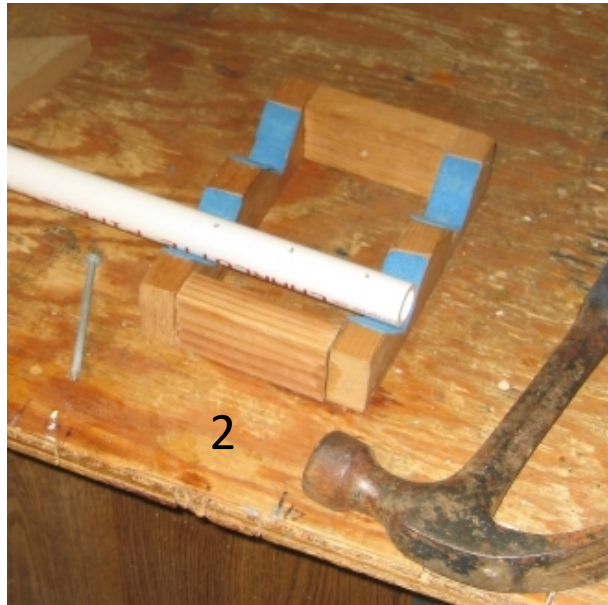


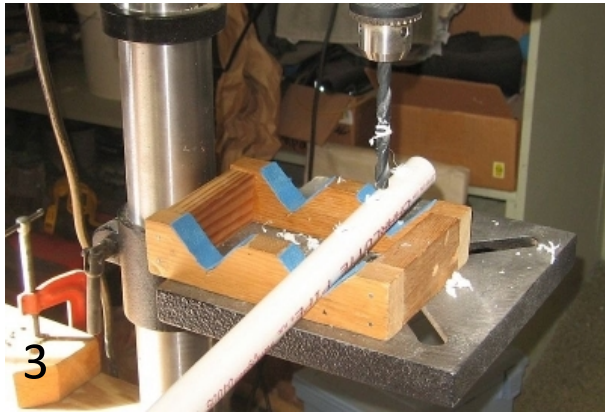
Hook Mounts



1. Make a mark $\frac{3}{4}$ " in from the edge of a $\frac{1}{2}$ " PVC pipe. From there make a mark every $1\frac{1}{2}$ " for every Hook Mount you plan to make. A pair of handles and anchor would require three marks, including the first mark.



2. Center punch the marks. I find a nail works best.



3. Drill straight through both sides of the PVC at the center punches using an $11/32$ " drill bit.



4. Place marks centered between the holes. I eyeball center. Place a mark $\frac{3}{4}$ " from the center of the last hole.



5. Cut the mounts from the PVC at the marks using whatever cutting device you have, saw, etc. I use a PVC cutter.



6. Glue $7/8$ " x $1/2$ " vinyl caps to the ends of the Mounts for a finished look. I use Goop because the caps are slightly larger than the PVC dia, and the thick glue fills the gap. Twist the caps to evenly spread the glue. The caps aren't necessary and can be eliminated, if desired.



7. Thread one hole on the mounts using a $3/8$ " 16 thread bolt. I use the pictured U-bolt. Make absolutely certain that the bolt is going in straight and turn the mount 12 half turns around the bolt, and then remove the bolt by unscrewing it.

The Hooks



1. Cut 6 1/8" lengths of 3/4" OD 1/2" ID flexible plastic tubing. I use a Craftsman hose cutter. If you don't want these, they are unnecessary. I used my handles for 5 years with bare hooks until I started my business. I keep them because they make the handles look finished. Tubing of this sort can be cut from rolls in hardware stores.



2. Remove one of the nuts from a 3/8" 16-thread 1 3/4" ID zinc plated U-bolt. Screw the other nut as far up as it will go, shmooshing it.



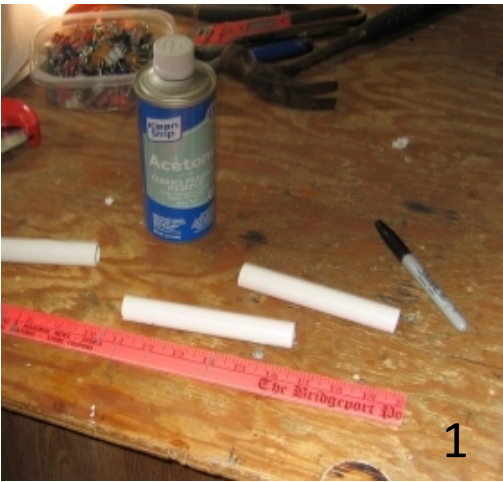
3. Place the U-bolts and plastic sleeves in containers and cover them with hot, scalding water. This will heat up the steel and soften the plastic.
4. To get the sleeve around the U-bolt, I have a hole drilled into a 2x4 with a 3/8" ID neoprene length of hose in it. I stick one of the ends of a U-bolt that has the nut on that end into the hole and then work the plastic sleeve over the U-bolt.



5. Work the plastic sleeve over the U-bolt and over the nut.

6. Glue 3/4" x 1/2" vinyl caps over the sleeves. They are a tight fit, so any sort of thin glue will do. Twist the caps to evenly spread the glue. If you choose to forgo the plastic tube, get 3/8" thread protectors for the exposed threaded ends of the U-bolts.

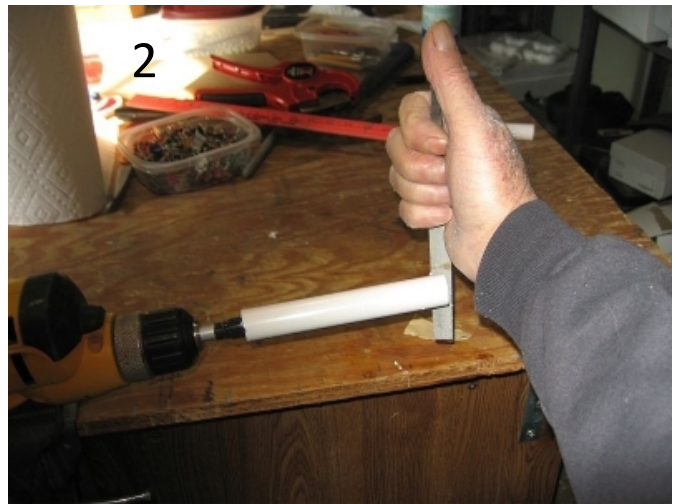
The Handles



1. If desired, remove text from a ½" PVC using Acetone and paper towels. Cut 5 ¼" lengths for each handle.



3. I round the inside edge of the PVC with the round side of the file, tilting it up and down 4 times.



2. To round the edges of the PVC (to prevent cutting or wearing the webbing with use), I wrapped duct tape and then vinyl tape around a 3/8" length of steel dowel which I secured into a vise mounted drill. The PVC slips tightly onto the wrapped dowel. With one hand I hold down the drill power button while grinding the outer edge of the PVC using the flat side of a fine file as the PVC spins.



4. Use a folded over piece of fine sandpaper to smooth out the grinding, inside and out. For lack of a drill and vice, the edges of the PVC can be rounded out by hand with sandpaper.



5. Cut 5" lengths from a foam tube. I use a Craftsman hose cutter. A sharp pair of scissors would work, but I can't guarantee the smoothness of the cuts. For lack of foam, you could wrap the PVC handles with tennis racket or baseball bat wrap for a good grip. For more cushioned deluxe handles, you could first wrap the PVC with double-stick foam tape and then wrap tennis racket wrap over that.



6. Spread some Petroleum Jelly on the inside of both ends of the foam and then slide the foam over the PVC.

The Handles



7

7. Cut two 17" lengths of 1" heavyweight polypropelene webbing. Cut two 7" lengths of 1 1/2" heavyweight polypropelene webbing. Singe the cut ends with a flame to seal them. Using a silver Sharpie pen, place a mark 3" in from an edge of each of the 7" lengths of webbing. Turn those lengths over and place a mark 5/8" in from the same edges.



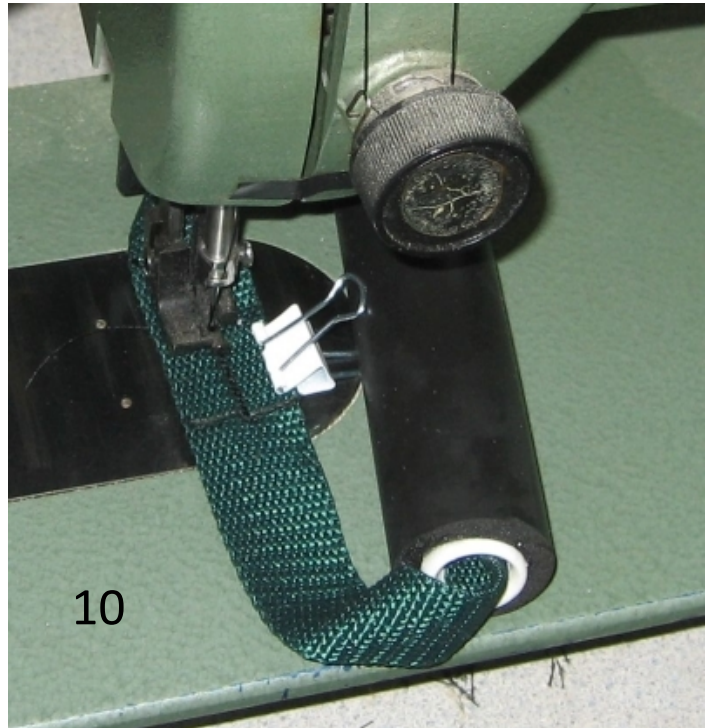
8

8. Turn the 7" length of webbing over and fold the edge with the 3" mark up to that 3" mark and then clamp the fold.



9

9. Fold the other end of the 7" webbing up to the 5/8" mark and then clamp the fold. Slip the 17" webbing through a handle, making certain that the webbing doesn't get twisted within the handle, overlap the ends 1" and clamp.



10

10. I have an industrial sewing machine. I go back and forth with stitching 8 times down the center of the overlap. A regular clothes-making sewing machine won't work on thick webbing. If you hand sew by needle and thread, you need to use unbreakable upholstery thread. You could also sew using an inexpensive sewing awl.



11

11. Fold the sewn overlap and push it into the handle.



12

12. Fold a portion of the webbing, the edges facing away from the handle, and clamp.

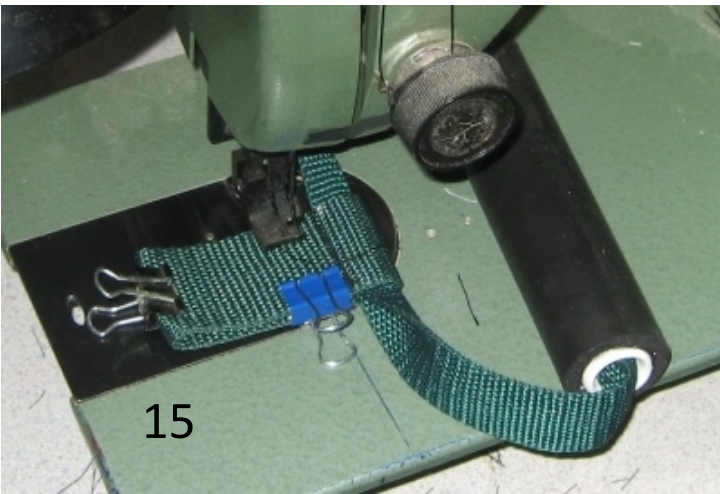
The Handles



13. Remove the clamp from the short fold on the 7" webbing and fold it over the handle webbing.



14. Place the other end of the 7" webbing over the folded end, and clamp.



15. I go back and forth with stitching 6 times +/- 5/16" from the edge, or through the middle of the overlap.



16. Make a mark with a silver Sharpie at the center of the fold at the end of the 7" webbing.

Materials

Webbing – I get my webbing from Strapworks. They will sell as much or as little as you want.
[Strapworks - Straps, Webbing, Tie-Downs, Buckles & More](#)

The Following items I purchase in bulk quantities, minimum orders required. Any item that can't be readily found on line or in a hardware store, I can sell any amount of what I have on hand at cost plus shipping upon request:

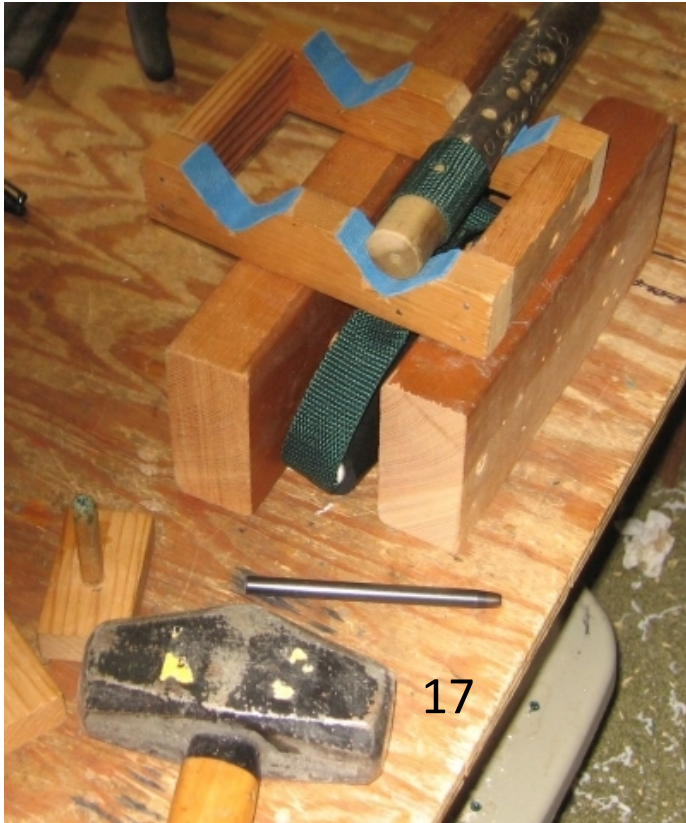
Foam Handle Tubes – I get the foam tubes from Gripworks. You can contact them and request samples.
[Manufacturer of Foam Hand Grips and Foam Tubing | GripWorks](#)

Vinyl Caps – 7/8" x 1/2" and 3/4" x 1/2" [McMaster-Carr](#)

U-bolts – Zinc-Plated Steel, 3/8"-16 Thread Size, 1-3/4" ID [McMaster-Carr](#)

Plastic Tubing 1/2" ID, 3/4" OD, Opaque Black (for Hooks) [McMaster-Carr](#) If you choose not to use the plastic tubing around the Hooks, you can get 3/8" thread protectors from any hardware store for the ends of the hooks.

The Handles



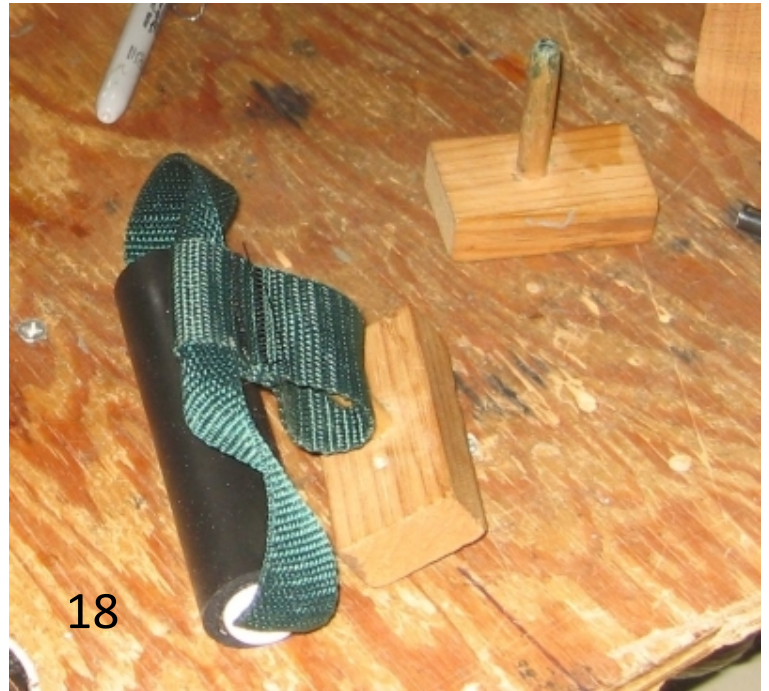
17. Punch a hole through the mark made in step #16. I use a 1/8" leather punch. I slip a 1" wood dowel through the Hook Mount webbing and set it up as shown.



19



21



18

18. Singe the edges of the punched hole with a flame and then force the hole over a 3/8" wooden dowel to size the hole. Allow the handle to sit for a minute or so to allow the webbing to cool down and solidify.



20

19. Insert a finished Hook Mount into the handle Hook Mount webbing and align the threaded hole with the hole in the webbing.

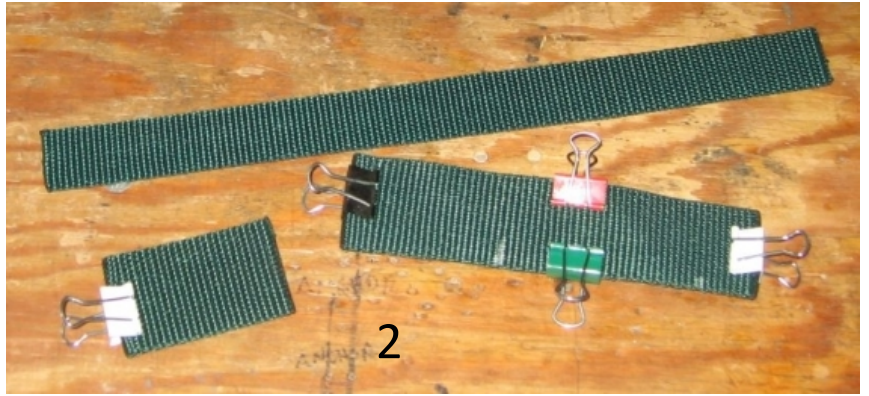
20. Screw a finished Hook into the Hook Mount until +/-1/4" of the threads is showing. Place a generous dab of Super Glue on the exposed threads.

21. Quickly screw the Hook the rest of the way into the Hook Mount, until it is tight and the Hook is perpendicular to the handle.

The Anchor



1. Round and smooth the edges of a 1" x 1 1/2" LG PVC pipe.



2. Cut a 12" length of 1" heavyweight polypropelene webbing, a 5" length of 1 1/2" heavyweight polypropelene webbing, and a 12" length of 1 1/2" lightweight polypropelene webbing,. Fold the 5" length in half and clamp the fold, making sure that the ends meet. Fold the 12" length of lightweight webbing in half and clamp the fold, making sure that the ends meet. Clamp the ends together. Make a mark 2 3/16" from the folded end of the webbing, and a mark 3/4" from the other end. Place two more clamps as shown to hold everything securely in place.



3. Sew across the lightweight webbing at the 2 3/16" mark. This is a critical dimension. I stitch back and forth 8 times.



5. Clamp the folded 5" length of webbing with the ends at the 3/4" mark as shown. NOTE: Lightweight webbing is used for the body of the Anchor because heavyweight webbing, folded over, would be too thick for a door to close on.



4. Check to see that the PVC is a snug fit within the sewn loop. If it is too loose, spread some glue around the inside of the loop before inserting the PVC.



6. Sew the pieces shown in step #5 together. Slip the PVC into the loop, slip the 12" length of 1" webbing through the PVC, clamp the ends overlapped at 1" together, and sew.



7. Attach the Hook to the Anchor as described in The Handles section.