Low Cost Waterfall Spray Booth
With thanks to Tom Turner

I have wanted to build a waterfall style spray booth for a long time. I saw my first one at the Red Star Studios in Kansas City that Jesse Hull had built. Recently someone posted a link to Tom Turner's design on his web site (http://www.tomturnerporcelain.com/page031.htm). The unique feature of Tom's design is the use of a three piece shower stall as the framework for the booth.

I went to my local building supply store to start Tom's version of the project and discovered two things. The first was the cost of a shower stall was about $350. I'm cheap and that seemed like a lot of money just to start the project. The second was the size. It was much larger than I expected and bigger than I needed. I asked the salesperson if they had any seconds. He said they didn't but if I wanted to make a less expensive, smaller version I should just get a 50 gallon plastic drum from the wholesale food supplier down the street. So for $15 I got started.

Tom Turner's Shower Stall Spray Booth

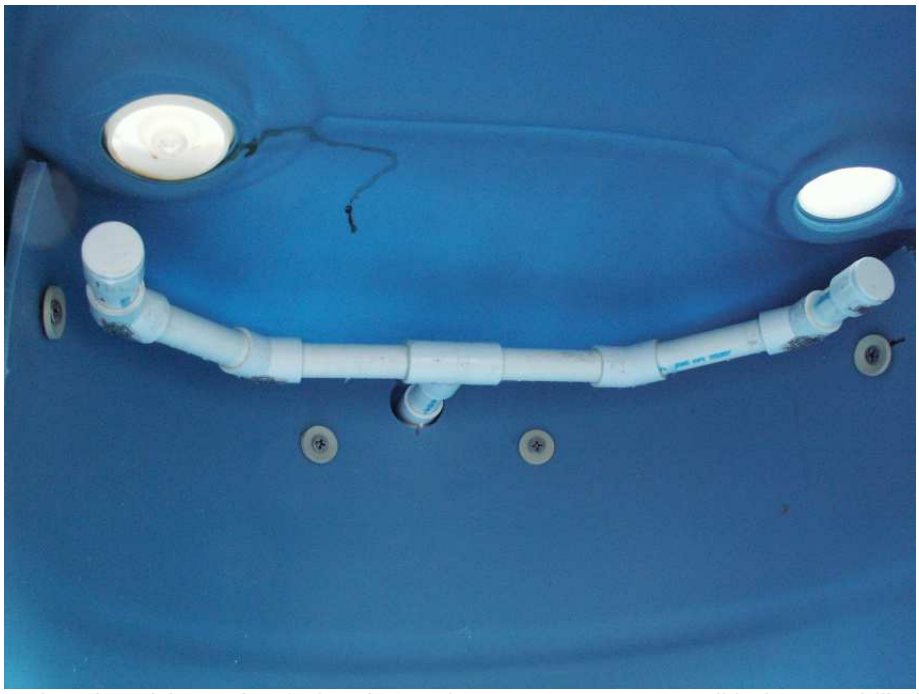
This is a fifty gallon plastic drum from a wholesale food supplier (1). This one had residue of organic molasses in it which had to be hosed out.

I drilled four holes at the corners of the cutout then I cut it out with a jig saw. I left 3 inches on the top and bottom. The opening is about 22”w by 28”h.

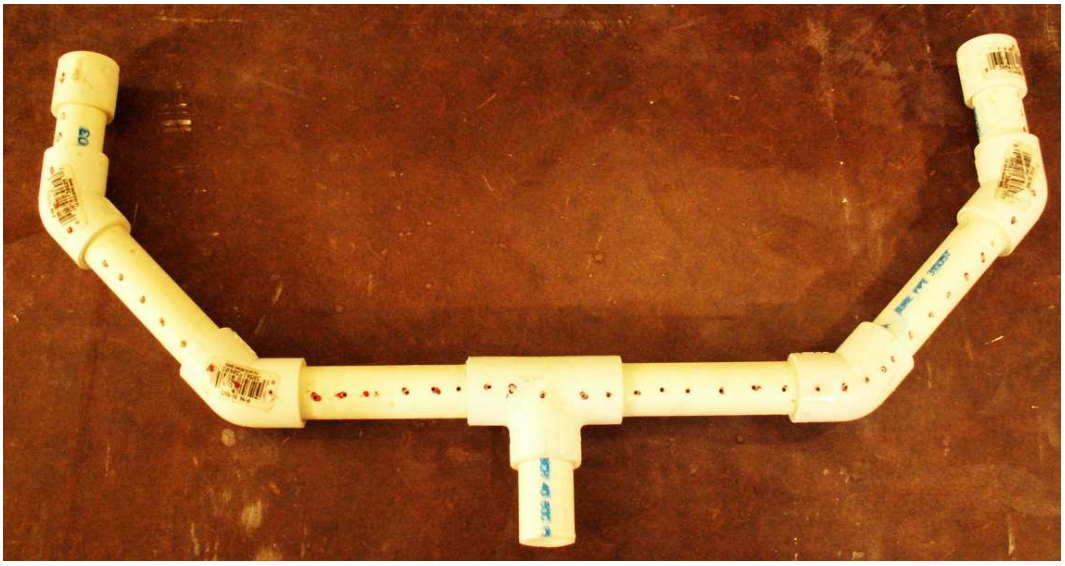
I installed the cut out piece close to the top as the false wall. It is attached to the back with 2 inch 1/4x20 stainless steel bolts sealed with rubber washers (2). This is where the water will flow and wash the glaze down through the drain. The drain is a standard kitchen sink drain (3). There is 1/2" PVC pipe behind the false wall (4).

Detail of the sink drain and lower part of the 1/2” pipe

Detail of spacer to keep the false wall away from the back wall. It is a 1 inch long piece of the 1/2” PVC pipe.



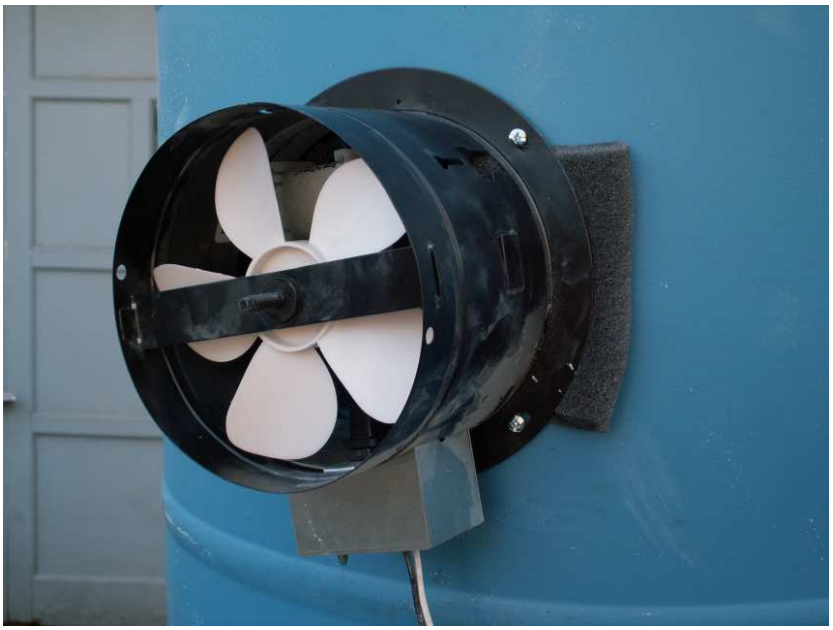
This sprayer (version 1) is made of 1/2” pipe and 45° connectors. Small holes are drilled along the backside (see detail next)



The holes are drilled at an angle so the water hits the back wall

Sprayer in place.

4 1/2 inch hole in the back wall for the exhaust fan. I had to push the pipe out of the way before I drilled the hole. This will pull air through the booth. Eventually there will be a structure to hold a filter. But for now…..



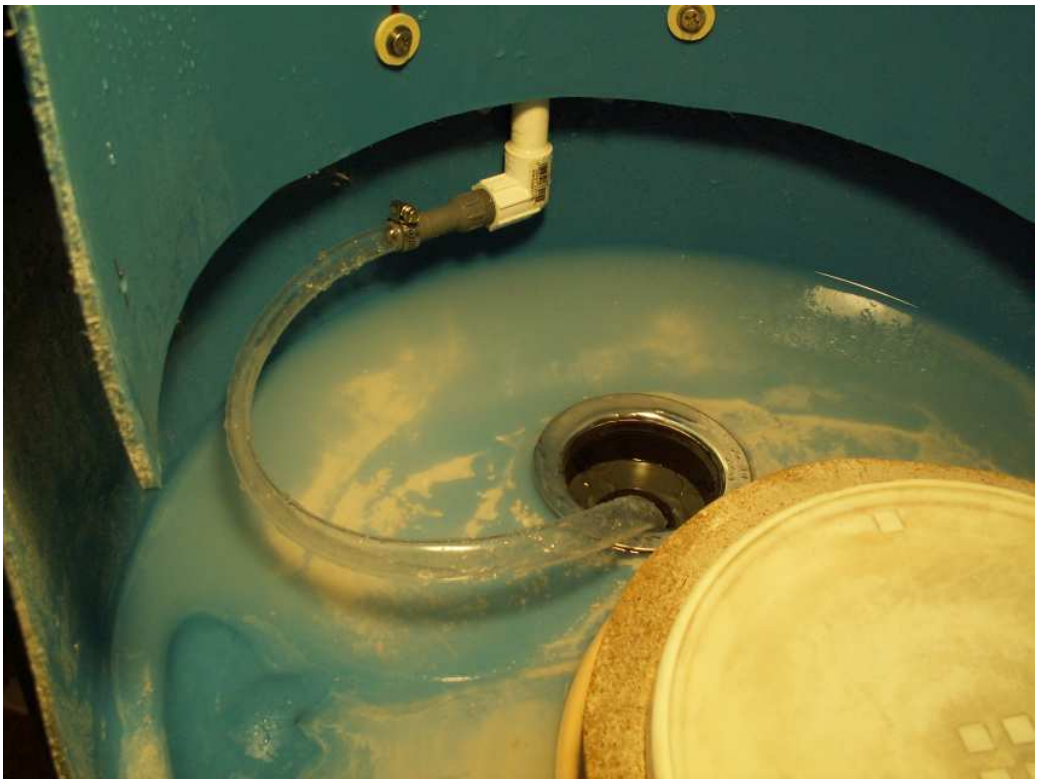
Exhaust fan attached to back of booth (5).

A larger view of the back.

A full view of the front.

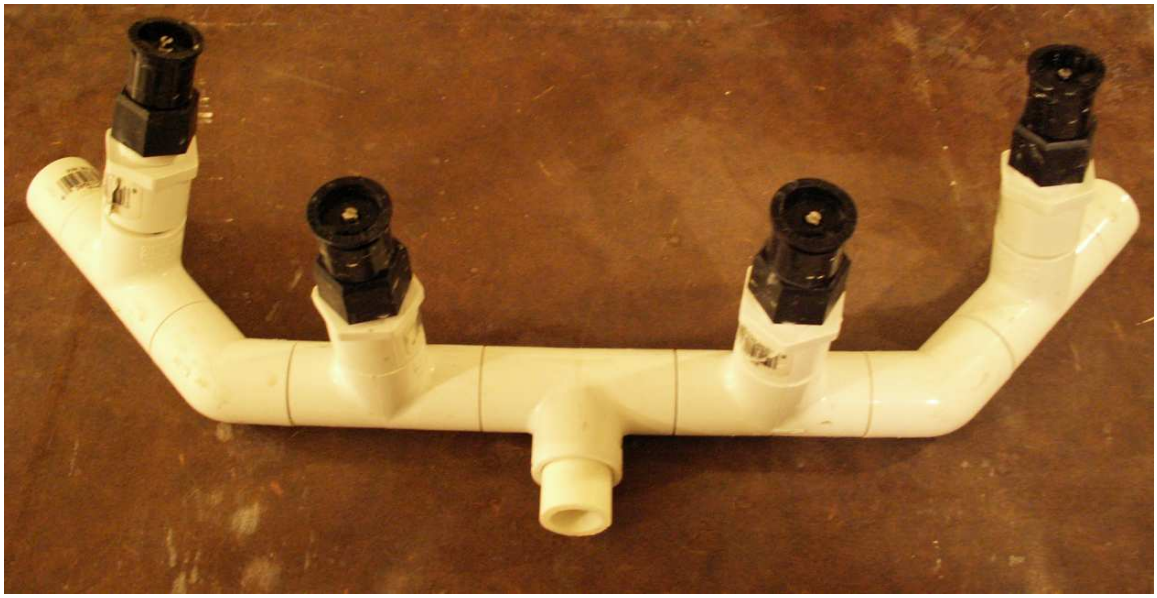
Sump pump (6) and hose to feed water to the sprayer. Valve to control flow (7). The sprayer sits on two plastic sawhorse's (6)

This is the pump I used



Water connection from pump to pipe to sprayer. I routed the pipe up through the middle of the drain.

Sprayer assembly version 2. This uses sprinkler heads to disperse the water.



Detail of sprinkler head sprayer assembly. It did not work as well!!

Sprayers in action

Enhancements and lights (8)

Stronger exhaust system and filter (9) with dryer vent pipe and fittings (10)

OK, so what good is a Spray Booth if you have nothing to spray with??? All available at Harbor Fright

~$150

2-1/2 HP, 10 Gallon, 125 PSI Air Compressor

Air delivery: 5.3 SCFM @ 90 PSI
6.2 SCFM @ 40 PS I1/4"-18 NPT
Easy-to-carry handle and smooth-rolling wheels for hassle-free mobility
Direct drive induction motor with thermal overload protection
Clear view oil window lets you know when its time to refill oil
High impact ABS shroud for maximum protection
Easy-to-read pressure/regulator gauges indicate CFM and PSI

120 volts, 14.1 amps 60 Hz

3400 RPM 125 PSI max working pressure

Air delivery: 5.3 SCFM @ 90 PSI

Cord length 6 ft.

Overall dimensions: 36"L X 22-1/4"W X 13-1/4"H

~$15

20 Oz. High Volume Low Pressure Gravity Feed Spray Gun (Need 3)

High volume, low pressure for high output with lower overspray. Better for the environment, helps you save money on material costs.

Best mix of paint and air pressure
Uses most oil based paints
Adjustable fan pattern and volume control
Includes cleaning kit, wrench and barbed inlet fitting

Required air supply: 1-3 HP compressor

Required air pressure: 50-70 PSI

Air consumption: 6 CFM Air inlet: 1/4"-18 NPS

Output: 200-300 ccs per minute

Cup capacity: 20 oz Nozzle size: 1.5mm

~$10

Quick-Change Airbrush Kit

Switch paint colors in seconds.

No need to clean gun between color changes
Adjustable paint flow and spray patterns
Chrome-plated brass nozzle

~$10

3-Way Quick Coupling Manifold

This coupling manifold is designed to simplify multiple tool operations.

1/4" industrial standard coupler with 3/8" inlet
Allows three work stations to use the same air supply
Durable aluminum and brass construction

1/4" NPT air outlet 3/8" inlet

~$20

25 ft. x 3/8" Heavy Duty Black Rubber Air Hose

~$5

1/4" x 25 Ft. Self-Coiling Air Hose (Need 3)

Parts list

1. 55 Gal plastic drum. Glory Bee Honey
2. 10 sets of 1/4x20X2” stainless steel bolts, nuts and rubber washers. Bi-Mart or Jerry’s
3. Standard kitchen sink drain. Bi-Mart or Jerry's
4. 12 feet 1/2” PVC pipe and an assortment of 45, 90, T’s and end caps and glue. Bi-Mart or Jerry’s
5. 4” Exhaust fan from Jerry’s

6. Sump pump and plastic sawhorse’s from Harbor Freight
7. 3 feet 3/4” hose to feed water to the sprayer. Valve and plastic fittings to control flow. Plastic laundry bucket and smaller basket (with holes). Bi-Mart or Jerry’s
8. 2 clamp on lights and power strip. Bi-Mart or Jerry’s

9. Stronger exhaust system and filter Harbor Freight.~$100
10. dryer vent pipe and fittings. Bi-Mart or Jerry’s