

Keystone Fifth Wheel - Sidewall Crack Repair

The information and instructions in a **Keystone Service Bulletin (KSB)** are intended to inform RV dealership Service Managers/Technicians of situations that may occur with some Recreational vehicles so dealership personnel can perform proper and efficient service. KSB's are intended to be used by trained RV technicians with the knowledge, tools and equipment to do the job properly and safely, not "do-it-yourselfers".

- Information is not presented as a repair guaranteed to be covered by warranty.
- Keystone's P & P (Policy & Procedures) must be followed for any requested warranty work.
- Do not assume this repair is covered by warranty.
- Not every unit listed requires a repair.
- Please read through the instructions start to finish before attempting the repair.

It has been determined the units in this KSB population may develop sidewall cracks at both front slideouts. Only units that develop a crack will require this repair, if the sidewall is not cracked, no repair is needed.

Models:	2020-2021 Montana, HC Montana, Alpine, Avalanche, Fuzion, Raptor Fifth Wheels
Parts Required per Unit:	<p>The adhesives noted below are the only acceptable adhesives for this repair. The parts listed below are for one side only. If both sides require repair, order more adhesives/parts.</p> <p>2 ea. KRV # 207257 - Adhesive - Panel Bonding - Auto mix - 200ml – 2 Part Epoxy - 08115 -3M - 2 application tips included with each tube.</p> <p>1 ea. KRV # 207258 - Adhesive Applicator Gun 1:1 Ratio - 08117 - 3M</p> <p>2 ea. KRV # 346665 - Adhesive - Sealant - Lavanture - 10oz – High Performance – Manus - Bond 75-GP</p> <p>Ground shipment only - Hazardous Material, Application Gun may be returned for full credit, submit on RGA.</p> <p>1 KRV # <u>426646</u> - Trim - H Divider Cover - Ivory [Expansion/Relief joint]</p> <p>1 ea. KRV Manual ID - Fiberglass/Filon Skin, noting double layer of luan.and Door side or Off Door Side Sidewall Graphics/Decals</p> <p>1 ea. [Interior Décor Panel] Order to match interior décor</p> <p>1 ea. [Seam Tape] Order to match interior décor</p>
Local parts:	#14 x 5" Screws, 2" Wood Screws, Pin-box Jack, Silicone Sealant, Putty Tape, 2" x 2" wood, 2"x4" or 2"x6" wood, 4 each - 1/4"-20X3" Screws, Non-Sag roof sealant, Expanding Foam, 5"x5" 10 Gauge Aluminum Triangle Gussets, & Carpet remnants.
Tools Required:	Screw Gun, Brad Nailer, 4-1/2" Wheel Grinder, C-Clamps, Caulk Gun, and Flat Bar/Pry Bar, Drill Bit 6" x 3/16", 4" Floor Scraper, Putty Scraper, and Squeegee

This KSB requires a Pre-Authorization & Photograph

When performing this KSB, please make certain that appropriate Personal Protective Equipment (PPE) is used.

The remedy is to remove the Filon, repair broken welds, add gussets, and wood reinforcement. Replace Filon and add expansion joints top and bottom of front opening. Note: If the unit is "Full Paint" re-use the original painted Filon.

REPAIR INSTRUCTIONS

VERY IMPORTANT! DO NOT CUT A SQUARE OUT OF THE WALL-SEE REPAIR BELOW

VERY IMPORTANT! - ALL REPAIRS SHOULD BE COMPLETED WITH FULL LOAD ON THE PIN BOX.

Step 1

Locate the trailer on a level, flat, hard surface. Chock the wheels.

VERY IMPORTANT! PLACE HITCH WEIGHT ON PIN, THEN LOWER FRONT LANDING LEGS TILL THEY TOUCH THE GROUND BUT DO NOT RAISE THE UNIT. LEAVE WEIGHT ON PIN FRAME THROUGHOUT REPAIR. See Figure 1.

**Step 2**

Extend the front door side slideout and remove from sidewall using industry standards for the particular system used.

Step 3

Disconnect 120VAC and 12VDC power to the unit.

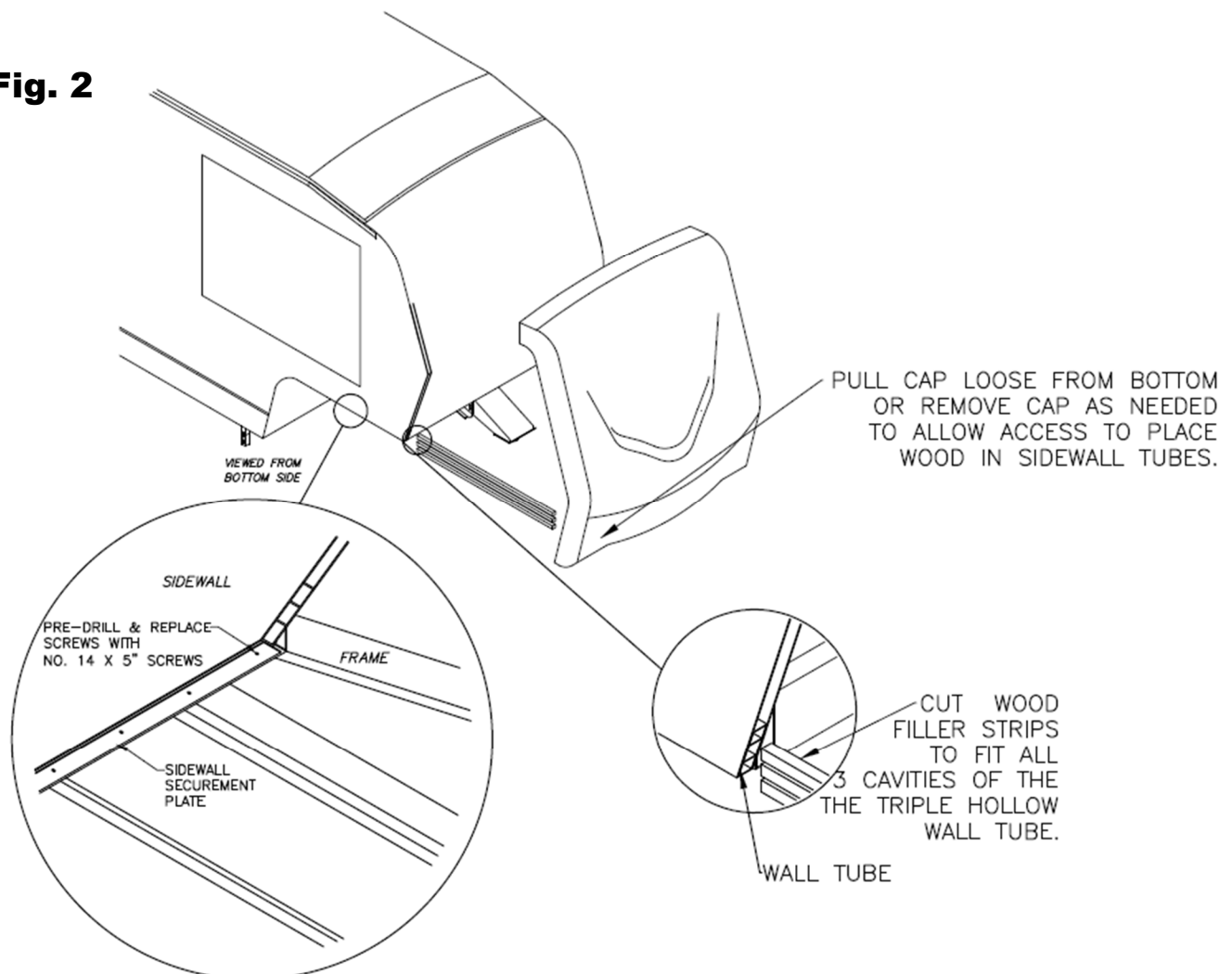
Step 4

Remove front cap. Remove roof line moldings and materials back far enough to be able to work the area for the relief cut and in preparation to remove Filon. Remove molding around slide opening and gooseneck edge of sidewall.

Step 5

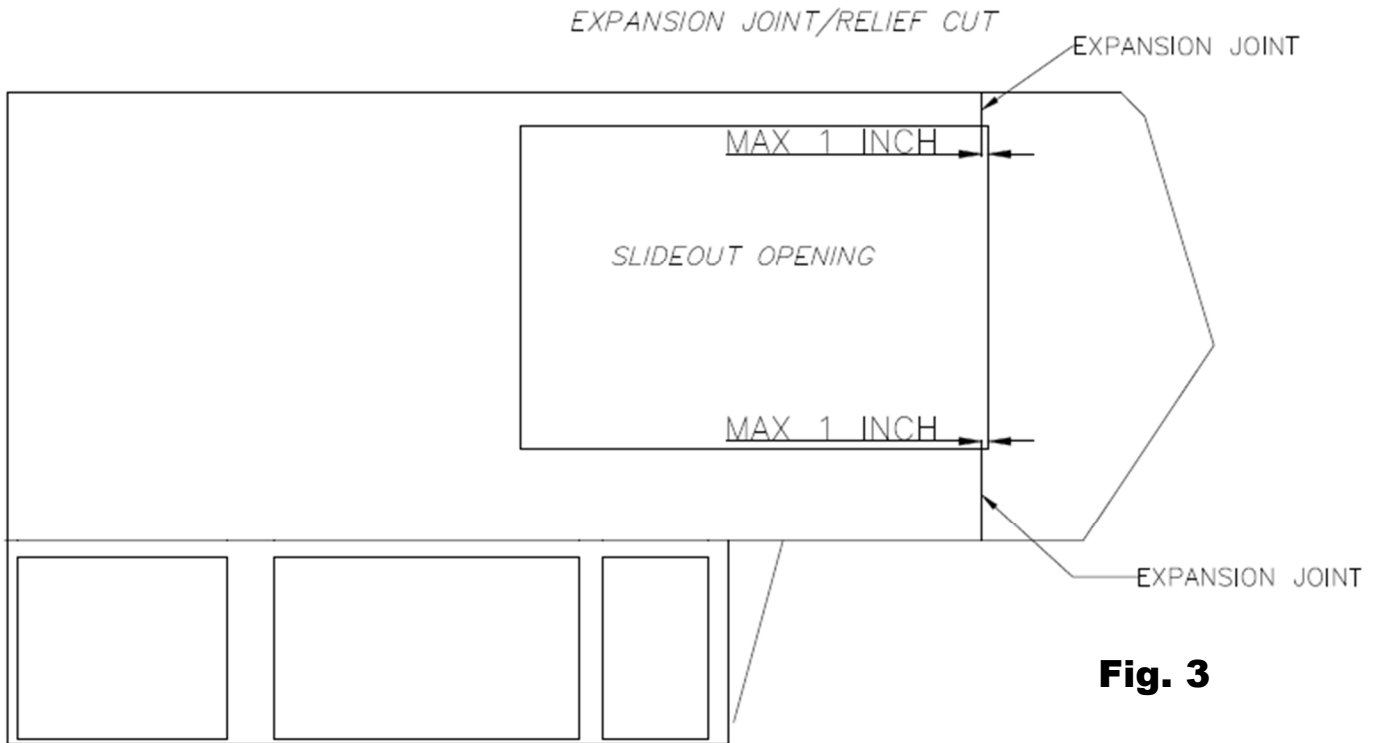
Inspect bottom sidewall tubes for wood. Take photos.

- If wood is present in all tubes, see Figure 2. Remove all 2" screws from the bottom of the sidewall securement plate, using a 3/16th drill bit predrill from steel frame sidewall securement plate up thru exiting screw holes into wood stuffed triple hollow tubes, then install #14 X 5" screws.
- If wood is missing in tubes, see Figure 2. Remove all 2" screws. Stuff triple hollow tubes at front end of both sidewalls using 2x2's (Approximately 48"), using a 3/16th drill bit predrill up thru exiting screw holes in sidewall securement plate into wood stuffed triple hollow tubes, then install #14 X 5" screws.
- Inspect frame welds at sidewall securement plate(s). Take photos. Repair if necessary.

Fig. 2

Step 6

Cut stress relief at front slide out opening (at the bottom and top of slide out opening). These will remain and need insert trim put in place when repairs are complete. The expansion joint/relief cut must be cut within 1" of slideout opening. Refer to diagram below for proper placement of expansion joint/relief cut. See Figure 3.

**Fig. 3****Step 7**

Peel back forward portion of Filon to corner of slideout top and bottom using a flat scraper to release the luan from the aluminum frame and foam. Do your best to remove the filon/luan in one piece to re-use (especially when "full paint" unit) or use as a template for the new piece. If necessary, order new piece through Keystone RV Parts Department. Submit a manual ID order and make sure you provide square dimensions and photos to determine color. Please note the skin is backed with double layer of luan.

Step 8

Remove the foam between the aluminum studs. Using a putty scraper, clean area to accept adhesive and reinforcement wood. See Figure 4.

**Step 9**

Inspect lower and upper welds for cracks. Using the landing legs remove weight from the pin box and inspect for any cracks. Take photos of all cracked/broken welds with weight on and off the hitch. Place weight back on the hitch as described in Step 1, Figure 1.

VERY IMPORTANT! DO NOT REMOVE HITCH WEIGHT ON PIN DURING THIS REPAIR PROCESS. KEEP FRONT LANDING LEGS LOWER UNTIL THEY TOUCH THE GROUND BUT DO NOT RAISE THE UNIT. See Step 1, Figure 1 on page 2.

Step 10

Repair all broken/cracked joints as needed and add 5"x5" (minimum) 10 gauge aluminum gussets, some units may already have an aluminum square, repair as needed. See Figure 7. NOTE: If you don't have anyone that does aluminum welding contact a local welder and sublet to repair, see Figures 5 and 6.

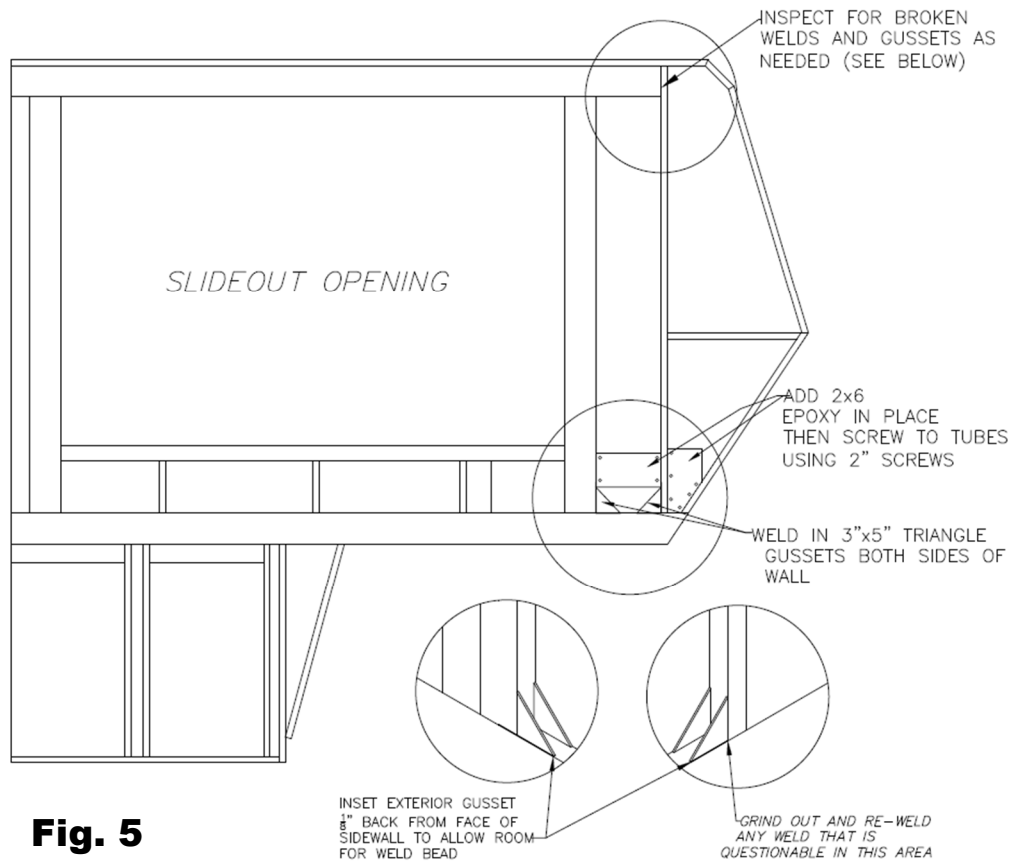


Fig. 5



Step 11

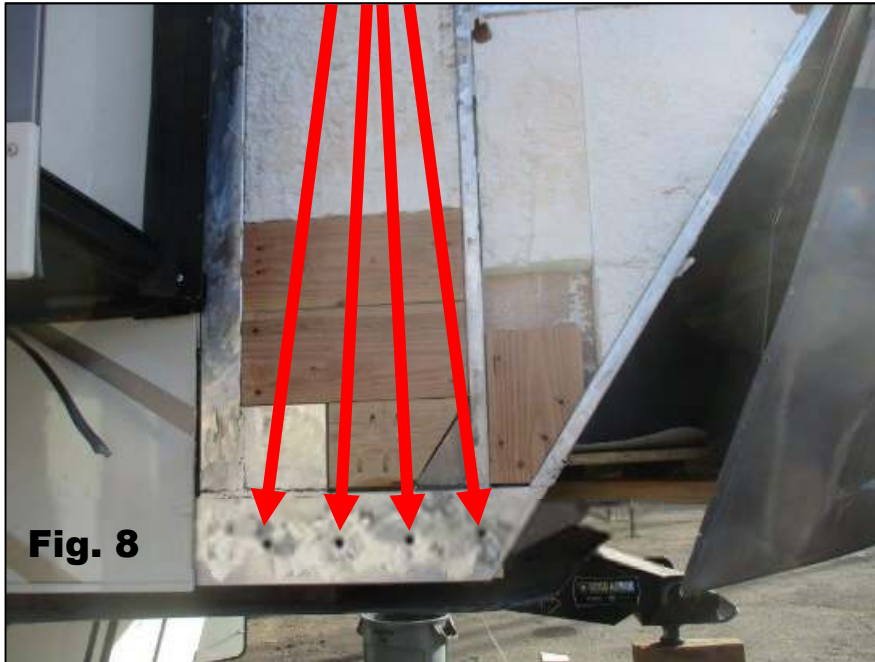
Cut 2x4's or 2x6's to fill area between 2 aluminum studs. See Figure 5 and 7. Using the adhesive KRV #207257 install the studs to the interior paneling, use 2" screws to secure aluminum studs. Use the expanding foam to seal the open areas, let it cure solid and shave off flush with the tubes.

**Fig. 7**

Step 12

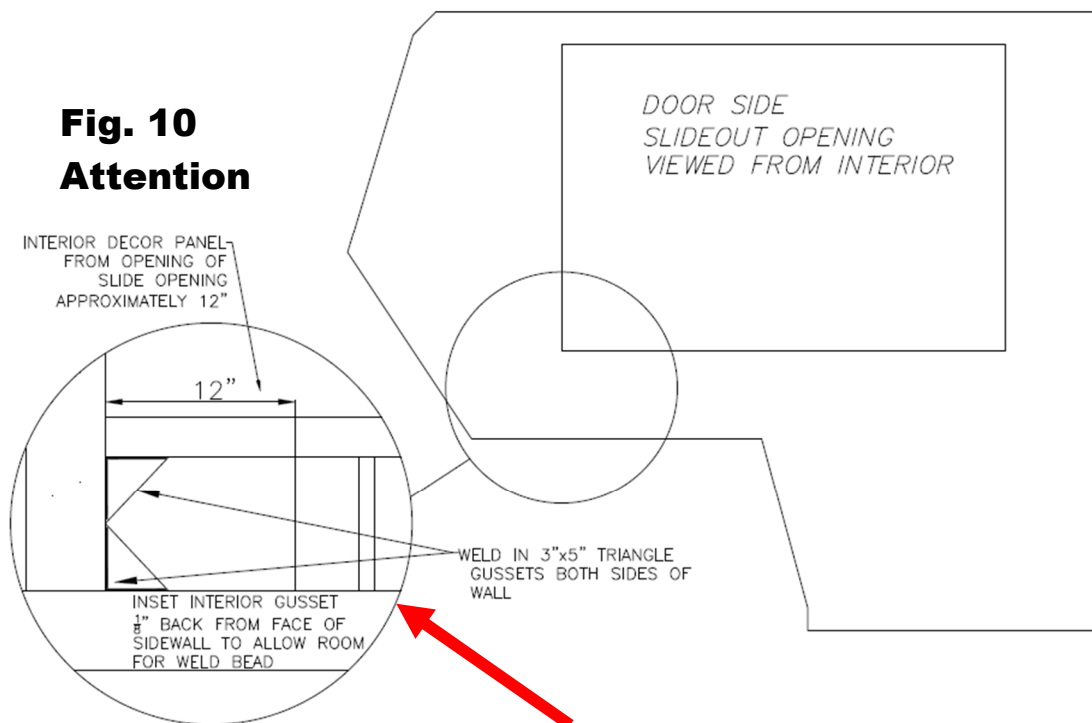
Pre drill using 3/16" drill bit through 2X6 LCI steel tube (upper deck), add screws Horizontal through triple hollow wood stuffed sidewall tubes into center of steel tube adding (4) 1/4"-20X3" screws. See Figures 8 and 9.

Add 4 Screws



Step 13 - This step applies – under the Slideout Opening Only

On inside of unit at front, under the slide out opening, remove décor panel from opening of front edge back approximately 12". Remove blocked foam, and add corner gussets (minimum 5"x5" 10 gauge aluminum) top and bottom, weld into place under slide out opening.



See Figures 5 and 10. Go back outside for Step 14.
Take necessary precautions when welding inside the RV to prevent a thermal event.

Step 14

Using a grinder, remove previously used adhesive from aluminum framing in preparation for a clean surface to re-adhere to. See Figure 8.

Step 15

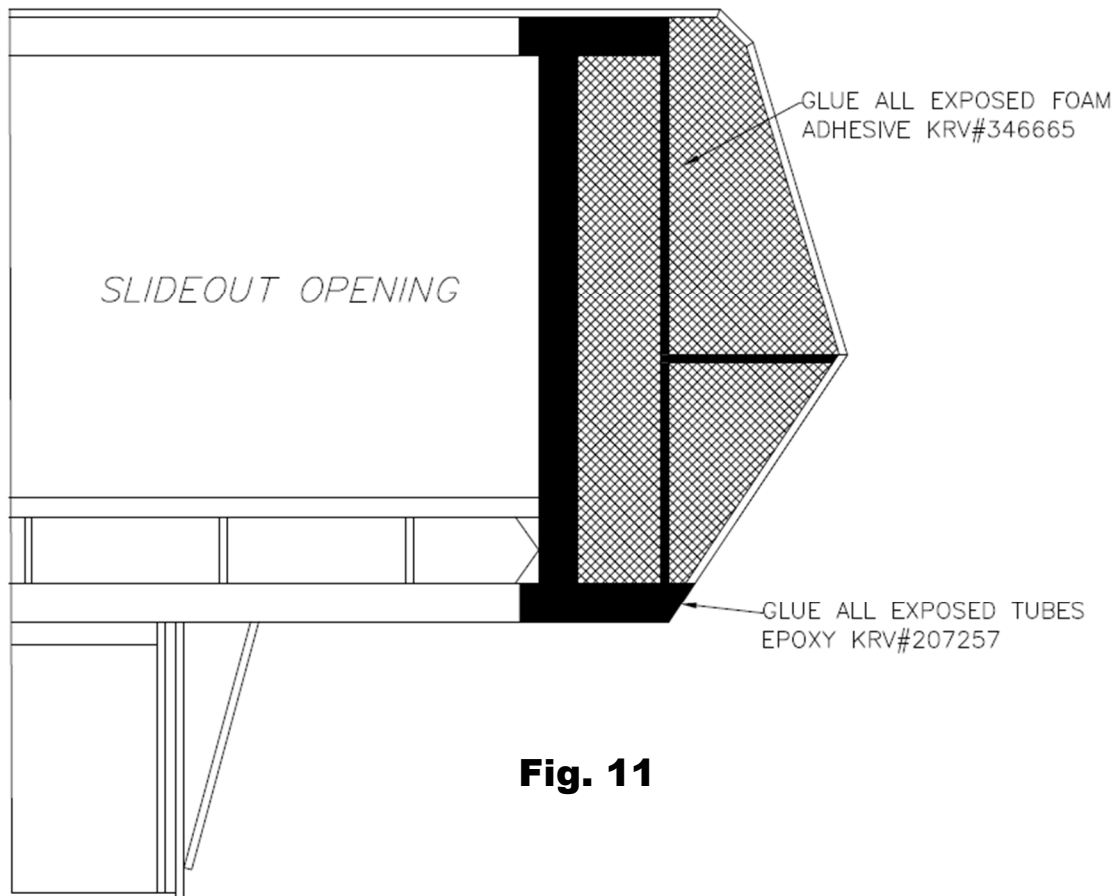
Prepare Filon/Luan for install before steps 16 and 17. Using a putty scraper, remove all residue from Filon/Luan piece removed in Step 7 to prepare for re-use or use as a template and cut the new piece to match the area being replaced. Have 2"x4"s on hand ready to brace the Filon using clamps and carpet pieces.

Step 16 VERY IMPORTANT! Apply KRV # 207257 to aluminum structure first. It has a 90 Min Work Time

Following the directions of the Adhesive, apply KRV # 207257 Panel Bonding Adhesive (08115 slow-dry Epoxy) liberally onto tubes in exposed areas where fiberglass was removed. 100% coverage 1/8" thick. Use tool/squeegee to cover all exposed tubes. See Figure 11.

Step 17 VERY IMPORTANT! This adhesive cures substantially quicker than Epoxy in Step 16.

Following the directions of the Adhesive, apply KRV# 346665 Adhesive - Sealant for 100% coverage 1/8" thick of exposed foam and wood, squeegee to evenly distribute. See Figure 11.

**Fig. 11**

**Fig. 12****Step 18**

Clamp new Filon skin to surface with clamps, board(s), and carpet scraps, and let set for 8 hours. See Figure 12.

Step 19

After 8 hours remove clamps, inspect for cure and adhesion.

Step 20

Test repair by alternating hitch weight between pin and landing jacks and verify skin is unaffected by weight transfer.

Step 21 - This step applies to the Door Side Slideout Only

On inside of unit at front Door Side slideout, under the slideout opening, where block insulation was removed and gussets added, use the expanding foam to seal the open area and let it cure, then shave flush. Following the directions of the Adhesive, apply KRV# 346665 Adhesive - Sealant liberally to the exposed foam, install new wallboard, brad nail at the studs and apply seam tape.

Step 22

On outside of unit, trim any excess sidewall skin if necessary.

Step 23

Fill Relief cuts at top and bottom with silicone and install Expansion/relief joint H-trim. Reinstall cap, moldings, decals, and slideout. Seal all components using silicone except the roof membrane. Use appropriate roof sealant on membrane.

Step 24

Take for a test drive if possible.

Step 25

Repair complete. Contact the advisor you have been working with and notify that repair is complete.

WARRANTY REIMBURSEMENT

This KSB is for repair purposes only. If this is a warranty repair, the flat rate code is **7301342A**

No part return required.

If you have questions, please contact Service Team: **Luxury: (866) 273-1450**