Woodworking for Bees

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Topics

- Bee boxes using dovetail joints
- Bee vacuum
  - How to build one?
  - Lessons learned
Medium Bee Box
Why dovetails?

- Supers and bodies can have a high weight and are exposed to strong heat and humidity differentials
- Strength because of the way the Tails and Pins are shaped
- Usually used for drawers
How to build a (medium) bee box?

- Start with a 1x8 8 ft. piece of wood (pine, cedar)
- Cut to length of
  - 3 x 19 7/8
  - 2 x 16 3/8
- Cut lengthwise/rip to 6 5/8
- *Tip: mark the future inside, bottom of your boards*
How to build a (medium) bee box?

- Cut dovetails
  - Tip: always align the bottom with the same side of the template
  - Tip: Look for good router and dovetail template
  - Tip: Only cut tails 2, 3, 5 & 6 to
  - Tip: Cut all pins

![Dovetail joints and router](image-url)
How to build a (medium) bee box?

- Cut handles into outside of your boards
- Tip: Build a sliding guide for yourself
How to build a (medium) bee box?

- Use router or dado table saw cut to create notch
How to build a (medium) bee box?

- Assembly
  - Assemble 2 sides and 2 fronts by gluing them together.
  - Depending on how tight the joints are, mallet or board and hammer might be necessary.
  - Sand joints and fasten with one (or more) screw per joint.
Things to keep in mind before you get started

- **Suction**
  - How do you build an outer box as sealed as possible
  - you want to be able to regulate the amount of air that is used to suck the bees into the box
- **Size of box**
  - how many bees can your container hold
- **Visibility**
  - How much visibility do you want to have while they are trapped or on the way to getting trapped
- **Soft landing**
  - Ones the bees are arriving in the box, is there anything to slow them down, based on the suction, are they hitting anything
Things to keep in mind before you get started

- Things to hold on to
  - Once they are making into the inner box do they have something to hold on to
- Size and weight
  - If you have to do removals in a tree or on a roof, is it light enough to handle or do you have a long hose you can use
- Existing equipment
  - Do you have an existing vacuum cleaner you want to reuse
- While you are working
  - You don’t want any bees to escape the inner box or get sucked into the outer box
Things to keep in mind before you get started

- After you are done
  - Can you get your inner box out of the outer one with you gloves on
  - How do you get the bees into the hive from the inner box without everybody escaping
  - Did you capture the queen?
Chat, read and think before you start

• Our starting point
  • Chat with Kevin Reichert!

• Simple summary
  • The outer container is sealed and the air is sucked out of it.
  • The inner container holds the bees and is connected to the hose to suck them in.
The bee vacuum – version 1
The outer box

Hinges

Weather stripping to maintain the seal

The inner box

Hole to connect vacuum

Regulator hole
The outer box

- Boards to push box against right wall
- Windows
- Hole for bee hose

- MUST LINE UP WITH INNER BOX -
The inner box

Sliding top and bottom to access bees

Size and notch to accommodate medium frames, Essentially a nuc box

Wired mesh openings to
1. allow the air to be sucked out and
2. for visibility through windows

Hole lining up with outer box for bee hose
Lessons learned and additional ideas

- Bigger outer box with bigger lip to lay top board on and better hinges
  - Weather seal is ripping off
  - Hinges have broken off
  - Too difficult to get inner box out of outer box
  - Not enough room for a bigger inner box
Lessons learned and additional ideas

- Model top of inner and outer box out of Plexiglas
  - Mesh obscures the visibility
  - Frames for bees to hold on to is in the way of the glass
  - Glass sides are not easy to build
Lessons learned and additional ideas

- Clear bee hose
  - Use a clear/not stretchable bee hose to see whether or not bees get stuck
- Larger inner box
  - Last colony removal captured too many bees in too small a box
Questions & Answers

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