

Custom Scroll Saw Stand Plan



The rear leg is angled back 5 degrees. The front legs are angled 5 degrees to each side, but aren't angled forward in order to keep the design simpler, and to not interfere with the operator's ability to sit/stand closer to the saw.

The following link discusses the advantages of using three legs, instead of four:

<http://mathforum.org/library/drmath/view/53267.html>

The following link discusses the advantages to angling the legs, instead of leaving them straight up and down (it also discusses why too great of an angle can be counterproductive):

<http://www.www.net/SharedFiles/Download.aspx?pageid=9&fileid=16&mid=17>

The following link shows a great trick from Charles Neil about screws and the ability to tightly fit pieces together. As he'll tell you, it's actually common sense, but it's also often overlooked:

<http://www.youtube.com/watch?v=CzDSXk9h81U>

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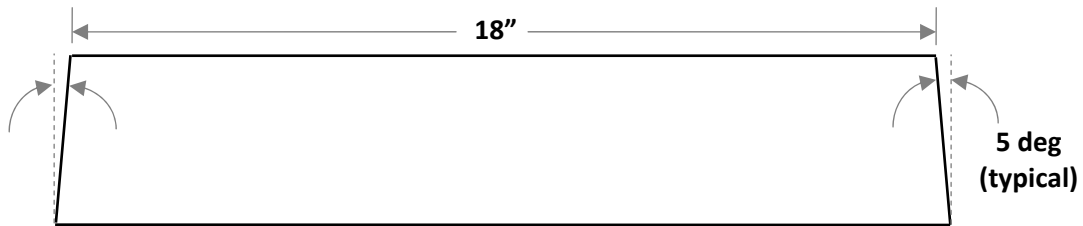
Individual Pieces

(Where desired, modify the appropriate dimensions to obtain a custom fit)

CROSS MEMBERS

(Cut 3 identical pieces using 2X4 material.)

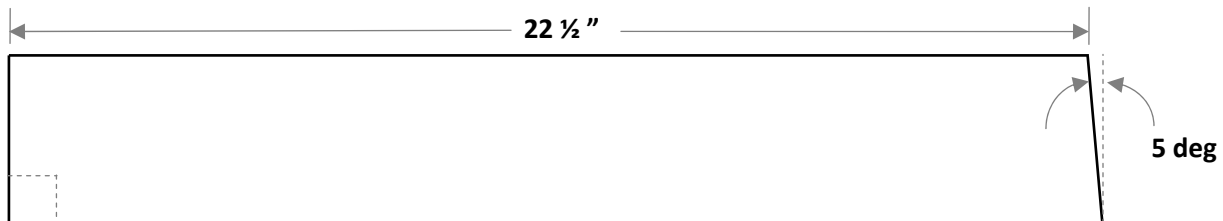
(FRONT UPPER, FRONT LOWER, AND REAR)



Note: The dimension given is for the shorter of the two edges of the 2X4. After cutting the angle, the other edge will be approx. ½ inch longer. Ensure enough material to account for the difference in edge lengths due to the angle.

SIDE RAILS

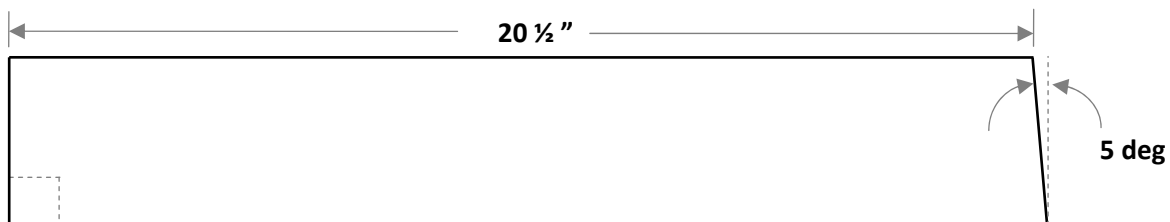
(Cut 2 identical pieces using 2X4 material.)



Note: The dimension given is for the shorter of the two edges of the 2X4. After cutting the angle, the other edge will be approx. ¼ inch longer. Ensure enough material to account for the difference in edge lengths due to the angle.

LOWER RAIL

(Cut only one piece using 2X4 material.)



Note: The dimension given is for the shorter of the two edges of the 2X4. After cutting the angle, the other edge will be approx. ¼ inch longer. Ensure enough material to account for the difference in edge lengths due to the angle.

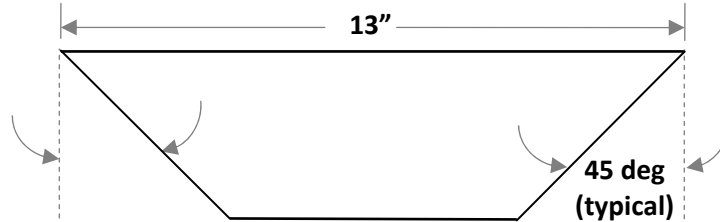
Custom Scroll Saw Stand Plan

Individual Pieces (cont'd)

(Where desired, modify the appropriate dimensions to obtain a custom fit)

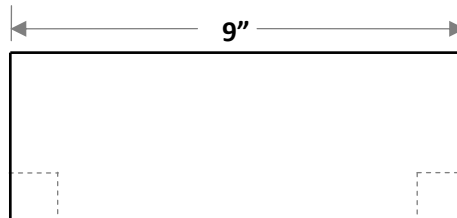
REAR ANGLED SUPPORTS

(Cut 2 identical pieces using 2X4 material.)



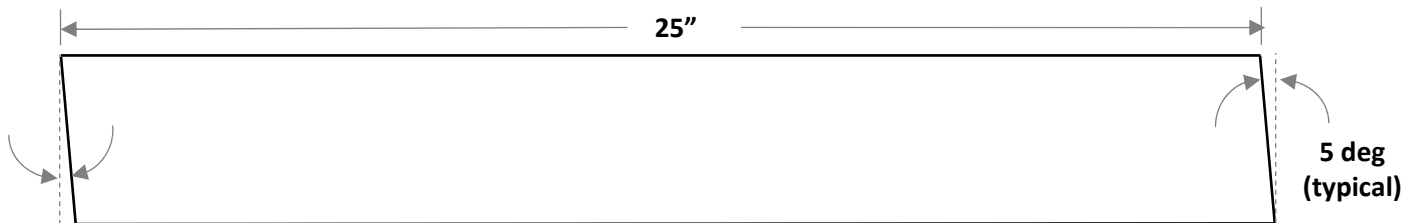
REAR TABLE LIFTS

(Cut 2 identical pieces using 2X4 material.)



LEGS

(Cut 3 identical pieces using 4X4 material.)



Note: Unlike other pieces of this project, both ends are angled in the same direction. Also unlike the other pieces of this project, these pieces are made using 4X4 material. Additionally, this dimension will determine the height of the project. Adjust the length accordingly to obtain the desired height.

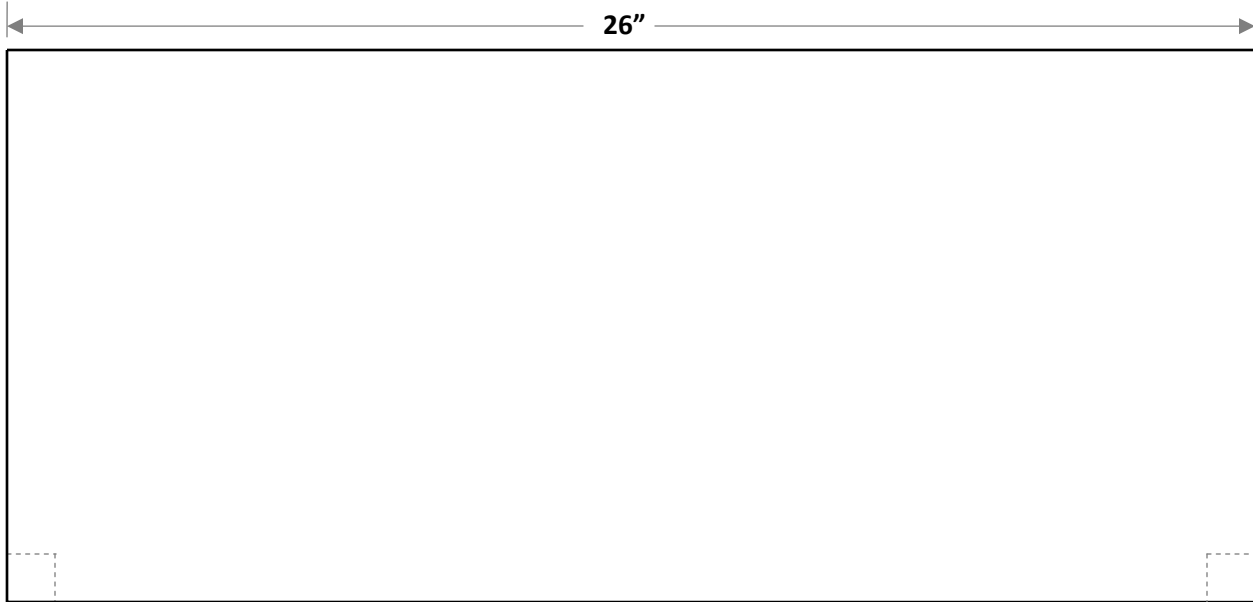
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Individual Pieces (cont'd)

(Where desired, modify the appropriate dimensions to obtain a custom fit)

TABLE TOP

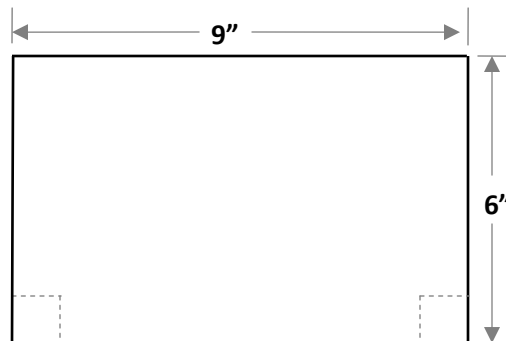
(Cut one piece using 1X12 solid material.)



Note: Adjust table top length to accommodate the size of the particular model of saw to be mounted, while maintaining enough length to span from the front upper cross member to the rear table lifts. Ensure that the material is solid wood. Plywood may be substituted, but won't provide the anti-vibration advantages of solid wood. The table top used in this project is covered with carpet. Leaving the wood bare, or the use of alternative covering materials to dampen vibration, such as rubber matting or cork board, can be used in place of the carpet based on personal preference.

AQUARIUM PUMP SHELF

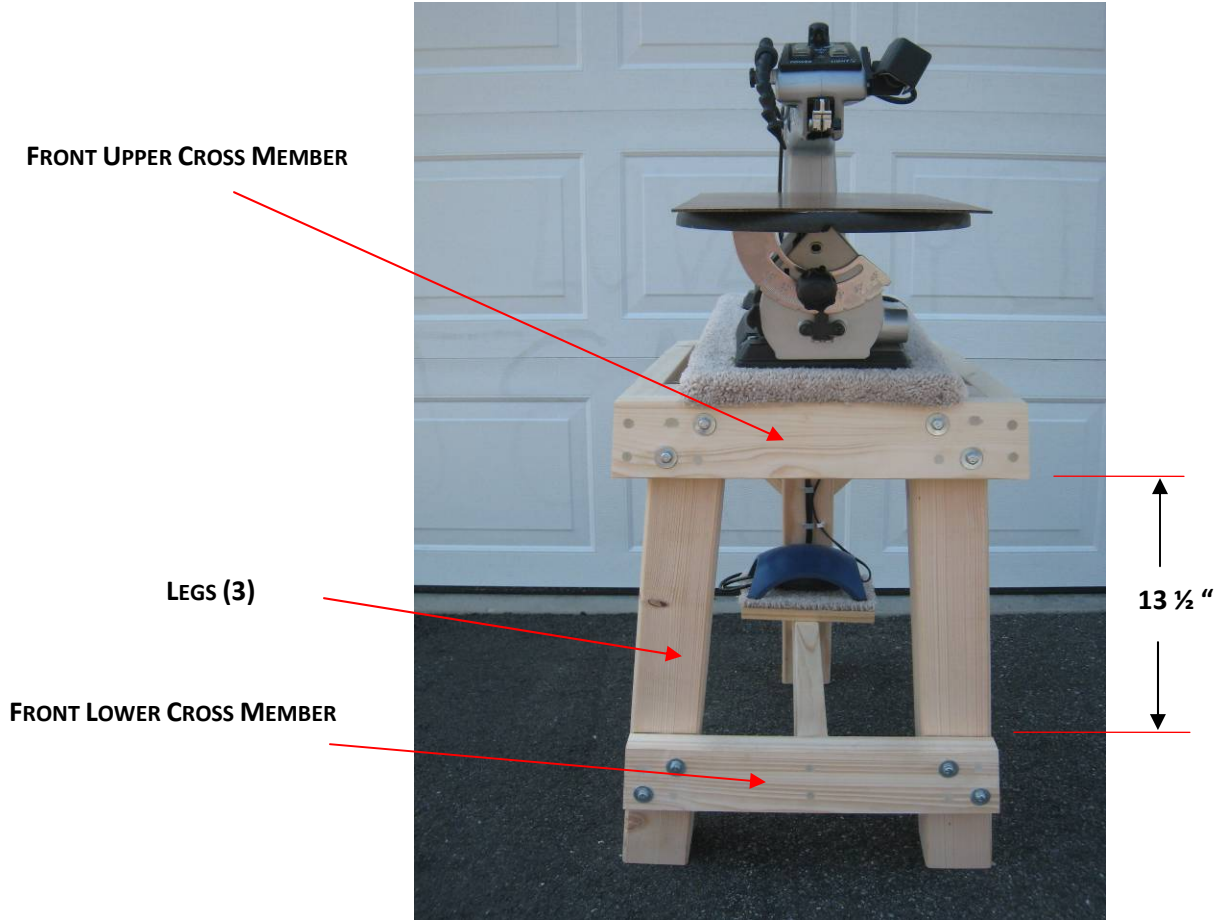
(Cut one piece using 1" (3/4") thick material.)



Note: Adjust shelf dimensions to accommodate the size of the particular model of aquarium pump to be mounted. As with the table top, ensure that the material is solid wood. Plywood may be substituted, but will not provide the anti-vibration advantages of solid wood.

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Parts Location/Assembly



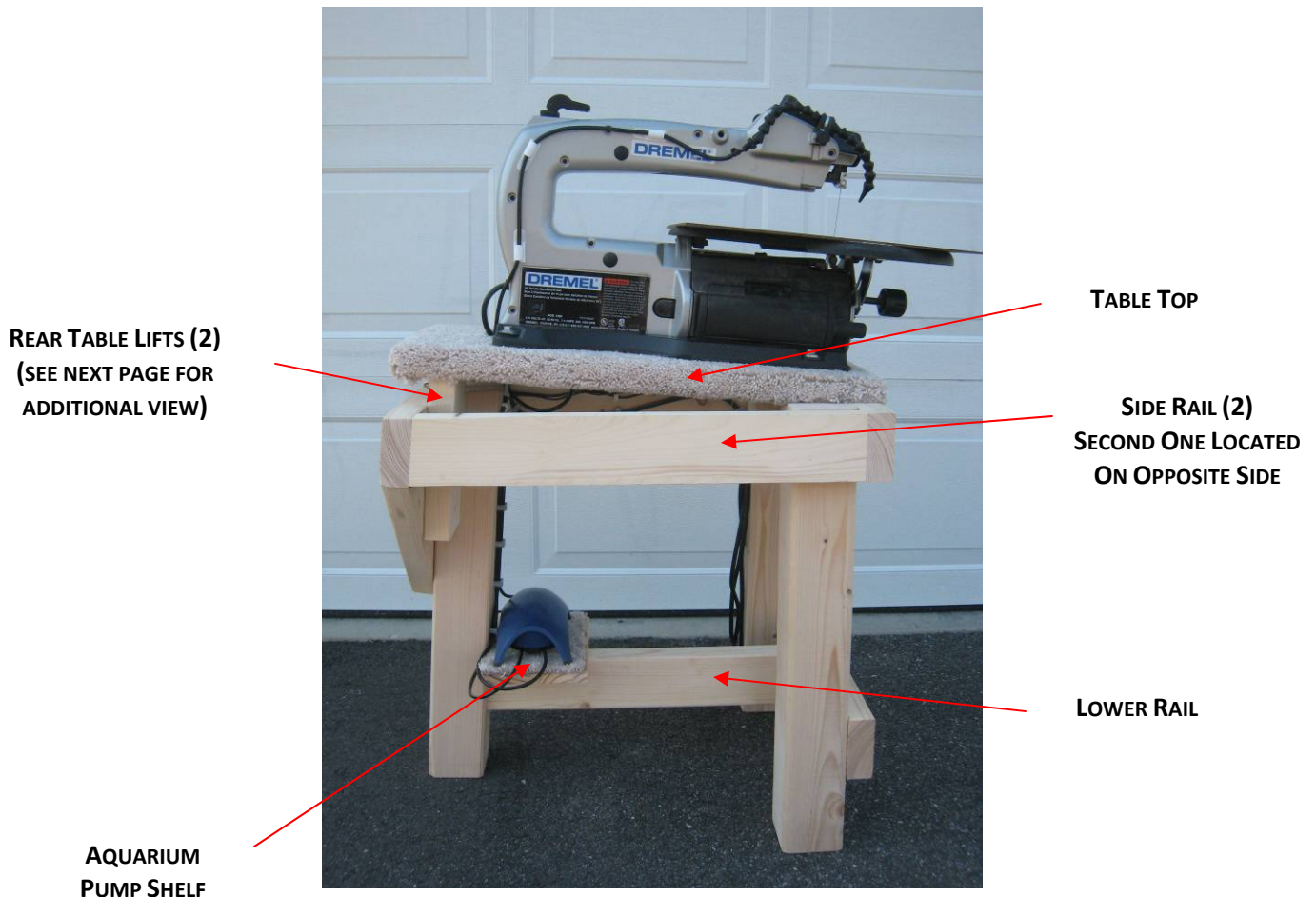
The project is fastened together using #14 wood screws, and 1/4" lag bolts (with flat washers)...The lag bolts are the same size as the #14 wood screws, but give aesthetic appeal to the front view of the project. All wood screws are countersunk with the heads covered with wood filler.

The side rails and the lower rail are attached by screwing into end-grain. Several sources discuss potential problems while screwing directly into end-grain, and recommend various attachment methods whereby the screw threads don't actually bite into the piece of wood that presents the end-grain. These same sources also recommend that if screwing directly into the end-grain, proper use of pilot holes combined with large enough diameter/length of screws should eliminate these problems.

The photos contained in this document can be used to illustrate how the pieces fit together to form the final project. As with most math problems, there are multiple acceptable sequences that can be used to obtain the final results. So, proceed in the order that makes the best sense to you, and is best supported by the tools/resources that are available.

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Parts Location/Assembly (con't)

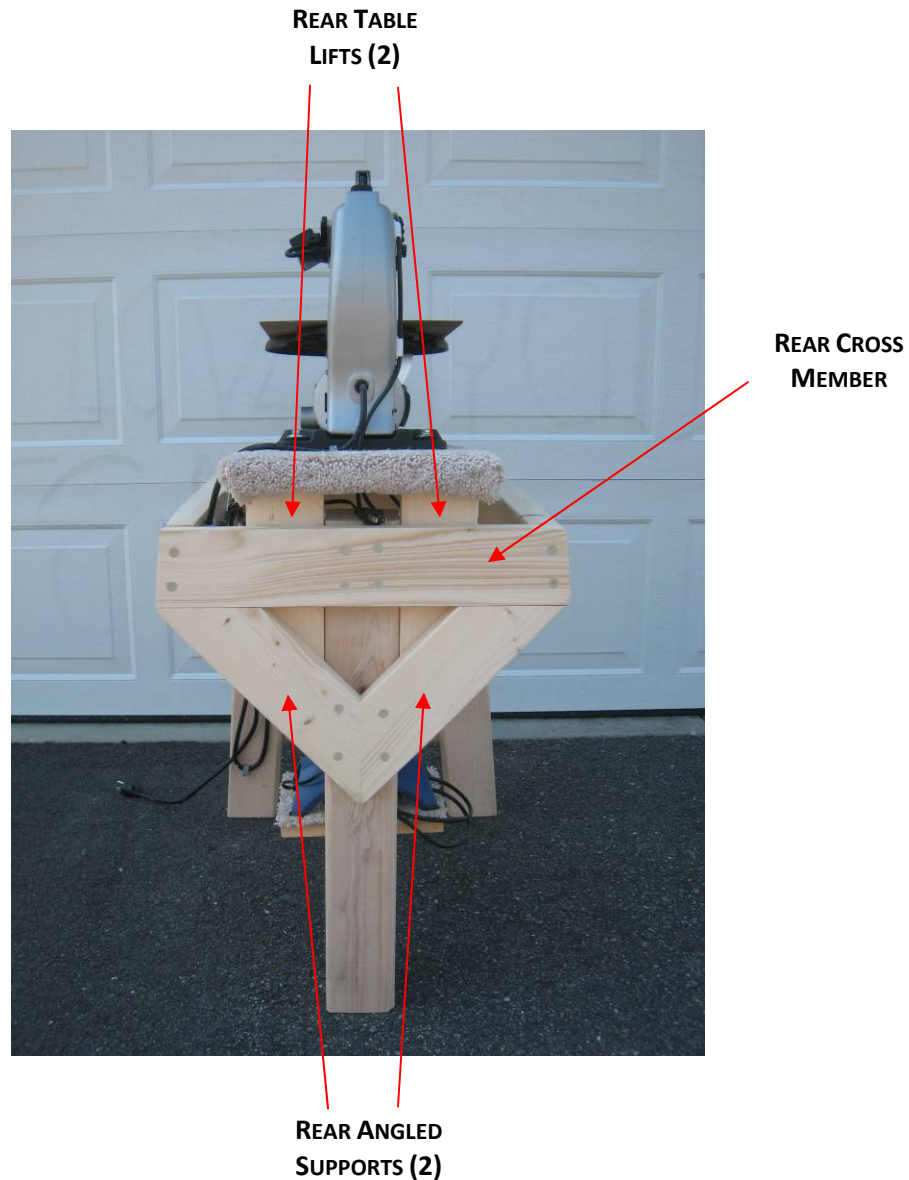


The rear end of the lower rail is toe-nail-screwed into the rear leg from the bottom-side of the lower rail.

The aquarium pump shelf is attached to the top of the lower rail, but can be relocated/deleted as applicable. Although many quality saws come with a built-in blower system, they are sometimes inadequate; mostly because their blowing capacity is dependent upon the selected speed setting of the saw. They are also prone to failure, because their design relies on compressions caused by one of the moving saw arms to repetitively hit the blower element (also known as a bellows). The built in blower of the saw pictured in the project has failed. The design layout of this particular model of saw doesn't make it practical to tear apart the entire saw just to replace the bellows. As such, the addition of the aquarium pump is an effective alternative. The aquarium pump operates independent of the saw, which ensures a strong and reliable air supply, regardless of saw speed.

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Parts Location/Assembly (con't)



The lower ends of the rear angled supports are attached to the rear leg. The upper ends of the rear angled supports are toe-nail-screwed into the bottom of the rear cross member.

The rear table lifts are attached to the inside surfaces of the rear cross member and the rear angled supports. To obtain the desired table tilt angle, the table top can rest loosely on top of the rear table lifts while vertically adjusting the rear table lifts until the desired angle is obtained. Then simply mark the position and attach the applicable pieces. If an angle other than 5 degrees is desired, recommend miter cutting the tops of the rear table lifts accordingly to achieve a flush fit between the top of the rear table lifts and the bottom of the table top.