

# Shaping Your Own Alaia Manual

A Simple Guide to a Shaping a Wooden Alaia Surfboard



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# Getting Started

Shaping an alaiia isn't too complicated and turns into a fun and rewarding project. Even if you don't get it perfect your first time around the beauty of an Alaiia is that you can keep reshaping it until it's just right for you. The only warning I'd give you is that eventually it'll be too small for you (but perfect for your little brother/cousin/kids/smaller acquaintances). Maybe then it becomes a Christmas present...

On the other hand, maybe you want a piece of the surf world to hang on your wall. Alaiias are great for that too. These boards are just as much pieces of art as they are fun surf experiments. It may even be a bit easier for you that way considering the technicalities of concave, rails, etc, aren't quite as important when it's hanging on the wall.

No matter why you're doing it, making an alaiia will be a fun experience. So enough chit-chat, I'm going to break it down into a few simple steps for you. Let's start off with supplies.

## Supplies

### Wood

Paulownia is the golden crown of wood for Alaiias. I'm on Oahu and sell blanks for \$150/blank or \$125/blank when you buy two or more. They measure 7'8" x 18" x 3/4" and we ship throughout the USA. You can also take a look at our Paulownia supplier list on the website at, <http://www.papakai.com/alaia-resources/paulownia-wood-directory> to find other suppliers throughout the world. Paulownia is pricier than other types of wood but is by far the best for the job at about 1/2 the weight and twice the buoyancy of other readily available types. If you intend to surf it and have the money, I highly recommend it. To order a Paulownia blank contact us at papakaiboards@gmail.com. However, if you don't want to spend the money you can make do with pine, douglas fir, or any other wood you can find that has a relatively high strength to weight ratio. And if you're doing it as a wall hanger/art piece, just find some wood that looks good. I've actually made a few with mahogany that turned out beautiful.

Your board's height is up to you, but for a 5'7", 140 lb. guy who's an experienced surfer, I keep my boards around 6'3", 16" wide, and 3/4" thick. That's really more about function than buoyancy though because, let's keep in mind, it's a piece of wood. You could add an extra two feet of wood and it's still not going to be too buoyant and you're still going to feel like you're swimming out there. However, shorter boards, in that 6' range, tend to help prevent nose diving so that's what I stick with.

If you're buying planks of wood to glue into a blank make sure the total width is wide enough. Also, you want sharp edges on your planks so that the seams fit tightly together. If you're getting them from the local lumber shop see if they can mill off the rounded edges that lumber planks of some woods (like mahogany) typically have.

## Clamps

I've jimmy rigged it with two in the past but it's not recommended. You'll want at least three but ideally, you'll have four clamps. Either way, make sure they're at least 20" wide.

This part is optional but you may also want four smaller 6" clamps. See the gluing section.

## Glue

Normal wood glue will work fine. I use Titebond III. This stuff is money! I've split boards  $\frac{2}{3}$  of the way down the length and used titebond to put them back together. One board lasted another two years after fixing it.

## Template

Some people can eyeball a board, but most can't! So unless you are somehow very confident in your woodworking and alaia building capabilities, I wouldn't recommend it. So, for the rest of us, I have nine great templates you can use. Download them for free at:

[www.papakai.com/alaia-template-downloads](http://www.papakai.com/alaia-template-downloads). These templates only work with the boardcad program which you can also download for free at <https://sourceforge.net/projects/boardcad/>.

## Pen

Thin tip sharpies are great but any pen that works will do.

## Saw

I like to use a jigsaw. It's the fastest and easiest to control. If you don't have a jigsaw, a regular hand saw will work (although it'll be harder unless you're experienced with it).

## Sanders and Sandpaper



I've used a bunch of sanders. By now though, I basically stick with a belt sander and a vibrating hand sander. Other sanders may work for you so feel free to try them out. Sandpaper – I typically go through 3 grades. In order of use, its 50, 180, and 420 grit sandpaper.

## Hand planer



A 6" hand planer works fine. Just make sure the blade is sharp. At \$10-15, that's the cheaper way and makes sense if you're only planning on making one board or don't already have an

electric planer. However, if you plan on making more than one board it may be worth investing in an electric one. You can get a fairly cheap electric planer at Home Depot or Lowes for \$50-75. It'll easily shave a few hours off your build time. I sweated out my first 2-3 boards with a hand planer and only then, when I knew I would continue making them, did I upgrade to an electric planer.

## Sealant



You have options. I've seen a few people use a thin coat of resin. That's is a long term fix and a more costly and time intensive process relative to other options. I tried to glass a regular foam surfboard once and then only used it once before tossing it. Long story short, if you don't know how to glass, pass on resin.

Linseed oil, or a mix of linseed, beeswax and turpentine seems to be the most commonly mentioned option. However, I've never successfully used it and have gathered similar feedback from others who've tried so I'm not going to recommend it. Maybe my mix was wrong but the stuff never dried and left oil marks all over my surf shirt. Instead, I've enjoyed tung oil. It dries completely and does so fairly quick. Three to four coats can be applied in two days with a little help from the sun gods. You can get it at just about any hardware store for \$10.

## Gluing the Planks

If you have to glue planks (maybe you're getting a ready to shape blank) your two biggest worries when gluing are making sure the boards fit together tightly (no gaps in the wood) and that they are level one with the other. To a degree, glue can help fill in minor gaps, but anything



significant ones call for re-milling the wood. Once again, you can usually get this done at your local lumber mill when you buy wood (or even if you're not buying wood there I only pay \$0.50 per cut).

Get the planks lined up and try not to have any knots on the outer rails. This will make it easier to plane them later on. You don't need a ton of glue but make sure to spread it evenly along the thickness ( $\frac{3}{4}$ " side) of the board so that all areas will stick. I usually put a line of glue down then run my finger across the board to spread it. Spread out the clamps so that there's one every two to three feet or so. I typically use three or four clamps. You don't want the clamps to be ridiculously tight, but make they should be tight enough to squeeze out all excess glue from between the boards.

This is the optional part I mentioned in the clamps supply section. Because individual planks often have a slight bow in them, one will stick up one millimeter or so higher than the next when laid side by side. To prevent this, you can lay the 2x4's across the top and bottom of the blanks and clamp them down while the blanks are being glued and after they've already been clamped horizontally. You'll have to eyeball this and place the clamps where they're needed most. If you don't have clamps, this can also be done by hand by pushing the planks up and down where needed after they're clamped horizontally to flatten out the boards. It will get you extremely close, but not always completely flat.

Read the direction on your wood glue, but most glues only need an hour or so before the bond is strong enough to remove the clamps. This is especially important if you're using the 2x4's as they will stick to the blank and could rip up the wood if pulled up after drying. For the three or four horizontal clamps this doesn't matter and you may as well leave the clamps till everything has completely dried.

## Cutting Your Board



I prefer a jigsaw and recommend the same to you. However, if you don't have one of feel more comfortable with another type, go ahead and use it. Like I mentioned, templates can be

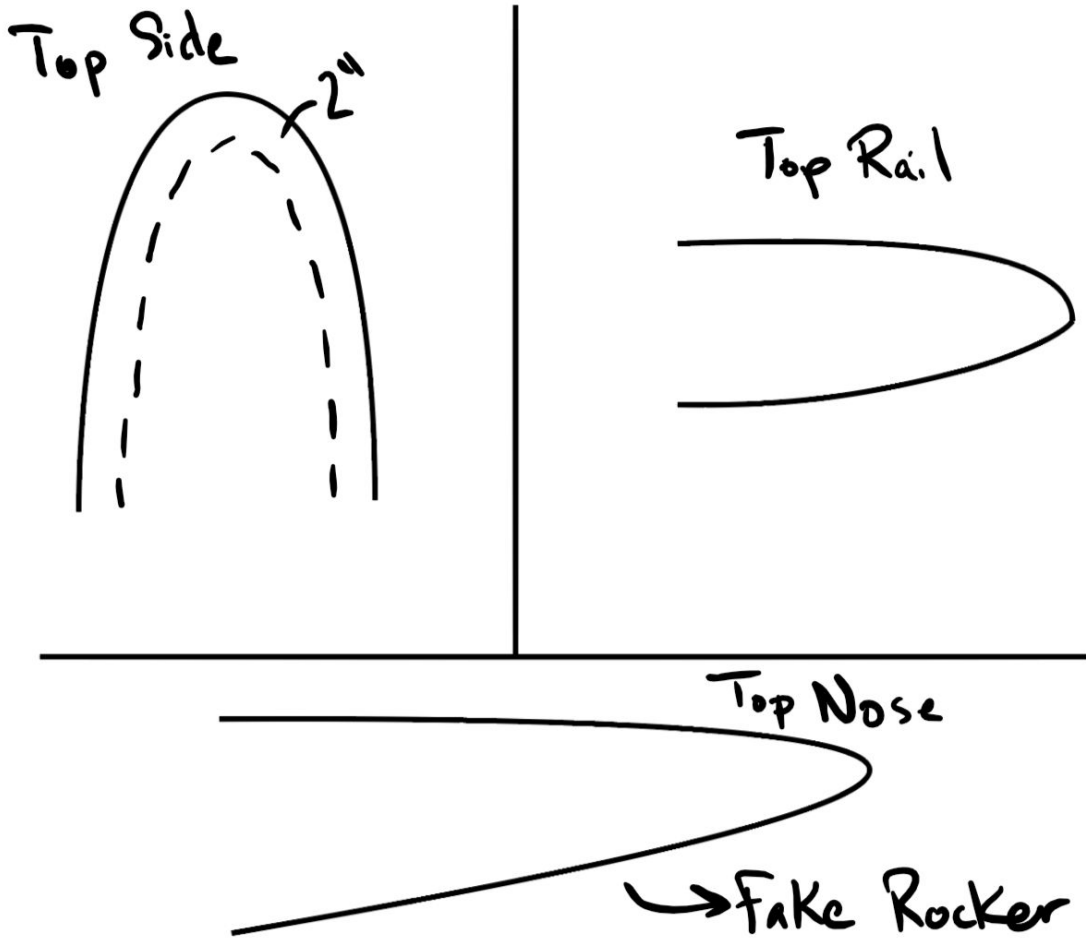
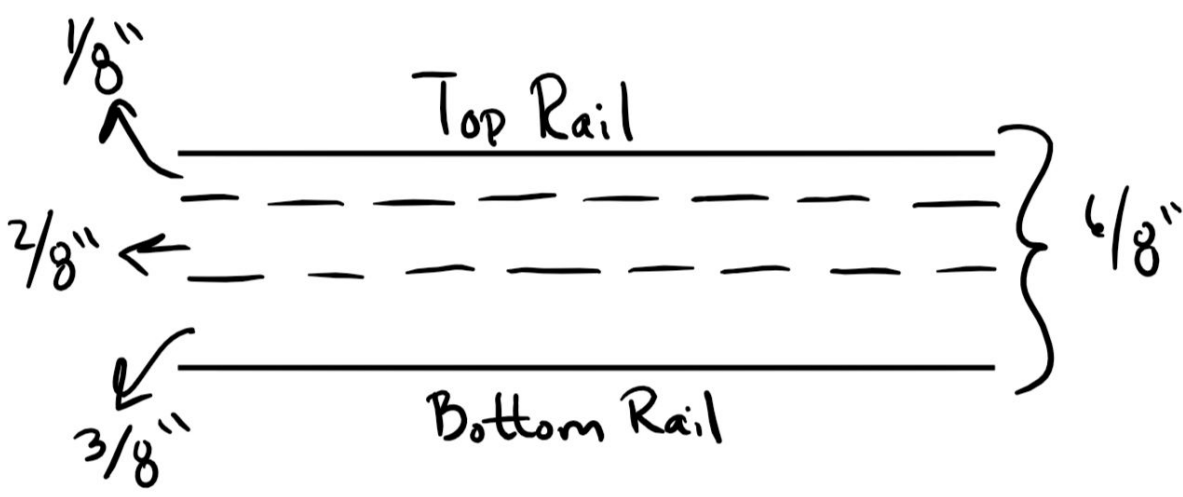
downloaded at, <http://www.papakai.com/alaia-template-downloads>. Feel free to use one of these or create one of your own. If you use these templates, they only work with the program, Boardcad. You can download Boardcad for free at, <https://boardcad.com/download/>. Trace out whatever design it is that you want on the surface of the board using a sharpie or pen of your choice. Now, how close you cut to the line depends on your saw skills. The Joe Woodworker's out there will want to cut as close you they can. For the rest of us though, I recommend cutting about  $\frac{1}{8}$ " outside of the line you traced. That way, if you make a mistake and stray from your intended cut, you've got a little safety zone before cutting into the actual board. Having said all of that, the closer your cut is to the outline, the easier your sanding job will be later on.

## Leveling the Rails

Belt sanders are beautiful. They turn what could be an hour long job into a 10 minute touch up. If you have one, use it to bring the rails exactly down to the outline you drew. If you don't, your options are hand sanding or hand planing. If you did a perfect cut job and there are no "off spots" in your rails then you don't even need to do this. If you're that person let me know and I'll pay you to cut my next board. For everyone else, get to work sanding.



# Planing the rails

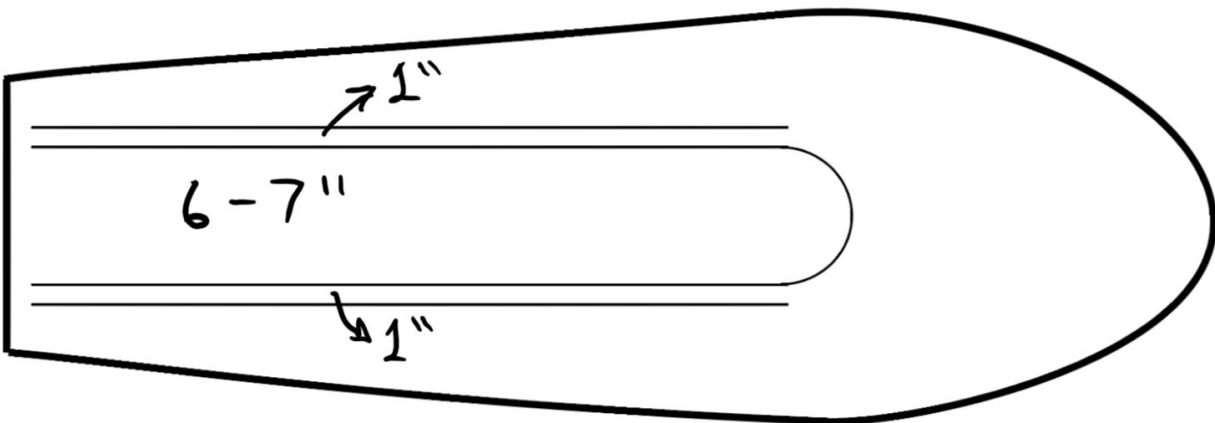


Planing rails evenly all around the board can be tricky but here's how I do it. First I make all my markings.

- Assuming you have a  $\frac{3}{4}$ " thick blank and the top of the board is facing up, use a sharpie to mark the midpoint of the rail or even a little above the midpoint. I do dotted lines all the way around. I then measure up another  $\frac{1}{4}$ " and make another set of dotted lines. Typically, that means the top rail will be planed down  $\frac{1}{8}$ " and the bottom will come up  $\frac{3}{8}$ " inch. The bottom rail I leave fairly sharp while the top is a rounded edge.
- On the top of the board, I mark 2" in from the outer edge of the board all around. When planing the top rail, that 2" in from the rail mark is where the rail curvature starts.
- The top rail curves gently at first then rounds off the closer you get to the rail. Marking like this will ensure that you don't shave off too much on either the top or bottom.
- Once you're within a 1  $\frac{1}{2}$  ft. of the nose, stop planing your top rail. Obviously you don't want to go directly from a curved rail to a flat one so transition it from one to the next as best you can. You'll still want to round off the edges on the top rail but basically leave the rest flat. The reason for this is that you'll want to take as much thickness from the bottom of the board to create some "fake rocker" as shown in the pic above. This helps the board's nose not to cut into the water when you're taking off on a wave and riding it.

As a side note, knots are hard to plane through. If you've already glued your boards and didn't pay attention to my advice about not having knots on your outer rails you're out of luck. That doesn't mean they're impossible however. Have patience and don't rip through them with your planer. You'll probably end up making deep gashes and will spend more time sanding those out then you would if you go slower and more carefully with the planer. Also, pay attention to your wood. Going against the grain can leave the wood gritty will require more sanding later.

## Cutting the Concave



Your concave should be about  $\frac{1}{4}$  inch deep at its deepest and span 6-7" wide in the center of the board. I run it about  $\frac{2}{3}$  of the way up the board (some even put it all the way through the board) and narrow it to a dull point where it stops as shown above. You'll want to make four

guide lines at this point. I start from the tail and find the center point. Then, I go 3-3.5" out on either side from the center. That's the width of the concave. I then find my stop point about  $\frac{2}{3}$  of the way up the board, find the center there and again, measure 3-3.5" out on either side and draw a straight line up the board to mark off where your concave will stay inside of. On the outside of those two lines, I measure 1" and make another two lines going up the board. That one inch space is where I try not to touch (of course a bit of it will be touched as it rounds down into the concave and outer rails) and keep the full thickness of the board.

Your planer is the best tool to use for this but I usually start off making some shallow cuts with the belt sander. That makes it easier to start off with the hand planer. Some people cut concave all the way through the board. You can do that if you'd like but most of the time the front  $\frac{1}{3}$  of your board isn't really in the water anyway.

## Sanding

Sanding is a progressive event. I definitely recommend an electric hand sander. Again, if you don't have one, manual hand sanding will work but will take a lot longer. Start out with a low grit sand paper (like a 50) so that you can take out the big imperfections left over from planing as quick as possible. Once you've gone over the board with your low grit paper switch to a mid grit (like a 180). Finally, a fine grit sand paper (like a 420) will help you really smooth it out. If you want to go the extra mile, you may want to add another grit in between those last two so the jump isn't as big. The smoother the better, but it's up to you how smooth is smooth enough.



## Oiling



Certain woods, like Paulownia are tight grained and more resistant to soaking up water. Because of this they don't need to be re-oiled as often as others like Pine. However, regardless of the wood, your board will need a few initial coats and ideal maintenance would have you re-oiling as the shine of the last coat wears off. The only difficulty here comes from wax. If you decide to wax your alaia (which I always do) it's basically impossible to get the wax off completely (or at least not worth the time it takes) as it falls into the cracks and crevices of the wood. You can get it off with sandpaper but it's takes a lot of sandpaper as the wax fills in the grit of the sandpaper right away requiring you to use a bunch of sandpaper to get it all off. Just know, if you wax, you're probably not re-oiling the waxed section. Not a huge issue as I've used a waxed board for a couple years without re-oiling the waxes part.

Like I recommended in the supplies section tung oil is my favorite so I'll stick with that for this manual. Apply the tung oil generously one side at a time and let it soak in for a 15–20 minutes. You can use a sponge or paint brush to make sure the whole side of the board gets some. You'll want to wash off the brush or sponge with hot water and soap in between to keep it somewhat soft for future coats. Otherwise, the oil will dry on it and harder it up making it useless for future coats. Oil tends to run off the side and down the rail so make sure to wipe off any drops heading that way as they'll clump on there you'll have to sand them out later so it's

better to wipe it clean before it's fully dried. On a warm, sunny day, Tung oil can dry enough in about 30-40 minutes. Let it dry to the touch before turning it over to put a coat on the opposite side. Again, watch out for drips as they'll sneak down past the rail to the underside of the board. Repeat this process again for a total of 3 or 4 coats until you can see a solid layer forming. By the third coat you'll notice the board won't be sucking in the oil any longer. That fourth coat will give it a nice gloss finish.

## Surf It!



You're probably pretty excited about getting out there with your board and you should be! Here's a word of warning though, paddling and surfing an alaia is quite different than doing the same on any foam board. Expect it to be difficult and don't get discouraged. Here are a couple of tips that might make your experience easier.

- First, go to a spot that has actual waves. Ridings this stuff in mush is not ideal. If the wave doesn't pack at least a bit of power, good luck catching anything.
- Because of the lack of buoyancy (relative to a normal board) you'll need to take off more in the pocket. If you're riding a Paulownia board this isn't as applicable because they do float better than hemlock, pine, or other alternatives. Having said that, you're still on a piece of wood so whatever you're on it's not nearly as buoyant as a foam board.



- Next, and because alaias don't float nearly as well as the board you're used to, keeping it under you when paddling can be a struggle. You'll get used to it with time but one thing that helps is to limit your kicking. As you kick, the board gets pushed down by your knees and legs. Instead of popping right back under you like a foam board would, alaias tend to shimmy their way from side to side back up to the surface and sneak out from under you. If you can get away with it, only use your arms to paddle at first. You'll quickly learn how much you can use your legs or not as time goes by.
- To paddle into waves you'll need to start your paddle a bit earlier than with a normal. You'll notice that the faster you get going the more the board rises and begins planing on the water instead of sitting under it allowing you to paddle faster and catch that wave.
- Also, as you start your paddle, take a deep breath and hold it. The air that fills your lungs will make you more buoyant. When you're on an alaiia every bit of buoyancy helps and as funny as this sounds, it's a big help. I do it every time. Just hold that breath until you've caught the wave!
- Finally, if you're just not getting the hang of it on your first couple tries, consider using some swim fins and lying down. Alaias are tons of fun to ride prone as well. If you've ever fooled around on a bodyboard and enjoyed it you'll love this. Alaias go noticeably faster than any board you've ever tried and the fins will help you get used to catching waves with it.



Well, that's it for now. I hope this manual helped you to edge into the world of alais.



Aloha, thanks for your time and remember to have fun with it!