

# How-to build a Viking Warp-Weighted Loom

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Step by step instructions for building a Warp Weighted Loom



*Figure 1 - Viking Era Loom*

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## How to Build a Viking Loom

**Introduction:** The warp-weighted loom, the loom associated with the Viking era, is a prominent part of the Viking woman's home life. Its function was to create cloth that was to be used for various items necessary in the home. "Spinning and weaving were year round tasks for Viking women, both to clothe their families and to produce cloth for such as sails of Viking ships."<sup>1</sup> At first glance the loom would appear to be a relatively simple design consisting of uprights, and various supports. "The warp-weighted loom consists of uprights, cloth beam, shed rod, heddle rods and supports, and weights."<sup>2</sup> The remnants that have been discovered show that the loom would lean up against the wall of the home in what was described as the "weaving room." "The loom rests against the wall, so that the uprights are at a natural angle to the freely-hanging warp."<sup>3</sup> For this project, I chose to make my loom with support legs so that it would be free standing.

The looms that have been recovered stand at approximately 6 feet in height. "The Faroese loom in the National Museum in Copenhagen has 1900mm (6 feet 2 inches) uprights, and the loom in Thorshavn has 2 meter (6 feet 6 inches) tall uprights."<sup>4</sup> The design of the loom would require the weaver to stand while weaving. However, this would become more difficult as the weaving progressed down the loom. To combat this, the cloth bar that held warp, would be rotated to allow for the weaver to continue standing. "On the beam one can see cavities out towards the ends which meant that it could revolve on the tops of the posts."<sup>5</sup> "The long beam, which was placed at the top of the loom, resting on bearing uprights, is intact...The distance between the cavities is 1600mm (5 feet 2 inches)."<sup>6</sup>

During the Viking Era the looms would have been made using the wood that was locally available, such as "Alder, Maple, and Oak."<sup>7</sup> For this project I chose wood pieces that were readily available. I used red wood for the uprights and heddle and Pine for the heddles, braces, and shelf supports. Also during this time, the loom makers would have used hand tools to cut, drill and smoot the loom. "The tools they would have used include; axes and saws to cut the uprights, an auger to drill the holes, and a plane to smooth the wood."<sup>8</sup> For this project I chose to use power tools to help with the making of the loom. I used an electric table saw to cut the larger pieces of wood. I used a small electric hand saw to cut the smaller more intricate pieces. I also used an electric drill to make the holes and I used an electric sander for the larger pieces. For the smaller pieces of wood, I did sand the edges by hand.

**Terms:**

**Cloth Rod:** This would hold the starting border for the weaving.

**Cloth Rod Supports:** The cup like supports that hold the cloth rod.

**Upright:** The beams the would hold the Cloth rod, Shed rod, and various supports.

**Heddle Rod:** The rod that holds the heddles for the weaving.

**Heddle Support:** The cup like supports that stick out approximately 8" from the uprights to separate the warp threads.

**Shed Rod:** The bottom support rod that also separated the warp from the front and back sets.



## The Process

### Step 1 – Gather your materials

#### *Tools:*

Saw  
Drill  
Sandpaper  
Tape Measure  
Pencil  
Workbench  
Clamps  
Electric sander  
Drill bits (1 ¼", ½")

#### *Materials:*

3 – 2"x4"x6' boards (for uprights and Heddle supports) – Red Wood  
1 – 2"x2"x8' boards cut in half (for braces) – Red wood  
3 – 1 ¼" x 4' dowel (for shed rod, cloth rod, and upper support rod) – White Pine  
2 – 1" x 4' dowel (for heddles) – White Pine  
1 – ½" x 4' dowel (for braces) – White Pine  
2 – 3"x1" hinges (to attach the braces to the supports)  
2 – Shelf supports (modified for cloth rod supports) – Pine  
Screws to attach shelf supports and hinges

First and foremost it is important to make sure that you are safe when preparing to use electric tools. I chose to have another person in the room with me when using the power saw and drills. I wear glasses but I recommend that when working with power tools that you have eye protection especially since wood chips can fly up and hit you in the face.

## Step 2 – creating the uprights

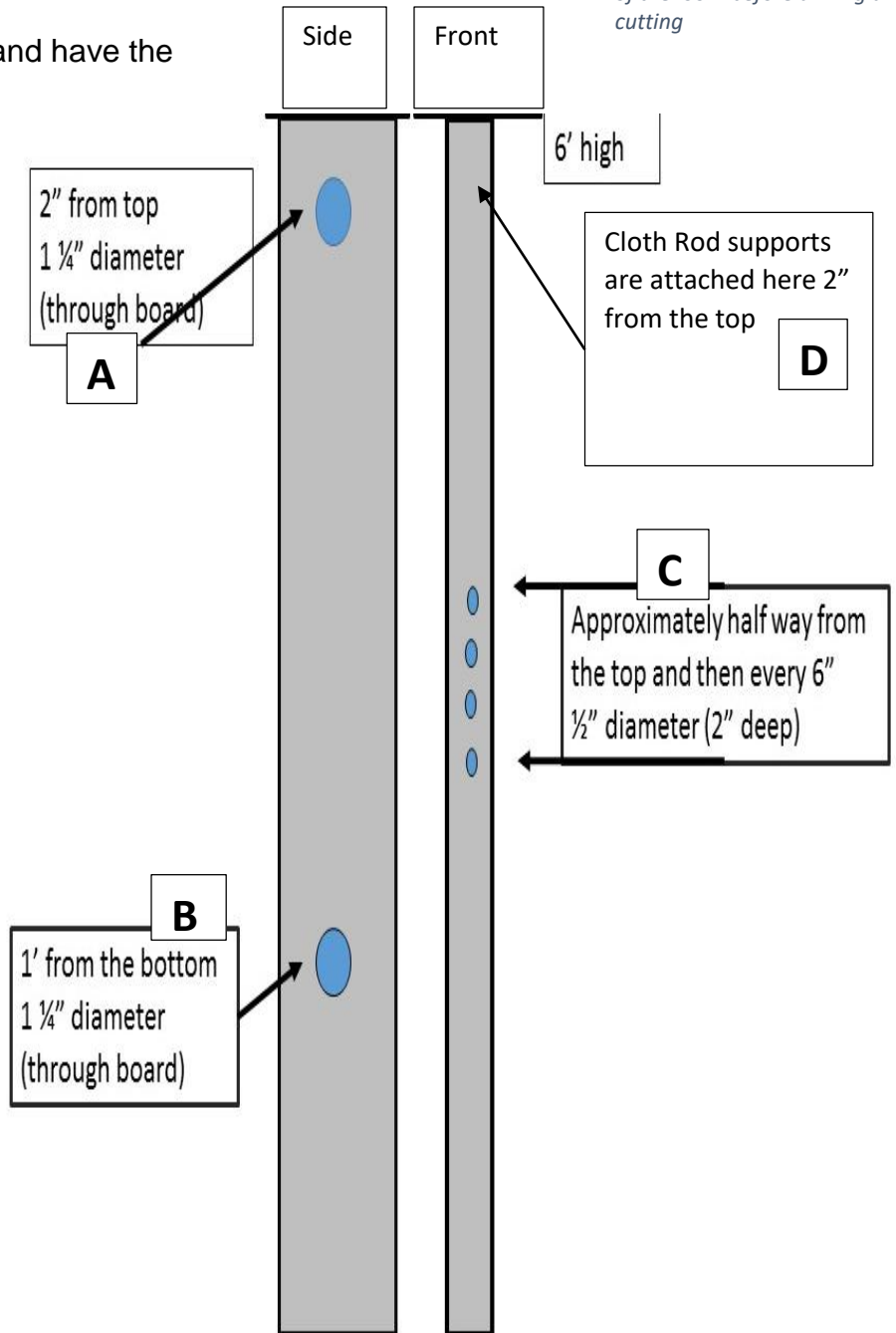
Before cutting the boards it is important to measure them. The old adage, “measure twice, cut once” definitely is something to keep in mind as you work on any project.

*Figure 2 - Planning the design of the loom before drilling and cutting*

The uprights stand 6 feet tall and have the majority of the holes to be drilled. It requires a hole 2 inches from the top (A) and a hole 1 foot from the bottom (B). These holes are drilled from the side and will hold the upper support rod and the lower shed rod. These holes are drilled using a 1 ¼ inch drill bit and will go completely through the piece of wood.

On the front of the uprights approximately 3.5 feet from the bottom drill ¼ inch holes (C). Making sure to only go about half way into the upright. Then add additional holes approximately 6 inches apart going towards the bottom. These holes are used to hold the heddle supports.

I used predrilled shelf corners for the cloth rod supports. The back has a metal hook and allows me to easily remove them. To attach these to the uprights, I placed a screw 2 inches from the top of the upright (D). (See step 4)



The last part of the putting the uprights together is to add the leg supports. The leg supports are attached to the back of the uprights, approximately 3.5 feet from the

bottom. They are attached using the hinges. The hinges are first attached to the top of the leg supports. Next the hinge is attached to the back of the upright. The leg support should extend 5 inches below the uprights to allow the loom to lean back.

	
<p>Drilling the holes for the supports</p>	<p>The Hinge for the Leg Supports</p>
	
	<p>The difference in the leg support and uprights</p>

**Step 3 – creating the heddle supports**

Cut two 12 inch pieces from a 2"x4"x6' board.

Use 1 ¼ inch drill bit to cut the cup section of the heddle support. The design for the heddle support is a personal choice.

Next drill a ¼ inch hole, 3 inches deep, into the end of the support to attach the peg joint. The joint is 6 inches (see step 7) in length and will stick out 3" from the heddle support. This peg joint will allow you to position and reposition the heddle supports on the upright, using the holes on the front of the upright.



Measuring the heddle supports



The heddle supports before cutting

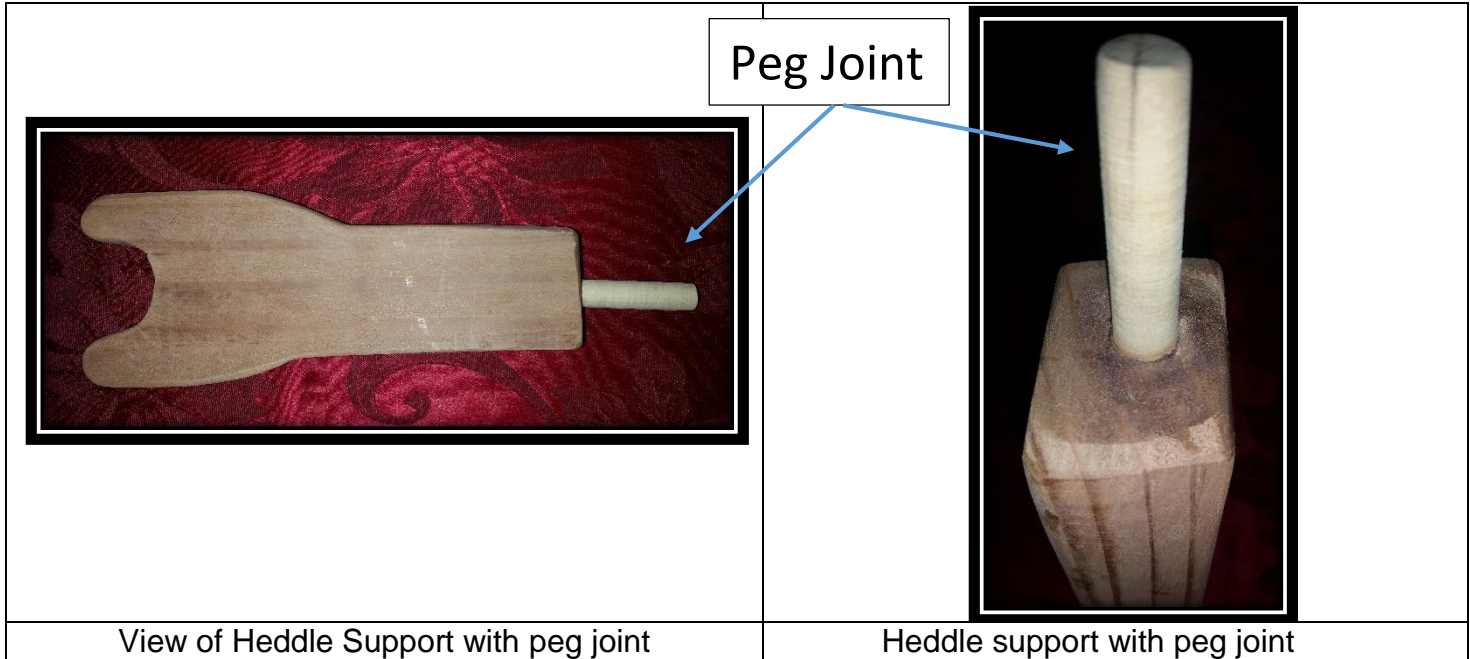


Drilling the heddle support



The heddle supports before and after cutting.





### Step 4 – creating the cloth rod supports

The cloth rod supports can be similar to the heddle support, rustic, or more intricate. The corner supports were found while purchasing the lumber and the design would work well for the cloth rod support. I used an electric saw to remove the extra wood.

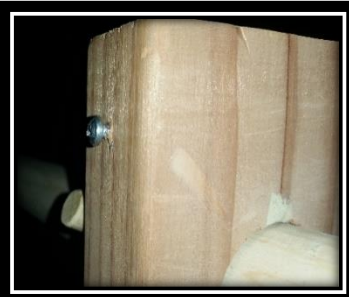
After removing the pieces from the support, use sandpaper to smooth the edges.

I chose to maintain the premade wall joint. This feature makes it easier to put the cloth rod supports on the upright. The cloth rod supports are mounted to the uprights using a screw that will fit into the wall mount.



Corner trim (Cloth rod support) with cut marks

Cloth rod support – cut



Cloth rod supports – sanded and un-sanded

Cloth rod support mounting to the uprights

### Step 5 – creating the cloth rod

The cloth rod is made using a 1 ¼” x 4’ dowel. This size was chosen due to availability. Two holes will need to be drilled 2 inches from the ends of the dowel with a 90° rotation of the dowel so that the holes are perpendicular to each other (on opposite ends). This allows for the rod to be rotated.






Cloth rod support holes – design



Cloth Rod support holes - actual

### Step 6 – creating the shed rod and support rod

The upper support and Shed rod are identical in design. They are both 1 ¼"x4' dowels with holes drilled 4 inches from the end of the dowel. Drill ¼ inch holes 4 inches from the edge of the dowel. When the loom is put together they will be inside the upright. The holes are drilled using a ¼" drill. These holes are drilled on the same side of the dowel.

<p>Upper support and Shed bar – holes are drilled on the same side.</p> 	
<p>Upper Support and Shed Bar – support holes - design</p>	
	
<p>Upper support joint hole and joint</p>	<p>Shed rod joint hole and joint</p>

### Step 7 – Creating the joints

Cut a 1/4" dowel into 6 inch pieces. You will need 6.



Support Rod Joint



Cloth Rod Joint

### Step 8 – putting the Loom together.

Once the pieces have been drilled, cut and sanded it is time to put it together. This can be done by one or more person.

First, lay the uprights on the ground.

Second, take the upper support and place it through the top hole in the upright.

Next place the shed rod into the bottom hole in the uprights. With both of these rods, make sure that the joint hole can be seen on the inside of the upright. Place the stabilizing joints into the holes.

At this point, stand the loom up.

Next place the cloth rod supports onto the uprights, using the mounting joint and screws.

Next, place the heddle supports at the appropriate height for the weaver and last, place the heddle onto the heddle support.

### Conclusion:

With the knowledge gained through the research and building of the Viking Era loom, I feel that every home would have one. In creating my loom, I tried to stay true to the measurements found in the archeological sites but I do believe that depending

on the size of the Norse woman the loom could have been of varying sizes. The other aspect that I appreciate is that the loom itself is portable. The loom can be taken apart and taken with the family if they had to move or could be handed down from mother to daughter. If I were to recreate this project, I would probably spend additional time to



create more elaborate heddle supports. I think that this is one area that can be a bit more creative.

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## End Notes

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<sup>1</sup> Graham-Campbell, James; *The Viking World*. Pg. 108

<sup>2</sup> Ewing, Thor; *Viking Clothing*. Pg. 138

<sup>3</sup> Ewing, Thor; *Viking Clothing*. Pg. 137

<sup>4</sup> Ostergard, Else; *Woven into the Earth*. Pg. 60

<sup>5</sup> Ostergard, Else; *Woven into the Earth*. Pg 59 - 60

<sup>6</sup> Ostergard, Else; *Woven into the Earth*. Pg. 60

<sup>7</sup> Viking Answer Lady website. *Woodworking in the Viking Age - wood*

<sup>8</sup> Viking Answer Lady website. *Woodworking in the Viking Age - tools*