

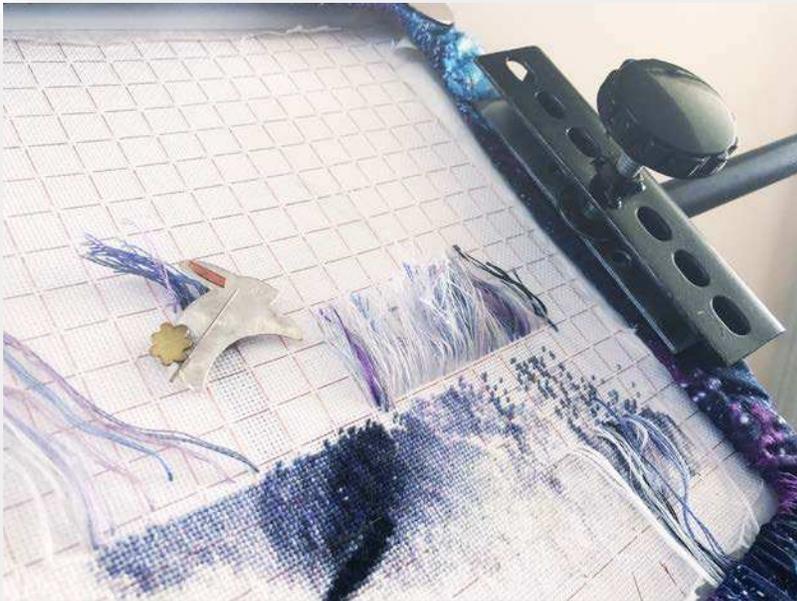
DIY Lowery Inspired Embroidery Floor Stand

Below find the details on how to build your own embroidery floor stand. The Lowery Floor Stand inspired this design. Note using the following instructions will give you a floor stand that can be adjusted and reach the following maximum and minimum dimensions.

Maximum dimensions: 5' tall by 2'3" wide.

Minimum dimensions: 3'2" tall by 19" wide

If you have a large project you might want to add some weights, or books on top of the base to compensate for the larger weight.



Adjustment Notes

The hitch pin in the base will limit how far the top adjustment arm will drop into the base tube if you need to swing the arm out of your way. Once you set the height of your stand be sure to insert the hitch pin into the highest hole directly below the inner tube.

To raise or lower your stand, simply loosen the small lever on the base coupling and raise or lower the top adjustment arm to the correct height. Be sure to

tighten the lever once it is in place. Then again be sure to move the hitch pin to the highest drilled hole below the inner steel tube.

To extend the top arm to another position you will need to loosen the setscrew on the top right coupling, which is attached to the conduit tube welded to the clamp. Slide the Emt Conduit tube along the steel tube to your desired position and tighten down the setscrew.

If you want to have access to the back of your work, simply loosen the small adjustment lever and flip the work. Tighten down the small adjustment lever when you want your work locked into place. You can also alter the angle of the stitching with the same small adjustment lever.

Parts List - Total Cost \$54.67 plus local taxes.

Item	Manufacturer/ Item Number	Amount Needed	Price
From Lowe's			
Steel Set Screw Connector	Sigma #816322	1 - 5 pack	\$1.58
1/2" Floor Flange	Mueller Proline #636100	1	\$4.98
5/16" Flat Washers	Hillman #58125	1 - 12 pack	\$1.28
1/12" Flat Washers	Hillman #58128	1 - 4 pack	\$1.28
1 1/2' x 1 1/2' Slotted Steel Angle	Hillman #215893	1 - 1ft long	\$3.38
6" Mending Plate	Stanley National #64735	1	\$1.98
5/16" E-Clips	Hillman #138753	1 - 2 pack	\$1.27
#12 Wood Screws	Hillman #51547	1 - 8 pack	\$1.28
.093 x 2 1/2" Hitch Pin Clip	Hillman #154863	1	\$1.17
1/2" EMT 90° Elbow	Sigma #75738	1	\$2.98
1/2" Weldable Steel Tube	Hillman #69913	1	\$7.18
1/2" Emt Conduit	Common #118909	1 - 5' long	\$1.65
J-B Weld Epoxy Cold Steel Reinforced	J-B Weld #10301	1	\$5.68
From Ace Hardware			
Steel Set Screw Coupling	Sigma #3183068	2 - 1/2"	\$2.58
5/16" - 18 Hex Nuts		1	\$0.13
1 3/4" Clamping Knob	Hillman #55246-G	1 - 5/16" Threading	\$3.19
From Amazon			
Teardrop Adjustment Lever	https://tinyurl.com/ ydf9ml34	2	\$13.08
Already Had			
12" x 19" Wood Base	Had in Scrap	1	\$0
10-24" Screws	Had in Scrap	3	\$0
ColorPlace Interior/Exterior Spray Paint	Had in Scrap	1	\$0

Drill List

1. Mending Plate
 - a. Drill 5/16" hole in center
2. EMT Conduit Tube
 - a. 2' 6" EMT Conduit Tube
 - i. 6" from the bottom of the tube start drilling ten sets of holes every 2 inches. Note the diameter of the holes must simply be larger than the diameter of the hitch pin you have. So if you do not have the specific size just substitute with a drill bit that is larger. In my case I needed a drill bit that is at LEAST .093 aka 3/32". We did not have that size so we used a 1/8" drill bit as it was larger than needed and one we already owned. Make sure that each hole continues through the opposite side of the tube as perpendicular as possible. We used a drill press, but you can do this by hand as well.
 - ii. Image of EMT Conduit tube and Hitch pin clip.



Cut List

1. Emt Conduit Tube
 - a. 2' 6" (1)
 - b. 6" (1)
2. Steel Tube
 - a. 2' (1)
 - b. 12" (1)
3. Slotted Steel Angle Iron
 - a. Cut in Half. This will give you two pieces at roughly 6". Overlap the two pieces so that a circular hole is in the center on the top and bottom of the clamp. Mark the excess on each piece (both sides) and trim down till flush. Each of my pieces ended up being about 5 1/2" long. Note the placement of the holes in the attached image. Your angle iron pieces will still be silver at this stage. The image shows the clamp



assembled and painted. KEEP THE SCRAPS THAT YOU CUT.

4. Mending Plate
 - a. After drilling the hole cut off each end so that the mending plate is no longer than the length of either Angle Iron piece. Mine is roughly 4 5/8" long.

Welding Clamp Frame

Welding will be needed. If you do not possess this skill, check with local schools and welding shops. Or if you are a part of the Nextdoor site check and see if there are any local hobbyist that will be willing to help. I used the Nextdoor app and traded the labor for some homemade peanut butter fudge.

1. Connect both Slotted Angle Iron pieces together lining up the center oblong holes. Weld together the two plates so that the holes are offset. This will make the opening of the clamp frame large enough for the intended use. Mine was tack welded on the inside and outside seams as can be seen below.



2. Weld 1 hex nut to the top of the clamp frame you just created. Over the circular hole near center.
3. Weld the 6" conduit tube to the backside of the clamp frame roughly in the center. In my case it was directly over the center oblong hole that was in the angle iron.



4. Finish by spray-painting the entire clamp frame and tube to avoid rusting. Image shows finished frame and conduit tube.



Clamp Assembly Instructions



1. Thread the clamping knob through the top hex nut into the center of the clamp frame.
2. Add a 5/16" washer to the knob bolt from the INSIDE of the clamp frame.
3. Then add one E-clip to the end of the knob bolt.



4. Mix up a small amount of epoxy and add a TINY amount onto the last thread of the bolt to



insure the e-clip stays.

5. Use the remaining epoxy to connect a $\frac{1}{2}$ " washer to the mending plate over the center hole you drilled into it.



6. Let the above epoxy set following the directions that came with your epoxy before moving on.

7. Add a tiny bit of epoxy to the inner section of the $\frac{1}{2}$ " washer on top of the mending plate. Before it sets thread the Clamping Knob down and sandwich the $\frac{5}{16}$ " washer into the epoxy on top of the $\frac{1}{2}$ " washer below. Let epoxy set. I then added another layer of epoxy



to the side and top of the $\frac{5}{16}$ " washer to further lock it in place.

8. Add one steel setscrew coupling to the end of the 6" Emt Conduit Tube that has been welded to the clamp. Replace the setscrew that is over the conduit tube with one of the small adjustment levers and tighten into place. Also replace the other setscrew with one of



the longer 10-24" screws.

9. Clamp is complete and ready for Main Assembly.
10. When you test the clamp you might find that the e-clip isn't stationary and allows the bolt to be threaded through the mending plate. To solve this problem simply epoxy one of the scrap pieces you had left over to the underside of the mending plate OVER the hole you drilled. Once dry this will allow you to turn the knob, which will adjust the height of the mending plate, clamping your piece in place or loosening it.



Top Adjustment Arm Assembly Instructions

1. Replace one set screw on two couplers with the longer 10-24" screws. Add one coupler to each end of the 90° Emt elbow so that the longer set screw is in the outside position when



on the elbow.

2. Lay elbow so that it pointing left like the picture below.



3. Add the 12" steel tube to the top coupler that is pointing left and tighten the screw.
4. Add the 2' steel tube to the coupler on the bottom right, which is pointing down, and tighten the screw.
5. The Top Adjustment Arm is complete and ready for Main Assembly.

Main Assembly Instructions

1. Attach the flange to your base using the wood screws on the left or right end in the center.



2. Screw in one steel set screw connector into the flange.
3. Connect the 2' 6" Emt Conduit tube to the set screw connector and tighten the set screw.
4. Replace one set screw on one more coupler with the remaining small adjustment lever.



5. Add the above steel setscrew coupler to the top of the 2'6" Emt Conduit tube with the lever positioned as the top set screw. Tighten the bottom set screw in place.
6. Place the hitch pin into one of the center holes of the Emt Conduit tube.
7. Slide the Top Adjustment Arm into the Emt Conduit tube on the base. Tighten the small adjustment lever to lock in place.

8. Slide the Emt Conduit tube attached to the clamp onto the 12" steel tube on the Top Adjustment Arm and tighten the longer set screw on the coupler.



NOTE in this image I have removed the top adjustment arm portion because I needed it to be a shorter distance than the dimensions I noted at the beginning of this document.

FINISHED ENJOY STITCHING!

Guide by Kristen Smith aka QuirkyK of Quirky Bits-n-Pieces 2018