Building Your Own Awnings - Directions

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Background

I built the first awning for our Chalet LTW, hard side A-frame trailer. The side window was very large and allowed a tremendous heat build up when in the sun. Over the past few years, I have modified and refined the building of the awnings to the point that they can easily be built by anyone with access to a sewing machine and a few simple tools. The instructions below apply to any fiberglass trailer, or trailer with smooth exterior walls. I have had people use my instructions to build awnings for other A-frame campers, an Escape 21, and most recently a Casita owner in Boerne, TX.

Rationale for Awnings

We now have six years experience with awnings on our trailers and can testify to their effectiveness, especially in hot, sunny weather. They shade the windows from direct sunlight and reduce heat build up inside the trailer. They are also effective at keeping rain from entering the window during inclement weather. Our newest design holds up in high wind and can be dropped and snapped in place as extra insulation or darkening. The awnings also take up little room, are quick to set up, and can be designed to add a "cute" factor as well as a functional factor for the trailer.

Materials Needed for One Awning

1	½ inch PVC pipe the width of the window plus 3 inches
2	½ inch PVC pipes for the required standoff from the window (typically 12 to 18 inches)
2	½ inch 90 degree PVC elbows
2	½ inch PVC end caps (I prefer the ones available at Home Depot because of their flat ends which will be explained later)
1	aluminum rod to be glued to the inside of the long PVC pipe
2	Adams suction cups, medium
1	JB Weld two-part epoxy (optional)
1	Fabric (canvas, nylon, tarp material) This choice depends on how much you want to spend and on the capabilities of your sewing machine. Light material serves just as well for an awning but may not lie as nicely as a heavier material. You will need the width of the window plus 2 inches. You will need the length of the window plus 6 inches. (You will add an additional 5 inches if you want an awning fringe.)
1	Thread, preferably an upholstery, or awning thread that is heavy.
1	Awning track the width of the window. (Also 3M VHB tape 5952 in 1 inch width to attach awning to trailer.)
1	Awning rope, the width of the awning.

1 Seamstick ¼ inch basting tape (this is optional but makes sewing awnings SO much easier.
1 Mixture of 50/50 isopropol alcohol and water.
1 Medium grit sandpaper.

Building Directions

Attach Awning Track to Trailer

Clean the attachment area with 50/50 Isopropyl alcohol and water making sure to dry the area with a clean cloth.

Rough the back surface of the awning track with sand paper and then clean with the alcohol mixture.

Peel enough VHB tape to run the length of the track and attach it. Apply pressure to the tape using a block, roller or press really hard with your fingers. Let sit 24 hours!

Make a small cut in the backing of the adhesive tape in the middle of the awning track. Slightly peel the tape from the middle going in both directions. CAREFULLY, position the track above the window and adhere only the small portion of the tape exposed in the middle. (This tape is very aggressive and I found that working from the middle and gradually pulling the backing off as I went was a good method of attaching the track.) ***Picture at right is of awning track and awning rope.***

Again, you must apply pressure to ensure that the tape is in good contact with the trailer surface. You must again wait 24 to 48 hours before applying any force on the track.

After a week, I chose to also caulk around the track with a good RV caulk (Geocel). This is optional but I feel it keeps debris from getting between the tape and its attached surfaces. I masked the area with painter's tape on both the track and the trailer and then squeezed a bead of caulk into the space. I tooled the caulk with my finger dipped into a water mixture that had a slight amount of Dawn dish detergent in it to give me a smooth, uniform surface. Immediately remove the tape after tooling.

Sewing the Awning

I designed my first awnings to match the size of the window. The length of the awning is the length of the window plus 2 inches allowing for a ½ inch doubled hem on the bottom and on the top. This is a ½ inch folded twice. The same is true for the sides.

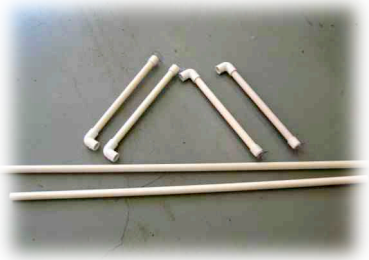
The simplest awning calls for a loop at the bottom for the long PVC pipe to go through. The other option is to add an additional 5 inches to create a fringe and then cut and hem a 4 inch strip that will be sewn on the underside of the awning for the pole. The placement of this "pocket" is the bottom measurement for the length of the window. This gives a neater appearance, but involves additional sewing.

Start by hemming the **sides** of the awning. Then you will sew the awning rope on and afterwards create the pocket for the bottom railing. In this picture, you can see the hem on the side and the pocket that is made for the bottom pipe. The bottom, after hemming, is simply folded under and hemmed again to form a pocket.

It is advisable to sew the awning rope on before forming the bottom pocket. This will be attached at the top of the awning and will slide into the awning track mounted to the trailer above the window. On the awning fabric, form another ½ inch hem, which will face to the underside of the awning and be sewn to the awning rope. Basting tape is very helpful in this area. Apply the basting tape to the awning on the hem you created and then stick the awning very close to the bead of the awning rope. The tape will hold the fabric in place while you sew. ***The picture at right shows the back (underside) of the awning. From the front, all you will see is the bead.***

Once the awning rope is sewn on, you can place the awning in the track on the trailer to determine the final length of the awning and the creation of the bottom pocket. While on the trailer, you can mark the bottom of the pocket when the awning is in the down position. In the picture at the right, a separate pocket has been formed from a different piece of material. This 4 inch pocket is sewn on in a 3 inch space to allow for a loose opening to form. This is the most recent version of the awnings we have made. Its bottom hem would be where the fold is on the previous picture. The remaining material at the right forms the fringe and is an additional 5 inches. If you add a fringe the hem will be at the bottom of the fringe and you will be using an additional piece of material to form the pocket. **Alternative**: in the Completed Awnings section, you will see a picture of a Casita with a solid cover awning and a stripped fringe. This awning still has a pocket formed by folding under the bottom part and a separate piece of fabric was sewn on to create the contrasting fringe.

Building the Awning Frame



The frame consists of three pieces of PVC pipe, two 90-degree elbows, two end caps and two suction cups. The longest piece of pipe threads through the bottom of the awning and forms the bottom rail. This piece must be cut longer than the awning to allow for the insertion of the elbows and to clear the window so the suction cups will rest on a portion of the trailer wall. ***The picture at the right shows frame materials for two windows***.

The first bottom rails we built were simply PVC. We found that with tension on the awning, in the heat, the PVC warped and would not return to being straight. All subsequent bottom rails have a piece (or multiple pieces) of aluminum bar inserted inside during the build. The bar is held in place by squirting Gorilla Glue in the pipe and sliding the aluminum rod down inside and waiting until the glue cures. This leaves us with a perfectly straight bottom rail.

The length of the side supports are determined by how far you want to awning to project from the window. If you do not glue the elbows or the end caps to the sidepieces, you can make several lengths to take with you to adjust the angle of the awning.

The hardest part of making the frame is forming the end caps. I prefer the end caps available from Home Depot because they are flat. This flat end must be sanded down until the thickness of the end wall is the same as the groove in the suction cup. A hole is drilled just slightly smaller than the button on the suction cup so it can be inserted and will stay in place.

In the pictures at the right you can see the components of the side supports. The second picture shows the end cap with the hole drilled and sanded down.

The third pictures shows how the suction cup will be inserted into the hole. This takes some work and it is helpful to use dish soap to work the button into the hole. It does, however, work. After rinsing and drying the end cap, I mix a little JB Weld (two part epoxy) and drop it to the inside to prevent the suction cup from coming out or moving. This part is optional.

Completed Awnings

This is a series of pictures of completed awnings. The earlier plain awnings were created from awning material donated by my neighbor. The awnings have a simple loop at the bottom for the bottom rail to go through. These awnings were sewn on an old 1970's Singer Portable, proving this project can be completed with most home machines. There is also a picture of a Casita with an awning created following these directions.


Our newest awnings have new awning material purchased from Sailrite. In addition, we added a fringe at the bottom and created a pocket on the underside for the bottom rail. This has added a little class to the awnings. In addition, I have added SNADS (available through Sailrite and West Marine) that are snap bases adhered with VHB tape. These serve two purposes; first, they allowed us to add tensioning straps that will now prevent the awnings from lifting in severe winds; second, with snaps on the awnings, they allow us to snap the awnings down to provide extra insulation on the windows or extra darkening. The tensioning straps are made from ¾ inch nylon webbing and a ¾ inch plastic buckle for quick release. A loop is formed at one end and a snap is placed on the other end that attaches to the SNAD.






Sources

Sailrite.com

Awning fabric, basting tape (Seamstick), awning track, awning rope, SNADS, webbing for tensioning straps and plastic, quick-release buckles

In addition, Sailrite has a fantastic video library on all kinds of ideas for sewing projects for boats and trailers. Some of my ideas for our most recent awnings were found watching this video:

http://www.sailrite.com/How-to-Make-a-Loose-Frame-Awning-with-a-Scalloped-Edge-Video

Amazon.com

Adams, medium suction cups (made in the U.S.A., 3 to a package)
3M VHB 5952 tape 1 inch width (You also might find this at Home Depot or your local automotive store)

Home Depot

PVC pipe, elbows, end caps, aluminum rod, Gorilla Glue, JB Weld Epoxy

https://sites.google.com/site/ourescape15trailer/

This is our web page with many of our modifications as well as pictures of our travels. Several other projects are listed and described there.

If you would like a PDF version of this handout, please contact me at:

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Hopefully, you will find this information helpful. It is designed to give you ideas to complete your own awnings to personalize your trailer.

Thanks,

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2013, Escape 15
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