AUSTIN THIES

Austin Thies is a welder/fabricator at Stellar Industries in Garner, Iowa. He was first introduced to stick welding in a high school shop class and has been hooked ever since. These days Austin is an AWS-certified professional MIG welder — having worked on everything from hook lifts and container carriers to cable hoists and service cranes. He loves to weld and applies his creativity to projects at home, like building his own welding table, creating a firepit and crafting yard art for his grandmother.

Follow Austin on Instagram @ThiesWelds.

SKILL LEVEL: Intermediate/Advanced
TIME COMMITMENT: 3 days

TOOLS AND MATERIALS

- **Millermatic® 211 MIG welder** (or other MIG welder)
- **Hobart® .035 carbon steel solid wire** (or similar filler metal)
- **Steel chop saw**
- **Angle grinder** (with cutting wheel, wire wheel and flap disc)
- **Hot rolled rectangle tube** (1.5" x 3" x .19") Lengths: 2 (40"), 1 (34"), 4 (20"), 2 (17"), 2 (8.5")
- **Hot rolled flat** 1 (1.5" x 18" x .13") and 1 (3" x 6" x .13")
- **Expanded steel grating** (37" x 19" x .13")
- **Steel plate** (3" x 17" x .19" thick)
- **Eye bolts** with nuts (5/16")
- **Chain and clevis pins** to mount swing

Optional Equipment/Tools

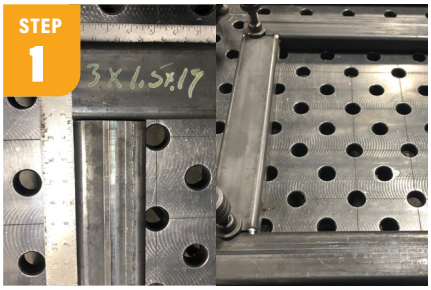
Hammer, Tape measure, C-clamps, Framing square, Vise grip, Bar clamp

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

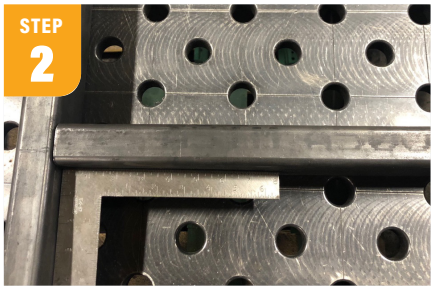
PORCH SWING

On those mild summer nights, there's nothing more relaxing than the gentle sway of a porch swing. And while there are plenty of options for sale at your nearest superstore, you can't buy the satisfaction and pride of creating one yourself — which is exactly what Austin Thies did! Follow his step-by-step directions to build a metal porch swing that you can enjoy all summer long.

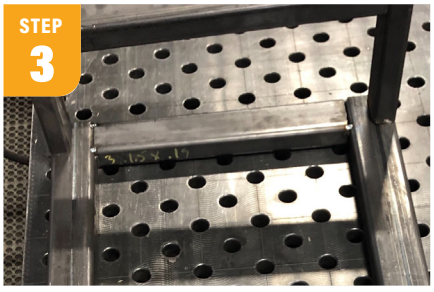
STEP BY STEP



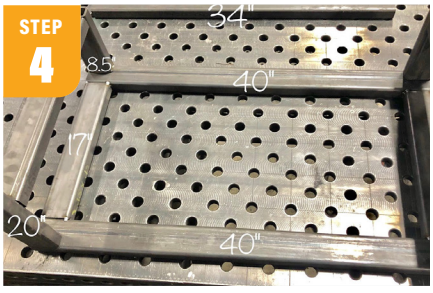
For the base (seat): Lay out 4 base tubes, (2) 40" and (2) 17", to make a rectangle. Square up the corners, and clamp down with a c-clamp or wide vise grip. Tack all joints. Flip the base over and tack all joints on the back. Note: tack joints only. Hold final welding until after step 4.



Each armrest has (2) 20" tubes and (1) 8.5" tube. For each armrest: Lay one 20" tube vertically (this is the back of the armrest). Measure up 7" from the bottom and make a mark. Lay your second 20" tube horizontally, making a sideways "T". The bottom of the horizontal 20" tube should rest where you made your mark on the vertical 20" tube.



To make the front of your armrests, take your 8'5" tube and lay it vertically at the other end of the horizontal 20" tube. Make sure the horizontal tube is square with both vertical pieces of the armrest. Once set, clamp and tack joints. Repeat steps for the other armrest. Place tacked armrests on the base (seat). Make sure they are square with the front and rear of the base. Tack in place.



Once you've attached your armrests to the base, place your last tube (34") at the top and between the two vertical 20" armrests (it becomes the back of the swing). This is where you might need your hammer to tap/jimmy the tube into place. Or you may have to use a bar clamp to eliminate any gaps between tubes. Once the tube is square, tack into place. Now that your whole frame is assembled, go back and fully weld all of your joints. Make sure when welding the flare bevels (the back and base rest, the base of arm rests, etc) that you raise your gun angle from 45° to 60° to avoid undercut or melt through of the tube. If this happens, turn your wire feed speed down and run a quick cover pass to fill the gap, then go back to your original 3/16" setting.

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STEP 5

Take the 1.5" x 18" x .13" hot rolled flat and cut into (6) 2.75" endcaps. Cover each tube's opening (except for the two armrest tubes) with an endcap and weld it down on all sides.

STEP 6

Take the 3" x 6" x .13" hot rolled flat and cut into (2) 3" x 3" pieces. Grind down the welds on the armrests, then place one 3" x 3" piece on each armrest to cover the ends. You can choose to grind the welds for a smooth appearance or leave it to achieve an "as welded" look.

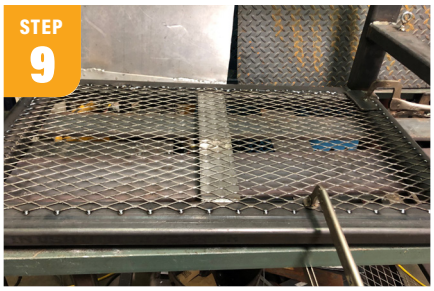
STEP 7

Take the (4) 5/16" eye bolts with nuts — screw the nuts all the way to the top until they reach the eye bolts. Cut just below the nut with your cutting wheel, removing the lower threads. Loosen the nuts (about one turn) and tack the inside of the nut. Tack the eye bolt until you can't see the seam. Place on the top of your armrests and weld the nut to the tube, then weld the bolt to the nut.

STEP 8

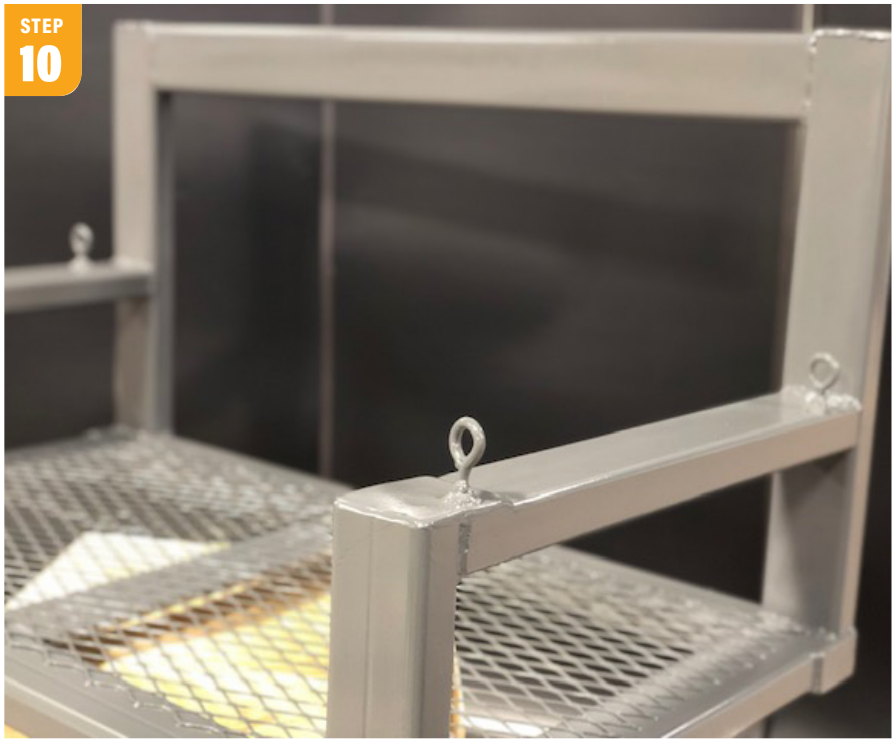
Take the steel plate (3" x 17" x .19" thick) and place it vertically in the middle of the base (seat). Make sure it is centered and weld it into place at the top and bottom, creating a support beam for the seat.

STEP 9



Set the expanded steel grating (37" x 19" x .13" thick) on the top of the base (seat). Square up all sides. Clamp down your base in a few spots to keep it in place, then tack all points down on all four sides. This secures the expanded steel to the base and also removes/covers any sharp corners and edges. Paint the swing or leave as is.

STEP 10



Get your desired length of chain and clevis pins to mount your swing. Note: The size of the pin must be small enough to slide through the eye bolt. Find a sturdy place to screw in your eye bolts (such as a rafter, beam or frame), and mount your swing. Sit back (literally) and enjoy.