Assembling Your Syren

Servo-Matic Serving Machine

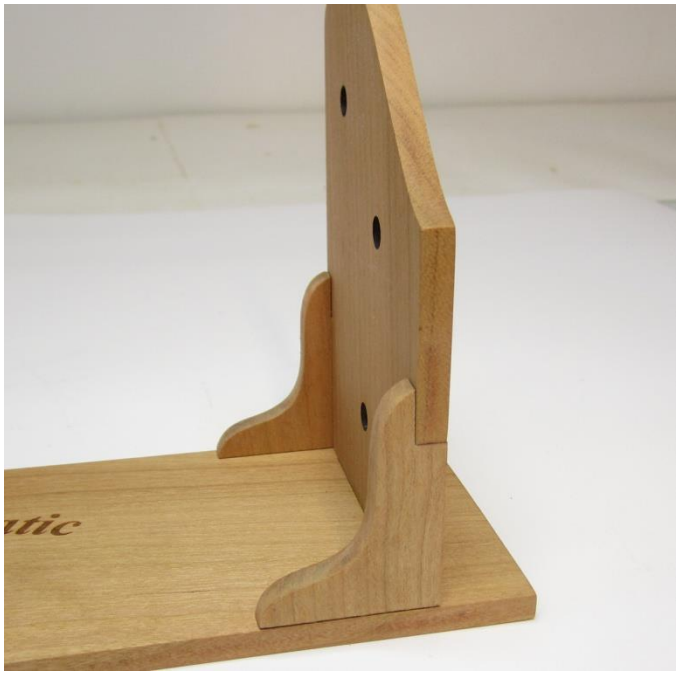
To assemble your Servo-Matic the very first thing you should do is clean up all of the wooden parts. Remove the laser char from the edges of all pieces. Every piece has been laser cut from solid Cherry wood. It has a tendency to burn more than other woods but it is very hard and strong and is an excellent choice for the machine.

Now I realize you may be tempted not to clean the laser char from each piece. It is admittedly time consuming and very messy. But, I can attest that after you finish putting the Servo-Matic together you will regret not having done so. The wood is very beautiful and the machine will be quite handsome and sturdy when complete. So please do clean the char from the edges of all pieces before beginning. This has been done already in the photo above. **NOTE: DO NOT REMOVE ANY LASER CHAR FROM THE GEARS. These have been precision cut and should remain as is.**

Apply a protective finish to all of the pieces before assembly. I have used MinWax Wipe on Poly. It dries in minutes.

Step one – Use wood glue to assemble all of the wooden elements. Start by gluing the two uprights into the slots. Make sure they are straight so use a triangle to keep them square to the base.

Step two – Glue the four support knees in position as shown in the photo on the next page.

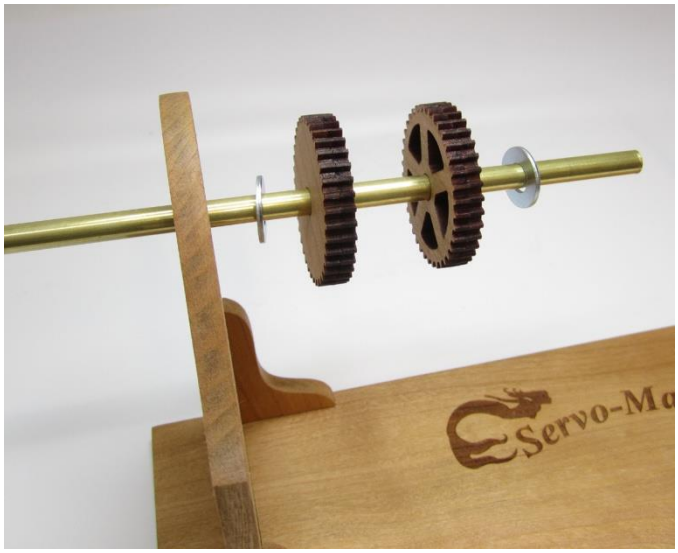


Step 3 - Assemble the gears and hand crank. See the photo below. For the hand crank, take the two pieces and glue them together while being careful to place the smaller diamond shaped part on the correct side. If you are right-handed it will go on the right side of the machine….hold it in position so it matches the image.

The gears need special attention. Glue each 1/8" thick gear piece together as shown. You must alternate the wood grain for strength. Take your time to carefully line up all of the teeth on both layers before the glue dries.

Step 4 - Insert one of the long brass tubes into the top hole and slide it all the way through to the other side. This is a test fit…try and rotate the brass tube. It should turn very easily. If it is too tight, lightly file the holes so it rotates every easily. But DON'T enlarge the holes too much. Only enlarge them until the brass tube turns with ease.

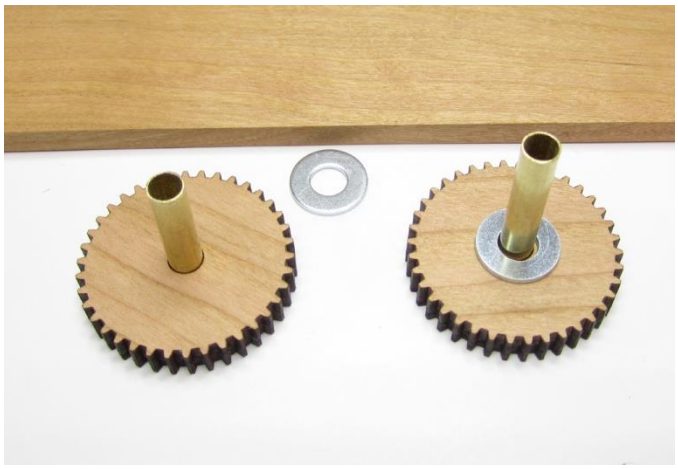
Step 5 – Slide the tube back into the hole as shown in the photo. Then slide a metal washer …then two gears oriented as shown…and one more washer onto the brass tube.



Step 6 - Slide the tube through to the other side and insert it into the opposite hole as shown. Slide the gears and washers to their opposing sides as shown. Glue the gears to the brass tube. But be careful to make sure they are not crooked on the brass tube or you will have a wobbly gear. I used CA glue for this. DO NOT GLUE THE TUBE INTO THE HOLES OF THE UPRIGHT SIDES. The tube needs to be able to rotate freely within each upright. Don't glue the gears and washers too tight against the uprights. Just slide then over so they are loose against it otherwise it won't turn as nicely as it should.

See the photo below.

Step 7 – Insert the two smaller shafts into the two remaining gears as shown. Yes, there are two different sizes of shaft if you were wondering. Try to ensure that the gears are not crooked…nobody like a wobbly gear. These should be glued to the tubes but make sure the tube is slid all of the way



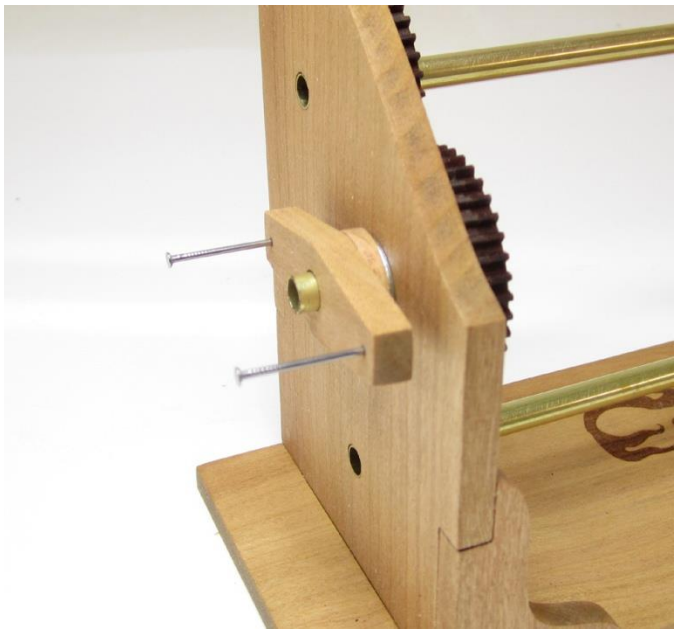
through the gears. Do this on the table top as shown in the photo. Place two metal washers on the shafts. Also be sure to file the edges of these tubes to debur them. Give them a dull edge so they wont shred and cut the rope as you serve it. You can even add a drop or two of CA glue to the edges in order to dull them and smooth them out. Run the drop all around the edge of the tube opening.

Step 8 – Slide the gear assemblies through the holes on the uprights. Make sure you place the gear with the longer tube on the side you wish to have the crank located. They should turn easily and the machine should actually work at this point. Try and turn the gear on one side and if its too tight you will need to file the holes in the uprights a bit.

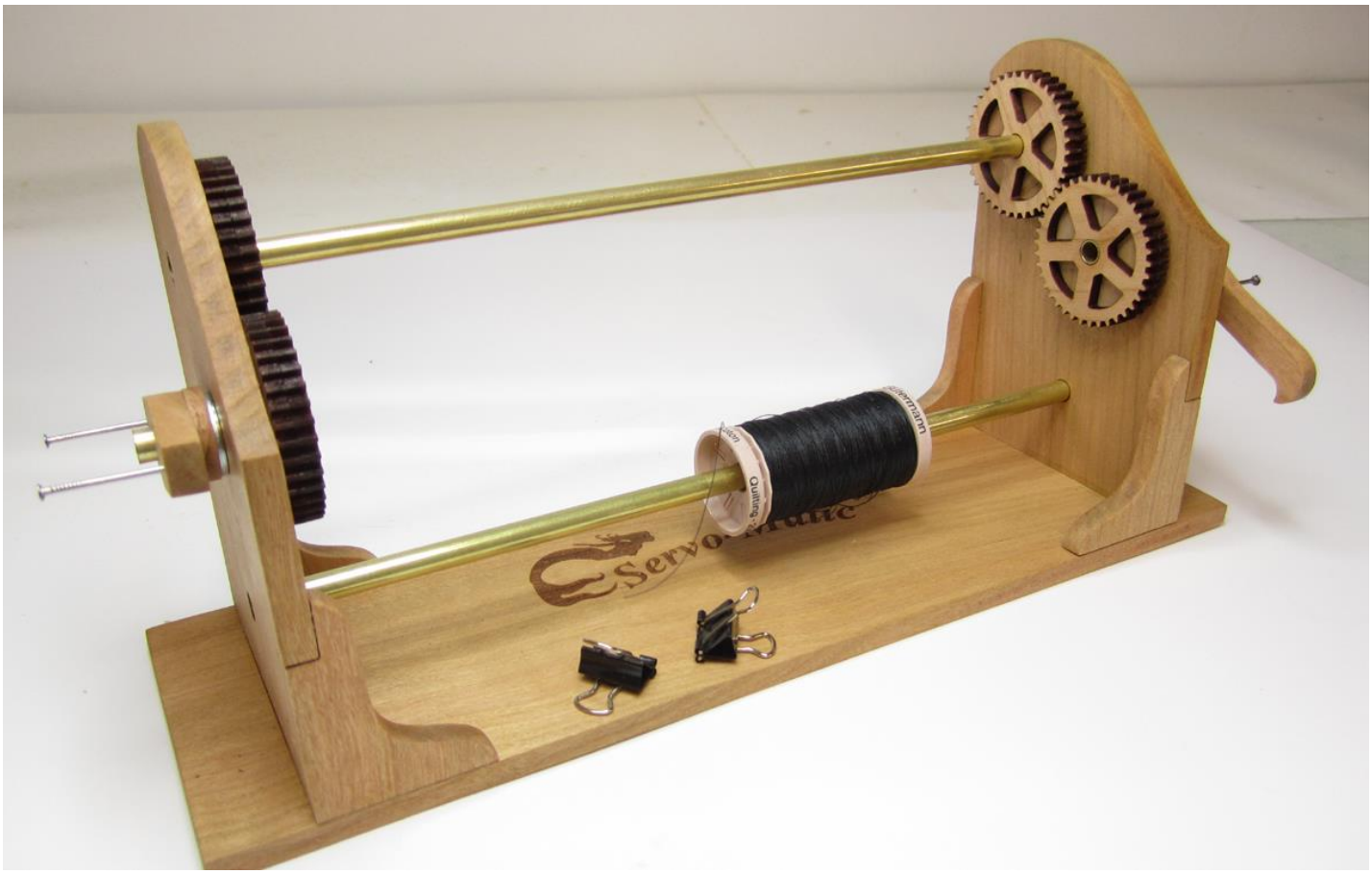
Step 9 - Assemble the handle and stop as shown below. Basically you just have to insert the two small nails. Get the two wooden spacers ready.

Step 10 – With the gears in position through the holes on the uprights…slide a metal washer onto the brass tube first followed by a wooden spacer. Then slide the crank handle into position as shown. Glue the crank handle to the brass tube. BUT remember; don't push it so tightly against the upright. It will be too hard to turn. Keep the pieces a bit loose but make sure there are no gaps between the elements. It should turn really easy. Photo below.

Step 11 – Repeat this process on the other side with the diamond piece. Slide the washer on first and then the wooden spacer washer followed by the diamond shaped piece. Glue it into position.



You are basically done building the machine. The left over long brass tube is slid through the remaining holes…NO GLUE HERE - this is the tube you will slide a bobbin of serving thread onto. You will need to be able to remove this so you can replace the bobbin as needed.

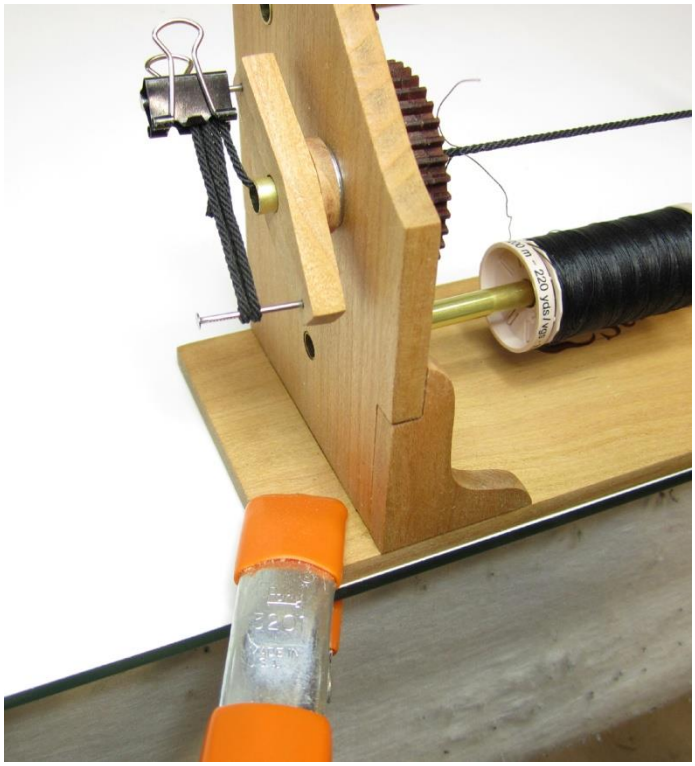


Operating your Syren Servo-Matic

Select a fine thread for serving your rope. The serving line should be fuzz-free. The thinner the better!!! For large ropes you may use a 50wt thread. As shown in the following example. But for serving thinner ropes you should probably find a finer serving thread. Use a 60wt, 80wt or even 100wt thread. The higher the number the finer the thread. I use a thread made from any material to serve with. It just has to be fizz-free.

Secure the rope to be served. You can serve any length rope in this machine. If you need to serve a length longer than eight inches, secure the excess on the right side with the crank (if you are right handed). Once you complete the first eight inches you will be able to unwrap the line and slide it to the left…secure it again and continue serving the remaining lengths of rope.

To secure the rope, Place the rope through the tubes on both sides. Then with ample excess available, wrap it around the nails as shown above right. Use the small clamp provided to secure the excess rope.



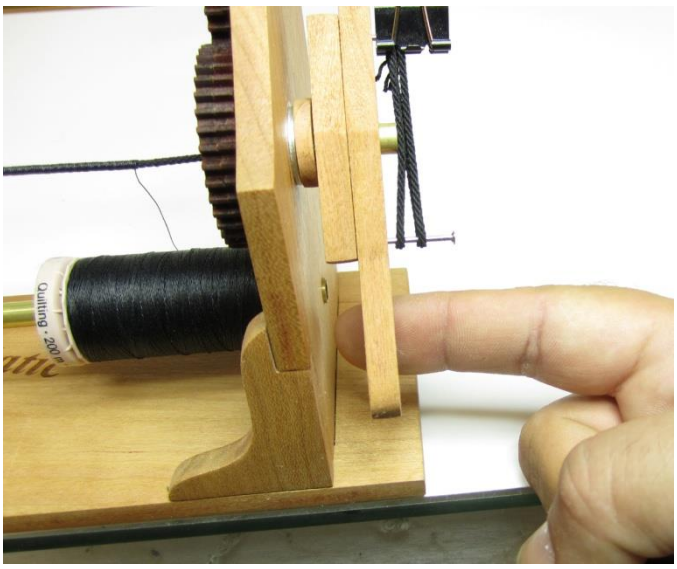
It's also best to secure the machine to your work table using a clamp as shown. It will prevent the machine from moving and sliding as you serve the rope.

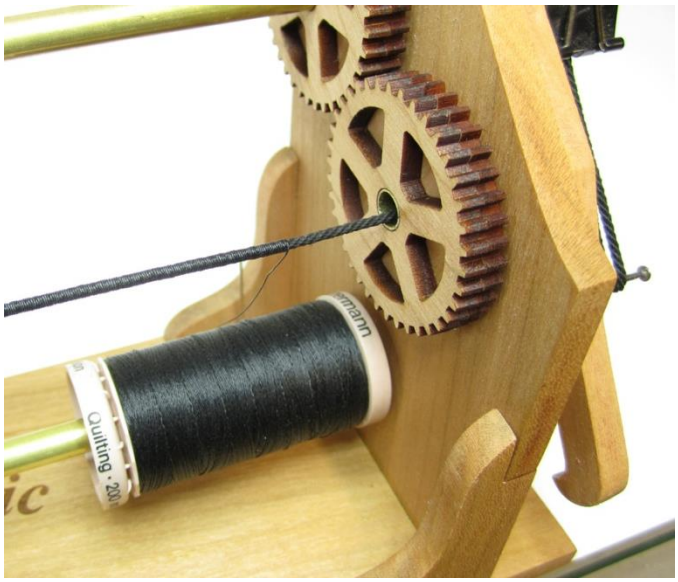
Pull the rope taught through the tube on the opposite side. Don't make it too tight but it should be fairly taught. Secure the rope on the other nails of the crank just as you did on the first side.

Using a fine sewing needle, push the serving line through the rope on the far left of the machine. Photo below. Apply a drop of glue where the serving thread EXITS the rope. After it dries, snip off the excess. You don't have to get really close to the rope yet. You can do that after the serving is completed.

If you are right handed like me, hold the serving line with your left hand and keep it somewhat taught (not overly so) but just enough to keep control while serving.

Crank the machine using just your finger. It should turn very easy if you didn't make your parts too tight while assembling the machine.





As you crank the machine, try and control the serving thread so each wrap of the thread is tight against the previous rotation. You should not have space and gaps between each rotation of thread. This is a feature seen on served rope done properly. With the same idea…don't overlap the serving thread either. This will produce a sloppy and lumpy served rope. Also keep the same tension on the serving thread as you work your way to right side. Otherwise you will have thick spots and thin spots in your rope where the serving was wound too tightly. This would compress your rope. So use an even pressure. You will know when you have achieved good results. If you choose the right serving thread, you will still be able to see the lay of the rope beneath the serving. The thinner and finer the serving thread the better the results. Apply some watered down white glue to the served rope when you are done. This will secure the serving to the rope and when you cut the rope it won't unravel.

AND REMEMBER……HAVE FUN WITH IT!!!!!

AND…for a limited time while supplies last…

A customer discovered that K'NEX gears are the perfect size for the Serving machine. Should you prefer to use these, they are provided at no extra cost in the kit while supplies last. See the photo attached. The wood gears look great and work great but the K'nex gears are quieter and run smooth.

Dealers choice as they say.