

# Make Your Own Paint Booth

BY MARK FORSS



**WHEN I ADDED MY** home shop—a 20-foot by 24-foot addition that’s heated, lighted, and air-conditioned—to my garage, I considered how I would paint small parts for my various projects. Up to that point, my “paint booth” was an old lawn chair frame set outside in the backyard. While that works, it’s subject to weather, insects, flying grass, and the harsh realities of Wisconsin winters. Painting indoors quickly fills the garage and shop with paint fumes and paint dust. Looking at the commercial offerings for small indoor paint booths convinced me that I did not want to spend the \$500 to \$1,500 or more to purchase one off the shelf. Using some scrap material and a blower, I constructed a paint booth inside my shop for about \$150 and a weekend’s worth of effort.

Starting with materials on hand, I constructed the cabinet of the booth using 2-inch by 4-inch lumber and 2-foot by 4-foot by 1/2-inch plywood sheets. (While I made my booth from wood components, it could easily be made of sheet metal or other materials.) Basically, the booth is a cabinet with four two-by-fours as posts and three shelves: a bottom shelf about a foot off the floor used for holding an air compressor and supplies, a middle shelf for the actual spray booth cabinet, and a top shelf to finish off the top of the booth and act as a storage area. The booth area is enclosed on the sides and bottom to make a containment area. I installed an angled sheet in the top rear of the cabinet to mount the blower and a furnace filter and set the booth to a comfortable working height so I would not have to stoop over to paint.

The booth’s 115-volt exhaust system is a small HVAC blower, purchased from [www.Grainger.com](http://www.Grainger.com), with a flow of about 273 cubic feet per minute. The choice was based on the most cubic feet per minute for the money—no special calculations on that. I did make sure the design was such that the motor of the blower is outside of the airflow path to minimize any sort of fire hazard. This is important, as you don’t want any arcing from the motor to ignite the paint dust or fumes. The blower is attached to the angled rear wall with a few bolts. I made a transition piece from the square output flange of the blower to the circular exhaust ductwork with fiberglass cloth and resin. The blower exhausts through common 3- or 4-inch air duct through the wall and outside with a dryer-style wall vent. I chose metal rather than plastic duct to reduce any fire hazard. An inexpensive furnace filter is installed in a wooden frame in front of the intake of the blower, serving to collect paint dust and minimize any sort of debris buildup in the blower.

The inside cabinet of the booth is painted white, and a 2-foot twin-tube fluorescent fixture was installed in the top of the cabinet. It's important to have good lighting when painting, and the use of this fixture along with the white walls works well. I usually repaint the walls every few months as they will collect paint specks. A switch on the outside of the booth controls the light fixture and the blower.

While I usually use spray cans to paint, I do have a compressor, which I keep on the lower shelf to supply compressed air to my airbrush and small paint guns. Other features of the booth include screw-in hooks in the top of the booth to facilitate hanging small parts from wire for easy painting. I also created a Lazy Susan-style rotating table using a ball bearing plate from the local hardware store. This makes it very easy to rotate the part you're painting without having to pick it up. I also use sheets of paper to line the floor of the booth and change these out every few painting sessions. This helps to keep the booth clean.

There are some other things to think about if you decide to tackle this project. When the exhaust blower of the booth is on and removing air from your booth and shop, the performance of the exhaust system will suffer unless you have some sort of fresh air intake. In my shop, I installed a 6-inch fresh air intake pipe with damper, essentially a "reverse dryer vent," on the shop wall farthest from the booth to help facilitate airflow. In addition, the components of this booth are not "rated" with regard to fire or other hazards. When painting, there are paint dust and fumes that can possibly ignite. You must take care to minimize

exposure of any of the working electrical parts to these materials. I will say that I have used this booth year-round for the past nine years without any issues.

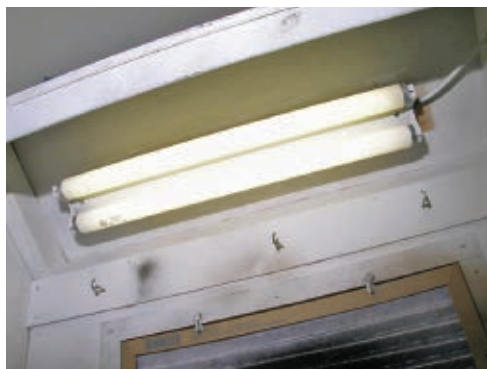
Finally, while the booth will remove a great amount of paint materials that float around while painting, it is extremely important to be wearing personal protective gear. A paint respirator appropriate to the type of materials being used and gloves are part of my standard "kit" of painting tools.

Overall, I am extremely pleased with how the booth turned out. It has virtually eliminated paint dust and fumes from my shop, and it provides a great area to paint parts, protecting them from any debris that may settle on them while wet. It is a great addition to my shop. *EAA*

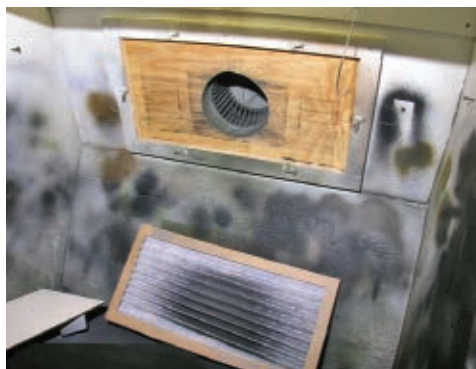
**Mark Forss**, EAA Lifetime 255102, organizes EAA's SportAir Workshops.

#### PARTS LIST

- 10 2-inch by 4-inch by 6-foot boards
- 7 2-foot by 4-foot by 1/2-inch plywood sheets
- 1 HVAC blower, 115V
- 3- to 4-inch exhaust ductwork
- 1 6-inch fresh air intake pipe with damper
- 1 Dryer-style wall vent
- 1 Furnace filter with wooden frame
- 1 2-foot twin tube fluorescent light fixture
- 2 Light switches
- Fiberglass cloth
- Acrylic Resin
- 1 Ball bearing plate
- Bolts
- Screw-in hooks
- Wire
- White paint



Fluorescent lighting mounted inside the hood.



The exhaust intake manifold with the filter removed.

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