

## Steam Wax Extraction by Paul Yates

One method of wax extraction that I use requires the use of steam.

To do this you will need: - A suitable stand, (I use an old bottle crate with blocks of wood on top). 2 solid floors, tin foil, sellotape, min 2 hive straps, steam wallpaper stripper, old towel, bucket, old screwdriver & hive tool.

Wear old heavy duty clothing that covers your body, wear sturdy footwear. No shorts or T shirts, definitely no flip-flops. I recommend that you wear safety glasses & marigold gloves.

I have purchased two solid wood floors that I have dedicated to the extraction of wax. In one of the floors, I have drilled a hole to allow me to insert my steam generator pipe. I have also blocked up one of the exit slits in the entrance blocks so that the steam cannot escape.

The floors are both lined with tin foil that is secured with sellotape so as to aid cleaning after I have completed my wax extraction.

I start by making a suitable stand to undertake the task. The stand has to be high enough to place a bucket underneath the brood box being steamed. The bucket is used to collect the melted wax that runs out of the brood box once the internal temperature is high enough to melt the wax.

The stand has to be at an angle sufficient enough to allow the molten wax to run out of the brood box. It will help if the bucket is about a third full of water. The wax will settle on the water and solidify, making it easy to collect as a big lump once the extraction has been completed.

Once you are happy with your stand, place the floor that hasn't been drilled in place on the stand. You will need to have the entrance block hole over the centre of the collecting bucket.

Next place your brood box full of old comb on the base floor. The second solid floor is then placed upside down on top of the brood box to form a roof. Make sure that the entrance to this top floor is sealed with the blocked entrance block.

The next step is to use at least two hive straps to give a good tight seal of the assembled brood box. Do not strap the assembled brood box to the stand. You may have to give a final alignment over the bucket once the wax starts to flow.

I then inset the hose from a domestic steam wallpaper stripper into the pre drilled hole. It may help if an old towel is wrapped around the pipe to give a better seal. I use water pre boiled in a kettle to fill my steamer as this saves time bringing the water up to temperature. Make sure that the tank of the steamer is full. Switch on the steamer & allow it to boil all of the water. It may take several minutes for the steam to be generated. It will eventually fill the brood box with steam. Once sufficient steam has been generated the inside of the brood box will be hot enough for the wax in the frames to melt. It will then start to flow out of the base floor. If some wax is flowing from the corner of the box, use some kitchen paper or other to suitable medium plug the hole. This will mean that the molten wax can only escape through the desired hole above the bucket.

The steam stripper that I use is quite old. It is also not very big. I therefore give each extraction two tank full's of steam to make sure that all of the wax has melted. Be careful when refilling the tank of your extractor. It is most likely that some steam will escape once the filling cap is removed. This steam will be under pressure. This is why I recommend you wear marigold gloves & safety glasses when you undertake this task. My steamer also has a thermostat built into it. It can be very frustrating if this starts to kick in during the wax extraction. Get to know your steamer is all I can suggest.

You will see the molten wax start to flow out of the sealed brood box. Some of it will start to take on the appearance of stalactites as it hangs from the box above the bucket. I tend to knock these off into the bucket with an old screw driver, this allows the wax to flow more freely. It is possible that some of the old comb inside the box will become detached from the frame during extraction. This can block the hole in the entrance block preventing the wax from escaping (I've included a picture below of a slab of wax that blocked the exit hole in the pictures below). If this happens I use an old screwdriver or hive tool to clear the blocked hole. Take care doing this, remember that the wax when it flows out will be very hot, it is also going to gush out. Don't get burnt!!

You will eventually see that the flow of wax slows to a trickle and stops. You should then be left with a sizable lump of wax floating on the surface of the water in the bucket. At this point you can turn off and remove your steamer. Remember it's hot.

I then undo the straps and remove the top floor. I remove the hot frames one at a time and scrape the old cocoons into a garden bucket. I give the frames a scrape to clean off as much debris as possible. I have a dedicated hive cleaning tool purchased from Thornes to clean the grooves of the frames. I remove the old wire too and dispose of this in my rubbish bin. Beware of sharp nails when removing the top bar of the frame. Lift the brood box off of the base floor, there will probably be some old cocoons on the tin foil. Lift these off and place them in the garden bucket. These cocoons will be later composted. The frames and brood box are now ready to be cleaned in a solution of soda. I'll cover this as a separate topic.

Finally, remove the lump of wax from the bucket. You are now ready to start steaming your next batch of frames.



Steam stripper



Floors lined with foil



Comb ready for wax extraction



Brood box ready for steaming



Wax starting to flow



Wax in full flow



Lumps of extracted wax



Wax that had blocked the exit hole



Old comb for disposal