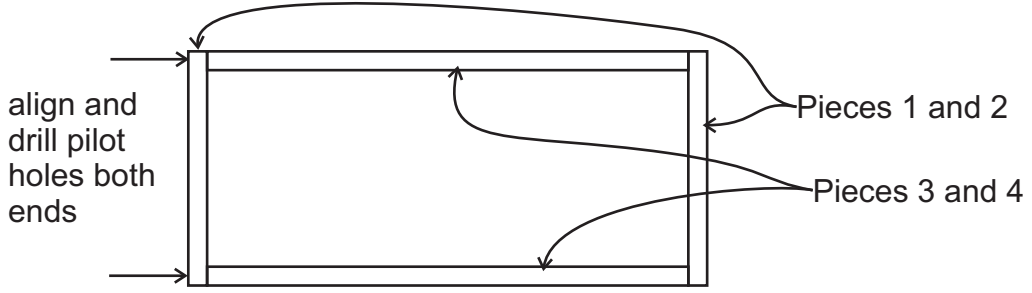
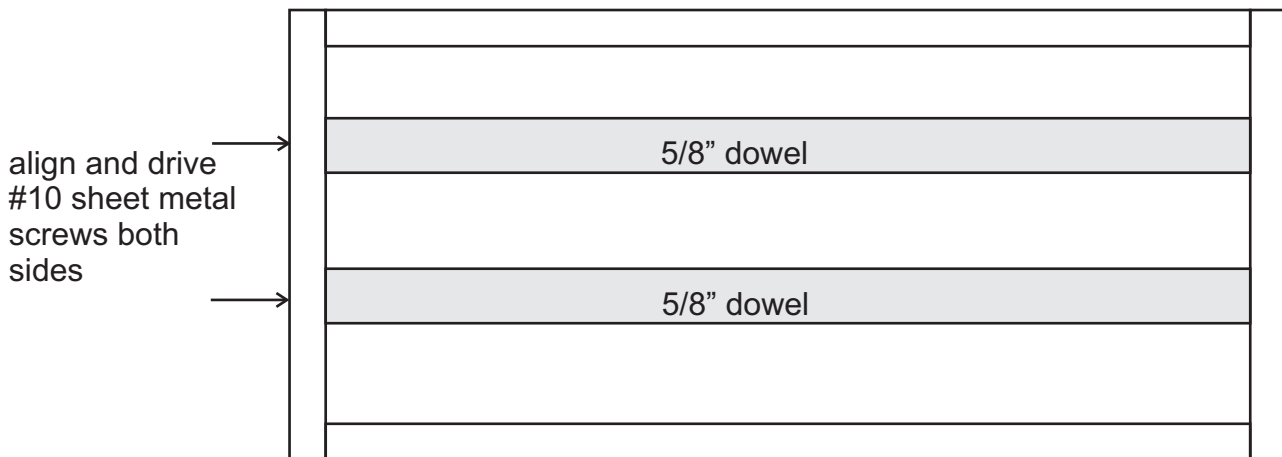


Process:

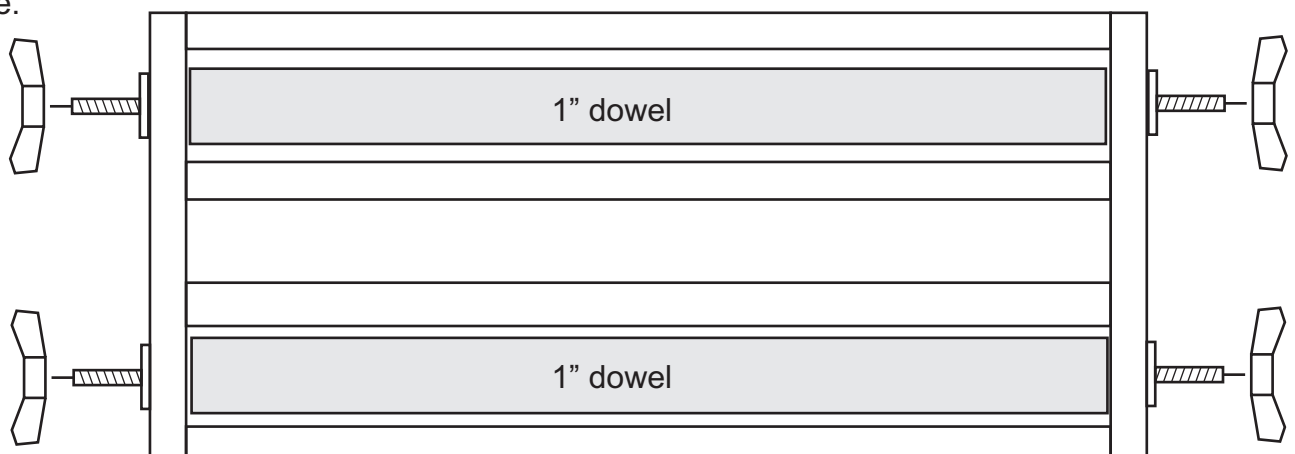
- obtain 1/2" thick plywood (ordinary wooden plank is OK, as is thicker wood, but good hardwood plywood will be easier to work with and more stable; thicker adds more weight);
- cut two identical pieces 2.5" by 14" or larger if you prefer. Smaller is easier to handle. These are parts number 1 and 2. They are the sides of the frame.
- cut two identical pieces 2.5" by 30.5". These are top and bottom of the frame. They must be wider than the widest fabric to be worked. These are pieces 3 and 4.
- Align pieces 1 and 2 and clamp them together. Measure, mark, and drill all the hole locations to 7/64" (0.109") diameter through both pieces. This assures the holes will line up.
- Either leave the pieces clamped or put through bolts through two or more holes and clamp with through bolts. Now cut out the "cutout area" as shown. This relieves the bottom area to allow hand access to the edges of the fabric.
- Sand everything smooth. Any splinters left will wind up in your hands or the fabric. Now sand some more. While you're at it, sand all but the ends of pieces 3 and 4.
- obtain two straight hardwood dowels of at least 1" diameter, longer than 30.5". 36" is a common size. Also obtain two hardwood dowels of 5/8" (0.625") diameter, again longer than 30.5".
- Sand the dowels with medium sandpaper. Then sand the 5/8" diameter dowels with fine and very fine sandpaper.
- Use pieces 3 and 4 to mark the lengths of all four dowels. Carefully cut the dowels to the exact length.
- find and mark the centers of the dowels. Drill these centers 7/64" (0.109") diameter and 1" deep to accept #10 sheet metal screws.
- Pre-fit pieces 3 and 4 at the ends of pieces 1 and 2 to make the frame as shown. Use the previously drilled holes in pieces 1 and 2 as guides to drilling holes in the ends of pieces 3 and 4.

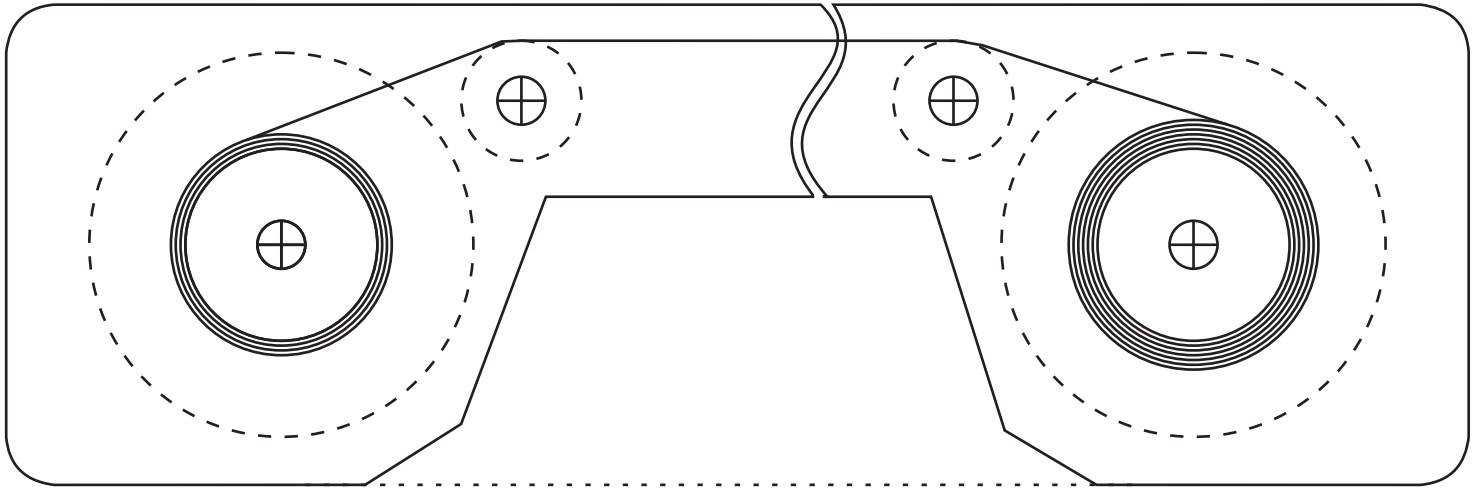


- When all pilot holes are drilled for pieces 3 and 4, apply wood glue to the ends of 3 and 4, align them with their mating holes on 1 and 2, and drive in eight #10 1.5" long sheet metal screws to hold them in place.
- Place the two 5/8" dowels between pieces 1 and 2 parallel to pieces 3 and 4. Drive in four #10 1/5" long sheet metal screws to hold them in place.
- Let the glue dry, overnight or longer.
- ...
- Let it dry some more. You want this really rigid.



- Test fit the 1" dowels. Sand the ends if necessary to make sure that they will slip into position between pieces 1 and 2 in position without binding.
- When they are in position, run in #10 by 1.5" long sheet metal screws to pre-tap the holes in the dowels.
- Mark the dowels and pieces #1 and 2 so you can put the same dowel back in the same place. Then back out the screws.
- Remove the dowels and drill out the holes for the 1" dowels in pieces 1 and 2 so that a #10 screw now slides in and out freely. Do NOT drill out the holes in the 1" dowels.
- Put the dowels back in the same places they used to go, using the marks you made. Insert the wood screw end of a 2" long #10 hanger bolt and drive the woodscrew end into the dowels, using jam nuts on the machine screw end of the hanger bolts. When the woodscrew ends are fully seated, remove the jam nuts. Ensure that the 1" dowels can be rotated with finger pressure. If not, figure out why not and fix it.
- Put #10 machine washers on each end of the machine screws of the 1" dowels. Run on wingnuts to the machine screw ends and ensure that you can tighten down the wing nuts to keep the 1" dowels from rotating.
- When you can loosen the 1" dowels to let them rotate and tighten them to stop it, you're done with the frame.





- Cut a strip of fabric no wider than about 30.25".
- secure the end of the strip to one of the 1" dowels. Painter's masking tap in 2" width should be a good choice for this. It's very repositionable and does not leave residue. Get the fabric straight.
- wind the strip on to the roll so it can be led over the fixed 5/8" dowels as shown
- wind the whole length onto the roll. For a Beatle, you're going to need at least 6 feet of fabric length because of the need to get at least one full turn on each roller to hold it in place.
- when it's all wound on one roller in the right direction, pass it over the 5/8" dowels as shown and affix it to the other roller.
- wind enough onto the takeup roller to hold firm under modest tension.
- tighten down the wingnuts to hold the fabric under tension.

There! Wasn't that easy? 8-)

Now all you got to do is several hours of sewing.