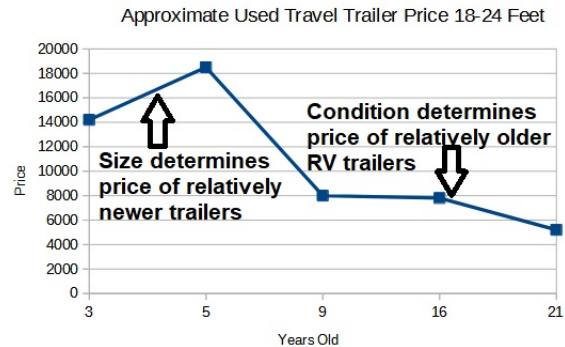


# Refurbishment of Radio-Equipped Travel Trailers: EternaBond Roof Repair

by Gordon Gibby KX4Z

Volunteer communications clubs often wish to have access to a "rolling command center" and used travel trailers provide an excellent base. They already include restroom facility, simple kitchen facilities, and a table. A fiberglass (or even aluminum) mast or tower can be added easily with careful wood or fiberglass backing and thru-bolts. Already equipped with AC and DC wiring, air-conditioning, usable doors and windows, they can be much easier to tolerate for a long hot deployment, than a closed box type trailer. Our group has used such RV trailers in multiple Field Days, a great days-long "test" of usefulness.

These units decline fairly rapidly in price with age, due to weakening bonds between roof components, increasing leaks, failure of propane gas appliances, especially the refrigerator. The chart provided shows just a few data points of items currently on the market, but gives the basic expectations of used price on Craigslist for trailers in the optimum 18-24 foot range<sup>1</sup>, which can be easily towed by a moderate sized pickup truck.



Failing absorption-type propane refrigerators can be removed and replaced with relatively inexpensive (< \$200) larger versions of "dorm" electric refrigerators. The downside is difficulty keeping them cold while "rolling" but taping the doors shut and using frozen water and other frozen items generally provides adequate cooling for 4-6 hours. At longer stops, a generator can be employed to further cool them down. Our family has never had a freezer defrost using these plans.

Failing gasket seals in furnace and hot water heater gas shutoff valves generally means a replacement part and some elbow grease, but the parts aren't expensive (\$50 range). While you'll have to find the exact parts for YOUR equipment, here are some examples: water heater:

<https://www.amazon.com/Suburban-161109-Gas-Valve/dp/B003G9FQSS> furnace:

<https://www.amazon.com/Suburban-161123-12V-Valve-Furnace/dp/B003G9FRN2> It's important to get these propane leaks down to "zero." When you close the valve to the propane tank, a pressure gauge should stay STEADY.

However, it is the ROOF that is often the hardest part. Membrane roofs are common. The life of the roof itself can be extended many years with specialized coatings designed for this purpose -- they aren't cheap! My son and I completed that task in a few hours after cleaning the existing room.

More problematic is that there are multiple penetrations in RV travel trailer roofs for skylights, vents and the AC system. If the caulking on these systems is in good shape, a modest treatment with a self-leveling caulk such as DICOR (<https://www.amazon.com/Dicor-610SASLW1-Corp-Sealant/dp/B00YBFTCZE>) can work wonders to stop leaks. If the skylight or vent is quite old, the caulk under the flange is likely worthlessly hardened, and it is simpler in the long run to replace the skylight or vent and put in new RV butyl putty tape (<https://www.amazon.com/Dicor-BT-1834-1-Butyl-Seal-Tape/dp/B001FCB4JS>) and work on the screws. If the plywood backing of the membrane is rotten, it can be supplemented with either thin plywood or aluminum. **Getting a solid squeeze on the**

<sup>1</sup> RV travel travel trailers' length is specified from "hitch to bumper" to make them seem longer; the useable living space is of course somewhat less.

*membrane between the backing and the skylight flange does wonders to eliminate leaks!* Doing this right can result in amazingly DRY interiors.

**That leaves the seals between the front and rear "caps" or fiberglass surfaces that make the front and back of the unit, and where they overlap and connect to the top membrane roof.** My front cap seal was leaking, resulting in water running long distances along the front portion of the RV ceiling. All other leaks had been completely vanquished. This one would be fixed by an application of DICOR, and then come back to bother us after the jostling of a trip.

So I decided to try a recently created solution, an incredibly sticky roof-type version of "duck-tape" that is UV protected and meant for this purpose. It comes in 4" and 6" wide versions, often sold in 50-foot lengths. The goal with this product is to get a CLEAN DRY surface for it to stick to, and then use a lot of pressure to really seal it in. (<https://www.amazon.com/EternaBondRV-RoofSeal-MicroSealant-Thickness-EB-RW040-50R/dp/B002RSIK4G>)

I got the seam to stop leaking temporarily with more careful application of DICOR sealant, and then I cleaned the area of the seal, and 8" in front and back, using some applications of detergent water, a scrub brush and liberal elbow grease. Ladders allow access to the side portions, but the middle is better done with either a gantry or scaffolding. In my case, I used the front bucket of a Kubota tractor and this provided great and safe footing to reach this seam easily. A final cleaning was done with 70% isopropyl (rubbing) alcohol and everything allowed to dry.

Two side-to-side runs of the EternaBond, the rear done first so the overlapping would provide the least wind-catching seams, were done with a healthy 1.5" overlap. Pressing HARD with thumbs, fingers, rollers was used to try and get the best possible adhesion. I still worried about the edge being lifted by highway wind. I have never seen DICOR get lifted by wind, so I added a line of DICOR on front and back side-to-side edges of the EternaBond.

The test was Hurricane Milton -- and the trailer stayed dry! Next test will be a road trip and seeing if it still stays dry. The EternaBond was much easier to work with than I had feared. Users say that using a heat gun can easily remove it, if that becomes necessary. Since my goal was merely to coax single digit more years out of this RV that was purchased for only \$5000 and has already provided us with 4 years of service, I think this is likely to be a success, just as replacing the skylights and vents was also a big success.



When the trailer finally reaches end of your tolerance, I'm told you just sell it to hunters who will be happy to take an older trailer and stick it in the woods for a hunting camp.