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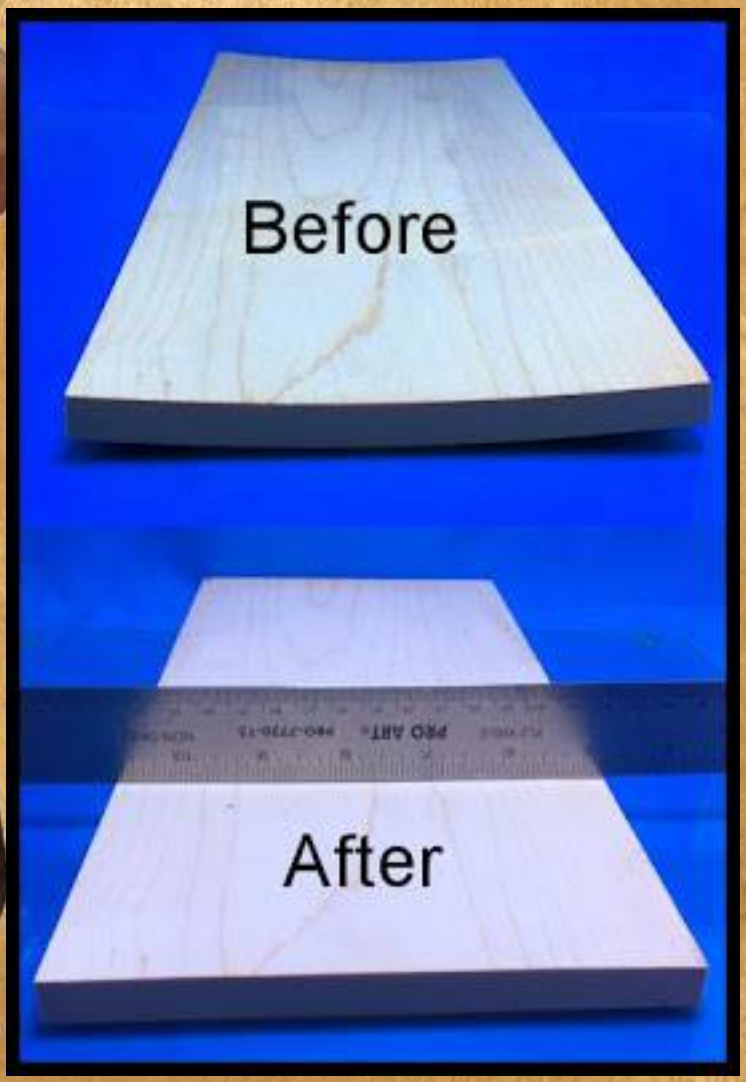
Technique:

Flattening cupped Boards



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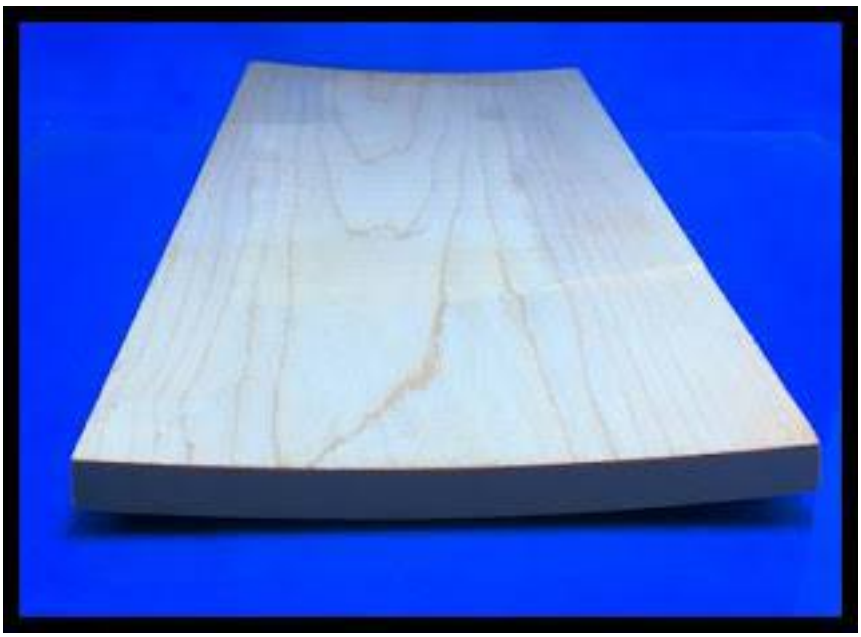
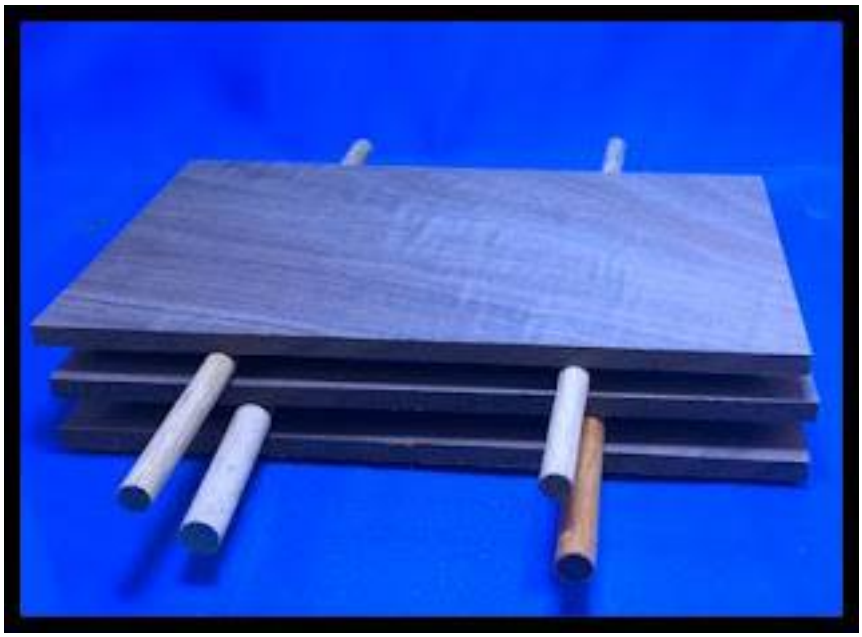
Information: My Boards are warped.

I want to take a few sentences to talk about wood. When a tree is harvested for lumber it is full of moisture. Before the lumber is used it is either air or kiln dried. Kiln drying can take from hours to days. Air drying can take months. They take great pains to make sure the lumber dries evenly otherwise they risk wood movement. Wood movement means cupping, twisting, checking etc. They lay the rough lumber on what they call stickers. Stickers are just spacers that separate the boards to allow air to move freely between each board. They only get the lumber down to a moisture content of something like 18% to 25%. When you get the board in your shop it still has moisture.

We can use these same techniques when we order scroll saw ready boards. These thin and wide boards have a nasty habit of cupping when we get them in our shop(picture below). As the board takes on or releases moisture more on one side than the other it can cup. That's what happened to the board in the first picture. I opened it in my shop and placed it on a flat surface. The moisture escaped faster on the top than the bottom and because of the structure of the grain it cupped.



I could have possibly prevented this by stickering the boards like the picture below. This would have allowed the boards to dry evenly.



Now let's say you have a cupped board. Can we make it flat again? The answer is often yes. We know that the board cupped because it dried quicker on one side. What would happen if we reversed that process. Hopefully it will cup back the other direction. Here is a trick to try.

We need the cupped board and a flat surface. We need several water soaked paper towels. We need some heavy objects.

Apply the water soaked towels to the cupped side of the board. Edges curled up. Let the water soak in for a few minutes.

Now flip the board over on a flat surface so the edges curl down. Wet side down.

placed a piece of mdf to even out the weight on the board. Then a heavy block and gallon of glue. Hopefully as the wet fibers expand back the board will flatten out.

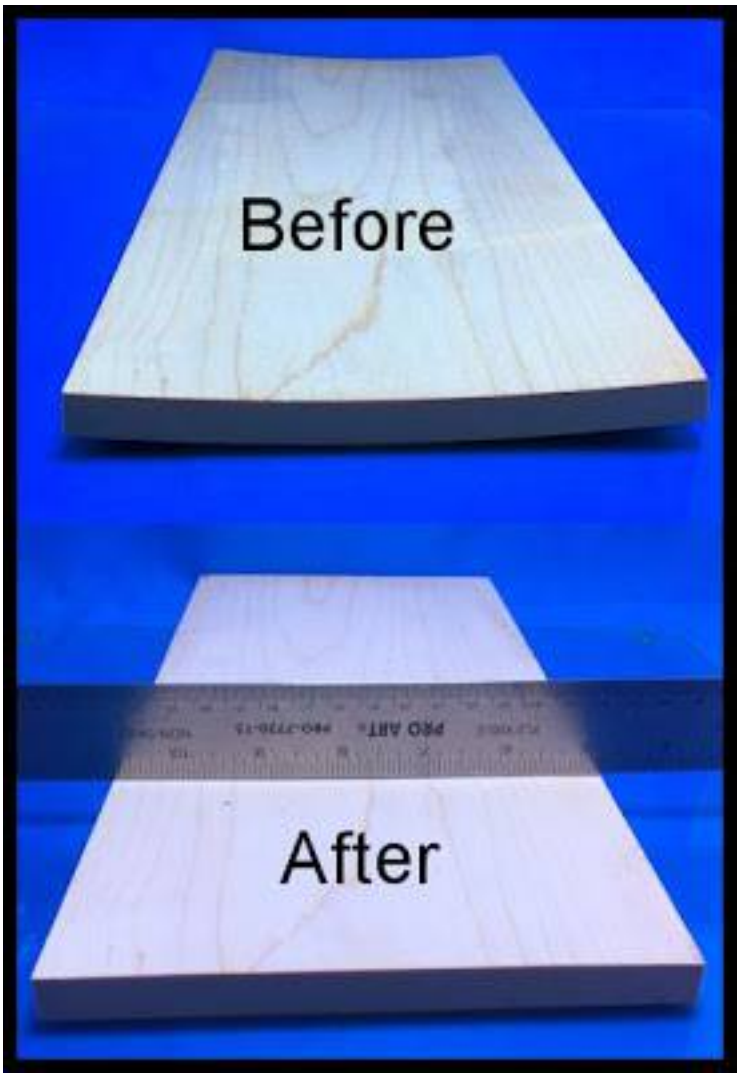
There is a science to this but we do not have control over every variable. This makes it a little hit or miss to get the board flat. We may have to repeat the process to get what we want. This is a case of prevention being better than the cure.

Okay I have put myself out on a limb. Will it be flat tomorrow? Check back for tomorrows post to find out how I did.

Next Page for Results

Yesterday I showed the technique I use to flatten cupped boards. This is a common problem especially on scroll saw ready thin and wide boards.

I went out in the shop this morning to see the results. The picture below is what I had. The board is flat to within a 1/64" side to side the full length of the board. This board was completely unusable yesterday. The board is orientated the same in both pictures.



I am going to sticker this board for a couple of days and see if we can keep it from cupping again. I obviously added moisture content to the board and it needs to dry slowly on both sides.

I wanted to go through this process because I get a lot of email asking how to find thin boards for projects. Most of the time if you don't have the machinery to mill the boards yourself you will need to order online. I recently began a collaboration with Heritage Wood Specialties. They deliver a quality product but like all mills they cannot stop mother nature.

When your order leaves their mill it will be flat. It will usually arrive flat but if precautions are not taken you will end up with a cupped board occasionally. If you have problem consult with the mill you purchased the boards from. You now also have a technique you can use to fix those cupped boards if needed.