

Queen Confinement Cage

Building your own QCC

Warning

Power tools can be dangerous!

If you don't know how to use them safely...

Don't use them.

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Choosing Your Frame

Choose

- Drawn Comb.
- Good, Clean, Usable Condition.
- Worker brood size cells and/or drone cells.
- Open somewhere around the frame as shown here above the bottom bar. This will allow the Queen and Nurse bees access to both sides of the frame. If you use Plastic frames you may need to drill some holes around the perimeter to allow access to both sides.



Measurements

Measurements may vary slightly from one brood frame to another. You may want to measure each and build a cage for that particular frame.

Measure from “Inside Edge” of one End Bar to the Inside Edge of the other End Bar as shown here.

Note your Measurement.



Measurements Cont'd

Measure from “Outside Edge”
of Top Bar to Outside Edge of
Bottom Bar.

Note your Measurement.



Queen Confinement Cage

The “QCC” is actually two identical wood frames, each holding a section of a plastic Queen Excluder. These two pieces fit on each side of a Langstroth style Brood Frame - Either a Deep or a Medium. In the Photo shown here you can see only one side. Each side fits between the End Bars (AKA Side Bars) of the Standard frame and rests against the Top Bar and Bottom Bar of the same frame. All three items are held together in a temporary manner with wire, nails, or as shown here, rubber bands.

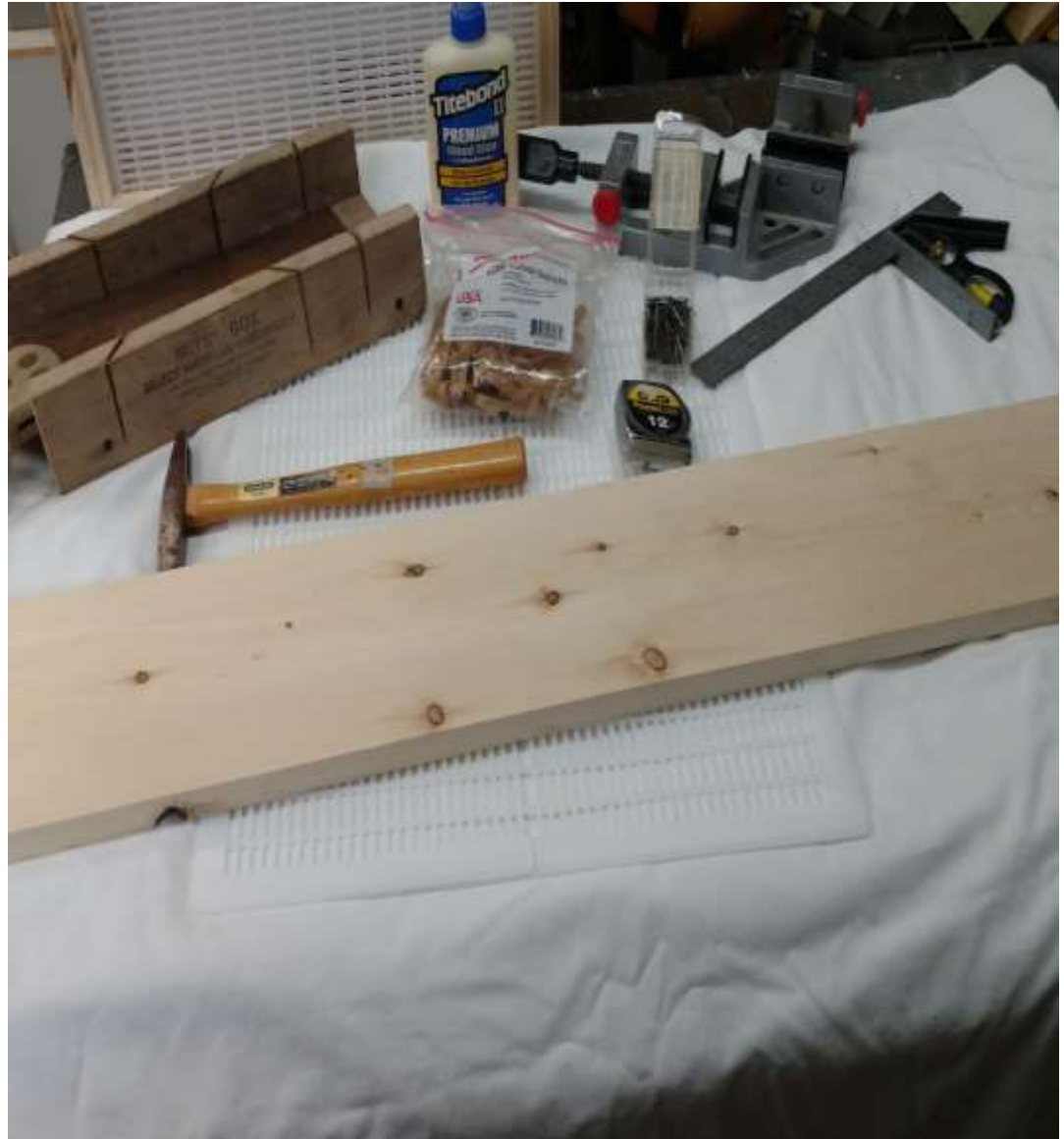


Building the QCC

Materials

For each QCC, you will need:

- * One 1"x 8" board at least 3' long. This allows for some culling of bad pieces. I use "Pine" but any wood will be okay.
- * A small amount of good quality wood glue.
- * Assortment of small nails similar to those used for assembling frames.
- * One Plastic Queen Excluder for a 10 frame hive box.
- * 2 – Size #64 Rubber Bands



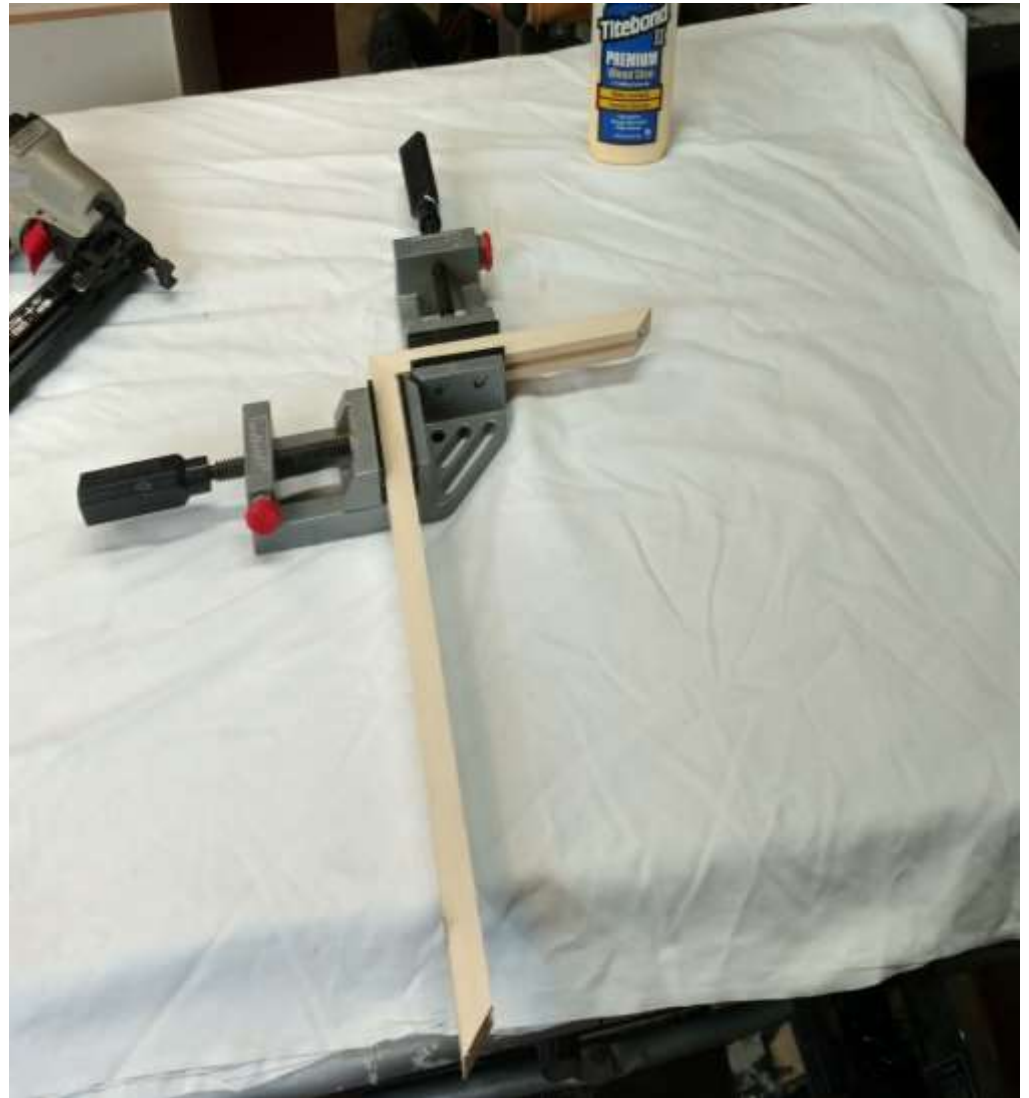
Tools

Tools to build the QCC can be a few simple hand tools like a hammer, square, clamp, and miter box with saw. But using a few power tools does make the project much easier. But power tools are dangerous. If you aren't completely familiar with them don't use them. Get someone else to help you.

Cut $\frac{3}{4}$ " wide strips at least 3' long from your 1"x 8" board. This will allow extra wood for culling bad spots. Cut a groove $\frac{1}{8}$ " wide by $\frac{1}{4}$ " deep in the center of each strip, the entire length of each.

A small nail gun, either electric or air operated makes nailing the corners much easier. But it can be done without them.

A "picture frame" type clamp pictured in this photo is valuable when putting corners together. It will hold two 45 degree angles together, forming a 90 degree corner, making gluing and nailing simple.



Using the Tools

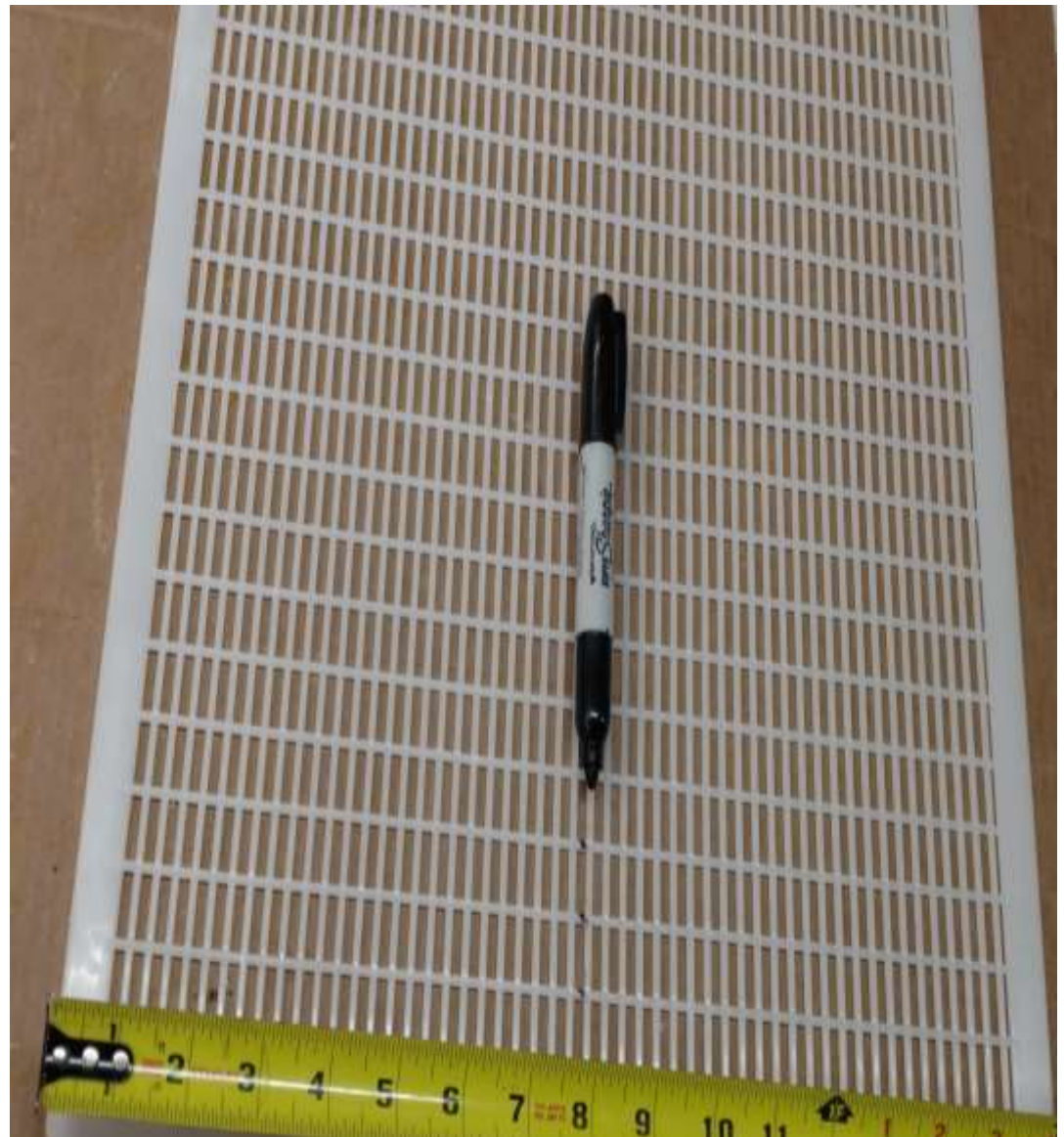
Now, using the measurements from the brood frame you plan to use, (photos #3 & #4 above) cut the short pieces which will fit next to the End Bars of your frame. Then cut the longer pieces which will overlap the Top Bar and Bottom Bar of your brood frame. Each of these four pieces will require a 45 degree angle cut on each end. Simple with a miter box and/or a miter saw.

Using the picture frame type clamp,(photo #7 above) place one long piece and one short piece together (after gluing) forming a perfect 90 degree angle and nail it. Now add another long piece in the same manner. Leaving the fourth piece out for now while you cut a piece of “Queen Excluder” to fit inside the grooves of these wood strips.



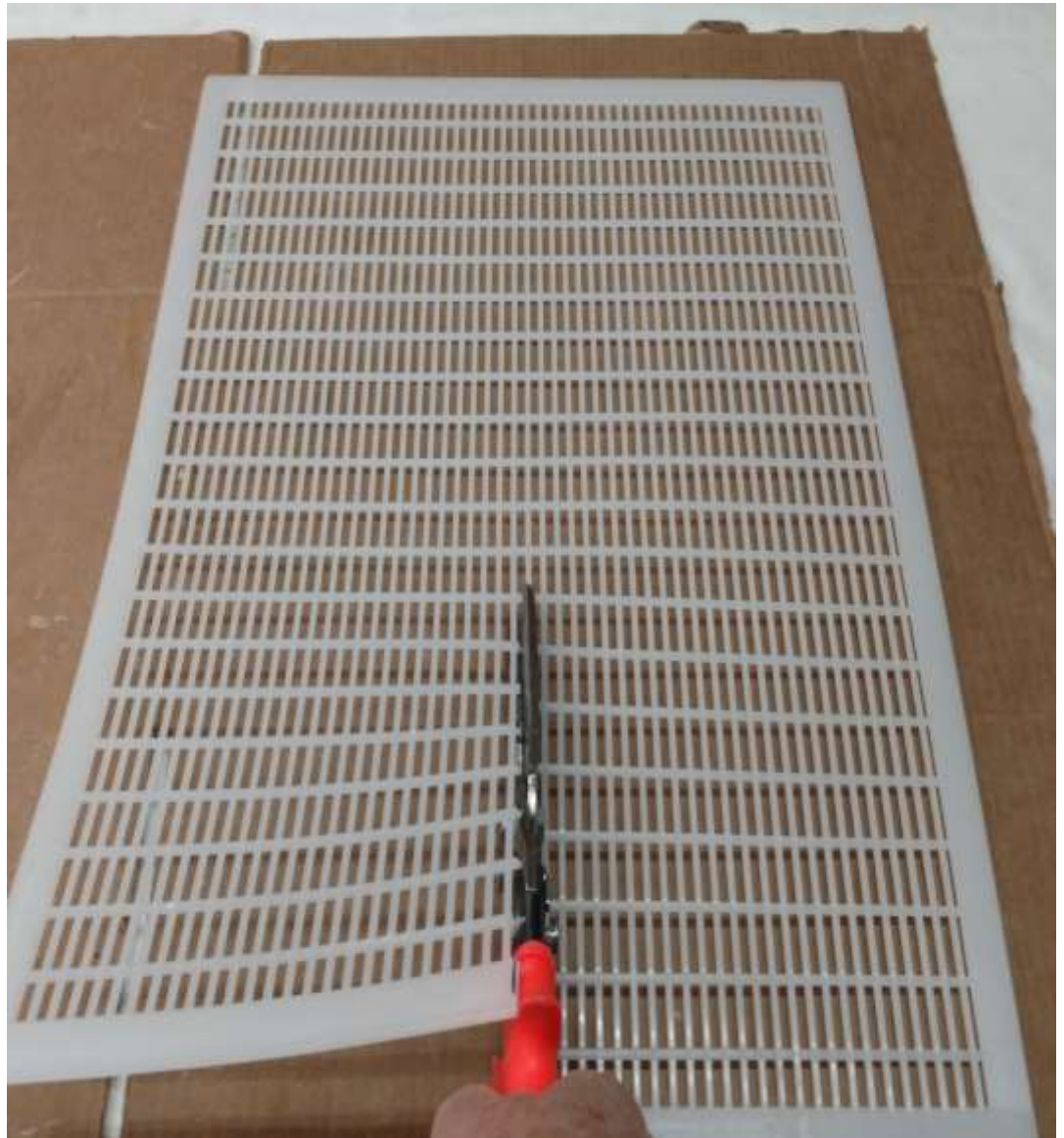
Cutting the Queen Excluder to fit

Measure across the narrow side of the plastic queen excluder. It should measure slightly over 16". Using a felt tip pen, mark the exact center of the width. Note the nearest "rib" running the length of the excluder from top to bottom.



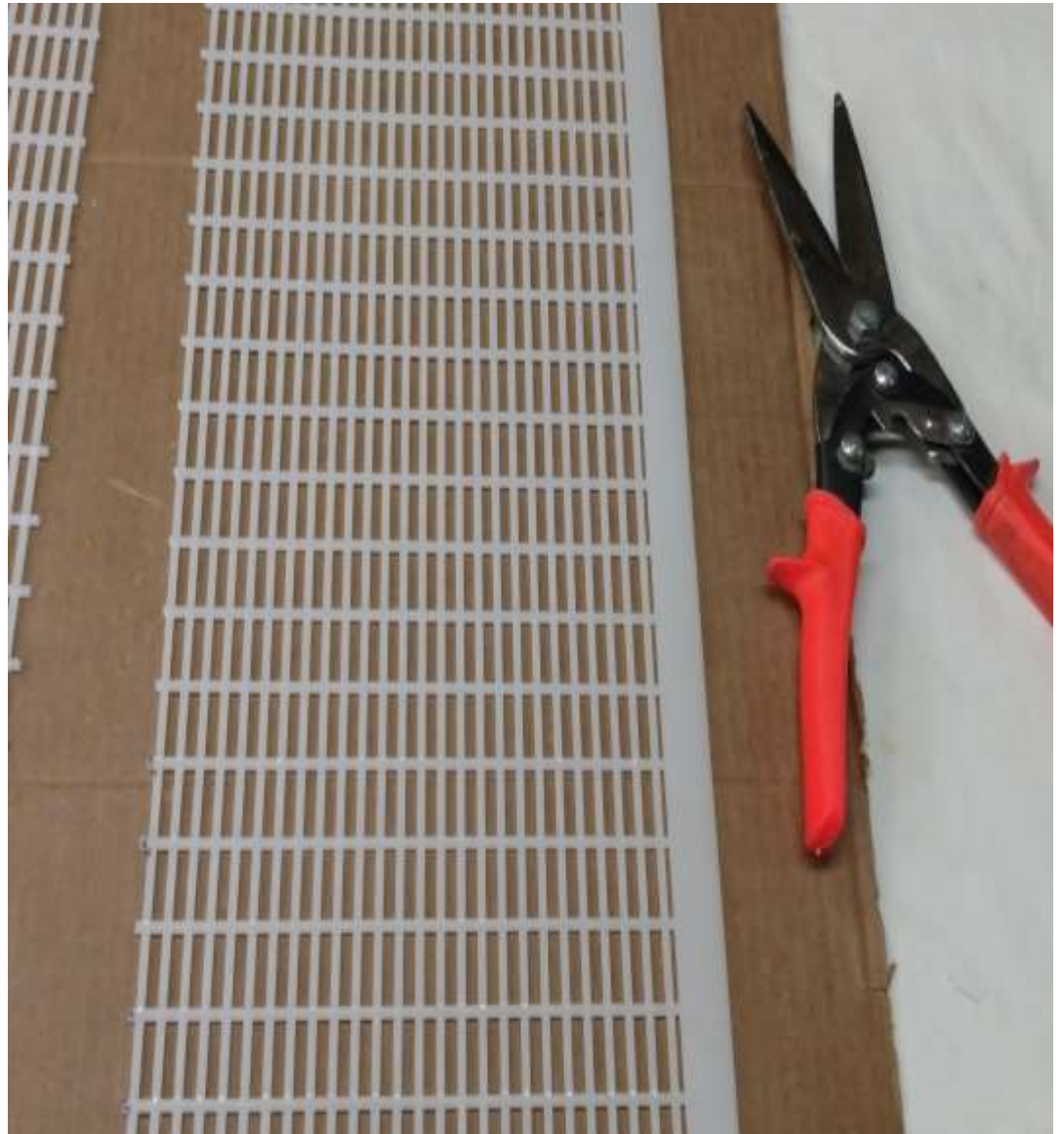
Cutting the Excluder

With the cutters as shown in this photo, cut along the side of the marked and noted rib the entire length of the excluder.



Fit the Excluder into the Grooves of the Frame

This should give you two pieces, each very close to 8" wide. At this point you should be able to slide either of the two excluder pieces into the groove of the wooden frame. If the pieces are too tight in the groove due to being too wide, (more than 8") you can trim them slightly to allow a more relaxed fit



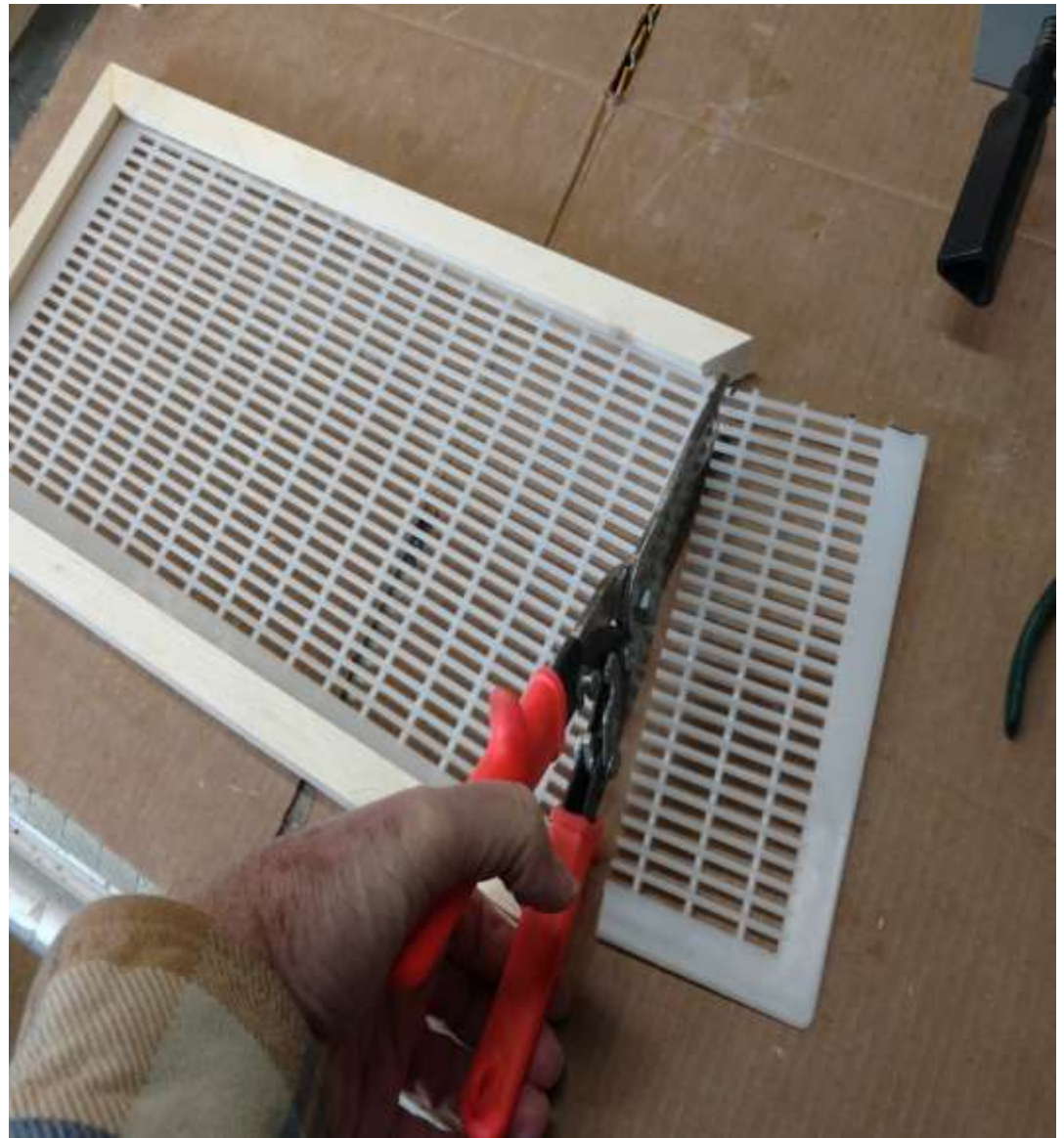
Combining the Excluder and the frame

The excluder needs to move freely, but only slightly in the grooves. If it is tight and the wooden frame is forced closed and nailed, it can cause the excluder to buckle or bubble. Sometimes forcing it into contact with the wax brood comb which makes that portion unusable. So make sure the plastic excluder slides easily in and out of the wooden frame at this point.



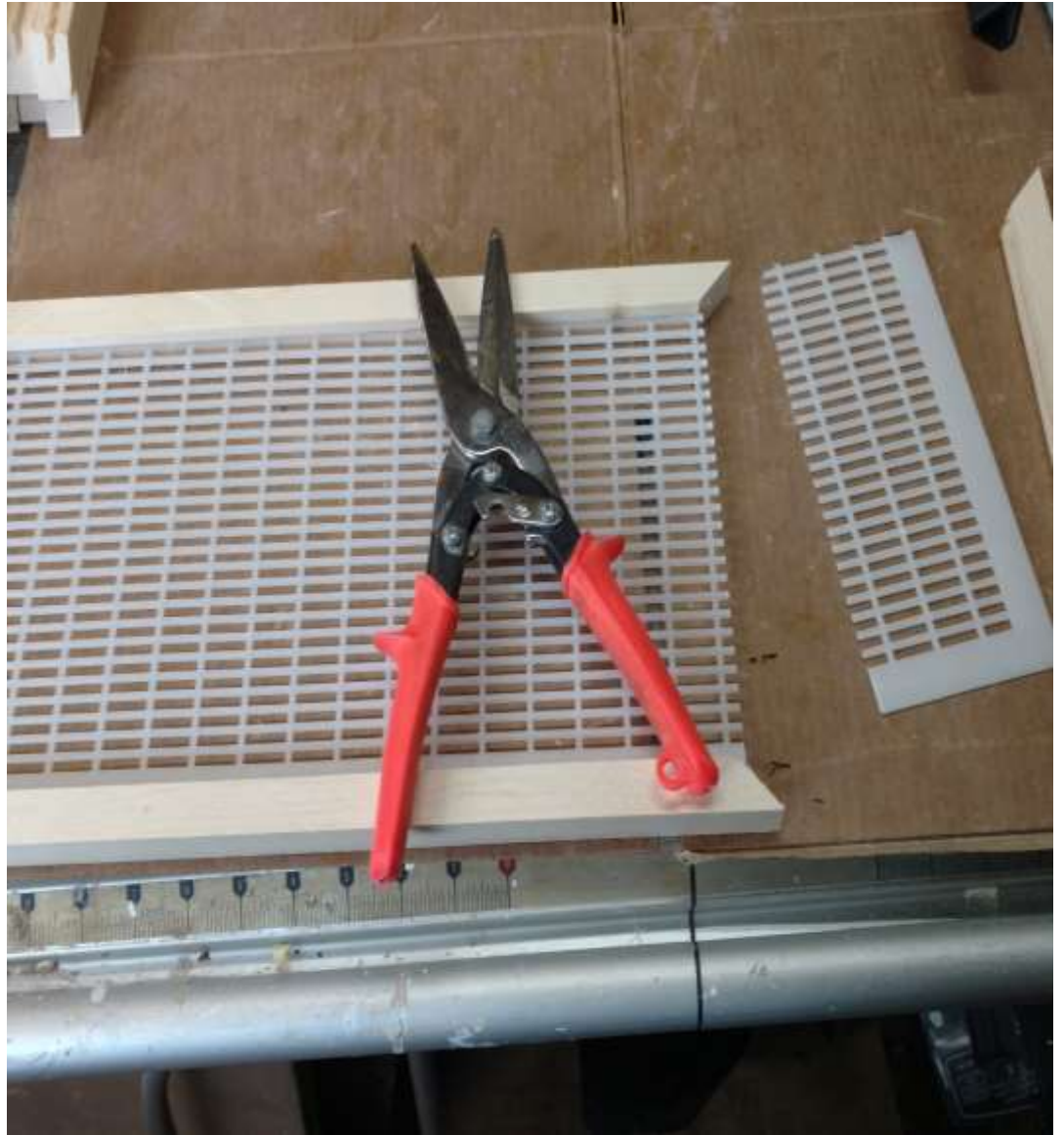
Trim the Excluder End

With the excluder fitting inside the grooves of the wooden framework on three sides it is time to trim the end piece as shown in this photo. Cut it 16" long and expect you may need to trim it slightly. It is better to cut it too long than too short. If it is too short, it is hard to fix.



Add the Last Piece of Wooden Framework

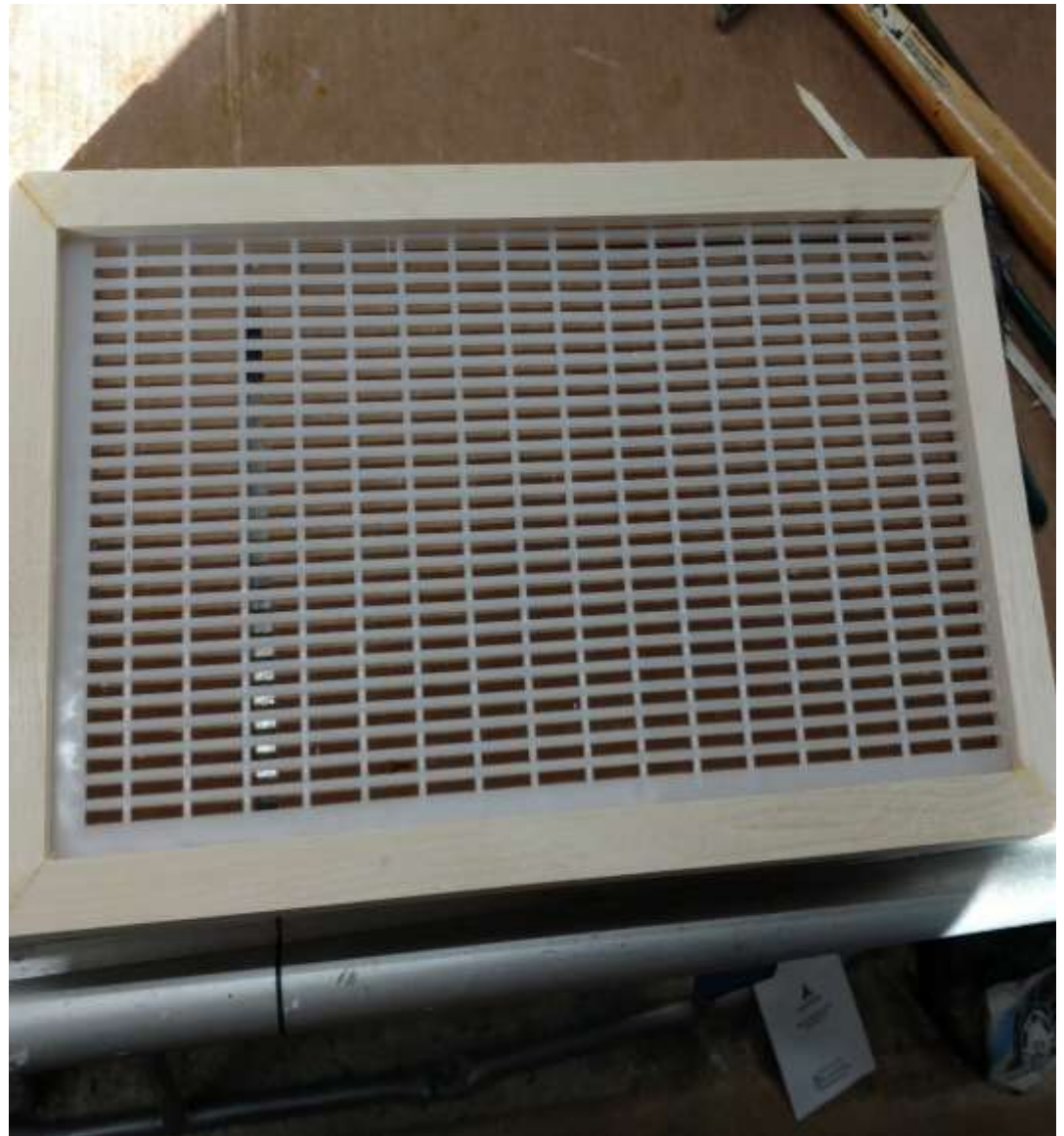
With the end piece of Excluder trimmed off, it's time to add the last piece of wooden framework. As shown in the next photo. After you have checked to make sure the last wooden piece fits without being too tight on the plastic excluder and the excluder is well inside the groove of the last piece. Glue the ends of the last piece and nail the corners.



Now Repeat the Whole Process for the Other Half

So with the last piece of wood added, the excluder is completely enclosed. This side is finished, so set it aside and allow the glue to dry. While you build the second half of the QCC. This second half is identical to the first half so just repeat all the steps to this point.

After the glue is dry on the entire cage (May take 24hrs.) you may want to “sand” the corners and sharp edges of the wood for appearance and safety.



Cutting a Queen Gate

In the upper left corner of this photo, note the two green Zip Ties. This is where the Queen Gate is located on this particular frame. It is made by cutting and removing just one of the horizontal ribs. This is cut with small wire cutters and when removed, it leaves an open hole $\frac{1}{2}$ " high and $\frac{3}{4}$ " long. It is best to mark this hole with a felt tip marking pen. Making it easy to find when you are ready to use it. Once you have allowed the queen to enter through this opening, you can then close the gate by using two small Zip Ties as shown. The Queen is then inside the cage for whatever time you choose. She is released by disassembling the QCC. These Zip Ties will need to be removed prior to the next Queen being placed inside.



Using the Queen Gate

In this photo you can see a Queen Catcher/Marking Tube placed over a Queen Gate. In this manner the queen is allowed to enter the QCC. Once inside the gate it will be closed with the Zip Ties.

Once the Queen is inside the cage, she will remain there, continuing with her Queen duties until you release her.

See another link on this same Website regarding the actual use of the QCC.

