

Tech Corner – RV pass-through

I've heard numerous people ask how to set up a ham radio station in an RV, and more specifically how to install an antenna and how to connect the coax to it. For a quick and temporary solution, I used a window pass-through like the [Comet CTC-50M](#), which worked great. Eventually, however, I wanted something that was more permanent, more plug-and-play, and a little more durable. I have no problem with drilling a hole in a new vehicle, so I decided to go that route for our RV.

We have a small Jayco Jay Flight SLX 174BHA pull-behind travel trailer, just right for my wife (Lisa KR5LYS) and me to set up at a family camping overnighter, primitive remote location, or even at Field Day. As for the antenna, I wanted to enjoy the flexibility of setting up any kind of antenna I wanted, and a dozen or more feet away from my RV, to separate my station from the RFI (radio frequency interference) that I'm transmitting. This meant not installing an antenna directly on my RV, but providing a way for its feed line to get into the vehicle instead. This also gave me the freedom to try out various antenna ideas instead of being restricted to only what's attached to my vehicle.

The construction

Locating a spot on your RV to drill pass-through holes is not as trivial as it might sound. What I had to find was a place that was out-of-plain-sight inside the vehicle while remaining inconspicuous yet easily accessible on the outside. For me, it turned out that a convenient exit point was inside the bottom storage compartment that's under the master bed. I carefully drilled two 5/8" holes about two inches apart for a pair of [4" bulkhead barrel connectors](#), then installed the connectors. Under the fire extinguisher and the master bed I drilled a 1" hole that goes from the bottom storage compartment to the RV interior.



Noji (left), Lisa (bending), and Gary KG7FXG at Field Day



I unscrewed the threshold from the doorway to route my coax. I routed two [20-foot sections of RG-8X](#) through the 1" hole, then installed them onto the bulkhead barrel connectors. I laid the coax comfortably on the floor just inside the RV door and re-installed the threshold over the pair. Finally, I coiled up the remainder of the coax and hung them on a pair of [Command hooks](#) that I adhered to the cabinetry.

RV pass-through, cont'd



The test

Testing the two pass-through holes meant testing the feed line connections using the coax I installed, an external antenna, and test equipment, which in this case were a continuity tester, an analyzer, and my trusty rig. The transceiver is a Yaesu FT-857D, which is a 100-watt *shack-in-the-box*, meaning I could conveniently connect both coax cables to the same rig, which I did. If you look closely at the photo on the right, you can see my “continuity tester” attached to the end of one cable, and it’s nothing more than an SO-239 connector with a 100-ohm resistor across it. Once both cables tested for continuity, I connected an end-fed HF POTA antenna and a vertical mobile VHF whip outside, and my analyzer showed that I had not messed up my installation too badly. More importantly, people that heard me on VHF reported full-quieting, while HF contacts in Oklahoma, Georgia, and Ohio said I sounded like I was in their backyards.



Summary

You can install a permanent pass-through system for your feed lines into your RV by drilling holes from the inside to the outdoors at strategic locations, then installing bulkhead barrel connectors. Two of the most important considerations for the holes and cabling are keeping them out-of-sight, if possible, and making sure they are water-tight. Don't forget the three rules at the conclusion: **test** (continuity), **test** (analyze), and **test** (make contacts)!

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