

## Sidewall 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.

This process describes the safe and proper procedure to repair any unit which experiences a crack at the bottom corner of a slideout at the gooseneck of a 5<sup>th</sup> wheel, opening the side wall to repair broken tube welds and add reinforcement. This technical service bulletin explains how to perform the repair. Please note: A sublet will be required for aluminum welding if you do not have that capability.

### This KSB requires a Pre-Authorization & Photographs

- Parts Required per Unit:** 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.
- 2ea. KRV # 207257 - Adhesive - Panel Bonding - Automix - 200ml - 2 Part Epoxy - 08115 -3M - 2 application tips included with each tube.
- 1ea. KRV # 207258 - Adhesive Applicator Gun - 1:1 Ratio - 08117 - 3M
- 2ea. KRV # 346665 - Adhesive - Sealant - Lavanture - 10oz - High Performance - Manus-Bond 75-GP
- Ground shipment only - Hazardous Material, Application Gun may be returned for full credit, submit on RGA.**
- 1ea. KRV Manual ID - Fiberglass/Filon Skin, noting single or double layer of luan.
- 1ea. Trim - H Divider Cover [Expansion/Relief joint] – order to match color of sidewall
- 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, 3”x5” Aluminum Triangle Gussets, Carpet remnants
- Tools Required:** Screw Gun, 4 ½ Wheel Grinder, Caulk Gun, Flat Bar/Pry Bar, C-Clamps, Drill Bit-6” x 3/16”, 4” Floor Scraper, Putty Scraper, Squeegee

**When performing warranty or recall service, please make certain that appropriate Personal Protective Equipment (PPE) is used.**

**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.**

**REPAIR INSTRUCTIONS****Step 1**

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

**Step 2**

Extend the front off-door side slideout and remove from sidewall.

**Step 3**

Disconnect 120VAC and 12VDC power to the unit.

**Step 4**

Remove front cap. Remove roof line molding back to front of slideout opening and peel back roof materials for removal of Filon. Remove molding around slide opening and gooseneck edge of sidewall. Remove molding used to cover expansion joint/relief cut at bottom of slideout opening. Cut skin within 1" of top and bottom of slideout corners from slide opening to roof line. See Figure 13.

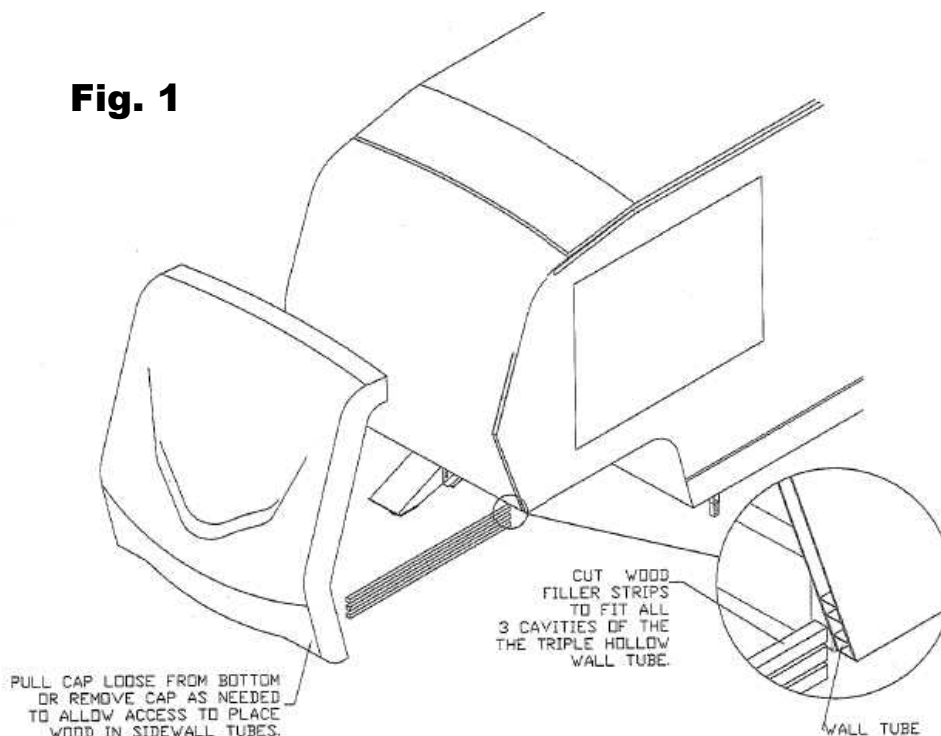
**Step 5**

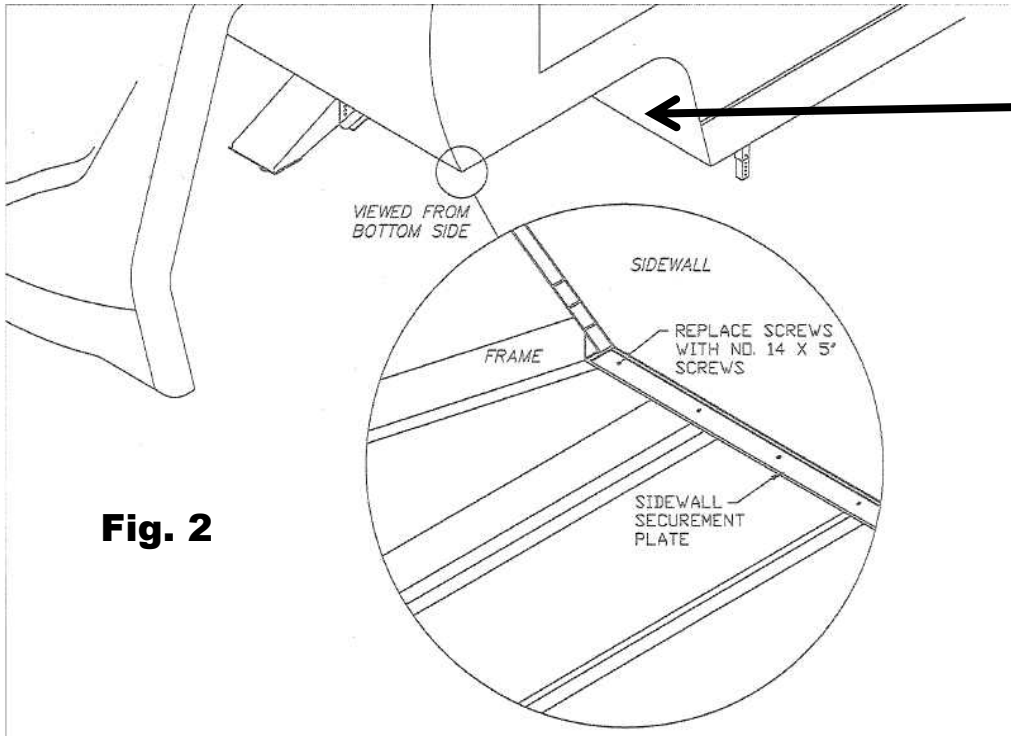
Inspect bottom sidewall tubes for wood. Take photos.

- If wood is present in all tubes, see Figure 2. Remove all 2" screws from the bottom of the sidewall securement plate, using a 3/16<sup>th</sup> 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 Figures 1 & 2. Remove all 2" screws. Stuff triple hollow tubes at front end both sides using 2x2's (Approximately 48"), using a 3/16<sup>th</sup> 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. 1**

**Fig. 2**

In Figure 2 replace screws all the way to this point.

**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 3**

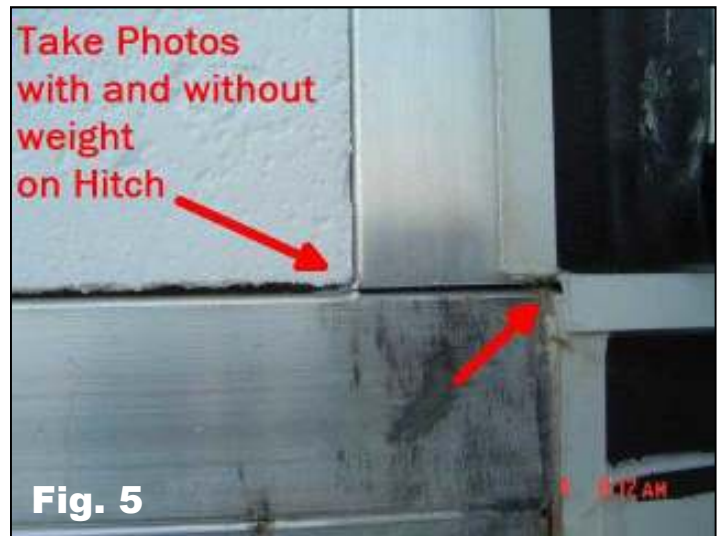
#### **Step 6**

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. Remove Filon in one piece to re-use or use as a template for a new piece. If necessary order new piece through Keystone RV Parts Dept. Submit a manual ID order and make sure you provide square dimensions and photos to determine color. Please note if the skin is backed with a single or double layer of luan. If Filon cannot be re-used order new decals at the same time when ordering the Filon.

**Fig. 3**

**Step 7**

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, see Figures 4 & 5.

**Step 8**

Place weight back on the hitch, see Figure 3.

**Step 9**

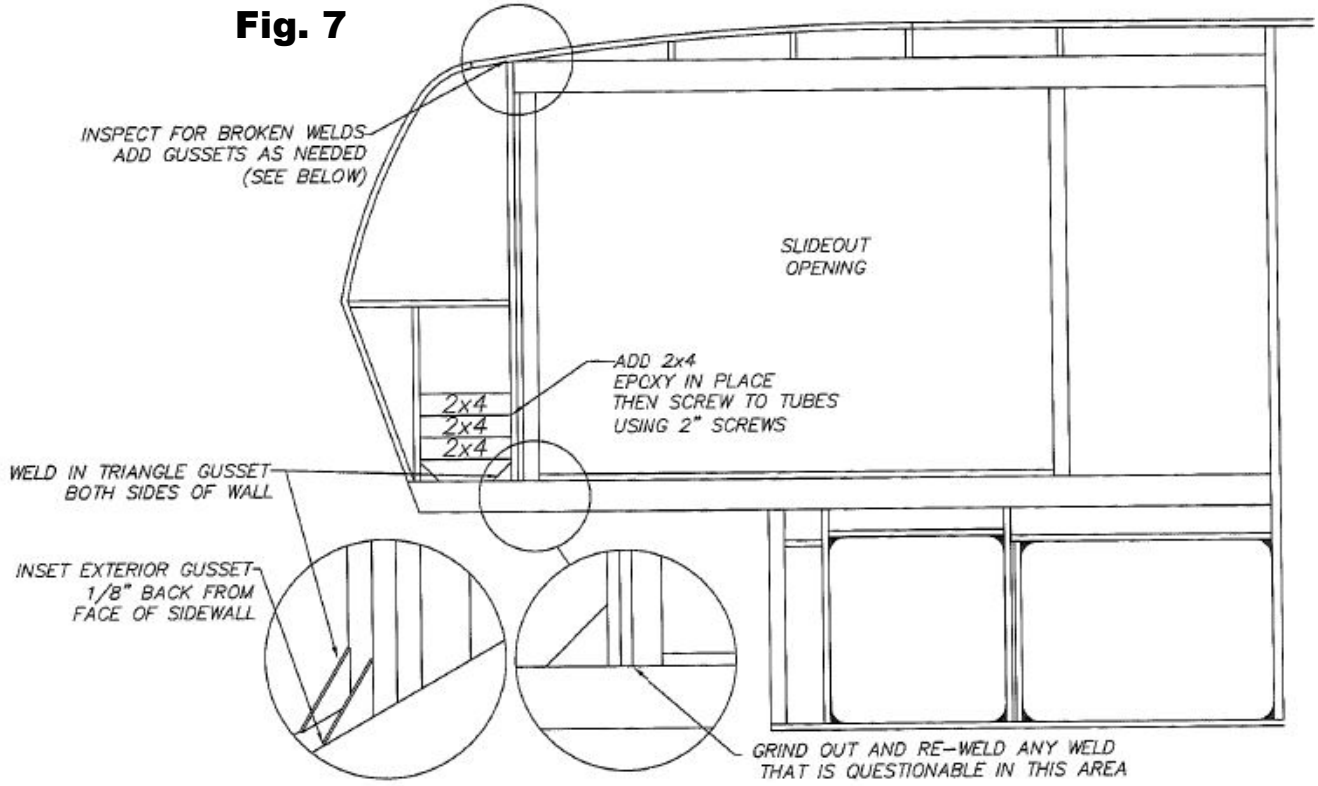
Repair all broken/cracked joints as needed and add gussets, if you don't have anyone that does aluminum welding contact a local welder and sublet to repair tubes, see Figure 6 and 7.

**Step 10**

Remove the foam between the aluminum studs, using a putty scraper clean area to accept adhesive and reinforcement wood. Cut 2x4's or 2x6's to fill area between 2 aluminum studs. Using the adhesive KRV # 207257 install the studs to the interior paneling, use 2" screws to secure aluminum studs as shown in Figures 7 and 8. Foam seal the open areas, let it cure solid and shave off flush with the tubes.



**Fig. 7**



**Step 11**

Using a grinder, remove previously used adhesive from aluminum framing in preparation for a clean surface to re-adhere to, see Figures 8 & 9.

Add 4 Screws

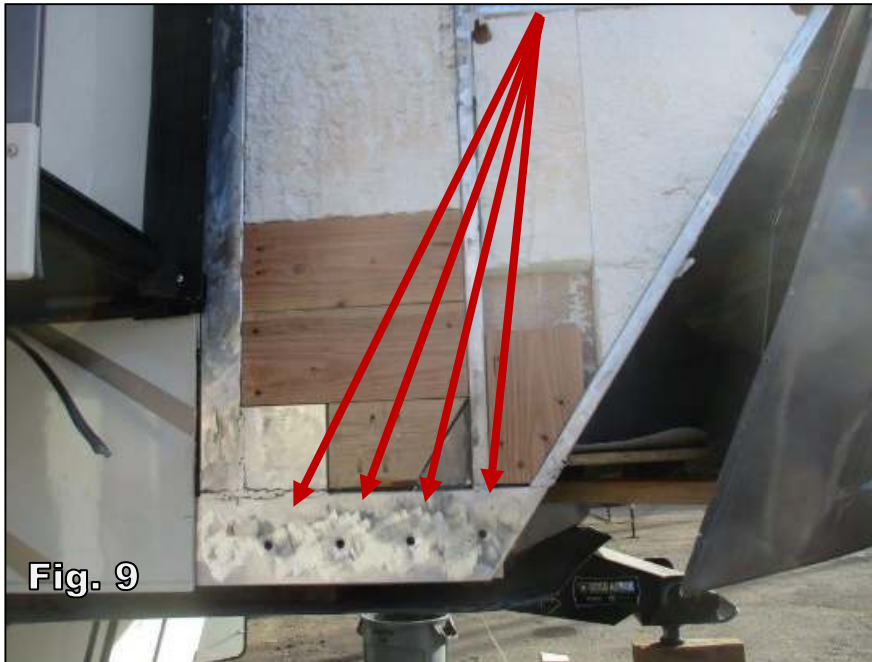


Fig. 9



Fig. 10

**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 9 and 10

**Step 13**

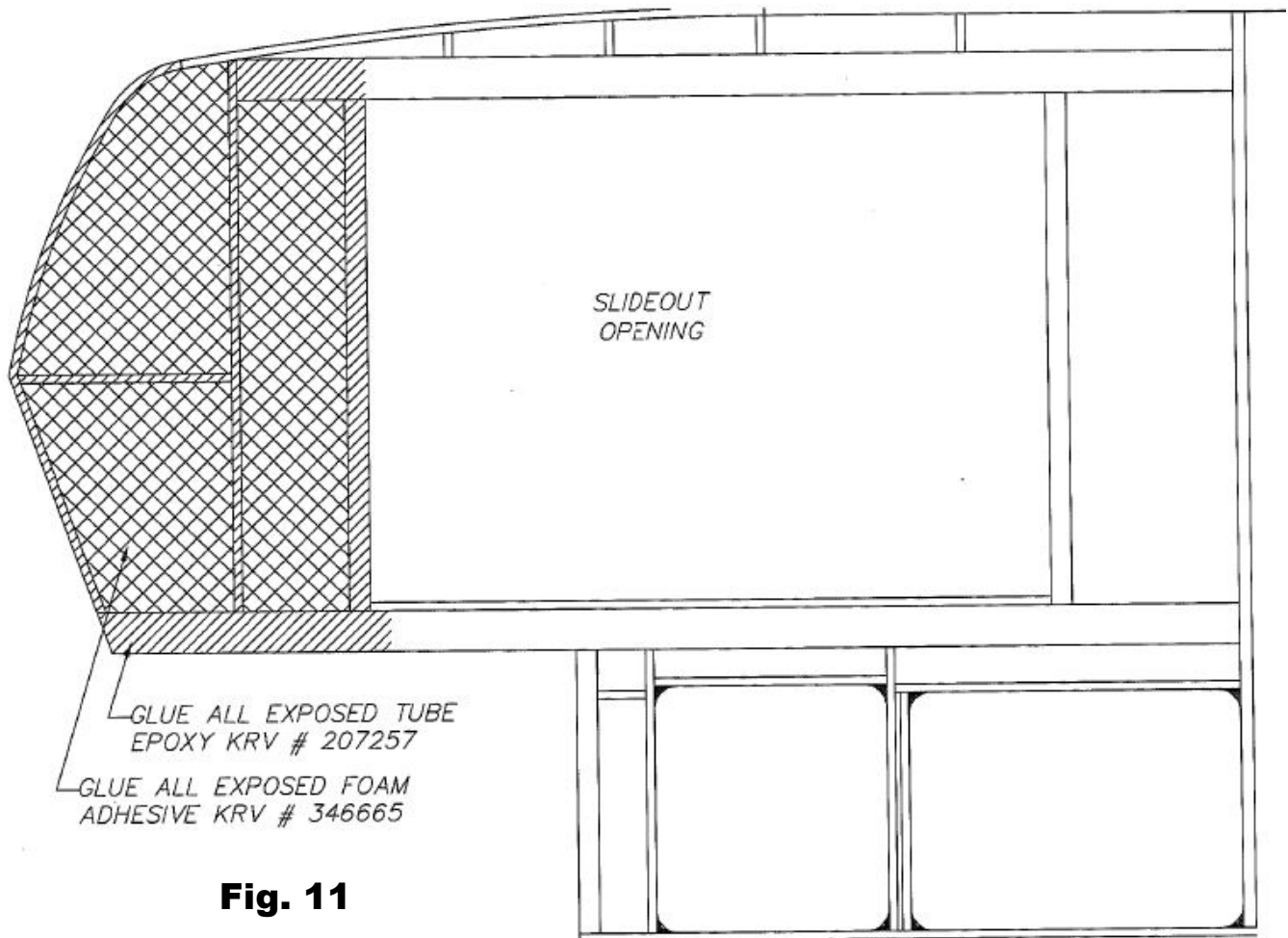
Prepare Filon for install before steps 14 and 15. Using a putty scraper, remove all residue from Filon/Luan piece removed in Step 7 to prepare for re-use or use as a template and cut the new piece to match the area being replaced. Have 2"x4"s on hand ready to brace the Filon using clamps and carpet pieces.

**Step 14 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 15 VERY IMPORTANT! This adhesive cures quicker than Adhesive/Epoxy in Step 14**

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.



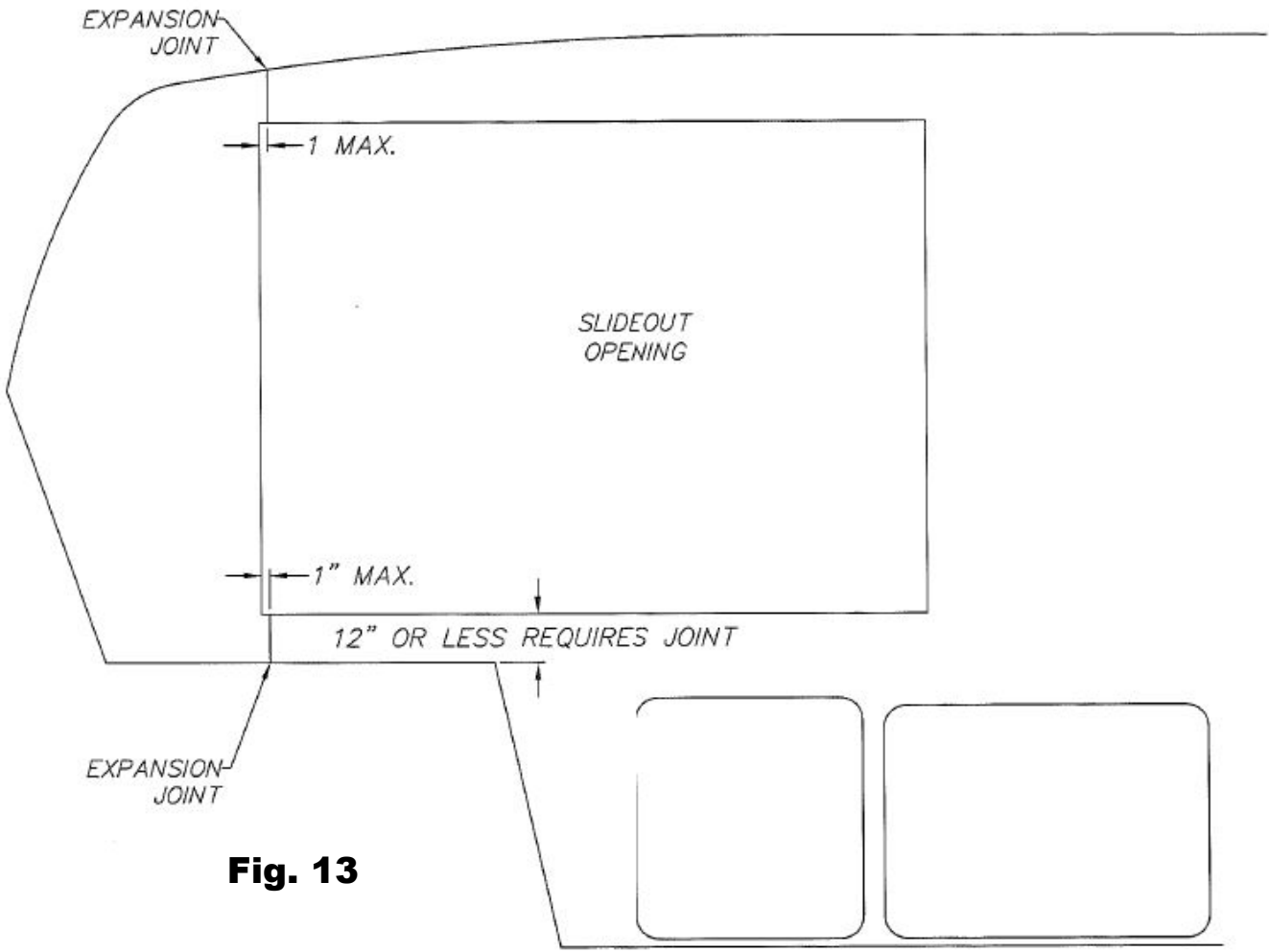
**Fig. 11**

**Step 16**

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

**Step 17**

If expansion joint/relief cut is not within 1" of slideout opening, perform fiberglass repair to existing cut, then cut-in new expansion joint/relief cut. Refer to diagram below for proper placement of expansion joint/relief cut. Another expansion joint will need to be added at the top, see Figure 13.



**Fig. 13**

**Step 18**

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

**Step 19**

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

**Step 20**

Trim any excess sidewall skin if necessary.

**Step 21**

Fill Relief cuts at top and bottom with silicone and install Expansion/relief joint H-trim.

**Step 22**

Reinstall cap, moldings, decals, and slideout. Seal all components using silicone except the roof membrane. Use appropriate roof sealant on membrane.

**Step 23**

Take for a test drive if possible.

**Step 24**

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

**REIMBURSEMENT**

This KSB is for repair purposes only. If this is a warranty repair, the flat rate code is 7300642A.

No part return required.

If you have questions, please contact the appropriate Service Team:

**Luxury (LX) 866-273-1450**

**Toy Haulers (TH) 866-273-1452**

**Premium (PR) 866-273-1454**

**Crossroads (CR) 844-361-8455**