



Portable Bee Vacuum

Swarms always seem to be a long ways away from a power source.
Why not make yourself a portable bee vacuum?

Introduction

Credit where credit is due. This is not my original design. I've adapted it from an article that appeared several years ago in Bee Culture magazine and from a much refined version made by fellow association member Jerry Mixon who's makes wonderful bee equipment and will even build a portable bee vacuum is you if ask him: www.jerrythebeeguy.com.

I've caught a lot of swarms with this vacuum and can attest to it's usefulness. It works great. Just make sure you have extra batteries to bring along on your swarm catching adventures.

The Basic Idea...

This bee vacuum is made by grafting a Ryobi 18v portable battery powered vacuum to a five gallon water bottle. If the idea of a little battery powered vacuum seems under-powered, you're wrong. You want a very low powered vacuum. Otherwise you end up with bee soup. Add a few common items the major pieces above and you're ready to go.



Materials List

What you'll need...

You'll need the following items to make one....

- Extra 18v batteries and a charger. You'll need them! Ryobi also makes Li-Ion batteries that fit their line of power tools that get 3 times the time as the NiCads.
- A screw top 5 gallon water jug and one or two extra screw caps.
- A medium sized food strainer.
- 4 "L" brackets and screws
- Vacuum cleaner hose and extensions.
- 4 Small bungee cords
- 1/8" screening.
- String.
- Silicon adhesive.
- Several screws, washers, nuts to hold the strainer and L brackets on.
- A strap is a good idea when climbing ladders.

Because the unit is a bit heavy and awkward to hold, you really need to also purchase a section or two of small vacuum cleaner hose and some extensions as well. You just can't get the nose of the vac into where you want it to go most of the time. I just picked up these vac pieces at Home Depot or Sears. Can't remember which but they were very cheap.

Construction

Swarm Catching Tools...

To the left is my swarm catching setup. The buckets, btw were made with large hole saws to cut out the vents. I pop riveted screens into place on the inside



and then siliconed it to seal the gaps. Works great. I always travel with at least two to a swarm call. I've had double swarms a couple of times.

What's not shown in the photo to the left is the cap on the bottle has a big hole in it to let the captured bees breath. I just siliconed 1/8" screening to the cap and use a string to keep the cap attached to the bottle. I also cut a hole in a spare cap so that I can attach an vacuum cleaner extension hose to the bottle when I can't get the nose of the bottle up to catch a swarm. Which is almost always the case.

The Cuts...

The bottle you buy needs to be cut so that the ridge that forms the back part can slip over the slightly smaller diameter part of the main bottle. The photo to the left shows the back end of the vac. If you don't have a band saw use a hacksaw. The fine tooth blade cuts the plastic better and with more control. Notice the four small bungies that hold the unit together.

The cut to the bottle is made right at the edge of the high ridge. So that the front portion of the bottle can slide just inside the higher ridge area. The back unit has the plastic framed kitchen strainer (minus the handle) grafted to the bottom of the bottle. Though you can do this with a metal strainer, the plastic ones are much easier to fit. It's a case where cheaper is actually better. I screwed on the strainer tight to the back of the bottle. And, note that the bungies hooks are crimped so that they remain attached to the bottom section. Helps later on when you're hiving the swarm. I just shake bees into the larger front section, remove the back end and pour.



The Nozzle

Cut Carefully...

This is where to cut the nozzle. Just about 1/2" ahead of the T in Tuff Sucker. Do remove all the innards first. You won't be needing them for the bee vac. Be cautious when cutting as this is styrene plastic and is very brittle. Once this is done you'll have to cut a hole in the bottom of the bottle to match the nozzle. Get a good tight fit so that no bees get out.

Nozzle Attached...

Here's the nozzle attached. Once the cut to the nozzle is made, make sure it's completely flat. I ran mine through one of my sanders to clean up my cut. The nozzle is attached with the 4 L brackets with screws or in my case I used pop rivets to attach to the bottle but because of the brittleness of the styrene on the nozzle used screws to attach the brackets to the nozzle so that it wouldn't be over tightened and possibly crack the plastic. Finally, seal all the gaps with silicon.

That's it. You're done!

Using the Bee Vacuum...

The thing to consider when using it is that it's a bit large and awkward when you attach the vacuum and the battery. Be carefully when you lift the set up so as to not strain the assembly and crack the plastic nozzle. This is one the reasons why it's good to have some sort of strap you can attach to the handle of the bottle when climbing a ladder.

When using it, just bring the nozzle of the bottle up to the swarm (or your hose extension and suck away. Don't forget to bring extra batteries as these don't last very long. And, certainly don't leave the bees in the bottle for long. It gets very hot in there. When you bring the swarm back to your apiary just shake the bees into the front part of the bottle, detach the bungies and pour the bees into the their new home.

