



The Newsletter of the Pikes Peak Mycological Society

1974-2020

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June 2020

Issue 2

SPECIAL EDITION!

D.I.Y. LAMINAR FLOW HOOD

A complete guide to building your own flow hood for home inoculation





PIKES PEAK
MYCOLOGICAL SOCIETY

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Librarian: library@pikespeakmyc.org

Webmaster: webmaster@pikespeakmyc.org

Membership Options

New Members:

Individual Membership: \$30/ year

Family Membership: \$40/year

Renewing Members:

Individual Membership: \$25/ year

Family Membership: \$35/year

Lifetime Membership

Individual: \$300

Family: \$400

To Pay Online via PayPal: <http://pikespeakmyc.org/join/>

Send renewal checks to:

PPMS Treasurer c/o Beth Leake

1370 Golden Hills Road, Colorado Springs, CO 80919

Please make checks payable to PPMS.

All statements and opinions written in this newsletter belong solely to the individual author and in no way represent or reflect the opinions of the Pikes Peak Mycological Society. To receive this publication electronically contact Beth Leake at:

treasurer@pikespeakmyc.org

Archived copies of the newsletter are available in the Newsletters section of our website.

Submissions for the next issue of Spore Addict must reach the editors, Mercedes Whitman & Jessica Langley, by May 30, 2020.

editor@pikespeakmyc.org

2020 UPCOMING EVENTS

In non Covid-19 times, meetings are held on the 4th Wednesday of the month, starting at 6:00 pm, at the Bear Creek Nature Center, located at 245 Bear Creek Road, Colorado Springs, CO 80906. Each meeting is approximately 90 minutes long and features a different speaker each month. However, because of social distancing recommendations by the CDC and department of Public Health, we are offering our meetings online LIVE on [YouTube](#)

June 24 - Topic: Shared Cultures Introduction: Transforming Foods With The Magic of Microbes and Koji by Eleana Hsu

Eleana is a master fermentress, focused on transforming foods with the magic of microbes and koji. She truly enjoys creating new food products and flavors using local produce and whole utilization techniques.

Eleana has experience teaching koji workshops and crafting ferments for local popup dinners and events. When she isn't teaching or crafting ferments, you can find her hunkered down at home working on launching new unique, great tasting fermented food products in the San Francisco Bay Area.

When: 6:00 p.m.

Where: Broadcast LIVE on [YouTube](#)

July 22- Topic TBD

August 19 (note: 3rd Wednesday)- Giuliana Furci, Founder of Fundación Fungi

September 23- Zachary Mazi, Chef

October- Date and topic TBD

MEMBERS CHECKLIST:

Is your email & phone number up to date?



Send contact info to: Beth
treasurer@pikespeakmyc.com

Have you paid your DUES?

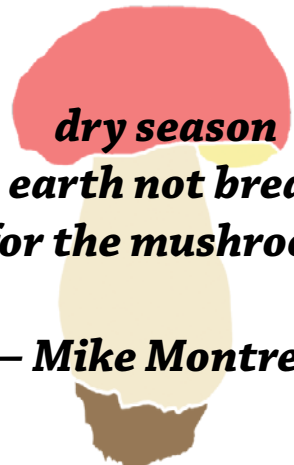


If not, please send to:
Treasurer c/o Beth Leake
1370 Golden Hills Road,
Colorado Springs, CO 80919

Care to Volunteer?



Reach out to: Alyssa Hartson
info@pikespeakmyc.org



***dry season
the earth not breaking
for the mushroom***

— Mike Montreuil

SEEKING VOLUNTEERS

We mean it!! We can't do this without you. Looking ahead to rain this season, we are seeking volunteers to do a number of things. Please contact Alyssa Hartson, info@pikespeakmyc.org, or Ben Kinsley, president@pikespeakmyc.org if you are interested in:

- coordinating forays
- writing for the newsletter
- hosting an event
- herbarium liason
- record keeping on forays
- leading a foray
- hospitality

How to build your own Laminar Flow Hood: A Step-by-Step guide

By Jessica Langley, Ben Kinsley, and Mercedes Perez Whitman

PPMS is excited to announce there is now a laminar flow hood available to “check out” to current members (with a deposit). Flow hoods are great tools to help create a sterile environment for inoculations with agar, grain, and liquid cultures.

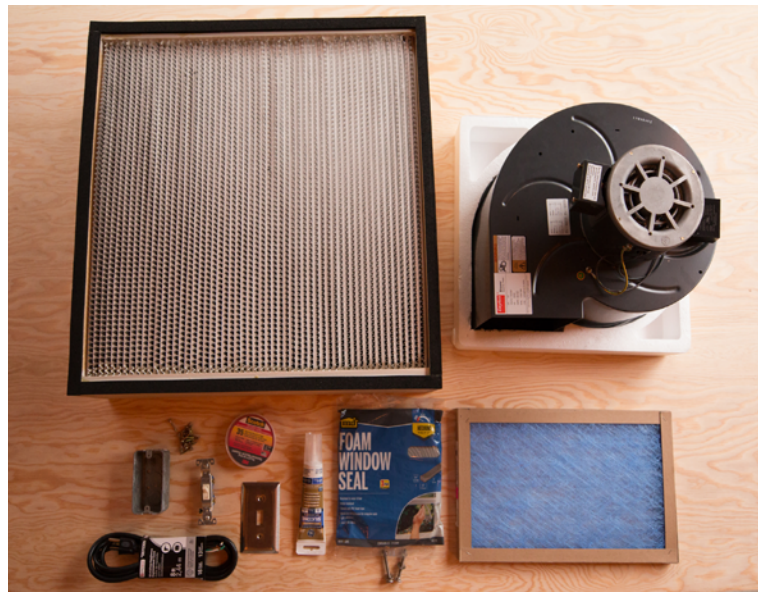
But, if you'd like to build your own, here is a step-by-step guide! Let's get started! First things first -- you need to gather your materials. You'll want to decide how much space you have and how big of a flow hood you need.

Materials needed:

- blower fan
- a HEPA filter with an efficiency rating of at least 99.99 % at 0.3 microns
- ¾” ply wood (1.5 sheets)
- Nail gun & nails (or wood screws and drill)
- Wood glue
- Window insulation foam strips
- (4) Handles
- Silicone sealant
- (2) ¼” carriage bolts
- Electrical tape
- 3-prong extension cord

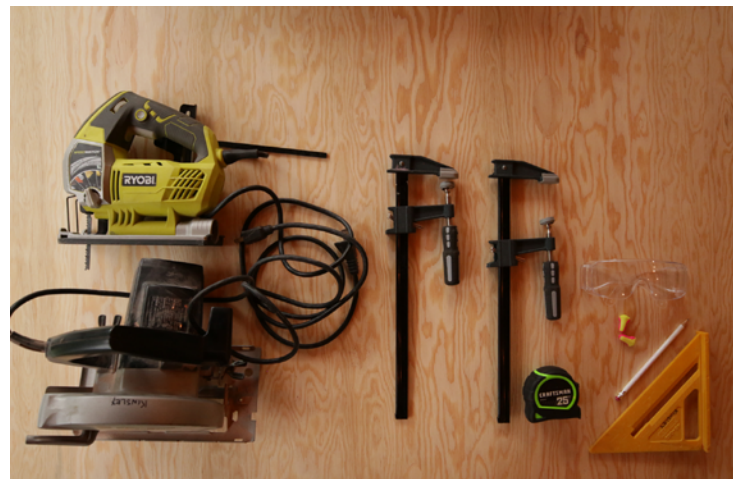
Optional:

- Electrical box
- ON/OFF Light switch
- Switch plate cover
- 10” x 16” Ordinary furnace filter (to act as preliminary filter for blower)



Tools needed:

- Table saw OR circular saw with fence
- Miter saw
- Jig saw
- Clamps
- Safety glasses & ear protection
- Measuring tape
- Nail gun
- Air compressor
- Speed square
- Drill
- box-cutter



The specific blower we used was a Dayton 1TDT8 Blower, 797/549 CFM, 115V, 3.30/2.20 Amp and the 24" x 24" x 5-7/8" AstroCel HEPA Air Filter, High Efficiency, 560-733-005. Check out this video that explains how to pick out a fan and filter:

<https://youtu.be/cDaJW77Wb5Q>

Step 1:

Gather all your materials and tools. Measure the filter because you'll be building the box around your filter. Ours was 24" x 24" x 5 7/8", so the interior dimensions of my box need to fit around that. My overall box dimensions are going to be: 24" w x 23" d x 25 1/2" h. (note: that extra 1 1/2" in the height is to account for the 3/4" plywood thickness).

I laid out my measurements on a sheet of 4 x 8' plywood. I'll have 5 sides of my box (the 6th side being open to fit my filter inside).

Step 2:

Cut your pieces of plywood for the main box sides. Cuts (these measurements account for 3/4" plywood):
 A - 24" x 23"
 B - 24 3/4" x 23"
 C - 24 3/4" x 23"
 D - 24" x 24"
 E - 23" x 25 1/2"

Step 3:

Locate the piece for the top of the box. You will trace out a hole for the blower motor to fit into. Using the jigsaw, cut the hole for the blower motor.

Step 4:

Cut two strips of ply 2" x 24" (the inside measurement of the box). Wet each strip lightly, apply a thin bead of wood glue, then nail each piece from the inside onto the top and bottom pieces of the box, centered and 5 7/8" back. These will support the air filter, and prevent it from sliding too far into the box.

Step 5:

Assemble box. Wet sides of plywood where joints will meet, then apply wood glue. Stabilize and square while nailing pieces together. Continue assembling the box with this method (wet > glue > nail). Once complete, check that the air filter fits in perfectly.



Ben and Mercedes making cuts with a homemade fence and a circular saw... a table saw would be so much better!



Measure the blower to determine how big of a hole you need, then use a jig saw to cut out the area.



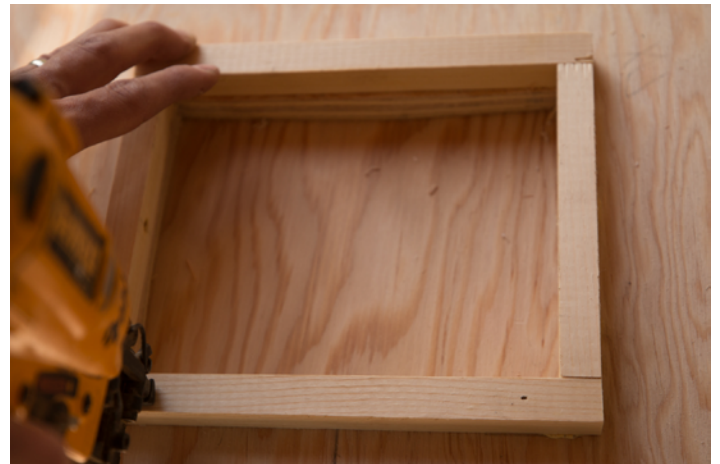
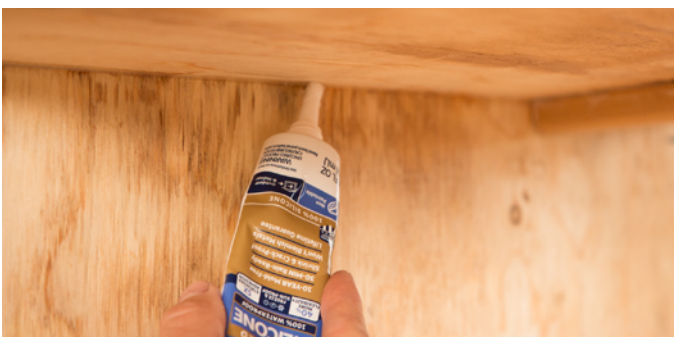
The piece on the left shows a strip that prevents the air filter from falling into the box. Ben is applying glue to the piece on the right to begin the process of assembling the box.



It is handy to have a speed square and an extra set of hands to brace the sides during assembly.

Step 6:

Using silicone sealant, apply a bead to each seam inside the box.



Step 7:

Cut $\frac{3}{4}$ " wide strips to line the perimeter of the blower fan cut-out. On the broad sides, measure and drill pilot holes for the carriage bolts in both the strips and the blower fan. These will hold the fan in place, and attach it to the box. Glue the strips on the top of the box surrounding the blower fan cut-out. Place the fan in the hole and secure using the carriage bolts. Shim the back of the fan to stabilize.



Step 8:

Wiring the blower fan. You will need to use a 3 prong power cord with bare leads (or trim the end of an extension cord to expose the leads). Follow the wiring instructions provided with your blower motor to connect the blower wires to the extension cord.

With our blower motor we followed the wiring diagram for 115V:

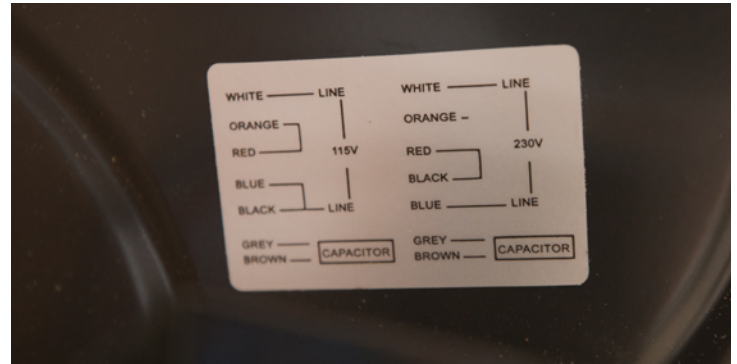
White (neutral) wire is attached to white (neutral) lead of the power cord.

Black + Blue (hot) wires are connected together and attached to black (hot) lead of the power cord.

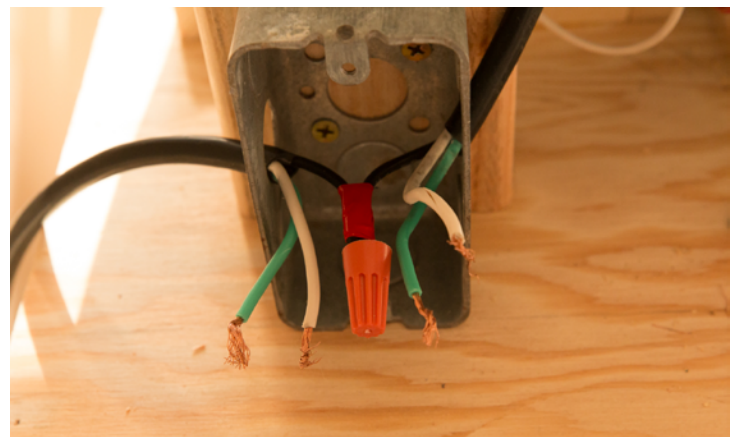
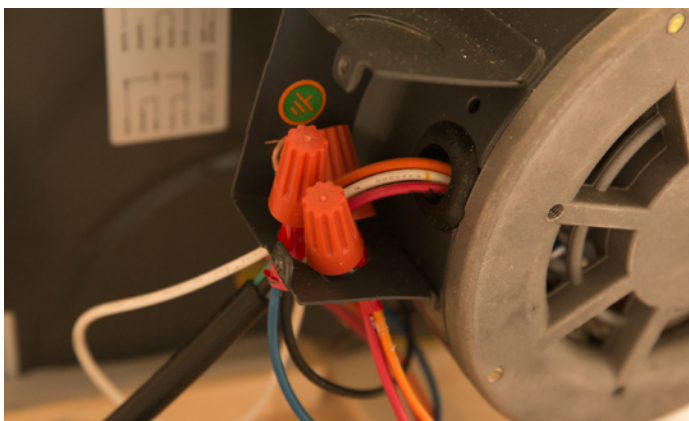
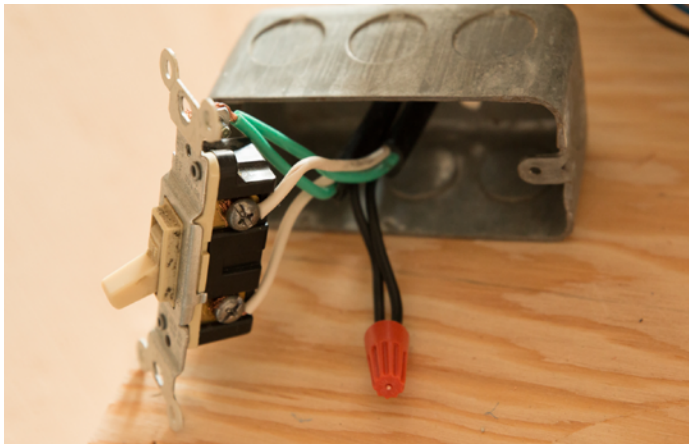
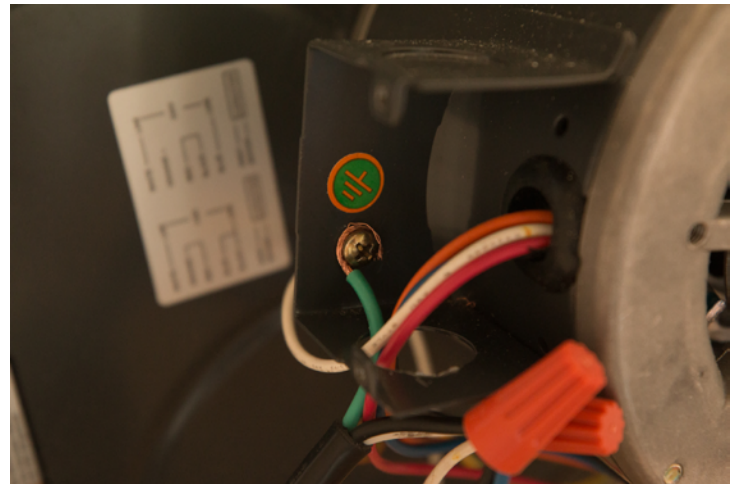
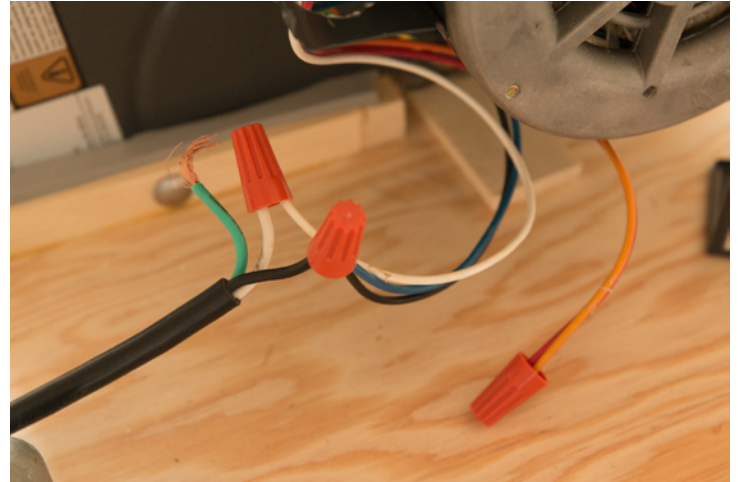
Red + Orange wires are connected together. These do not connect to the power cord.

Green (ground) lead of the power cord is connected to the ground screw on the blower motor.

OPTIONAL: You can also wire the blower to an ON/OFF switch. We used a lightswitch. To wire, splice the power cord and attach the green (ground) wires to the ground screw on the switch. Wires from one pole (in our case the white, neutral wires) are split and connected to the screw terminals on the light switch. The other pole (in our case, the black, hot wire) is uninterrupted, and bypasses the switch.



Wiring diagram on the blower fan



Step 9:

Once your blower fan is in place and your filter is in place, you will need to secure the air filter.

Cut 2" strips to fit around the outside of the box on the face with the air filter. These will hold the air filter in place and prevent it from being blown out.

Highly Recommended, but optional:

Build a secondary box to fit around your blower fan and install a pre-filter using an ordinary household furnace filter. This will extend the life of your air filter and prevent any unwanted debris flying into the blower fan (dog hair, bits of plastic, latex gloves, etc).

To do this, you will follow the same principles as building the primary box - measure your blower fan to determine height, width, depth. The bottom of the box will remain open, so that the box can fit on top of the blower fan. You will cut a hole where the fan intake is. You will create a cradle for the air filter to slide into using strips to hold it into place.

On this second box, you may also attach a light switch (cut out a hole using the jig saw to fit your electrical switch box). Jig out another small hole along the bottom edge of the box so that the cord can escape cleanly from the box.

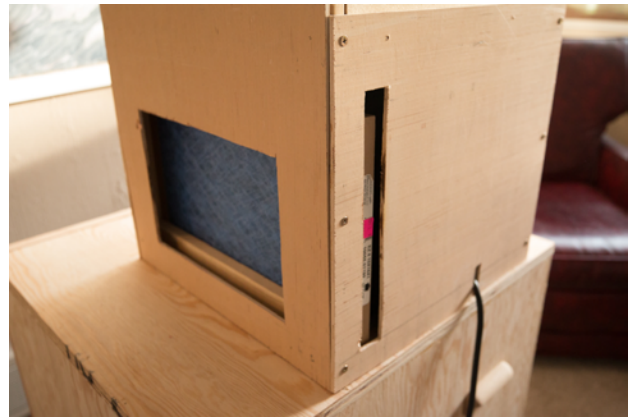
Tips:

For a tighter seal, use window insulation stripping to line the edges of the air filter.

Secure handles on the outside of your box for ease of movement

Sand all your surfaces for a nicer, less splintery feel

Make a cover for your filter because it can get damaged easily!



Notice how we notched out a hole for the cord to come through making a channel for the pre-filter to slide into place in front of the fan intake



We mounted the switch plate to the outside of the box and also installed handles for ease of moving around.



We used the jigsaw to cut out a cord holder.



This flow hood is now available for PPMS members to borrow for home inoculations. There will be a \$500 deposit, **refundable** upon safe return.

Contact PPMS Newsletter Editor, Mercedes Perez Whitman, if you are interested in borrowing the flowhood.

email Mercedes: editor@pikespeakmyc.org

