

HART™



Deck Rail Bar

PROJECT PLAN

Finished Dimensions: 36"W x 11"H x 15-5/8"D


Skill Level: Intermediate


Materials

Item	Qty
1" x 6"x 8' Board*	2
1" x 3" x 6' Board*	1
1" x 2" x 8' Board*	2
#8 x 1-1/4" Coarse Square-Head Pocket Hole Screw	
#10 x 1-1/2" Flat Head Phillips Wood Screws	
#10 x 2" Flat Head Phillips Wood Screws	
#10 x 3" Flat Head Phillips Wood Screws	
Sandpaper**: 150g, 220g & 320g	
Drill Bits:	
Wood Glue	
Exterior Wood Sealer	

* Board Dimensions are "nominal". Actual dimensions are smaller due to lumber industry standards. Cuts are actual length.

** Starting grit will depend on board surface condition, a rough surface will require starting with a coarse grit first.

 Grit is measured in the coarseness of the particles on the sandpaper. The lower the grit number, the coarser the paper. Heavy sanding would require 60 to 80 grit, medium sanding would require 120 to 220 grit, and finish sanding would require 320 to 400 grit. Super fine sanding would be 600 grit and higher.

 A select/premium board or plywood comes with a smoother surface finish. It is clear or has very few tight knots, and it will have straight and sharp edges. This grade of wood pairs well with other boards or panels better and requires less time to sand and finish.

Tools Used



Miter Saw

or



Circular Saw



Drill/Driver



Orbital Sander



Tape Measure



Safety Glasses



20V 1.5Ah Battery



20V 4.0Ah Battery



Charger



Drill Bits



Countersink Bit




Phillips Dr. Bit



#2 Square Dr. Bit

Also Needed:
Clamps
Pocket Hole Jig

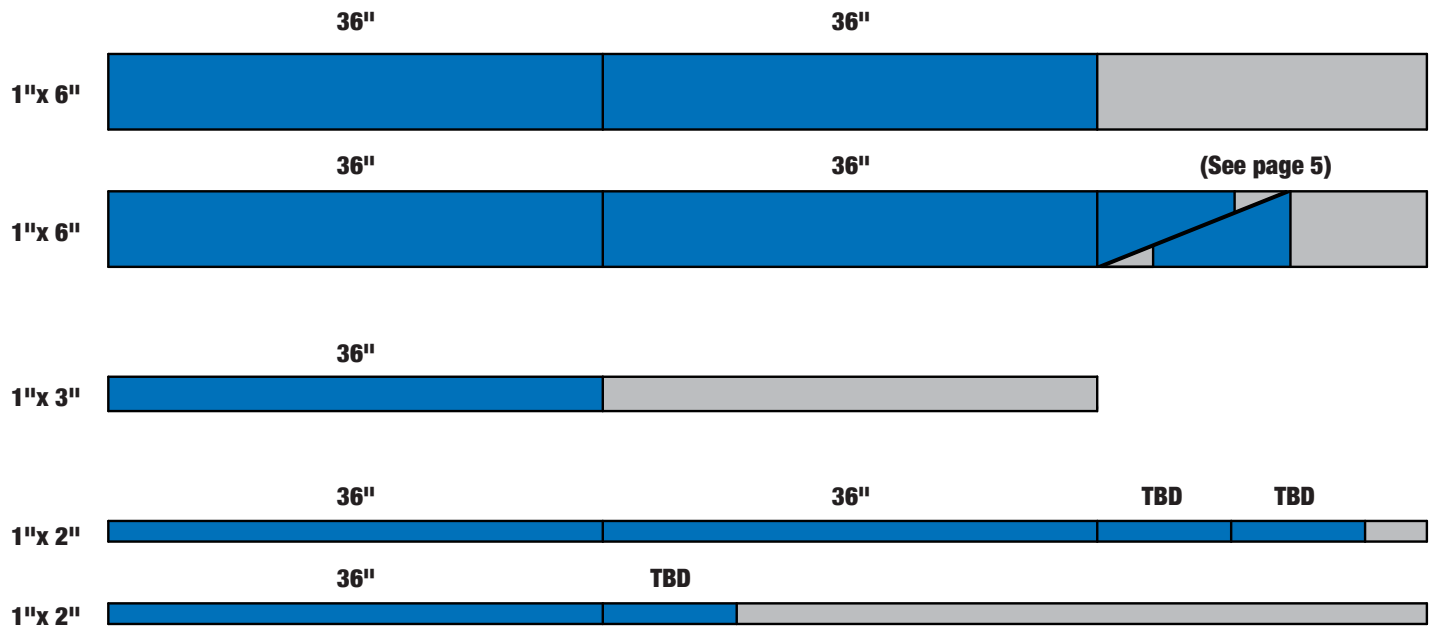
 **Battery Tip:** A 4.0 Ah battery is recommended to be paired with high amp draw tools for maximum efficiency.

Lumber Cut List

Board*	Description	Cut to	Qty
1" x 6"	Upper Tier Shelf	36"	1
1" x 6"	Lower Tier Back	36"	1
1" x 6"	Lower Tier Shelf (A)	36"	1
1" x 6"	Lower Tier Shelf (B)	36"	1
1" x 3"	Upper Tier Back Splash	36"	1
1" x 2"	Upper Tier Back Stop	36"	1
1" x 2"	Lower Tier Back Stop	36"	1
1" x 2"	Lower Tier Front Apron	36"	1
1" x 2"	Lower Tier Side & Center Apron	TBD	3

* Board dimensions are "nominal." Actual dimensions are smaller due to lumber industry standards. Cuts are actual length.

Lumber & Sheet Layout Guide



Lumber Cut List

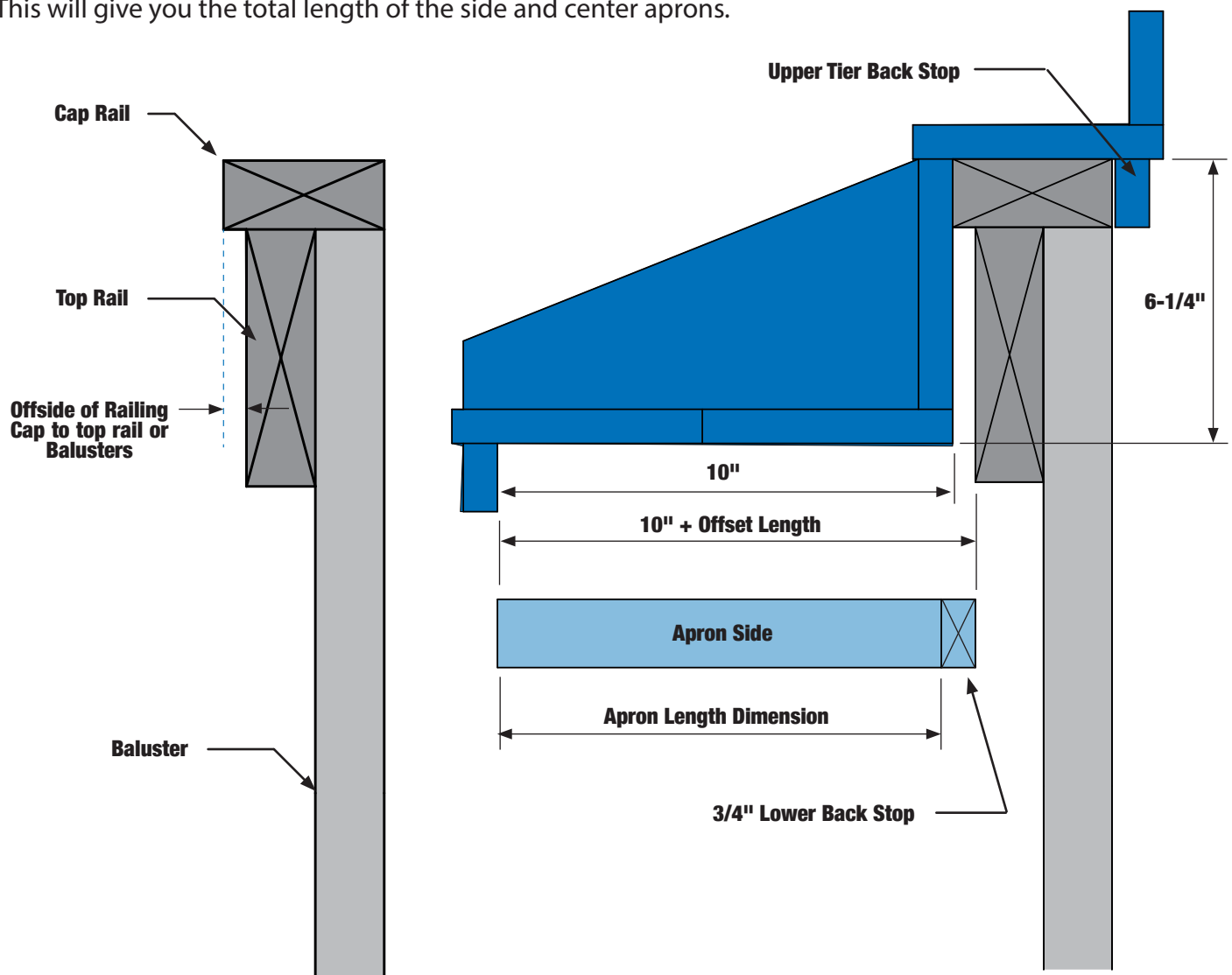
Side Apron & Center Support

To ensure your Deck Rail Bar fits your personal deck perfectly, you will need to get a few dimensions from your railing. Add these dimensions to your Cut List to ensure you are building a custom Deck Rail Bar that fits your rail.

First, measure down 6-1/4" from the top of the rail cap. This distance may place you on a top rail or the baluster depending on the type of railing you have. Then measure the offset distance from the inside of the cap to the rail or baluster. Make note of this measurement.

The underside of the lower tier shelf to the front apron is 10". Add that to the offset length from the railing cap. Then subtract 3/4" for the thickness of the lower back stop.

This will give you the total length of the side and center aprons.

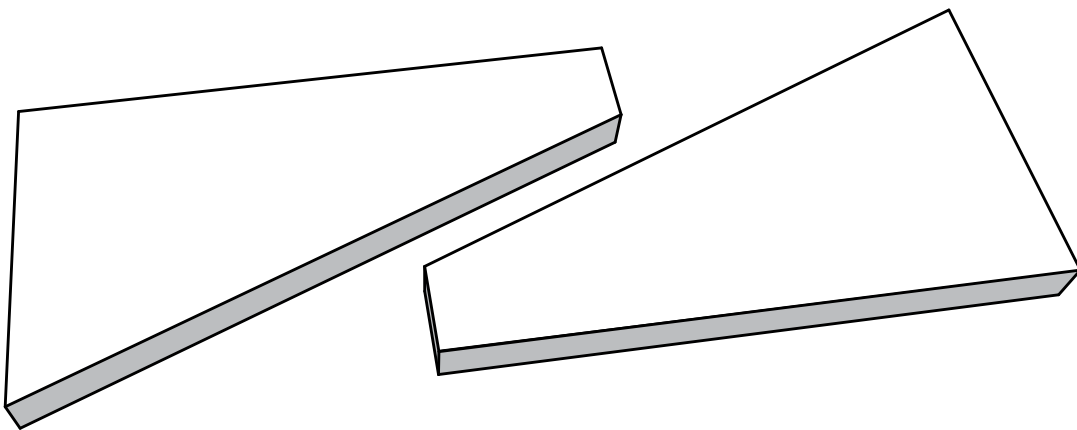
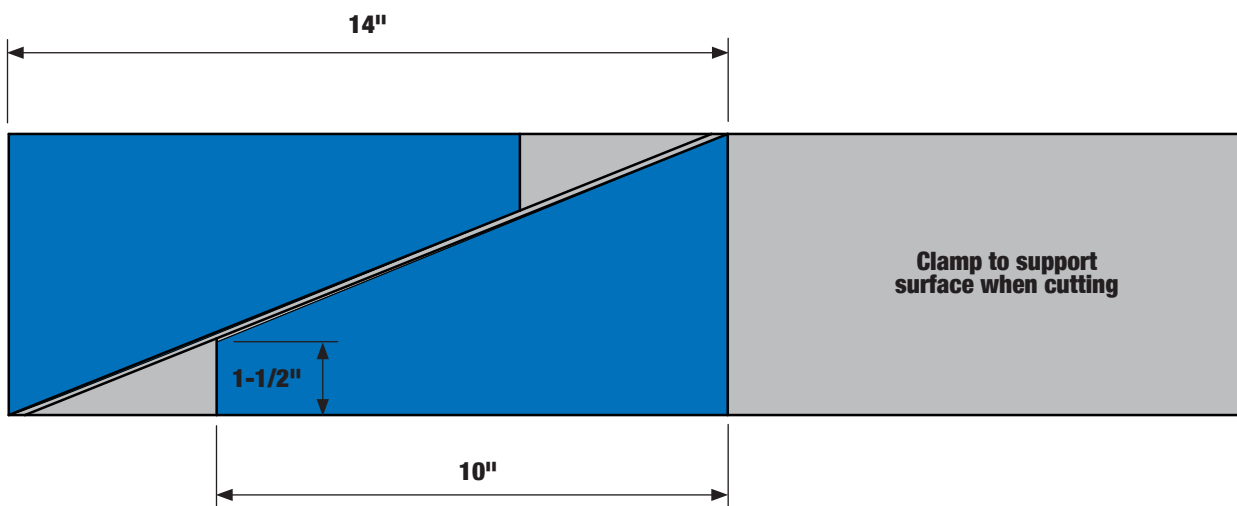


Lumber & Sheet Cut Layout Guide

Side Supports for Lower Tier

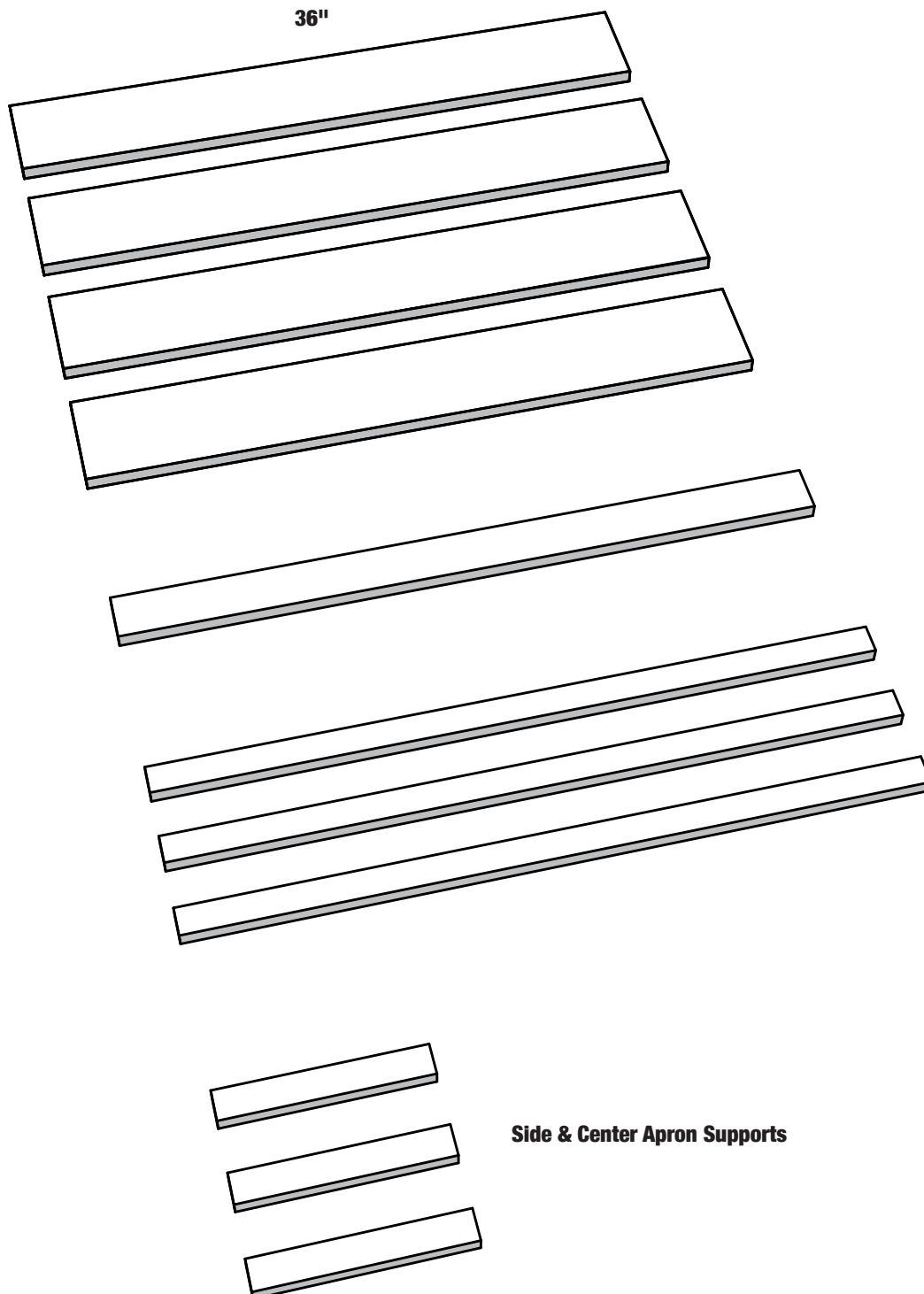
Take (1) of the 1" x 6" off cuts and map out the shape of the (2) side supports.

Clamp to a supportive surface and make the diagonal cut with a Circular Saw. The other cuts can be done with a Miter Saw.



Lumber & Sheet Cut Layout Guide

Boards



Assembly Instructions

Step 1

Cut out all material using the Lumber & Sheet Cut Layout Guide.

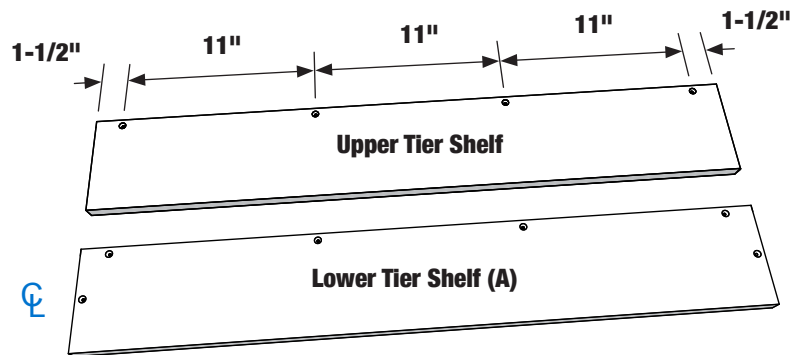


Step 2

Take (2) of the 1" x 6" x 36" boards to make the upper tier shelf and lower tier shelf (A).

Both boards will have countersink holes on (1) side that are 3/8" from the edge. Follow the diagram for measurements.

The lower tier shelf will have (2) additional countersink holes. Center (1) countersink hole on each end and 3/8" off of the edge.



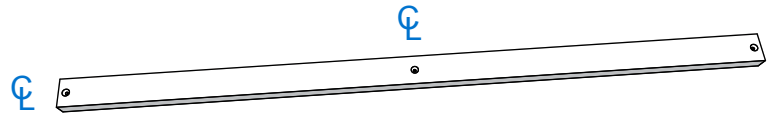
Step 3

Take another 1" x 6" x 36" board and drill (1) countersink hole on each end in the center and 3/8" from the edge.



Step 4

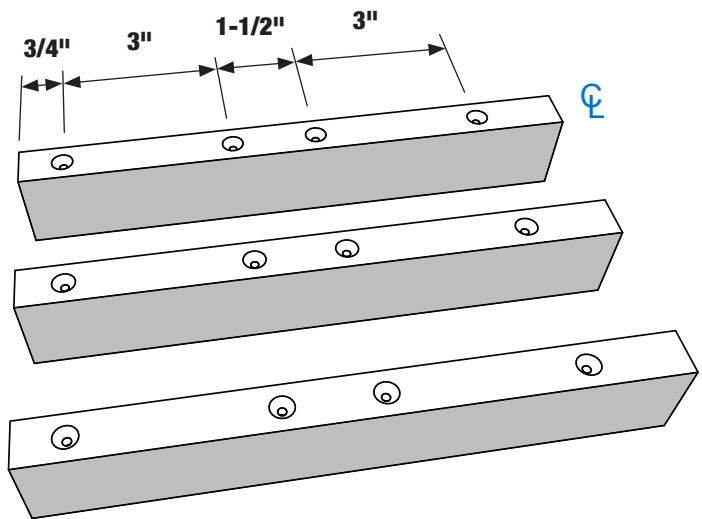
To make the lower back stop, take (1) of the 1" x 2" x 36" boards and drill (3) countersink holes. Drill (1) on each end 3/8" from the edge and centered, and (1) in the center of the board.



Step 5

Take the (3) 1" x 2" apron boards and stand them on the 3/4" side. Drill countersink holes following the measurements in the diagram.

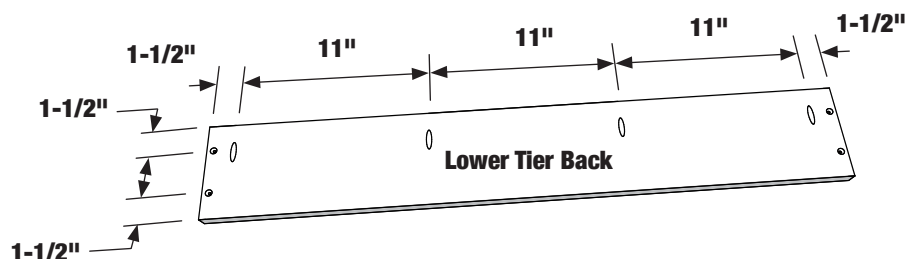
After drilling countersink holes, take a 1/8" drill bit and continue drilling through the boards.



Step 6

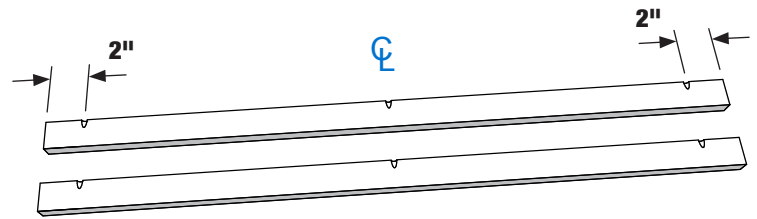
On the remaining 1" x 6" x 36" board, drill (2) countersink holes on each end that are 1-1/2" from the sides and 3/8" from the edges.

Mark locations for pocket holes following the diagram. This will make the lower tier back board.



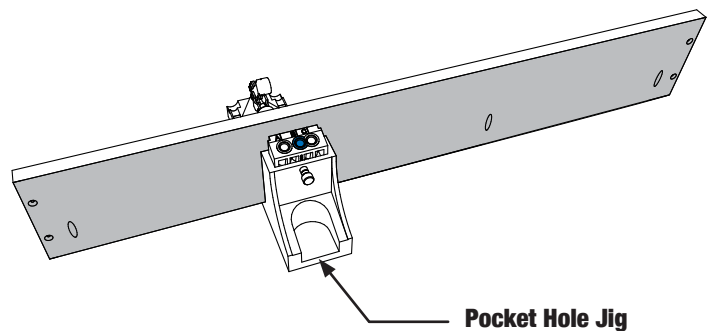
Step 7

Take (2) of the 1" x 2" x 36" boards and mark for pocket holes at the locations shown in the diagram.



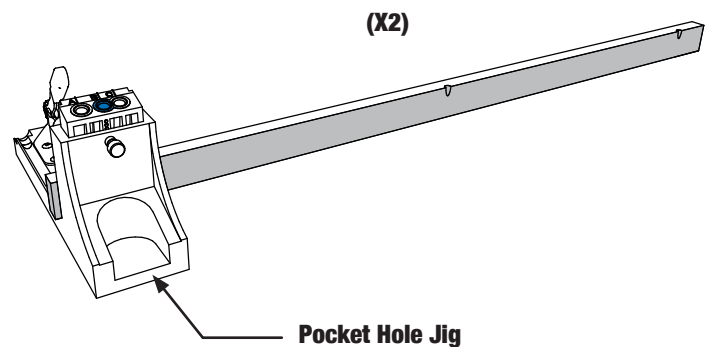
Step 8

Take the lower tier back board from Step 6 and drill pocket holes using a pocket hole jig.



Step 9

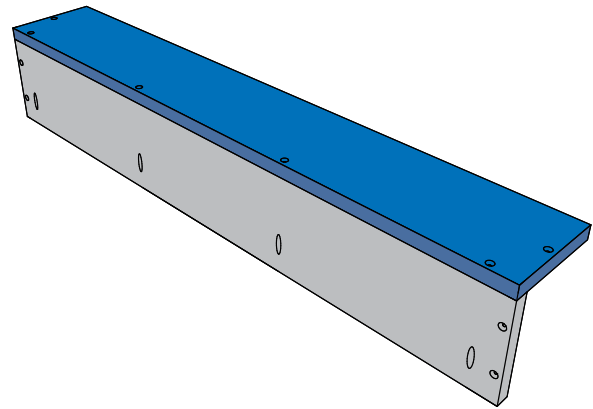
Take the (2) 1" x 2" x 36" boards from Step 7 and drill pocket holes using a pocket hole jig. This will make the upper tier back stop and lower tier front apron.



Step 10

Align the lower tier shelf (A) board with the lower tier back.

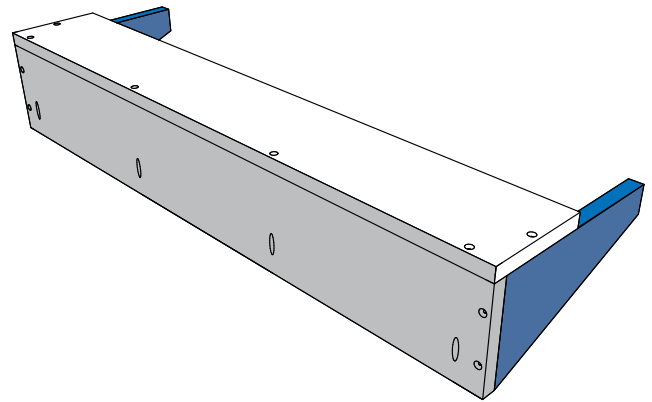
Attach with glue and 1-1/2" wood screws (tighten all screws flush with countersink holes).



Step 11

Align the (2) side support boards at each end.

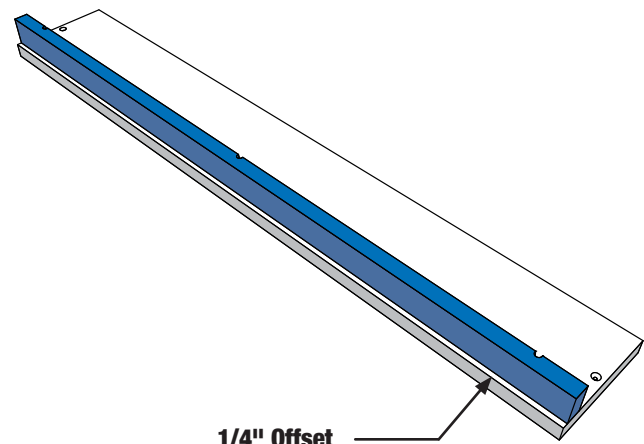
Attach with glue and 1-1/2" wood screws.



Step 12

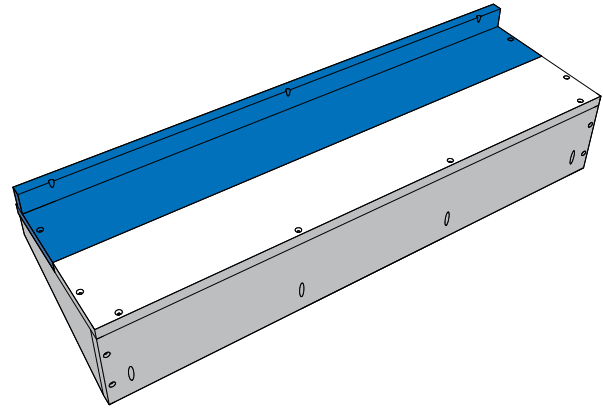
Take lower shelf (B) and measure 1/4" inward.

Attach the front apron by gluing and using 1-1/4" pocket hole screws to shelf (B) at the 1/4" offset mark.



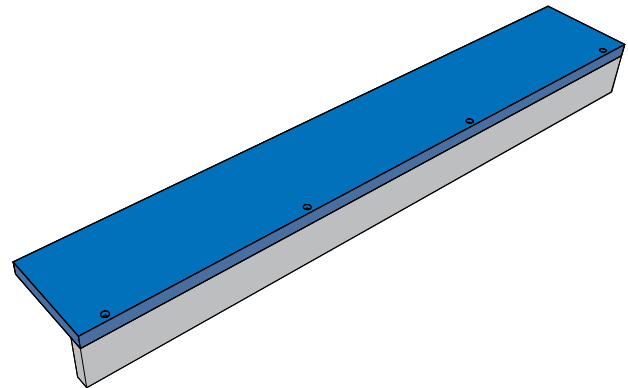
Step 13

Attach shelf (B) to the lower tier assembly with glue and 1-1/2" wood screws.



Step 14

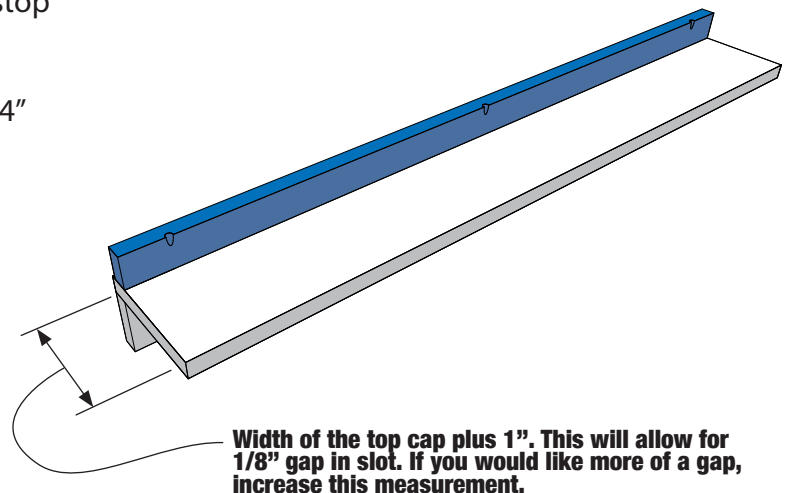
Align and attach the upper tier shelf to the 1" x 3" x 36" back splash using glue and 1-1/2" wood screws.



Step 15

Measure the distance from the upper tier back stop (see note in diagram).

Attach the front apron by gluing and using 1-1/4" pocket hole screws.



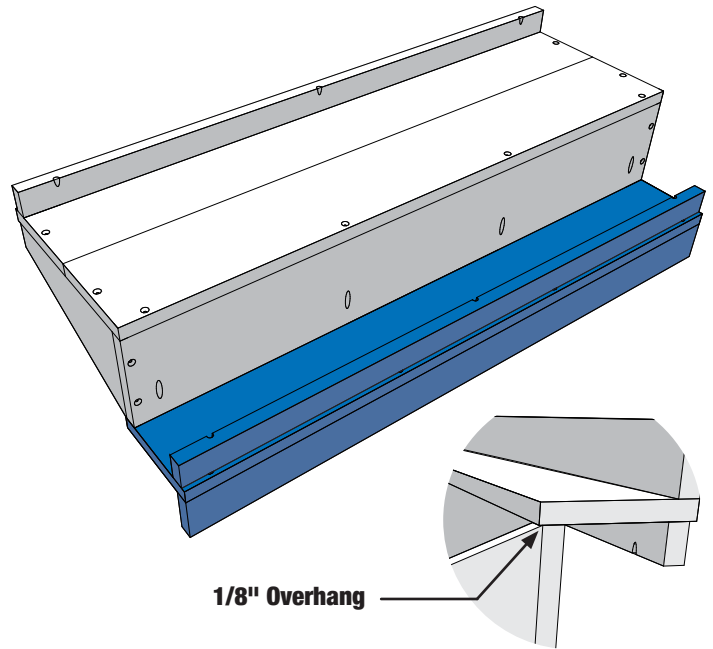
Step 16

Align the lower tier assembly to the upper tier assembly with an 1/8" offset.

Attach by gluing and using 1-1/4" pocket hole screws.



Tip - Use clamps to hold the (2) shelf assemblies together and place a 6-1/4" block under the lower shelf to stabilize. Let the back splash hang over the work support, then screw together.



Step 17

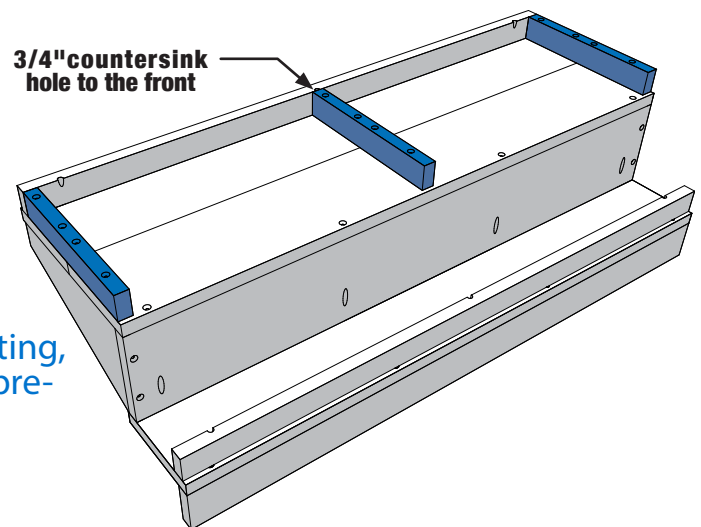
Align both side aprons to the edge of the lower tier shelf.

Attach with glue and 3" wood screws.

Align the center apron in the middle and attach with glue and 2" wood screws.

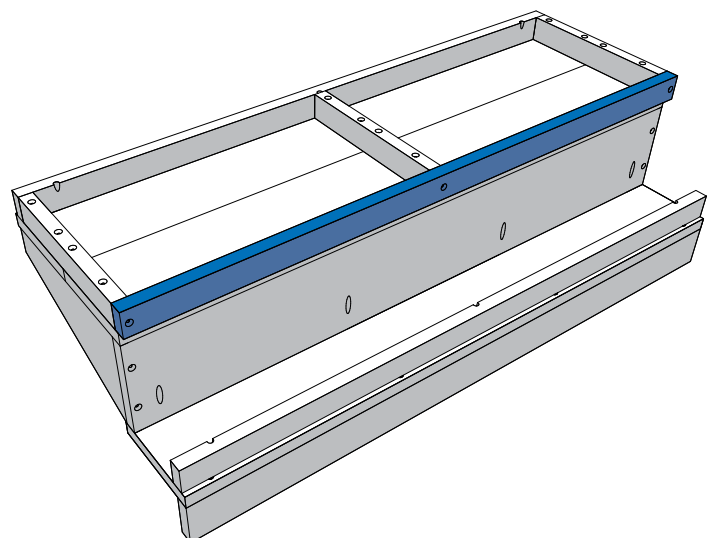


Tip - To help prevent the wood from splitting, use the apron board as a drill guide and pre-drill from the underside of the shelf.



Step 18

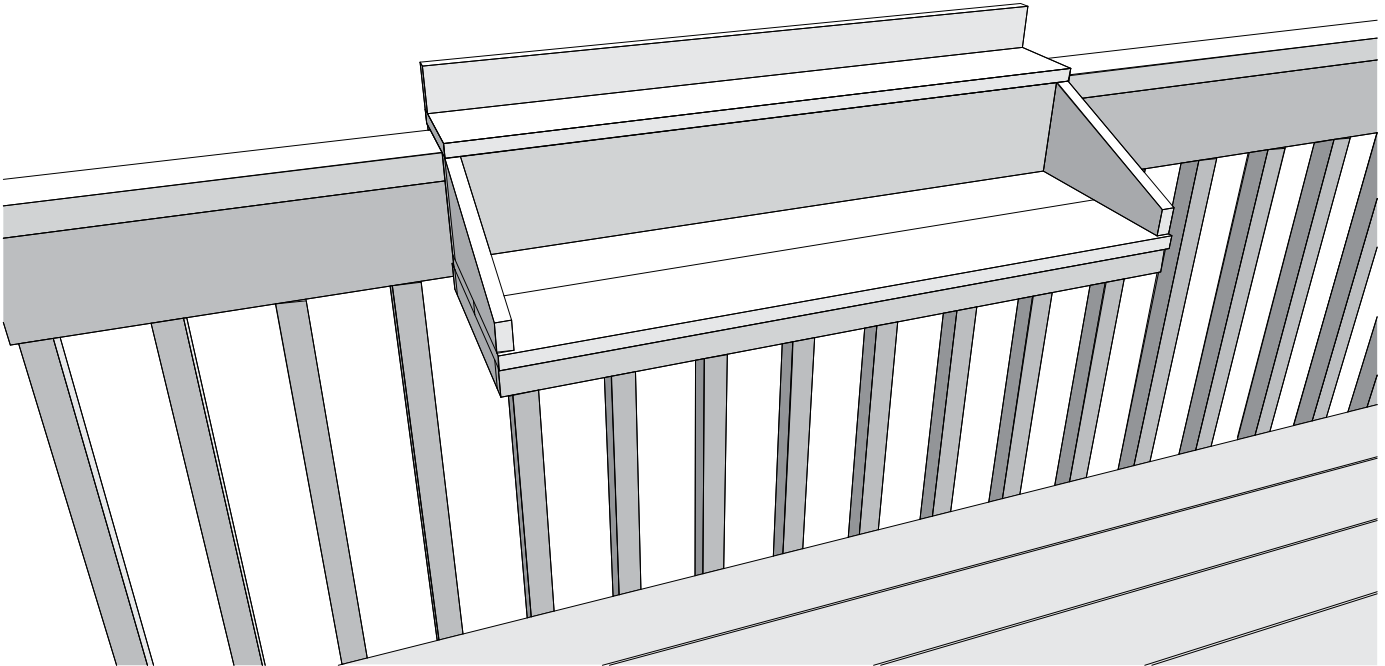
Attach the lower tier back stop to the apron boards and lower shelf with glue and 1-1/2" wood screws.



Step 19

Sand and finish to your desire.

Project complete!



H **Rougher finish** – Use 60-80 grit sandpaper to hand sand with the grain of the wood.

Smoother finish – Use 60-80 grit sandpaper to remove scratches & imperfections.

Followed by using 120-220 grit to smooth.

Finish Sanding – Use 320-400 grit sandpaper

Super fine sanding – Use 600+ grit sandpaper

