BRIAN OLTROGGE

Brian Oltrogge is the owner of Grunblau Machine, LLC and Grunblau Design Studio. Brian was trained as an architect and has taught at various institutions, including LTU, Cranbrook, RPI and College for Creative Studies in Detroit. Over the last 25+ years, he has worked as an architectural designer and fabricator whose work has been featured in various architectural publications, including Dwell Magazine. His work is also included in the permanent collection at the Museum of Modern Art. Brian uses YouTube as a platform for showcasing his ideas and expressing his creative energy in the hopes of educating and inspiring others to follow their passion and make something!

SKILL LEVEL: Beginner
TIME COMMITMENT: 4–6 hours

BIRD FEEDER

Spring is in the air and birds are chirping. This bird feeder will keep those feathered friends hanging out, full and happy.

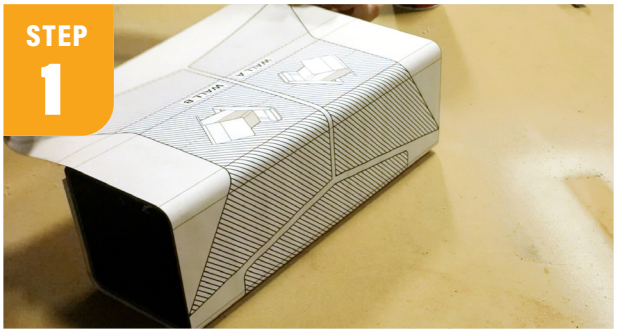
TOOLS AND MATERIALS

- Patterns
- Multimatic® 220 AC/DC multiprocess welder
- Grinder
- Metal bandsaw/cut-off disc
- Belt sander
- Angle grinder/flap wheel
- Drill
- Countersink
- Clamps
- Spray adhesive
- WD-40
- 4" x 4" x 3/16" steel tubes (6" and 12") with optional 2-1/2" section for mounted feeder
- 3/4" thick plywood and cedar (optional for wood floor)
- Glue (optional for wood floor)

WARNING: READ AND FOLLOW ALL LABELS AND THE OWNER'S MANUAL.

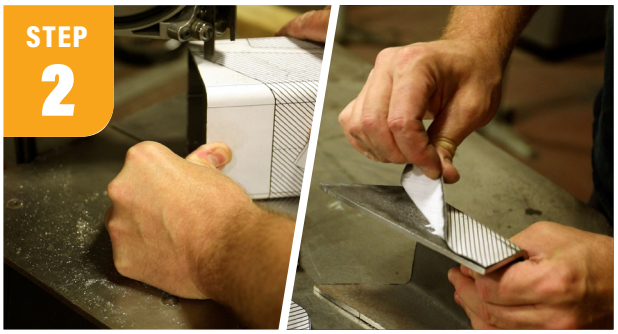
STEP BY STEP

STEP 1



Print patterns at 1:1 scale at a local print shop and attach them to the square tubing using spray adhesive.

STEP 2



Using a metal bandsaw or a cut-off disc, cut out the patterns. If using the bandsaw, cut the pattern from one side — do not rotate the tube — to make sure everything is symmetrical. Using a grinder or belt sander, smooth and round the edges and remove the patterns with WD-40 and alcohol.

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STEP 3

If you want a replaceable wood floor, you can make it simple or complex. I used 3/4"-thick plywood with cedar end caps to warm up the look of the steel. Glue the wood pieces and clamp together.

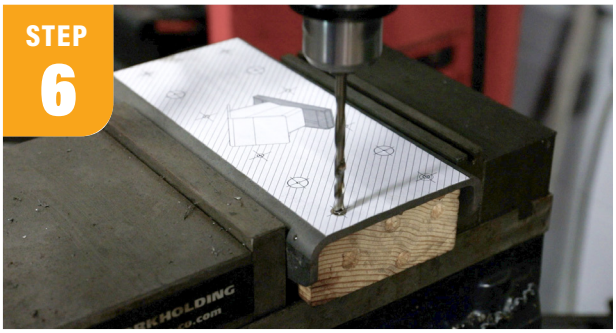
STEP 4

Verify the fit of the pieces and mark the areas you want to bevel before welding. This will ensure good penetration for the welds.

STEP 5

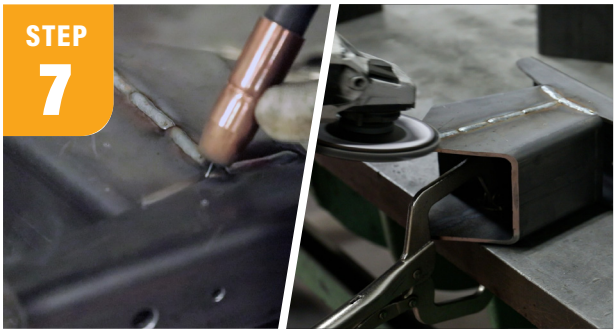
Bevel the areas you marked in the previous step and then weld the roof together using the Multimatic 220 AC/DC.

STEP 6



Before welding the body of the bird feeder, determine if your bird feeder will be mounted to a post or hanging. If mounting, drill the holes on the bottom template pattern for the fasteners. I drilled extra holes for drainage as well.

STEP 7



Finish welding the bird feeder body and bottom together, and if you choose, grind the seams using a 60 grit flapper disc.

STEP 8

If you are mounting the bird feeder to a post, weld the 2-1/2" section of square tubing to the bottom of the feeder so it slides onto the post. You can also screw it into the post for a more secure bird feeder.

STEP 9

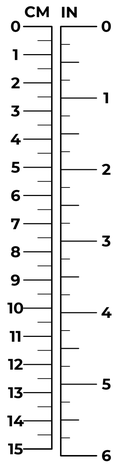
Once everything is welded, add small tabs under the roof to keep it in the correct position for a tight fit. The roof will be removable to add the bird seed.

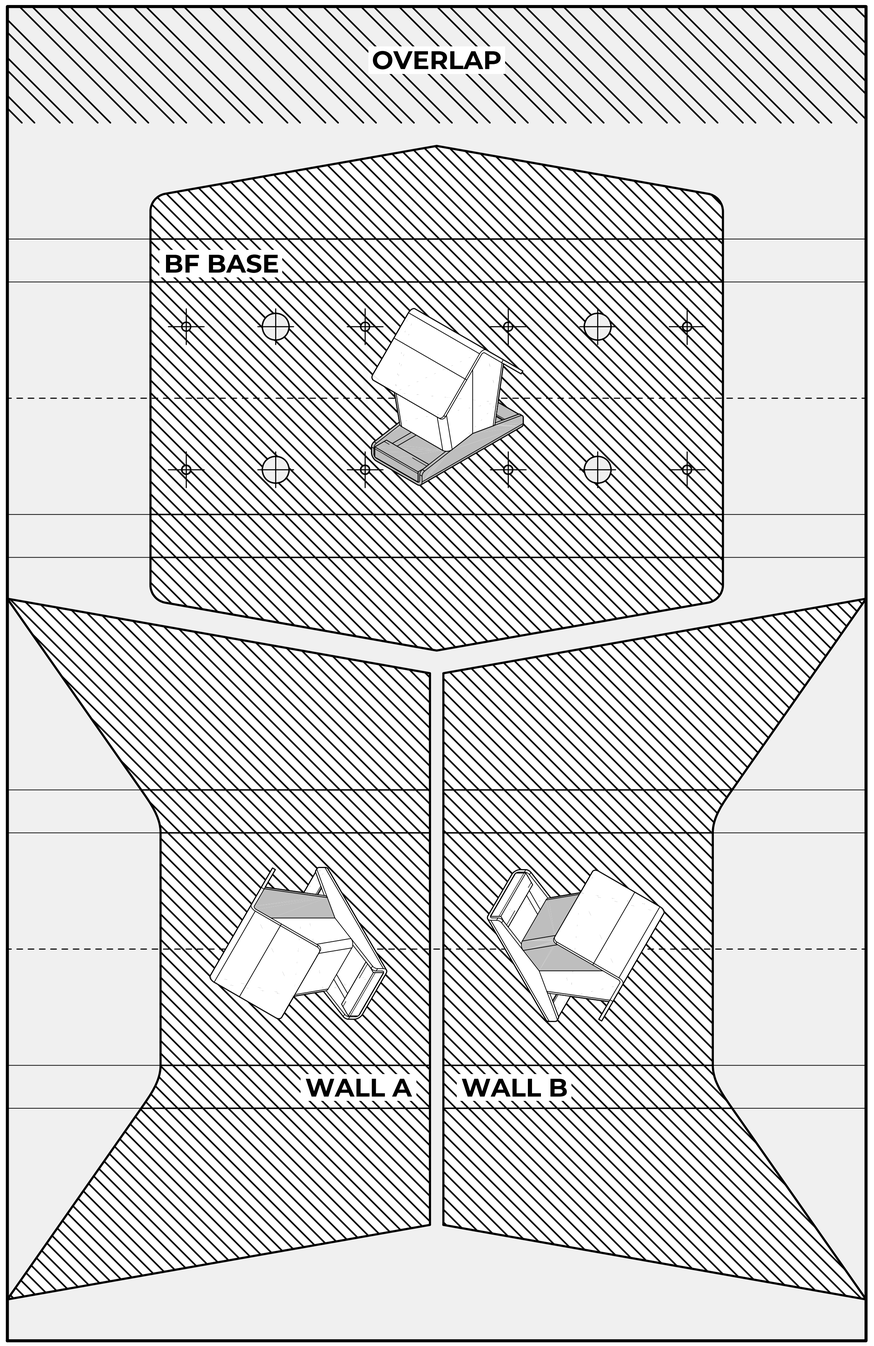
STEP 10

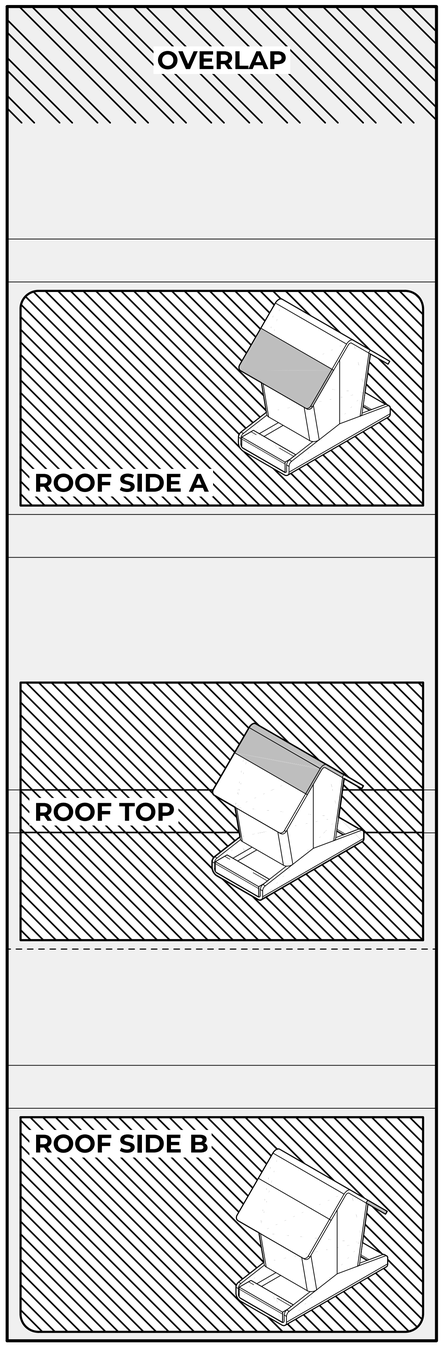
Paint or keep the steel finish and mount or hang your bird feeder. My feeder holds a little over a quart of bird seed.

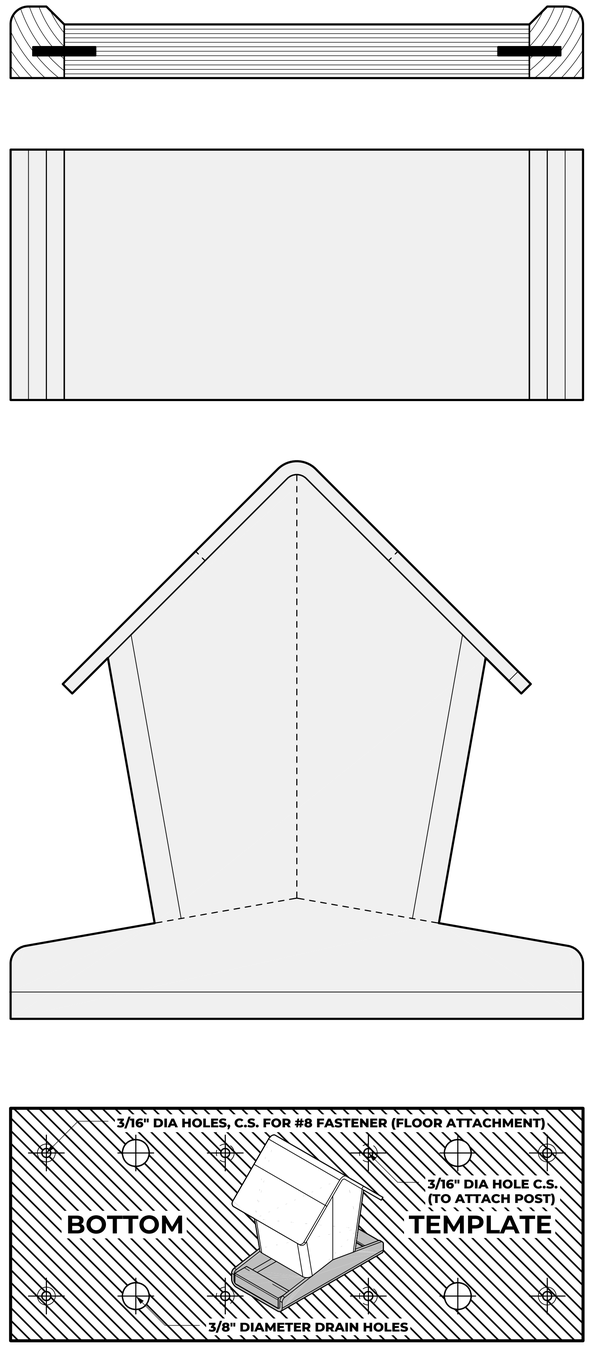
NOTES:

THESE PATTERNS ARE INTENDED TO BE PRINTED ON 24"X36" PAPER AT 1:1 SCALE. PLEASE CHECK THE ACCURACY OF THE PRINT BY USING THE SCALE BELOW.









SCALE: 1"=1"

SMALL BIRD FEEDER

PATTERNS 001