant around the bolt to sidewall joint. **NOTE:** This step only applies to the shown awning model.
4. Apply tape (69640-10) to the support extrusion centered on the screw holes.
5. Apply butyl tape (69640-21) to the back of the bracket covering the hole the mounting screw goes through before attachment. Trim excess tape.
6. Apply butyl tape (69640-10) to the slide-out awning bracket; make sure all five holes are covered with the butyl tape. Keep the tape at least 3 mm away from the bottom and the sides of the bracket to reduce tape squeeze out.
7. Apply butyl tape (69640-21) behind the awning rail, the foot support and the hook to seal the fasteners.
8. If rivets are used sealant (72889 or 102352-02) must be applied to the head of the rivet sealing the mandrel.
9. After the awning is installed seal (72889 or 102352) any splice in the awning rail. Be careful not to fill the water trough with sealant that would block the water flow.
10. On the Q Series apply butyl tape (69640-19) to the back of the support brackets mounted to the frp cap and the bottom spacer blocks. Apply butyl tape (69640-19) to the fastener holes in the back of the awning body.
11. On the P Series apply butyl tape (69640-07) to the back of the awning support rail and butyl tape (69640-17) to the spacer block. Apply butyl tape (69640) to the fastener holes in the back of the awning body.
12. Apply tape (69640-21) to the awning arm, covering the rivet holes used to attach the arm to the sidewall.
13. On the electric awning apply sealant (72889) to the hole in the sidewall the electrical wires come out of. Insure material is pumped into the hole and fills the opening to the outside surface of the fiberglass skin at a minimum. The sealant must coat the luan. The sealant can protrude out from the sidewall so long as it does not interfere with the awning covers. The procedure also applies to the electric door awning.



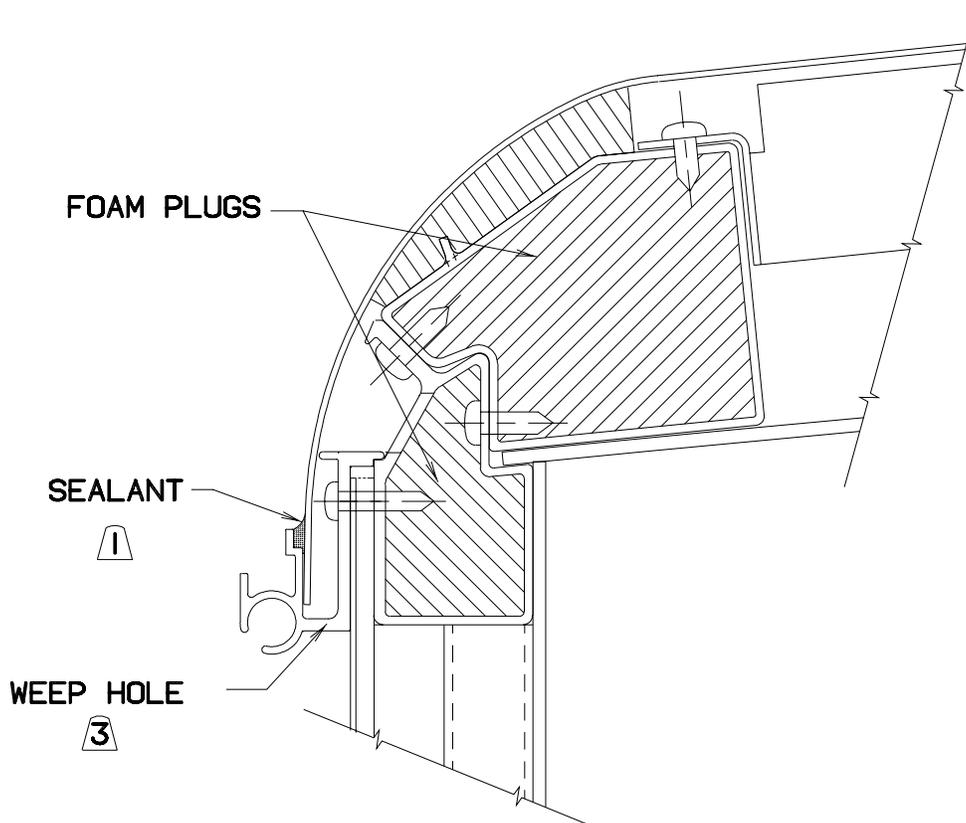
ROOF TO SIDE WALL JOINT

Revision Date: 07/09/02

ref-78

1. For all units insure the fiberglass flap is free of contamination. Apply primer (900680-03) to the awning rail surface that sealant will be applied to. Primer should be dry to the touch before applying sealant, a maximum 10-minute cure. **For units without over the roof paint**, cap-seal (72889) the roof fiberglass and trim before painting. **For units with over the roof paint**, cap seal (094401-04) the roof fiberglass and trim after painting. *Apply sealant by forcing sealant into the 4mm groove created by the fiberglass flap and the awning. After tooling a **minimum** of 6mm's of bead must be left.* Trowel per aesthetic requirements.
2. Insure that the foam plugs are covered with the sealant called for in the seal procedure "A-Body Front Roof Cap".
3. Insure the weep holes are installed properly and are not plugged.

IMPORTANT! When applying and tooling sealant 094401-04, take care to leave sufficient sealant so that an adequate amount remains for sealing purposes.



SOLAR PANEL

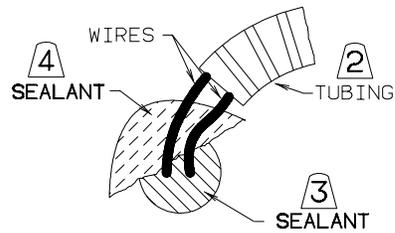
Revision Date: 8/28/01

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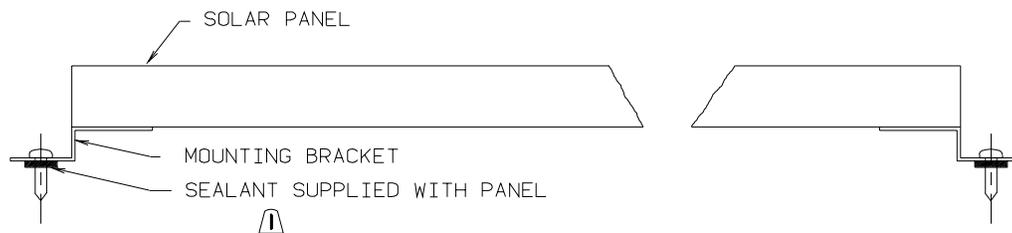
1. Attach the panel through the sealant provided with the panel.

Wire Leads in Roof

2. Insure the tubing is not in the opening to be sealed
3. Apply sealant (131264-01) in the roof opening, level with the top surface of the roof and around the wires.
4. Apply sealant (131264-03) over the sealant filling the hole and surrounding roof surface. Be sure the roof surface is cover at least 25mm from the edge of the wire hole.



Wire Leads in Roof

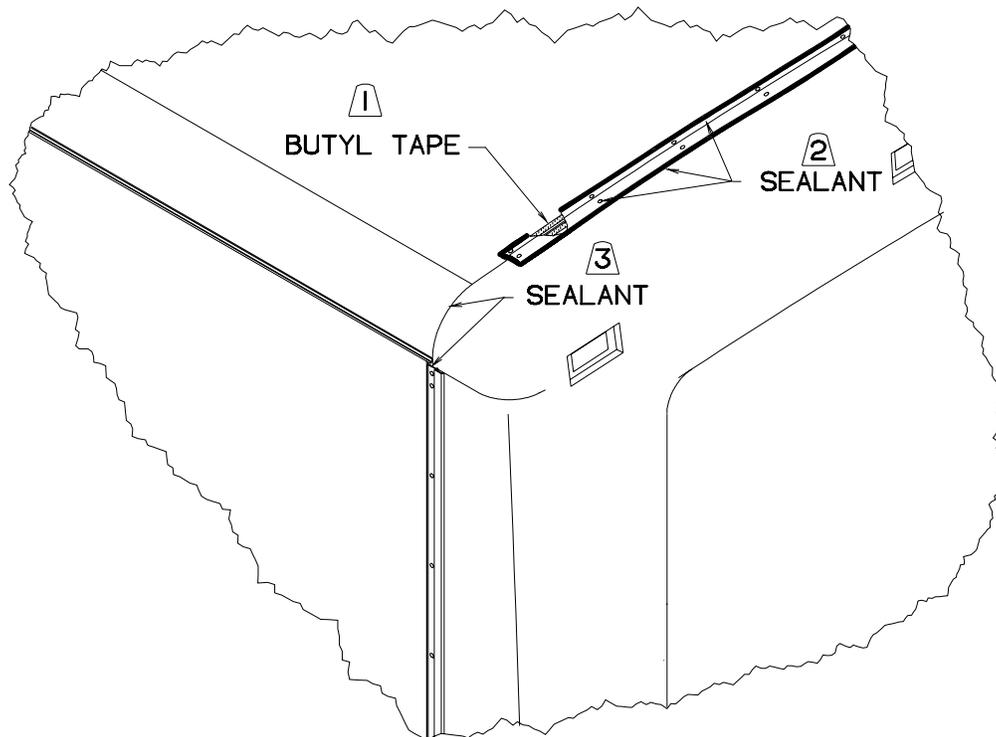


FIBERGLASS REAR ROOF CAP SEALING

Revision Date: 11/9/00

ref-92

1. Apply butyl tape (69640-02) to the top cap trim. Insure the tape covers the fastener holes and runs the entire length of the trim.
2. After fastening the trim apply self-leveling sealant (131264-03) around the perimeter of the trim and cover each fastener.
3. Cap seal (131264-01) the top of the rear cap side trim. Then continue sealing the joint formed by the rear cap and the roof around the joint to the top trim.

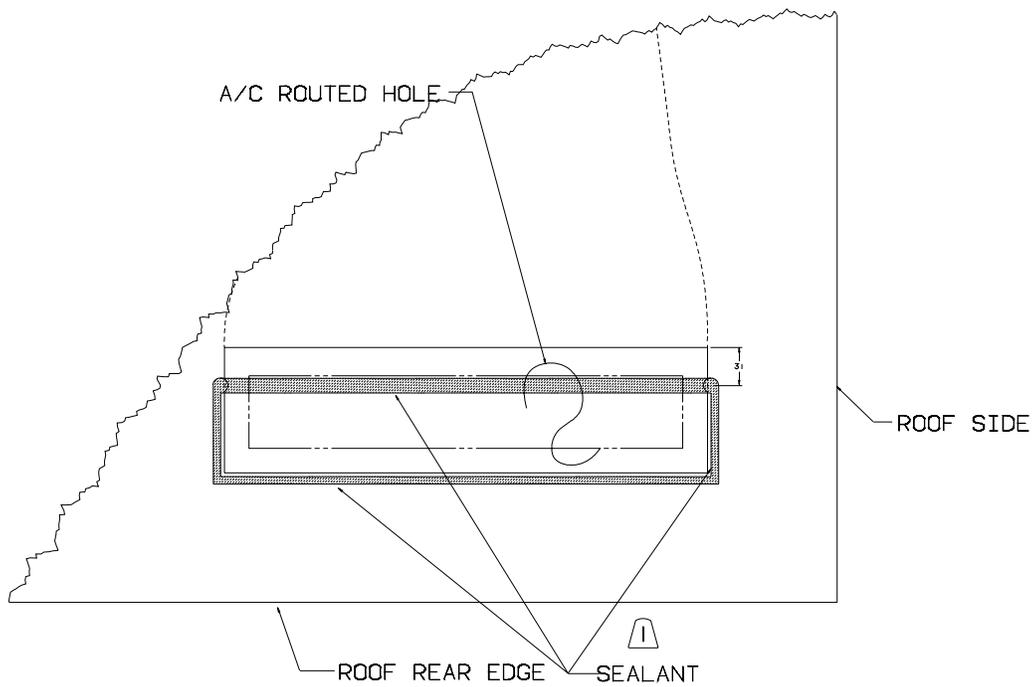


ROOF PANEL SEALANT PROCEDURES

Revision Date: 9/15/99

ref-93

1. Apply sealant (72889 or 131264-01) to the routed A/C hole in the roof for the central air. The sealant should seal the joint formed by the plastic deflector and the roof. At the bottom of the opening the sealant lays on the foam about 31 mm from the front edge of the cutout. Be sure the sealant is placed where the high surface of the deflector will contact the sealant. The sealant follows down the edges of the cutout to the luan and around the remaining rear part of the cutout on the luan surface. This seals the deflector flange to the luan. The purpose is to prevent any air from blowing out the back of the roof.

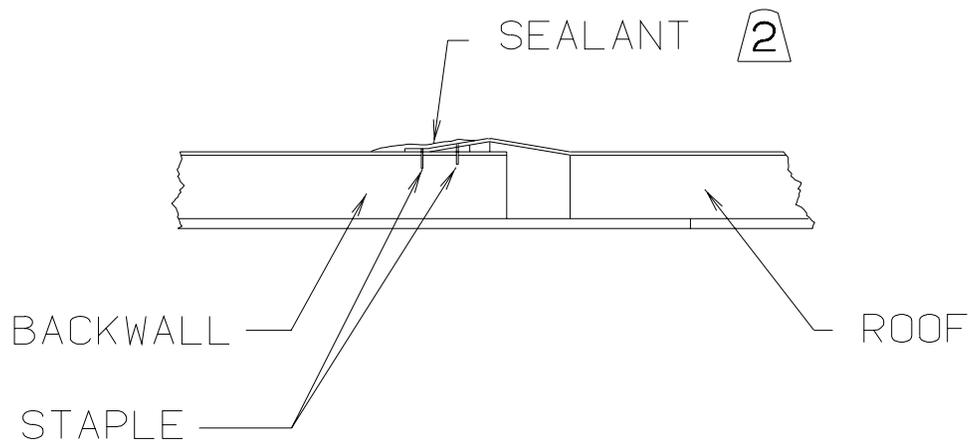


VOLKSWAGON C BODY ROOF

Revision Date: 12/10/01

Ref-97

1. Staple the roof metal to the backwall.
2. Apply sealant (131264-03) to the front edge of the staples. Apply enough material so that it levels over the staples and the metal roof edge.



AWNING WIND SENSOR

Revision Date: 05/30/02

1. Apply butyl tape (069640-15) to bottom of wind sensor base. Ensure that all screw holes are covered. Ooze out should be observed when the sensor is screwed down.
2. Cover the base of the wind sensor with self leveling sealant in accordance with the general rules for self leveling sealant.