The Comfortable Folding Chair

Overview: *"Drawings rather than detailed build plans"*

I thought about this a while and decided not to try and include a detailed set of build and cut plans for this folding chair. The reason might not be obvious, but the overall fit and finish of the construction depends heavily on the type of hardwood material you use and the thickness of the finished lumber. Since my white ash finished out at 15/16" thick, my cross support pieces were tailored to fit those dimensions which are not typical for store bought lumber and probably not the same lumber thickness you may be using. The width of my leg pieces were designed with that thickness in mind to provide good stability and weight support for a taller, heavier person like yours truly. If you chose to use a commonly available hardwood like 3/4" red oak, I would suggest making your leg widths wider than my chair to better handle weight on that thinner stock. Optimally, 1 inch thick hardwood like ash, maple, oak or hickory would be best for this design.

Saw Mill vs Home Center:

You may have noticed that I was able to fit and trace both leg templates on a single 12" wide board. This is a benefit of finding wider stock available at local sawmills and lumber suppliers. Your local home center or as I like to call them, "LoweNards Depot" are not likely to have wide and thick stock like that available. Note that for this project and the two longer leg pieces, you will be able to trace out these legs on a dimensional piece of store bought 1X8 lumber where the actual width of the board is 7 ½ inches.

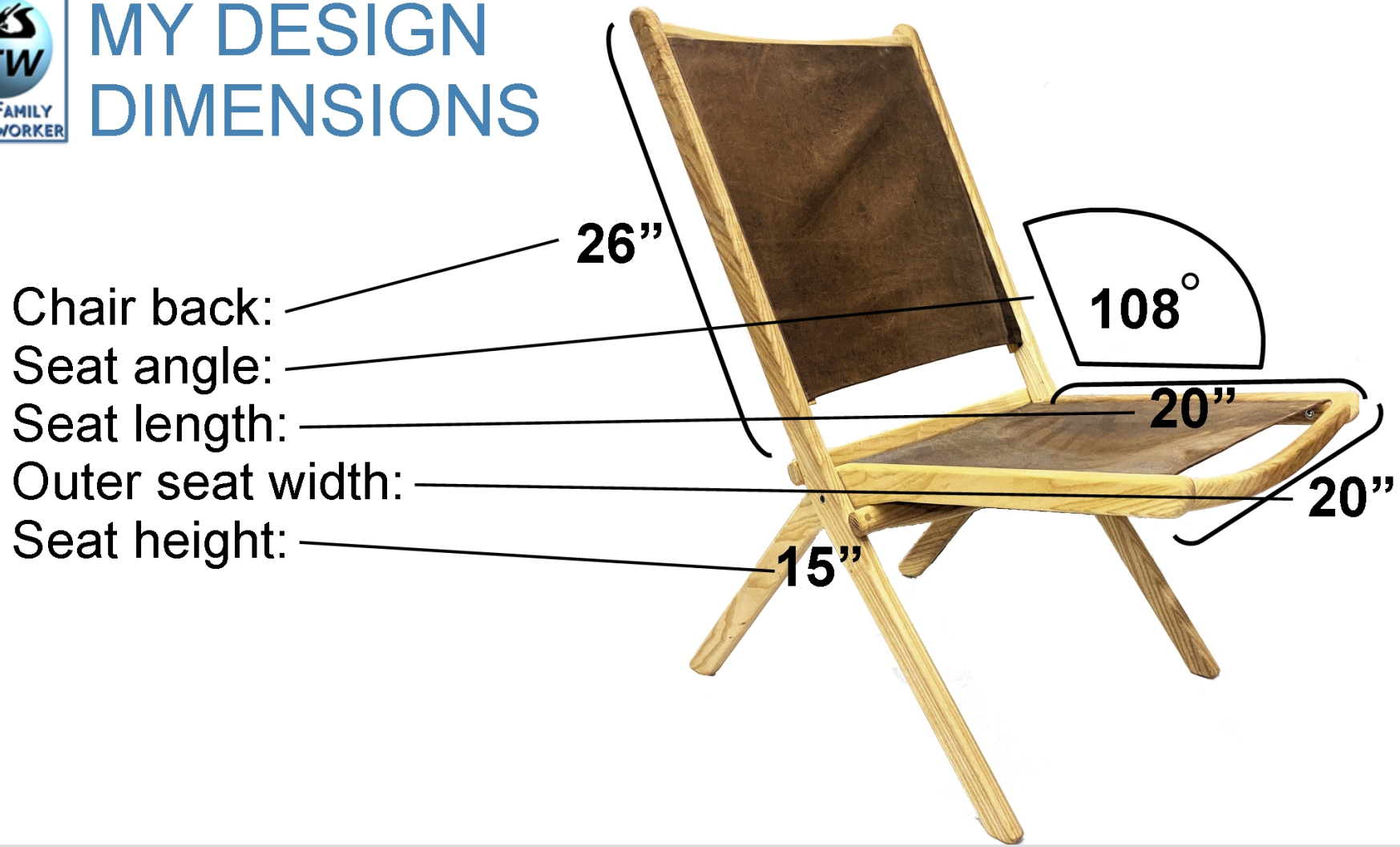
Dimensional Variations:

While I offer these templates and drawings that fit my own design, you can actually adjust them to fit your personal needs. If you like your chair to be lower to the floor like found in most Adirondack chairs, the leg length can be adjusted down to fit your design preferences. Same goes for the height of the chair back, or the width of the seat. I think even if you're a novice woodworker, you will be able to adjust this design relatively easily, especially if you make your cut templates out of cardboard or thin panel stock first. Play with the design specs and make the project your own.

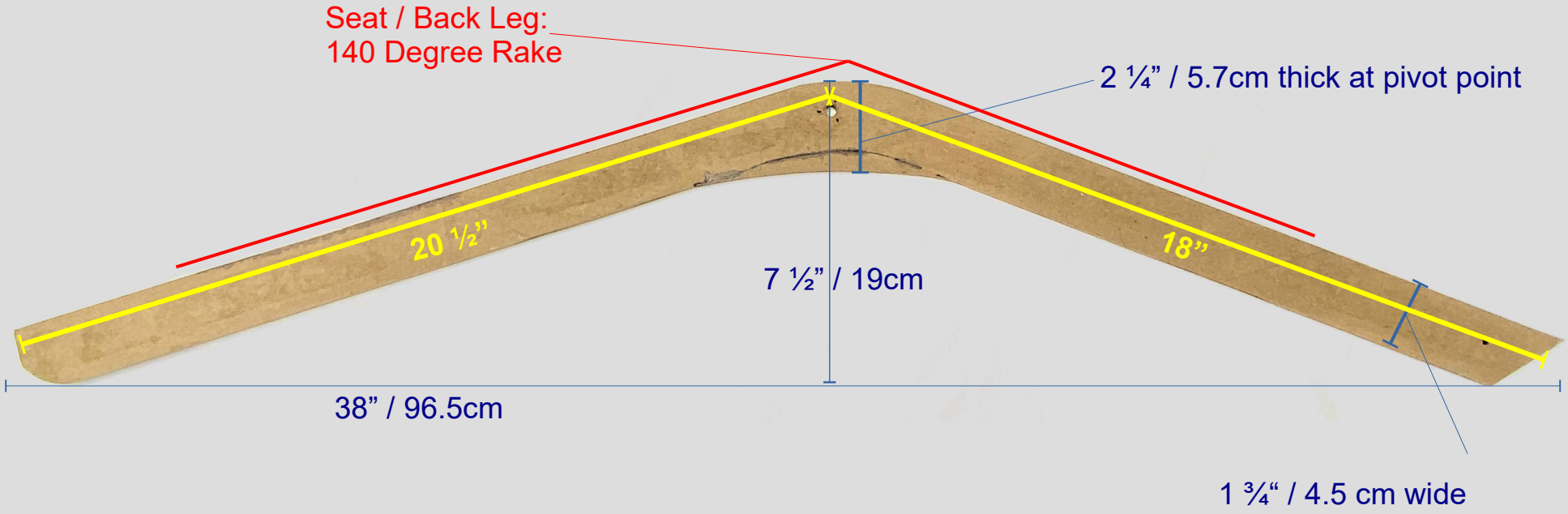
The Seat Material:

My biggest challenge was in selecting and stretching the seat and seat back material. As you saw in the video, my original plans to make a "Blue Jean" chair failed miserably. Recycling old jeans sounded great, but the seams just get in the way. Buying thin denim material from the fabric store was a bust too as it was too thin and stretched out of shape way too much. While I still had some repurposed leather from an old chair available, other thicker upholstery fabrics would be a great option. I would recommend finding a stiff fabric that doesn't stretch, so that after attachment to the chair frame, it will mostly hold it's original shape and not sag into an uncomfortable pit of despair.

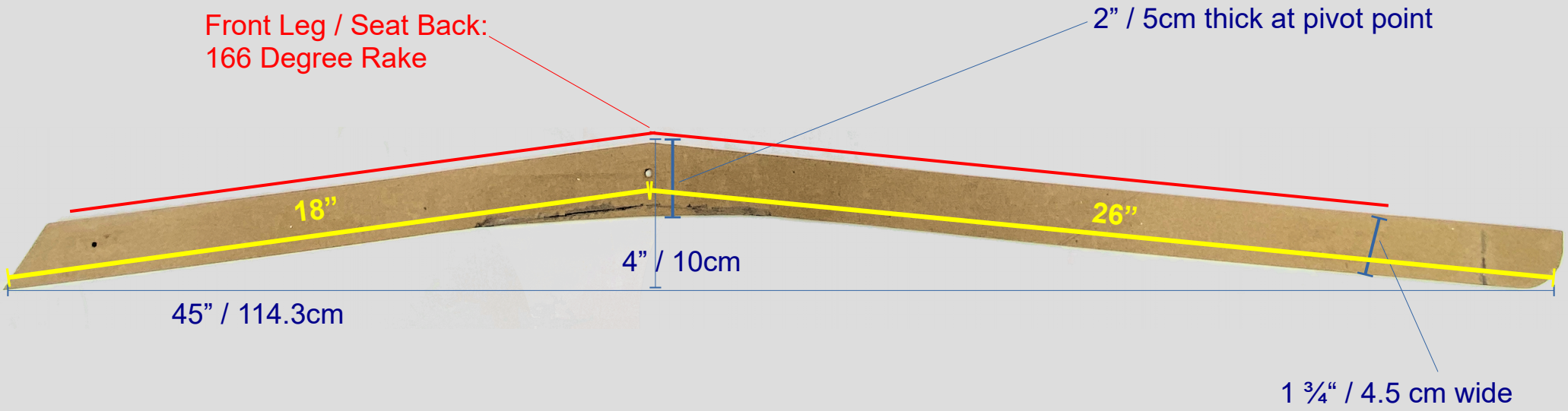
MY DESIGN DIMENSIONS

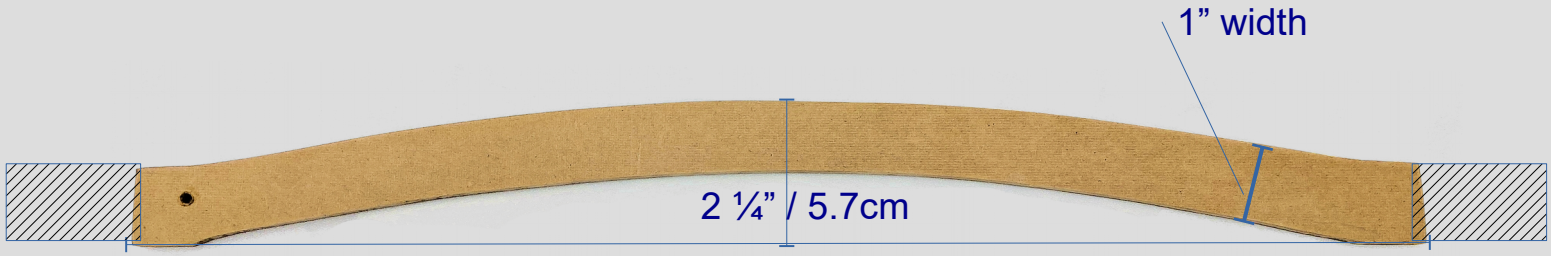


The Comfortable Folding Chair (Inner Seat Frame)



The Comfortable Folding Chair (Outer Back Frame)





Length of the curved and straight cross supports can vary depending on your seat width.
Longer pieces are needed for chair frame “stops” that secure the seat in the open position.
See the video for the attachment locations of these supports.

All frame pieces from top to bottom:
A-Front leg / outer chair back frame | B-Back leg / inner seat frame
C-Outer frame & under seat curved locking bar | D-Outer frame & chair back rear locking bar
E-Inside front seat curved support | F-Inside rear seat support | G-Outer frame curved seat back support

Seat Fasteners:
As shown in the video, stiff leather was wrapped around a 5/8” thick white ash piece that sat inside the seat frame. The leather was stapled to the inside of that piece and it was then screwed into the inside of the seat frame. Heavier duty steel screws were fastened to pre-drilled holes.

Frame Hinge:
Purely a design aesthetic choice, I used a ½ inch OD piece of aluminum tube to serve as the pivot hinge for the chair. It was glued into the outer frame and left to rotate freely on the inner seat frame to allow the chair to fold. A 3/8” steel bolt with a smooth shank would work just as well.

SUMMARY:

As mentioned earlier, this is not meant to be a detailed set of specific build and cut plans considering the unusual wood dimensions used in this build. The folding chair was made for me and works well for a guy who is six foot five and 285 pounds. The wood used is atypical as well coming in at nearly an inch thick and not normally available at a big box home center. My hope is that the length and width measurements along with the cut angles give you enough of a start to build your own version of this chair. For example, your seat may not need to be as wide or as deep as my measurements. You may prefer to have the seat lower to the floor as seen in an Adirondack chair. Your seat back may not need to be 26 inches high. However, once you draw out your frame templates on thin wood stock or cardboard, you can adjust the frame lengths and cross support widths to suit your needs. Only the frame angles need to be observed in order to provide you with a similar comfortable sitting angle.

One inch thick hardwood is best for this design but often hard to get. Should you choose to use standard ¾ inch hardwood lumber, you should consider increasing the frame widths to 2 ½ inches or greater to provide that better weight support.

Seat material: I believe a good, thick and firm upholstery fabric will work best for the seat and seat back. Test the fabric before purchase. If you can't stretch it, then it is a good candidate for this staple down and screw attachment method. The goal is to eliminate sag as best you can while still providing that flexible seat only a fabric can offer.

SAFETY:

As with all wood shop projects, please, please, please take care to be safe in all your shop activities. Read all usage and safety instructions before using any tool, as well as any cautionary information provided by the wood finishes you may use. Always wear safety equipment during this project and protect your eyes, ears, and lungs from flying nasties, loud noises and the always present dust cloud created by your tools. Keep all your fingers and toes intact and breathe easy my friend.

I hope you enjoy this project as much as I did!

- Mark, TFW