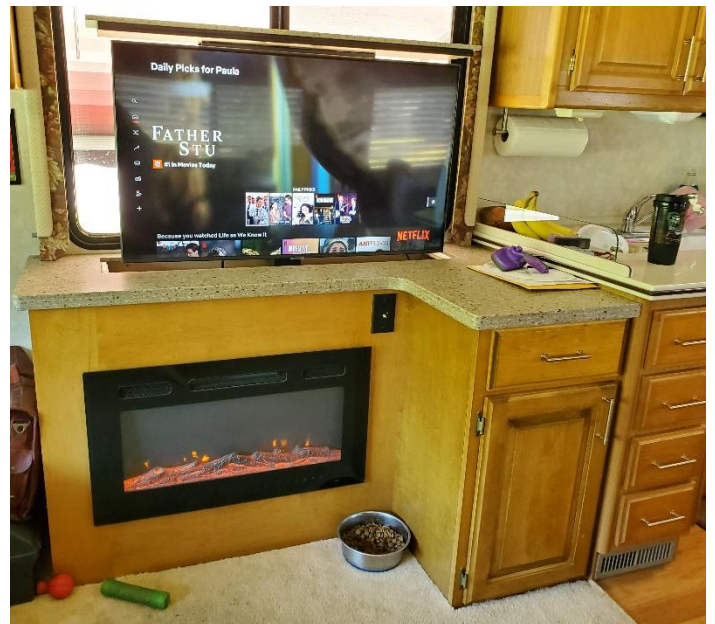


## Doug Poad's TV/Fireplace Cabinet Project

**Background.** Our 1998 Fleetwood Discovery 36T came with a loveseat on the passenger side - across from a full-size sofa in the driver-side slideout. When we lived in it full time for a year while building our new home in North Carolina, we took the loveseat out in favor of a computer desk and 4-drawer file cabinet. When we finished the house, the desk and cabinet went over there and we had a swivel-rocker with reclining back in that space. We finally got tired of craning our necks to watch the front-mounted TV from the sofa in the slideout. In addition, we used two small 1,000 watt space heaters during cold weather camping. They always seemed to be in the way and weren't quite as effective as we'd have liked. I had seen a couple of pictures of cabinets with pop-up TV mounts with electric fireplaces and thought they were super cool. The result is now history... and this is the process I went through. Every installation will be a bit different and must conform to your rig and your desires, but this document provides a rough plan you can follow, if desired. My installation took me the better part of 5 months, including sourcing hardware, designing cabinets, figuring out wiring, ordering the countertop, installing it all, and then correcting the little things you inevitably find after testing it out on the road.

**Design.** I already had the space cleared out, so I developed a plan for two cabinets shown in the drawing. The rear cabinet houses the TV mount/TV and electric fireplace and contains the wiring for those three components. The smaller cabinet in front provides better storage space for pots and pans, coffee maker, toaster and a drawer. I began by measuring the area to figure out how big the rear cabinet could be without detracting from the utility of the space too much. Then, I researched TVs, mounts, and fireplaces. I actually purchased all three of these so I could plane the cabinetry around them. I mocked up the cabinets out of cardboard boxes so I could see them in place and imagine living with/around them. Then, I finalized the design of the cabinets and took a drawer and cabinet door to the cabinet shop so they could match the wood, style, and color. I didn't try to make the new countertop level with the sink cabinet on purpose. I wanted it to be just a little under the window frame in case I needed to take that out later.



**Wiring and Figuring.** While the cabinet shop was fabricating the cabinets, I identified and moved wiring. Once I got the new cabinets, I put them in position and cut the carpeting where they would go. I also blanked off the front furnace heating duct with a galvanized cap and pushed it back into the area under the sink cabinet. You can see the before and after pictures above.

- **TV wiring.** The TV antenna wiring comes into my rig in the wire way in the small high-mounted cabinet behind the passenger seat. I rerouted that to where the TV cabinet would go. The rear TV cabling and park cable wiring come up the pillars beside the windshield to the old TV cabinet up front, so I added cabling to all of them that would reach to the kitchen sink cabinet. All of this TV cable was routed to the rear end of the window valence and run down into the area where the TV cabinet would go (between the window valence and upper kitchen cabinet. There is a wire way above the trim strips at the corner of the sidewall and ceiling (they are held in place with screws and cover a lot of wiring. I used this wire way to get it all back to the upper cabinet above the sink.
- **Electrical wiring.** There are three circuits involved here.
  - GFI plug that was on the floor beside/behind the passenger seat. I moved this plug to the side of the TV cabinet behind the passenger seat by rerouting the cable into a new hole in the floor inside the TV Cabinet. This wire was literally glued to the fiberglass fender around the front wheel and there was enough slack in it to reroute it. I mounted it securely in the wheel well with wire ties with screw mounts. I mounted a second box inside the cabinet with an outlet for the fireplace and mounting a box to the side of the cabinet and tied it into the GFI circuit.
  - Inverter-powered circuit for the old TV up front and 12V power for the amplified antenna switch. I put a new box in the front cabinet above the passenger side of the windshield with an outlet there and a wire running back to the new TV cabinet via the wire way running along the roof/wall junction on the passenger side. I routed it and the 12V power for the amplified antenna switch from the ceiling to the new TV cabinet inside the front side of the window valence in a decorative, wood-toned wire way. I mounted the amplified TV/radio antenna switch on the front of the TV cabinet - between the fireplace and smaller storage cabinet.
  - With all of the electrical and TV wiring routed into the new TV cabinet, I attached it all to the floor, wall, and interior cabinet walls with screw-down wire ties so it would "migrate" and get in the way of the TV mount or fireplace.
- **Installing cabinets and hardware.** I took the fireplace over to the cabinet shop so they could cut the hole for it and install the mounting hardware - four ¼" T-nuts with flat-head bolts. The hole where the fireplace is mounted allowed me access to finish squaring up and securing the TV mount to the wall and securing the wiring inside. I had to mount the TV mount about 1 ½" from the wall to allow it and the TV to miss a new 1" wide blind I put in that window. I used two pieces of 2" x 2" poplar wood to do this. The TV mount allows for a little angular adjustment, but not much, so it's important to get it square and plumb so the TV looks good when it's up in the viewing position. Once the TV mount was in, I secured the cabinet to the floor with screws and secured the small storage cabinet to the floor and both the TV and sink cabinet. The TV mount has a horizontal metal piece that can accept a piece to seal the hole in a countertop. I didn't do anything with that until after I had the countertop made.
- **Sourcing and installing new countertop.** Once the cabinets were in and mounted, I measured for the countertop. I chose to get a solid surface (Corian-like) so it would be the same type of material as the kitchen countertops. I figured it would be impossible to match the design and color exactly, so we went to a countertop shop and looked through their "remnants" for a piece that complemented as much as possible. The one we chose has a darker beige background, with light beige flecks that closely match the kitchen countertops and dark brown flecks that closely match the brown piece in the kitchen countertops. I like to think that it adds a bit of visual separation between the kitchen and living room. I cut the smallest holes possible in the rear corners of the

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countertop for the TV cables in the right and power cables in the left (lots of test fitting involved). I glued the countertop on to both cabinets with a good silicone adhesive caulk. The countertop shop cut out a hole in the top for the TV mount and TV that is about 3" longer (side-to-side) and 1" wider (front-to-back) than the actual hardware. The piece they cut out fits nicely in the hole when lowered, but it took a good deal of shimming with washers to get it to sit flush when lowered. I chose to mount the filler piece to the TV Mount, but you can also mount it on a piano hinge on the back and have the mount push it open as it comes out of the cabinet. I may yet switch to the mounting method but for now, I like the attached method as it permits a smaller gap between it and the countertop. I screwed a piece of  $\frac{3}{4}$ " cabinet grade plywood to the metal mounting block of the TV mount so I could use washers to shim it up so the countertop filler piece sat flush with the top of the countertop when the TV is lowered. My first test ride with everything in place showed me that I had to provide a "nest" for the TV/mount to sit in when lowered (the filler piece rattled a bit). I glued two strips of  $\frac{1}{2}$ " thick wood under the countertop so they stuck into the hole about 1". I put a piece of self-adhesive rubber window weather stripping on each side for the countertop piece to rest on when lowered. This solved the rattle.

- **Pictures and drawings.** I have included a number of pictures of the project in process and the rough design drawing with sources for the hardware I used on the following pages. There are a number of different TV mounts and fireplaces out there and your design installation will be driven by the hardware you choose.

**Questions and consultations.** While I have tried to write up a thorough description of how I approached it and what I did, you may have questions or just want to discuss things. I am available to help as needed. Good luck and safe travels.

*Doug Poad*

"Not all who wander are lost..." J.R.R. Tolkien  
Brevard, NC - Where the Music Meets the Mountains  
'98 36T Fleetwood Discovery (5.9L 275HP Cummins ISB)  
'13 Subaru Outback Dinghy / Discovery Friend / Standby Sam  
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The TV Mount base (I ground off the tops of the seat belt bolts as my cabinets would have solid bottoms). Manage sparks while doing so to avoid a fire.

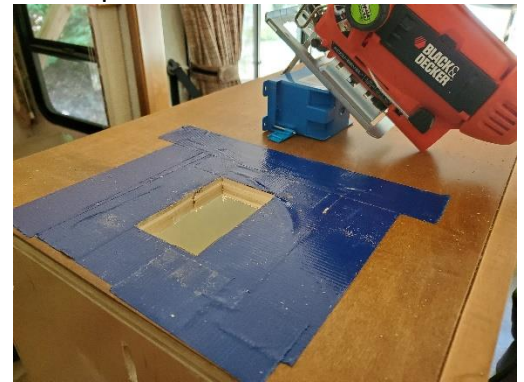


Cabinets/TV mount test fitting so I could cut the carpet out from under them and mount/shim TV Mount. Test fitting the TV mount showed me I needed 2" standoff from the wall to clear the window frame/ blind. Note the mounting piece on top and wiring bundles (power to left and video to the right) and the height of the cabinet relative to the window frame (it allows for a 1/2" thick countertop and a little extra space).

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Wiring bundles in the wireway above the window - this wireway runs the length of the coach from what I could tell. Accessing it required removal of the passenger side speaker and the ceiling fabric covered pieces that screw into the ceiling to cover it. The window valence itself covers the portion above the window.

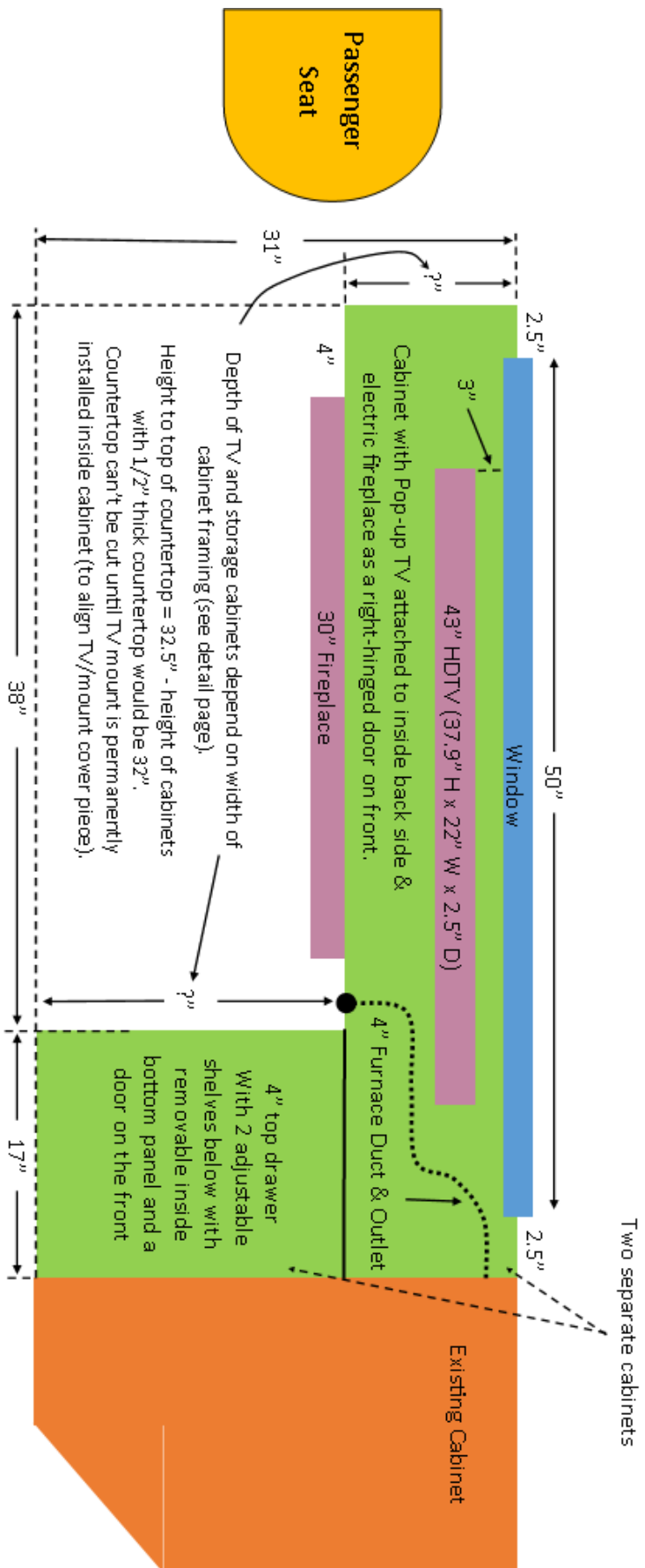


Boxes mounted for the GFI circuit (in front side of TV cabinet). The cable in the black plastic wire loom is the same wire that used to go to the GFI plug on the floor beside/behind the passenger chair. The GFI outlet faces forward on the outside of the cabinet. Put tape around the hole to be cut to avoid marring the cabinet finish. I ran a short jumper to the box inside the cabinet for the fireplace's power. The other box is inverter-powered (rerouted from the old TV power outlet up front) for the TV mount and TV. While I don't really plan to watch much TV on the inverter, it does give us the option. The back of the fireplace can be seen on the left. You can see the spacers for the TV mount/wall standoff and how/where I secured all of the wire. The loose piece is the TV cable wire that needs to "travel" up and down with the TV.

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Countertop installed. I had to shave off a bit on the front side to fit around the round corner of kitchen sink cabinet. Picture above shows the small anti-rattle landing pads I had to install later.



**Hardware & Costs**

- [Samsung 43" 7 Series LED 4K UHD Smart TV - \\$350](#)
- [30" Electric Fireplace Heater - 750W-1500W - \\$160](#)
- [Pop-up, VIVO Motorized HDTV Mount - \\$246](#)
- Corian countertop (matching kitchen counter(s) with slot and insert for TV pop-up
- Cabinetry, countertop, electrical, & hardware - TBD
- Will need to rewire/reroute TV & cable/antenna wiring

**Notes: Drawing not to scale**

- Add TV Antenna booster & duplex outlet to the side of TV cabinet
- Add GFCI duplex outlet to inside of TV cabinet