

Welsford Navigator “Ellie” Construction photo journal





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Joel Bergen



“Ellie”

<http://navigatorjoel.blogspot.com/>

<http://www.jwboatdesigns.co.nz>



Ellie is a John Welsford designed Navigator yawl built by Joel Bergen in Mukilteo, Washington. With no formal boatbuilding or woodworking training, Joel began solo construction of Ellie in October of 2009 and finished 20 months later.

Ellie's hull is built in glued-lapstrake construction with meranti plywood over permanent bulkheads and stringers. Her spars are Douglas Fir. Both masts are built hollow using the bird's mouth method. Her seats provide permanent flotation and are decked with reclaimed oiled mahogany. She sports a high-peaked gaff rigged main, roller furling jib and sprit-boomed mizzen, all rigged for easy access from the cockpit. Her anchor well and large watertight storage locker under the foredeck make her an ideal camp cruiser or daysailer.







2012 WN4759RP







WN9759KY





FOR THE FRONT
TO BE CUT IN THE
MIDDLE OF THE FRONT

FOR THE FRONT
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82

FOR THE FRONT
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FOR THE FRONT
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To minimize wasted plywood, I simply traced the parts from the plans onto some tracing paper, cut out the parts with scissors, and arranged them on top of a piece of construction paper sized to 1/5 the scale of a real 4x8 sheet of plywood.











WARNING!

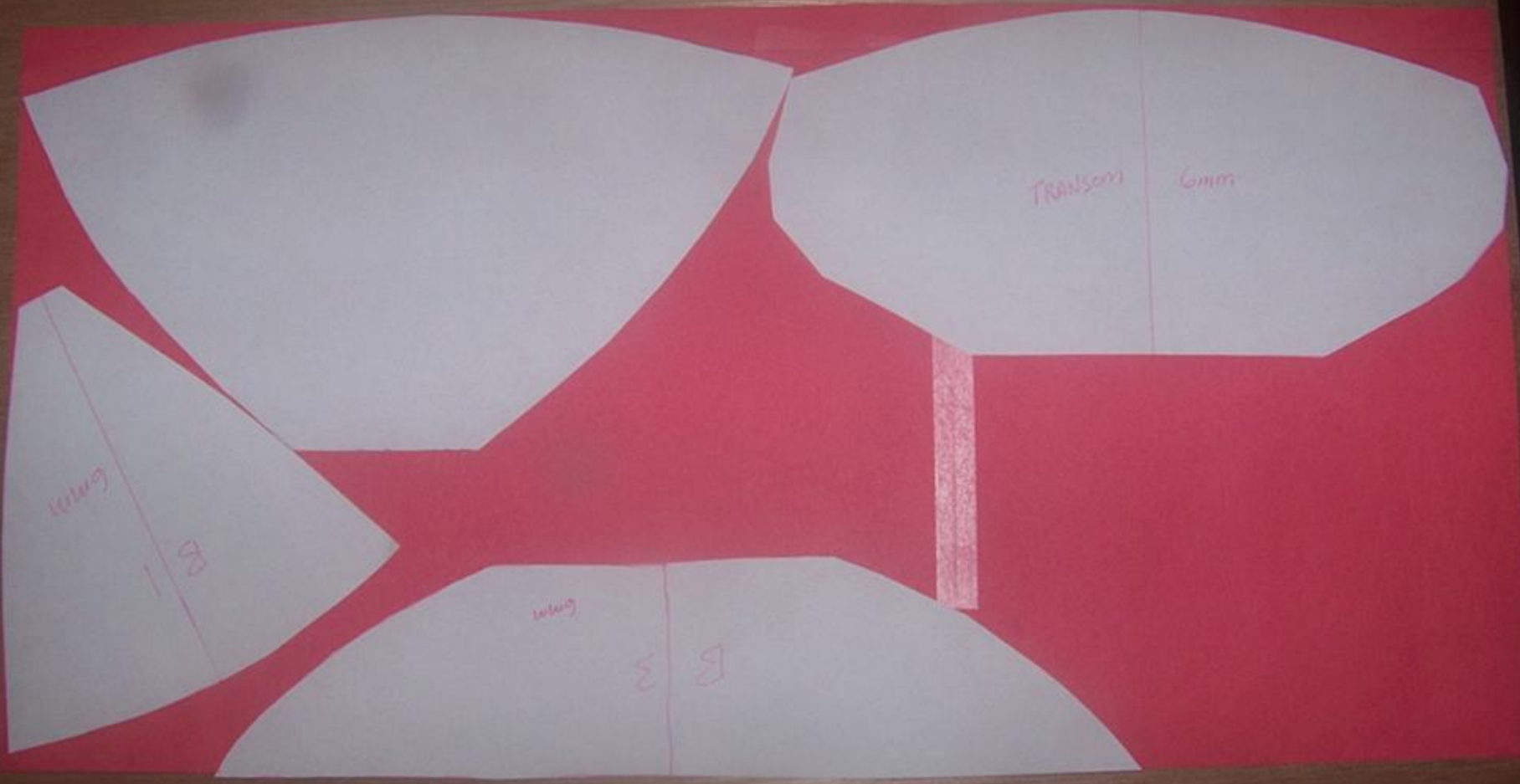
Read Manual, Check Safety Guard Function,
Personal Safety, Operating Capacity,
Use all safety features, including safety
switch, before using. Do not use if you
are not properly trained and qualified
personnel. Do not use if you are
under the influence of alcohol or
drugs. Do not use if you are
fatigued or otherwise impaired.
Do not use if you are wearing
loose clothing or jewelry. Do not
use if you are in a confined space.
Do not use if you are in a flammable
or explosive atmosphere. Do not
use if you are in a high temperature
environment. Do not use if you are
in a high humidity environment.
Do not use if you are in a high
altitude environment. Do not use
if you are in a high pressure
environment. Do not use if you are
in a high vibration environment.
Do not use if you are in a high
noise environment. Do not use if
you are in a high dust environment.
Do not use if you are in a high
humidity environment. Do not use
if you are in a high temperature
environment. Do not use if you are
in a high pressure environment.
Do not use if you are in a high
vibration environment. Do not use
if you are in a high noise
environment. Do not use if you are
in a high dust environment.

B6

B6







TRANSOM

6mm

6mm

B

6mm

B 3



Centerboard built per this guide:

http://www.jamestowndistributors.com/userportal/pdfs/WestSystem/Rudder_Blades_and_Centerboards_000_448.pdf

















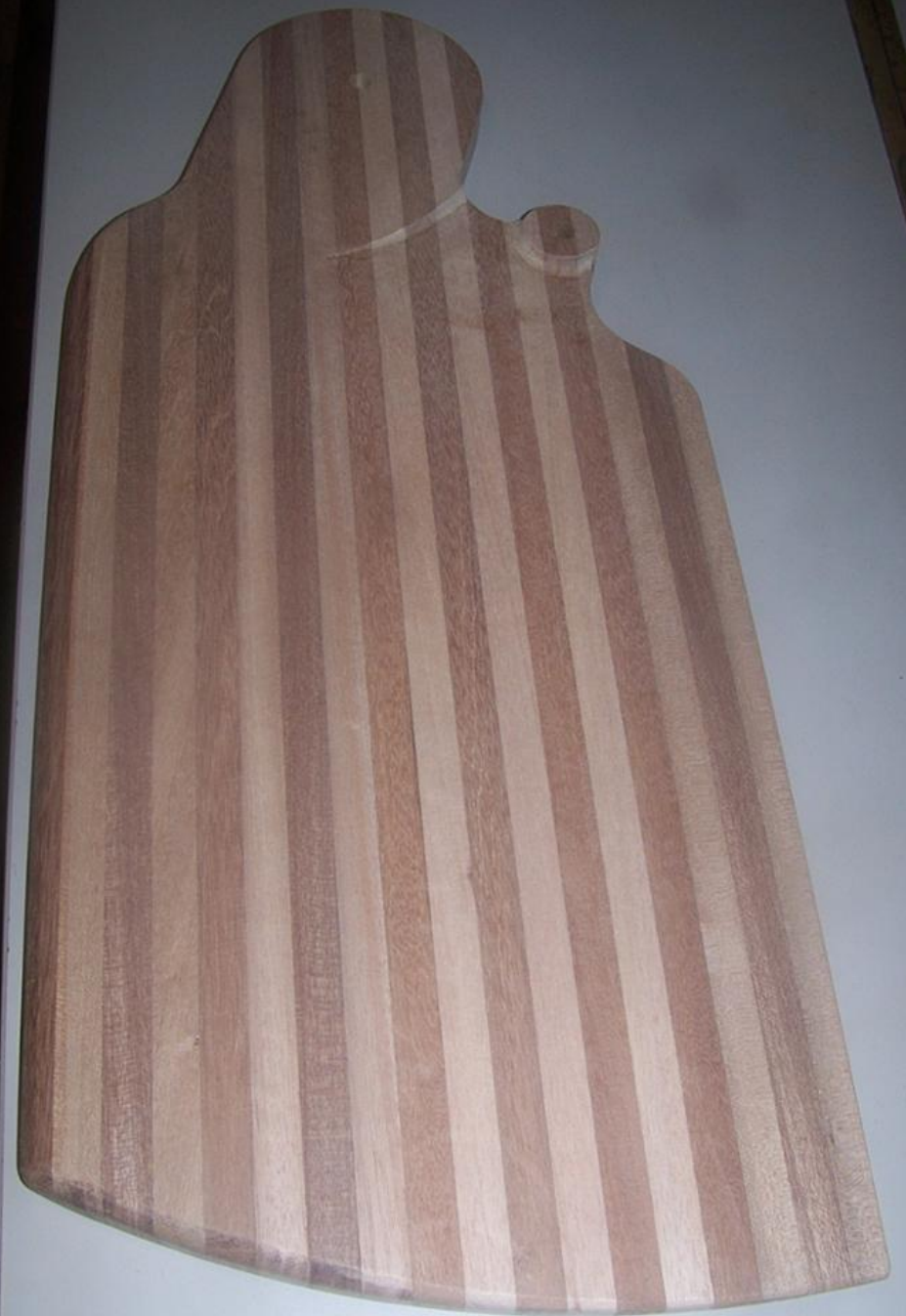






Rudder was built by alternating strips of mahogany.

Consequently, I had to alter the rudder shape slightly from the plans. The leading and trailing edges were made straight and parallel instead of curved.









marine epoxy
System

All Purpose Marine Epoxy

RESIN - PART A

marine epoxy
System

Medium Speed Hardener

This epoxy hardener must be used with
Marine epoxy resin.

Mix Ratio = 2:1
(2 volume resin for 1 volume hardener)

"Do not change this ratio".
Make sure both parts are well mixed. Scrape
sides and bottom of container thoroughly.
Wash product thoroughly soon before using
this product"

Wear skin and eye protection at all times.
For technical support, contact 800-828-8888



1. PLACE CUP AGAINST STOP
 2. BALANCE SCALE
 3. PLACE WEIGHT AT R
 4. ADD RESIN TO CUP TO BALANCE (2)
 5. MOVE WEIGHT TO H
 6. ADD HARDENER TO CUP TO BALANCE (1)
- YIELDS: 1 UNIT RESIN + .44 UNIT HARDENER
2.27 UNIT RESIN + 1 UNIT HARDENER



H

Excellent Epoxy scale. See
<http://www.duckworksmagazine.com/05/articles/scale/index.cfm>











The area between bulkheads 1 and 2 is a dry locker, accessible through two removable hatches located in bulkhead 2. This dry locker also doubles as an air chamber for flotation, so the hatches need to be as watertight as possible. I made the hatch covers as large as possible and designed a latch that would secure the hatch covers tightly but still enable them to be removed easily. The hatch openings each measure 420mm x 265mm, which is big enough to stick a head and an arm through. The hatch covers were made from the pieces cut out to make the access hole, with a 40mm frame piece glued on. The forward face of this frame has a rubber seal made of weather stripping applied.

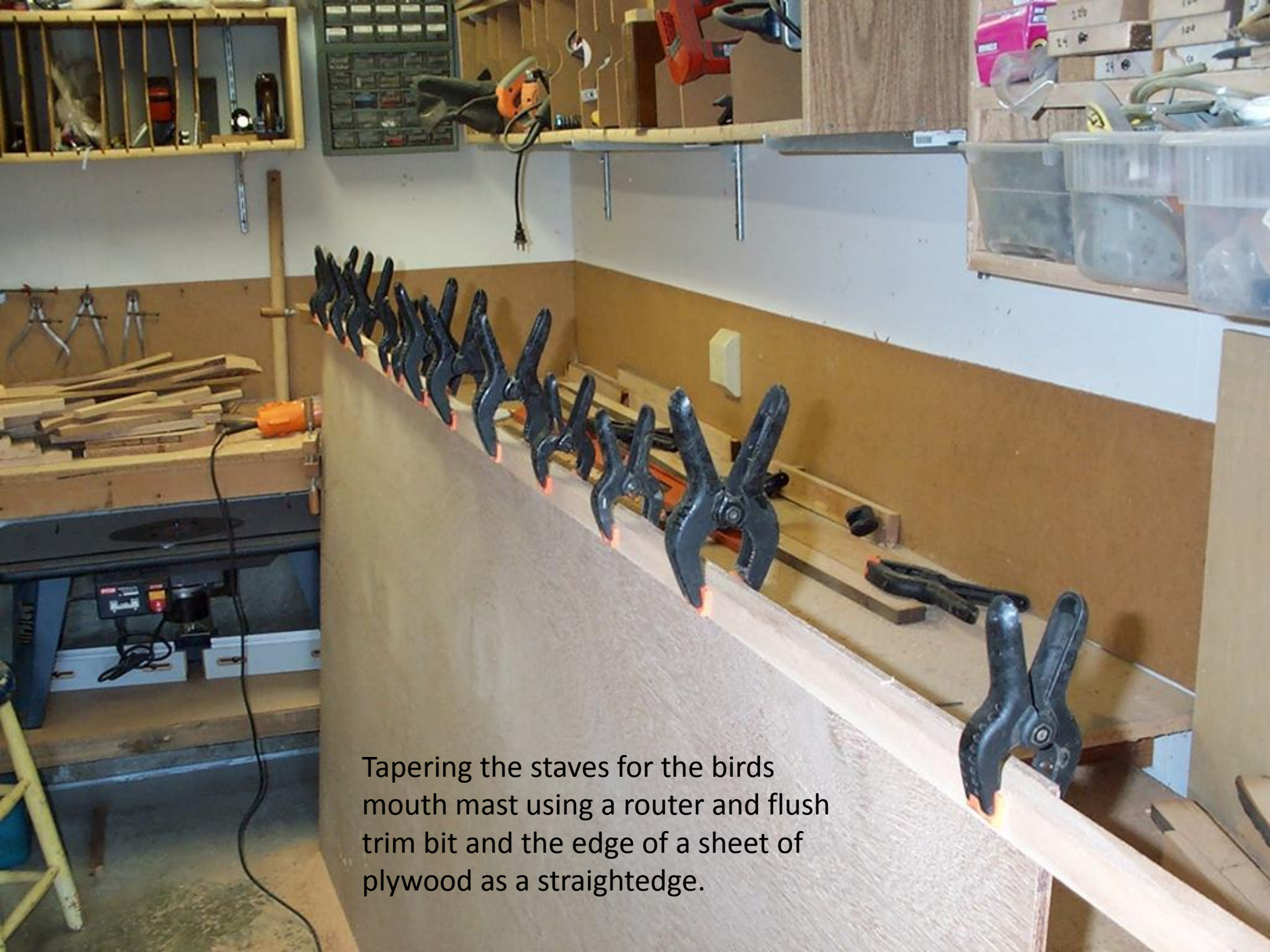


The latch handles were made from scraps of mahogany with a bolt imbedded



The latch is made of pieces of oak with the center tapped for the bolt. Screwing the handles clockwise latches and tightens down the hatch cover for a watertight seal. Screwing them counterclockwise until they completely loosen allows removal of the hatch cover. Stop blocks attached to the bulkhead control when the latches stop. The latches remain attached to the hatch cover and they can be easily replaced when worn out.





Tapering the staves for the birds mouth mast using a router and flush trim bit and the edge of a sheet of plywood as a straightedge.









Sanding the mast round using a makeshift lathe. The base of the mast was cut square, which I inserted into a square hole, attached to a wood disk, attached to a lathe faceplate, attached to the shopsmith. At the other end, I inserted a lag bolt into the top of the mast, which went through a hole in a piece of oak, which was securely clamped into a bench vise. Then, making sure the speed was set to the slowest possible speed on the Shopsmith, I turned it on. As the RPM's increased, the mast started to wobble in the middle, but I found that if I loosely held it there with my hand, it would spin with little or no wobble. So with one hand holding the middle, and the other hand holding some sandpaper, I proceeded to sand the entire mast. The sandpaper would heat up quickly so I had to make frequent pauses, but I was able to sand the entire mast completely round in about 10 to 15 minutes.

















Two years prior, I scored an entire truckload of mahogany for free. A guy in Seattle was performing a major remodel of an old home. He had removed all the wood trim from around the windows and doors, which had been painted over, and was giving the pile away for free as firewood. He said he didn't know what kind of wood it was, but it looked like it might be mahogany. It was.

After I got the pile home I scraped off the paint and a good friend of mine ran the entire lot through his thickness planer. The end result was hundreds of dollars worth of beautifully clear boards with nothing but a few nail holes to fill.

Most of this mahogany has now become a part of Ellie.

One man's firewood is another man's yacht.





MAH
WAL SC. - STOCK
8-15-68







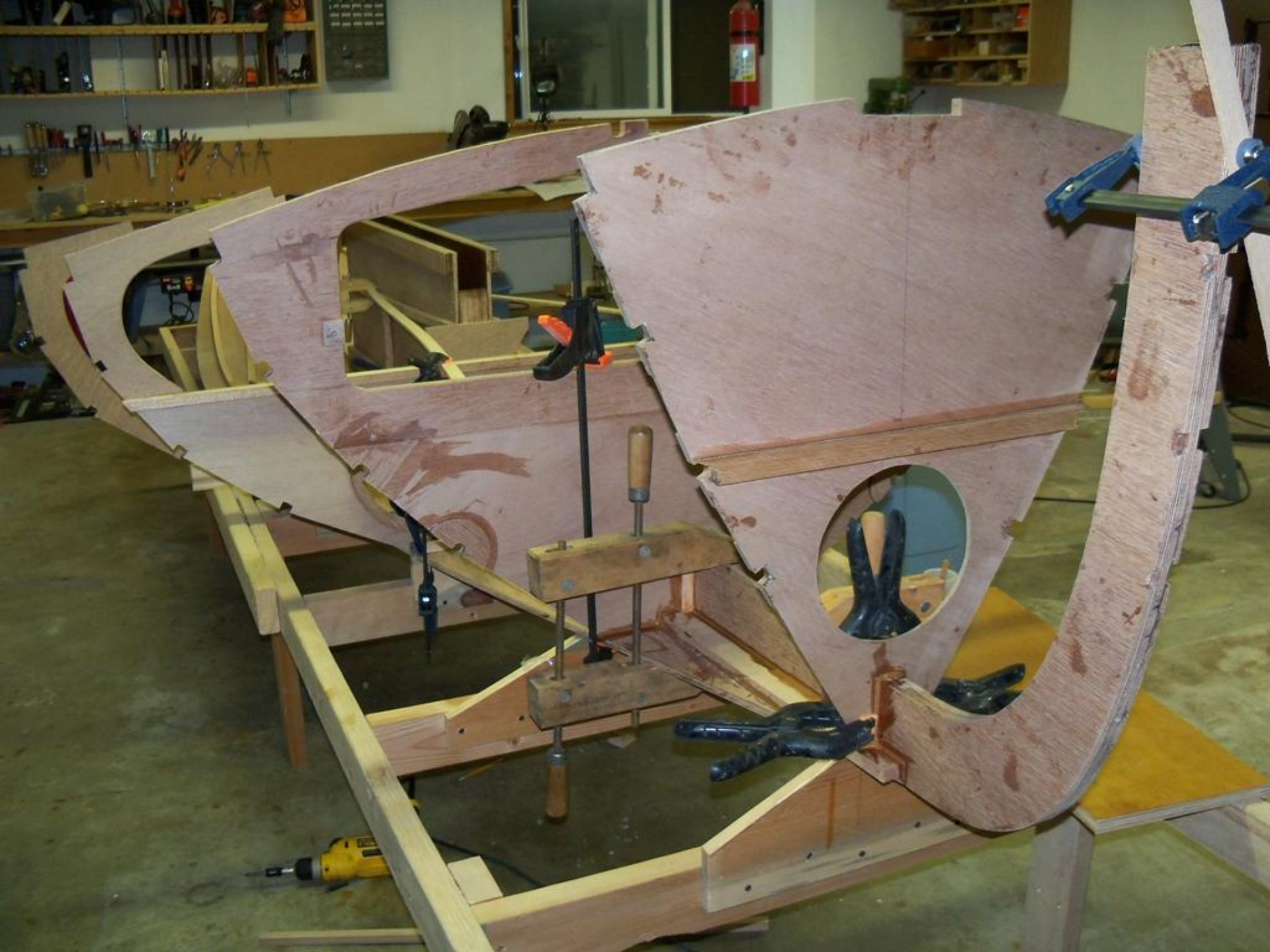













































A close-up photograph of a person's hand using a metal cabinet scraper to smooth a thick, white epoxy resin on a wooden surface. The epoxy is being applied in a U-shaped groove. The wood is a light-colored, natural wood with a visible grain. The scraper is a flat, rectangular metal blade. The person's hand is visible in the lower right corner, holding the scraper. The background shows more of the wooden surface and some scattered epoxy residue.

The cabinet scraper
Is an excellent tool
For smoothing epoxy























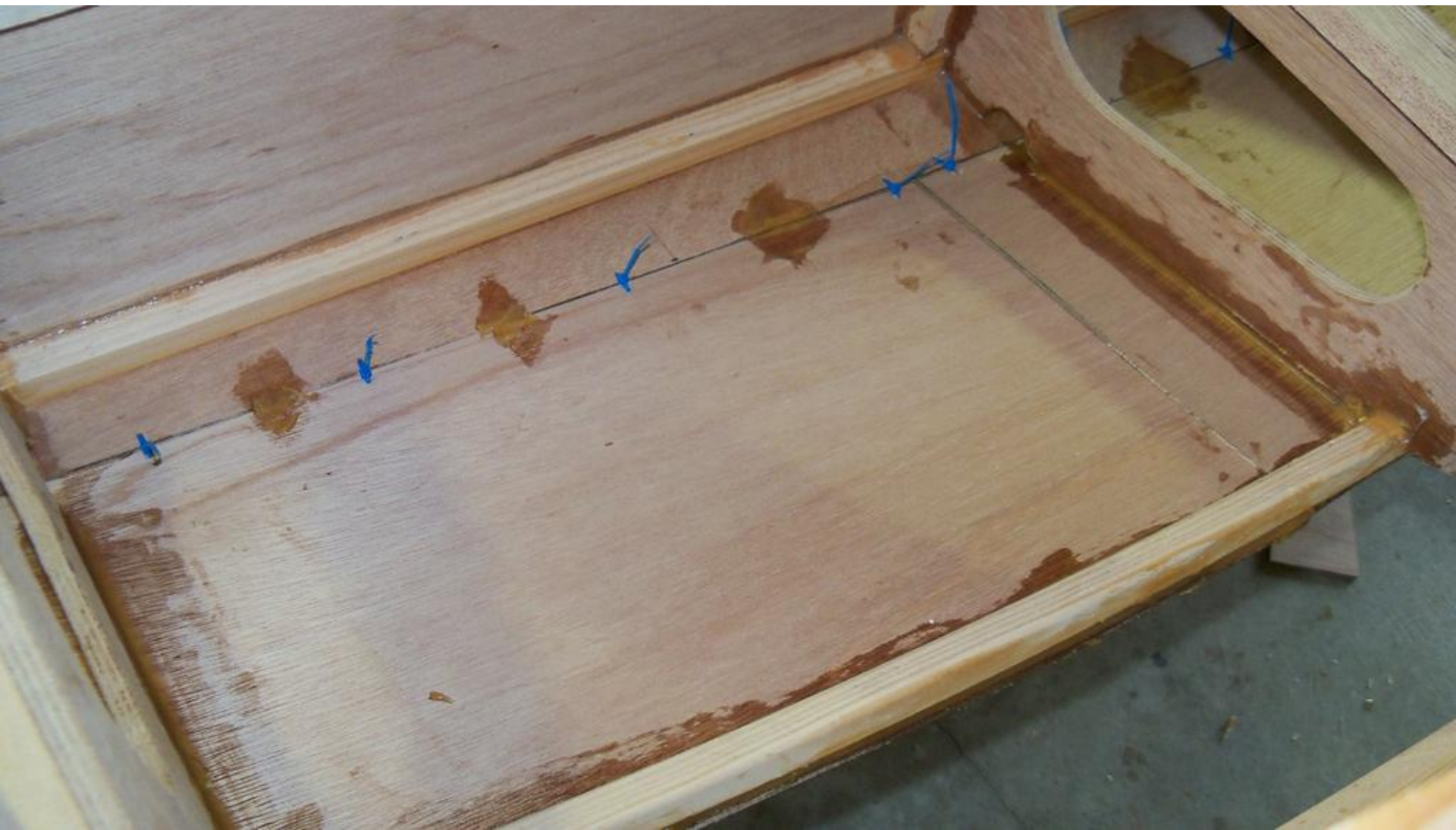
































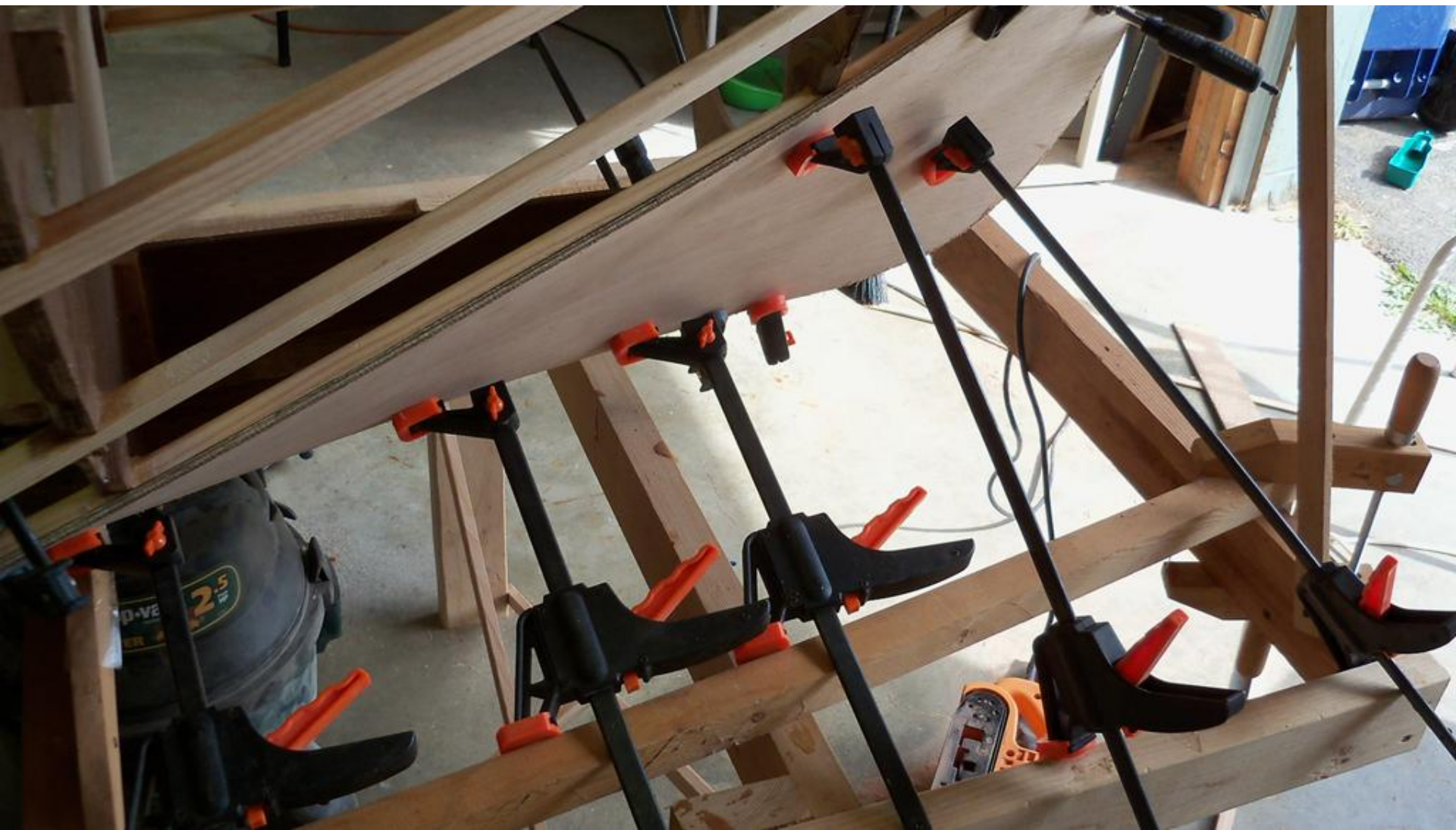




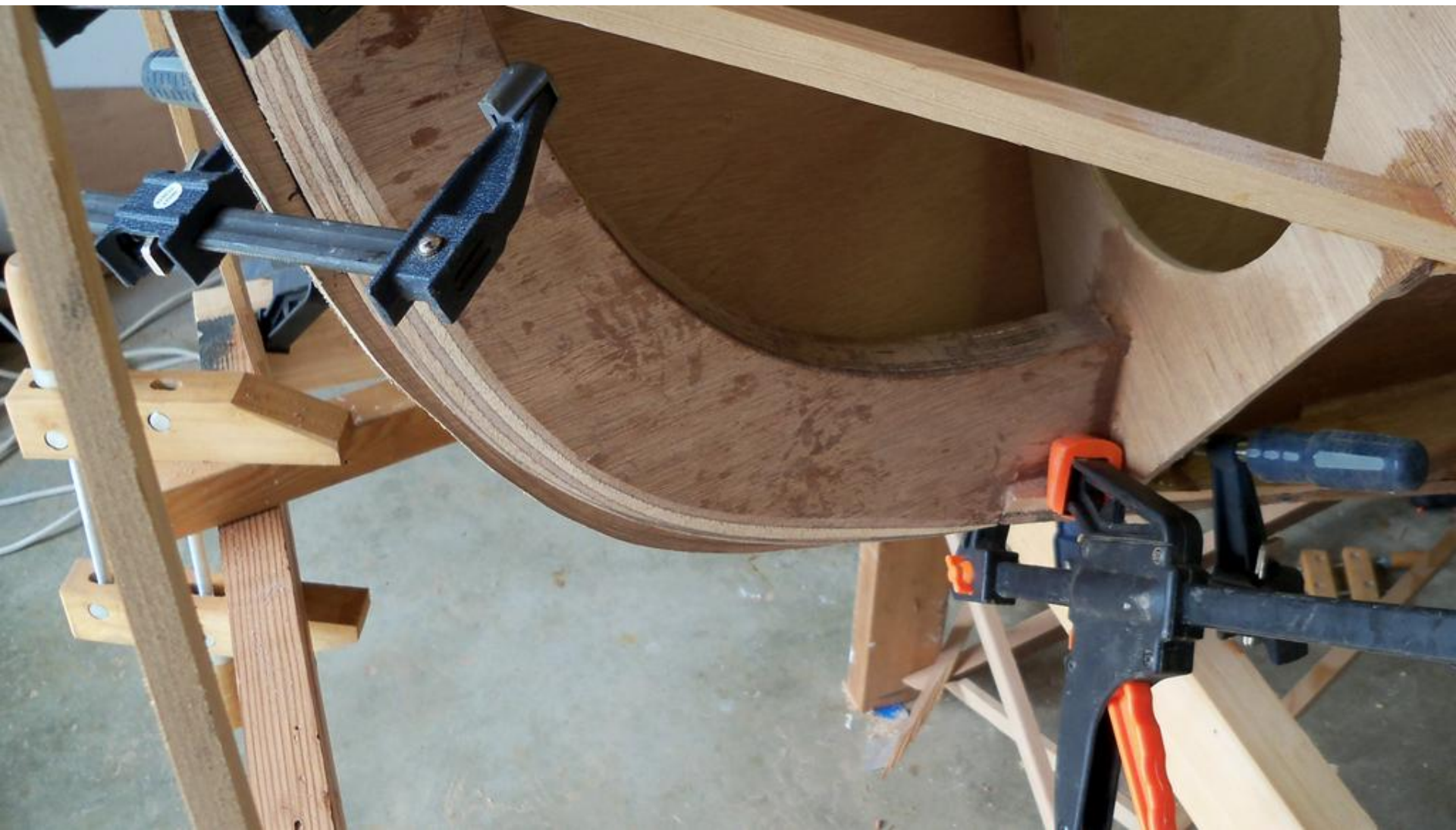








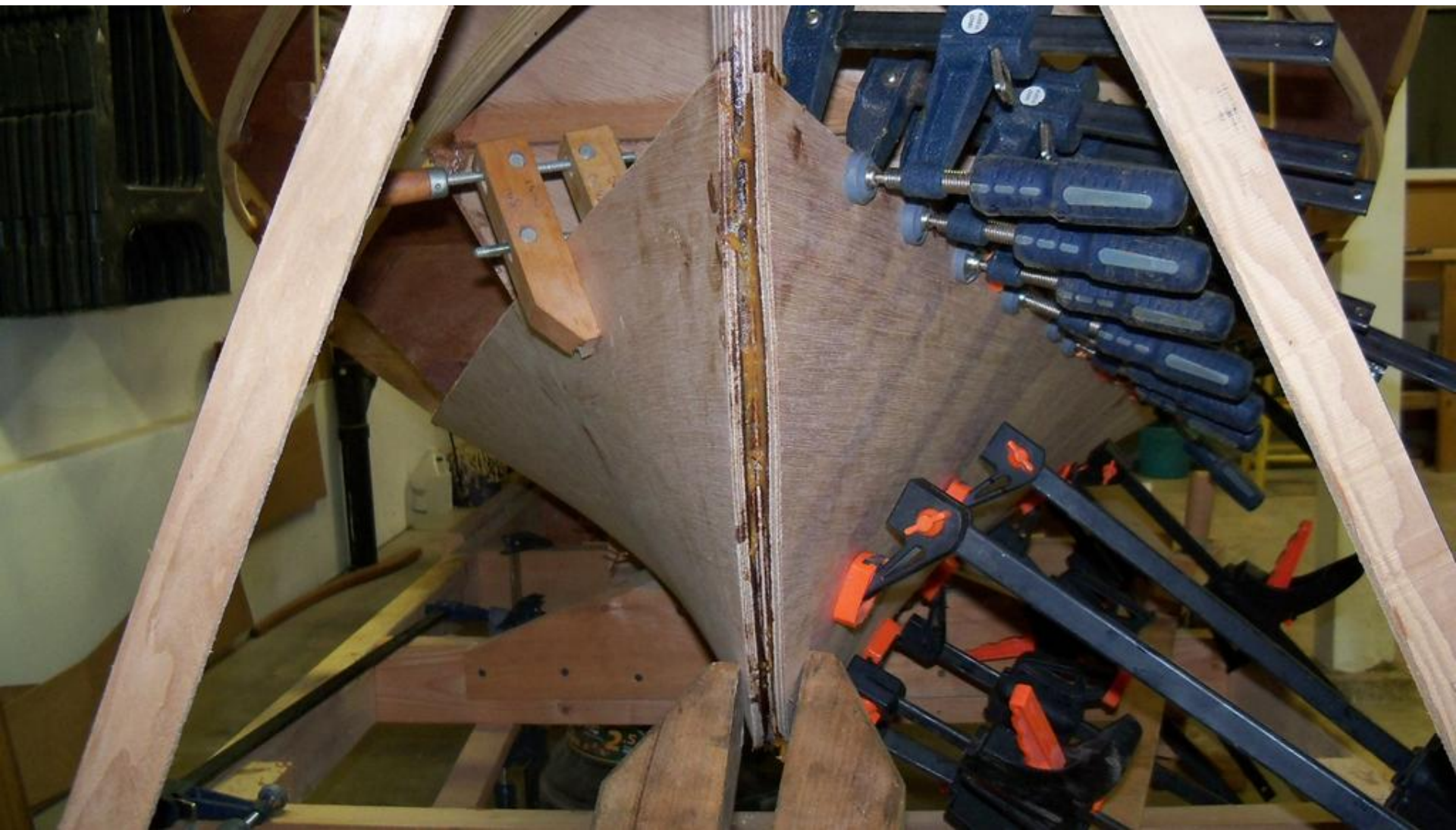


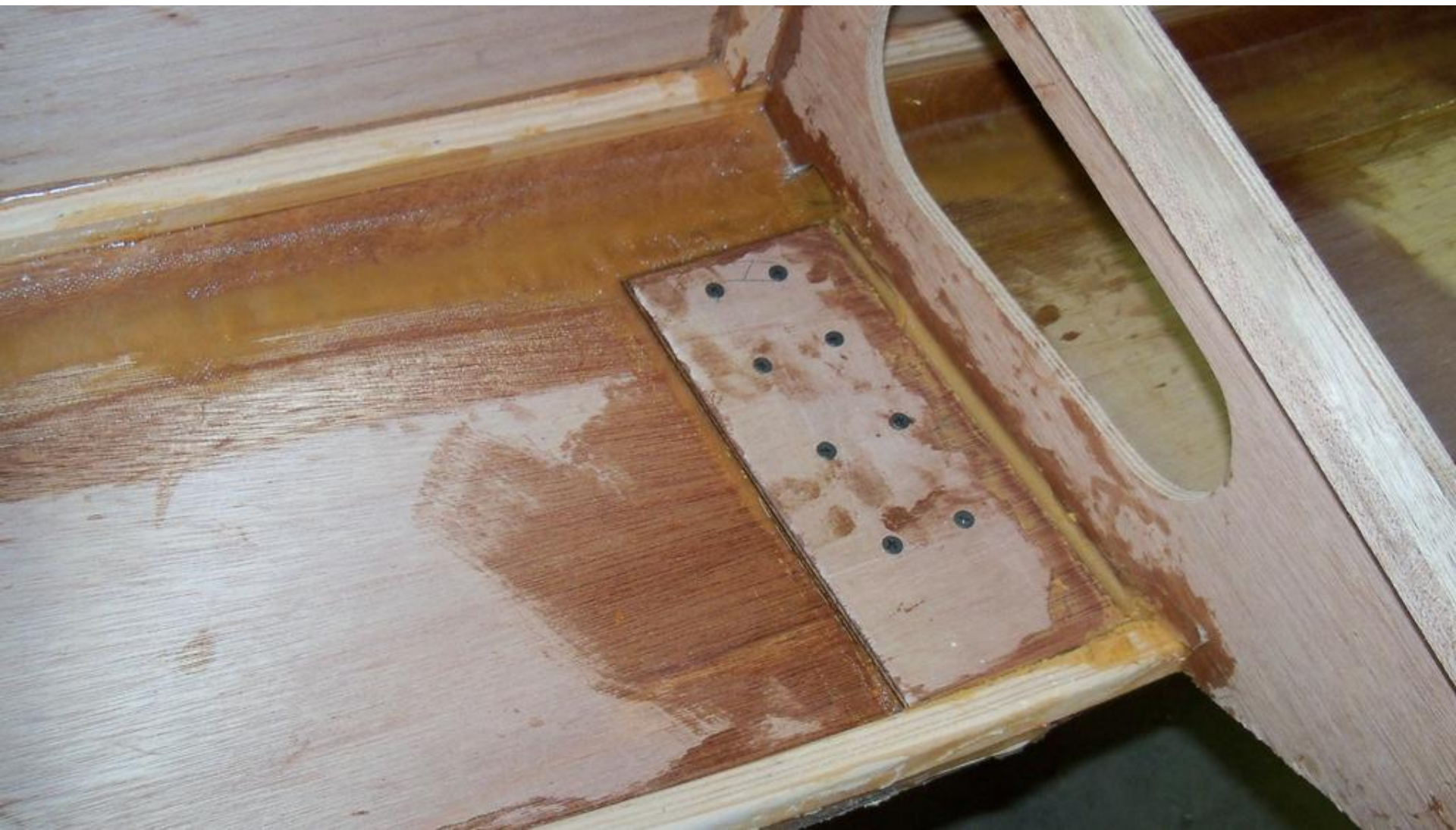


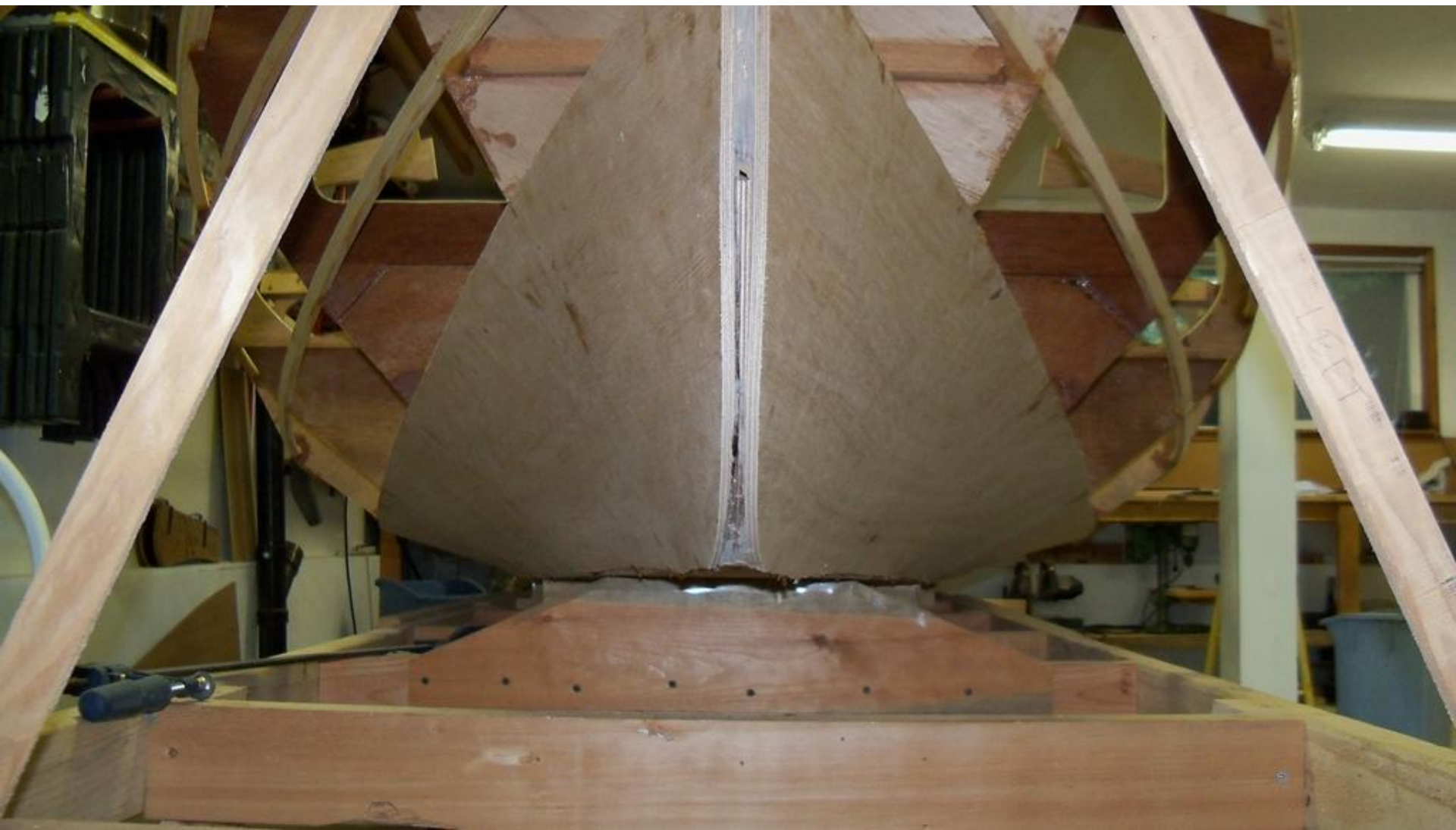








































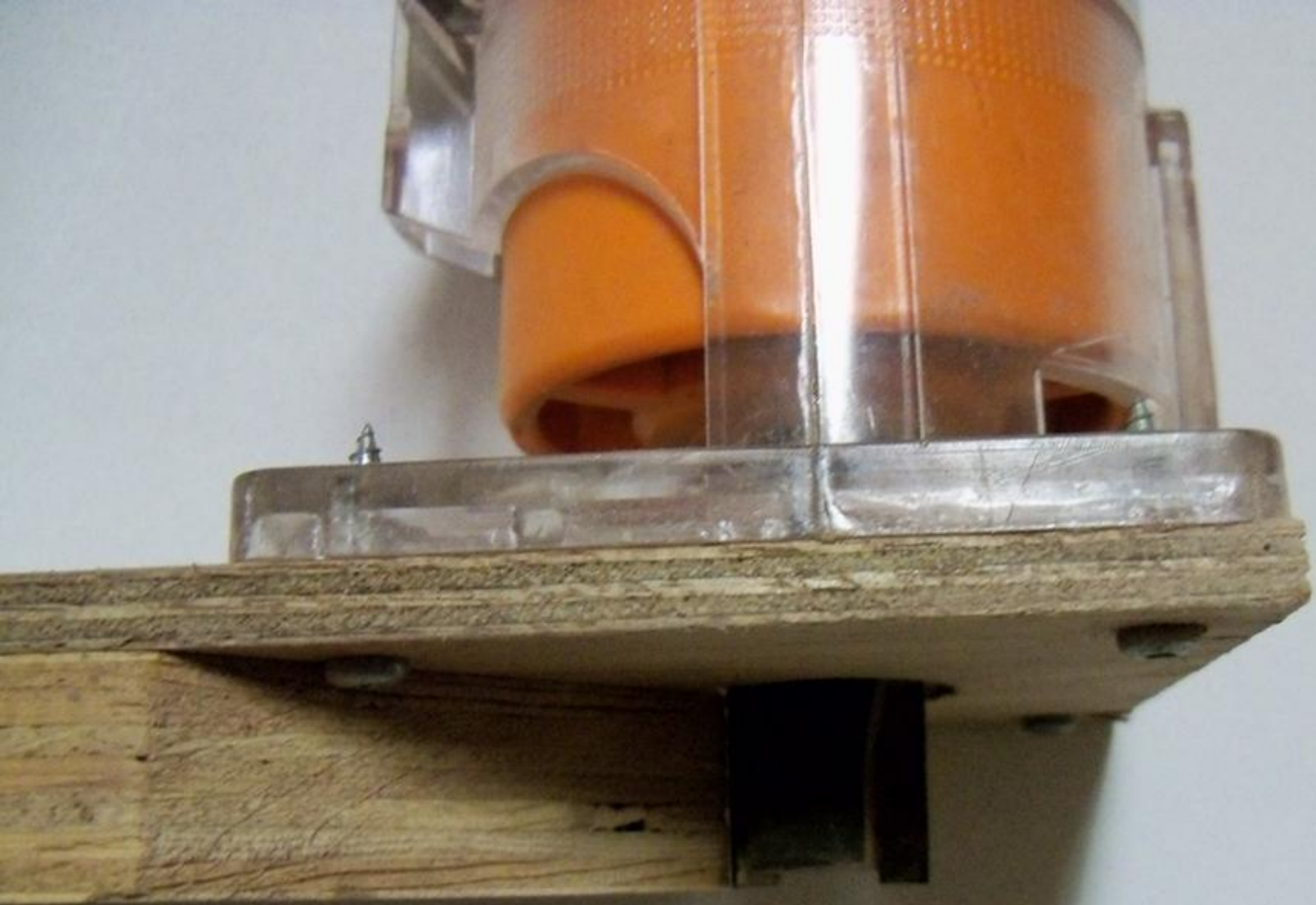













A close-up photograph shows a person's hands using a yellow handheld router to trim a wooden plank. The router is positioned against the edge of the plank, which is being held steady by the person's other hand. The background is a workshop with a desk, a chair, and a blue trash bin. The text "Using a router to trim planking flush with transom" is overlaid in the bottom left corner.

Using a router to trim planking flush with transom







216071 133

PP







































Don't Buy a Truck!

Model	Price	Model	Price	Model	Price
1998 Ford F-150	\$12,999	1998 Ford F-250	\$14,999	1998 Ford F-350	\$16,999
1998 Ford F-450	\$18,999	1998 Ford F-550	\$20,999	1998 Ford F-650	\$22,999
1998 Ford F-750	\$24,999	1998 Ford F-850	\$26,999	1998 Ford F-950	\$28,999
1998 Ford F-1000	\$30,999	1998 Ford F-1100	\$32,999	1998 Ford F-1200	\$34,999
1998 Ford F-1300	\$36,999	1998 Ford F-1400	\$38,999	1998 Ford F-1500	\$40,999
1998 Ford F-1600	\$42,999	1998 Ford F-1700	\$44,999	1998 Ford F-1800	\$46,999
1998 Ford F-1900	\$48,999	1998 Ford F-2000	\$50,999	1998 Ford F-2100	\$52,999
1998 Ford F-2200	\$54,999	1998 Ford F-2300	\$56,999	1998 Ford F-2400	\$58,999
1998 Ford F-2500	\$60,999	1998 Ford F-2600	\$62,999	1998 Ford F-2700	\$64,999
1998 Ford F-2800	\$66,999	1998 Ford F-2900	\$68,999	1998 Ford F-3000	\$70,999
1998 Ford F-3100	\$72,999	1998 Ford F-3200	\$74,999	1998 Ford F-3300	\$76,999
1998 Ford F-3400	\$78,999	1998 Ford F-3500	\$80,999	1998 Ford F-3600	\$82,999
1998 Ford F-3700	\$84,999	1998 Ford F-3800	\$86,999	1998 Ford F-3900	\$88,999
1998 Ford F-4000	\$90,999	1998 Ford F-4100	\$92,999	1998 Ford F-4200	\$94,999
1998 Ford F-4300	\$96,999	1998 Ford F-4400	\$98,999	1998 Ford F-4500	\$100,999

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1998 Ford F-850 \$26,999

1998 Ford F-950 \$28,999

1998 Ford F-1000 \$30,999

1998 Ford F-1100 \$32,999

1998 Ford F-1200 \$34,999

1998 Ford F-1300 \$36,999

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1998 Ford F-1600 \$42,999

1998 Ford F-1700 \$44,999

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1998 Ford F-1900 \$48,999

1998 Ford F-2000 \$50,999

1998 Ford F-2100 \$52,999

1998 Ford F-2200 \$54,999

1998 Ford F-2300 \$56,999

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1998 Ford F-2800 \$66,999

1998 Ford F-2900 \$68,999

1998 Ford F-3000 \$70,999

1998 Ford F-3100 \$72,999

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1998 Ford F-3900 \$88,999

1998 Ford F-4000 \$90,999

1998 Ford F-4100 \$92,999

1998 Ford F-4200 \$94,999

1998 Ford F-4300 \$96,999

1998 Ford F-4400 \$98,999

1998 Ford F-4500 \$100,999





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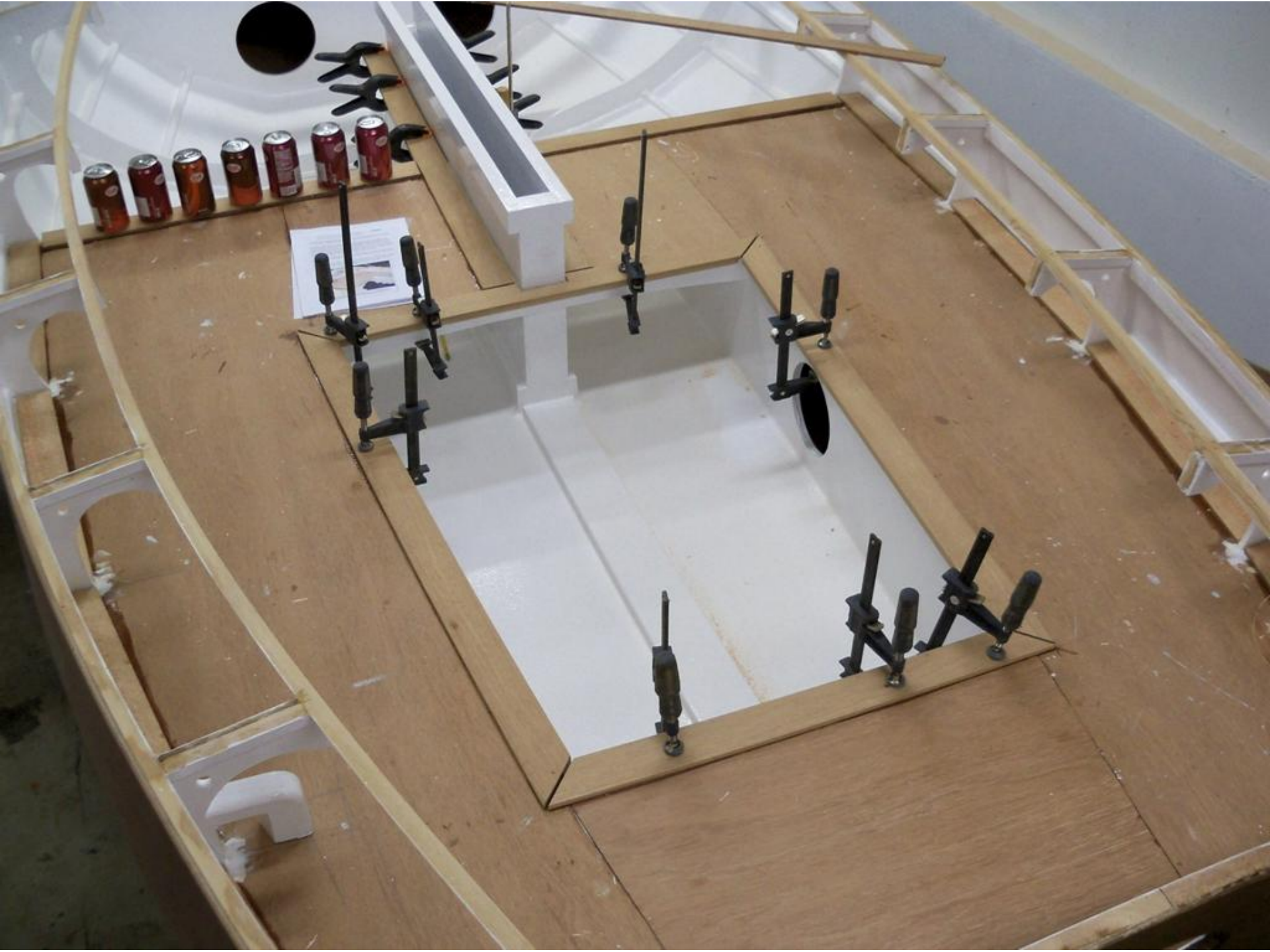










































































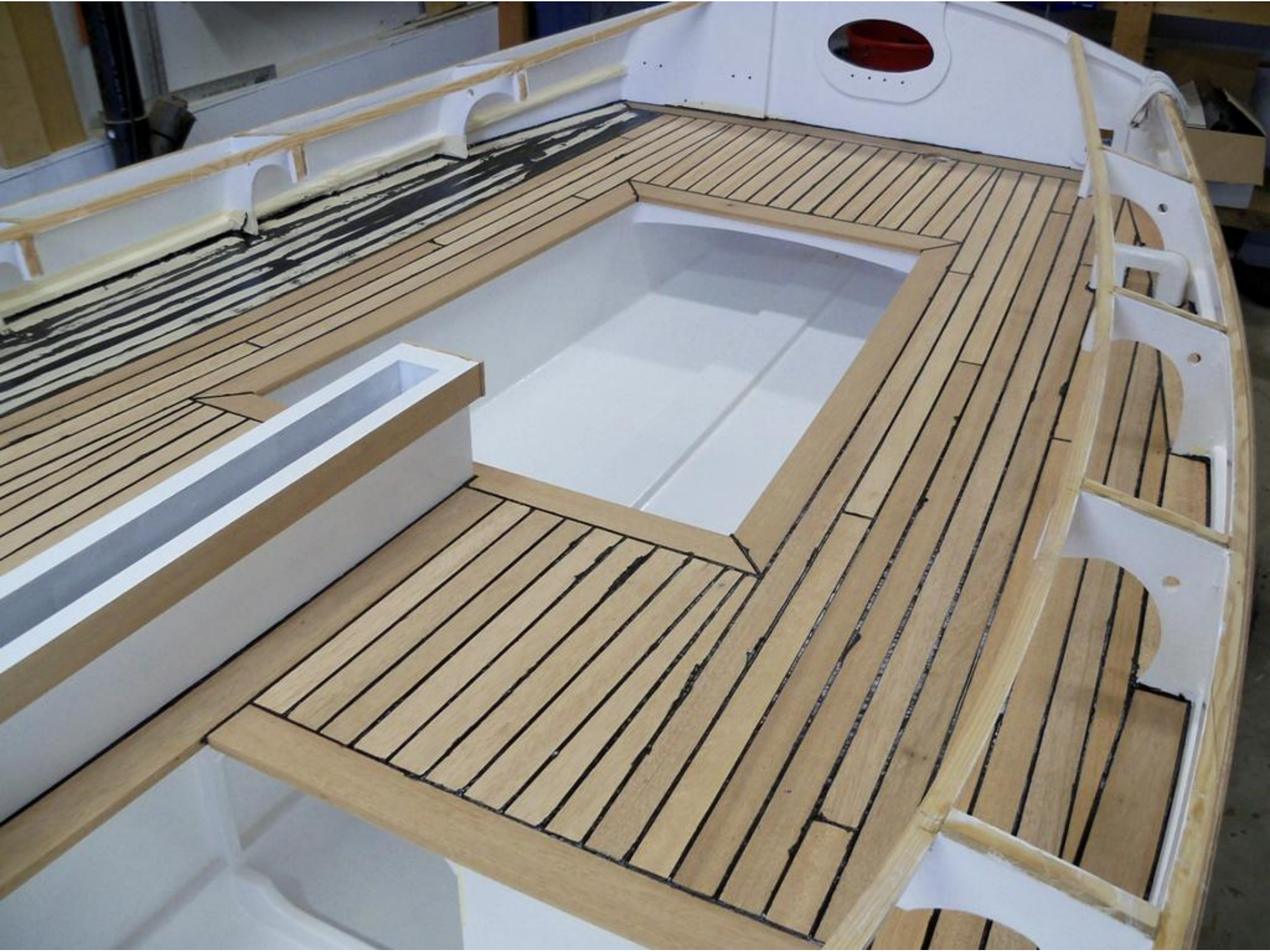


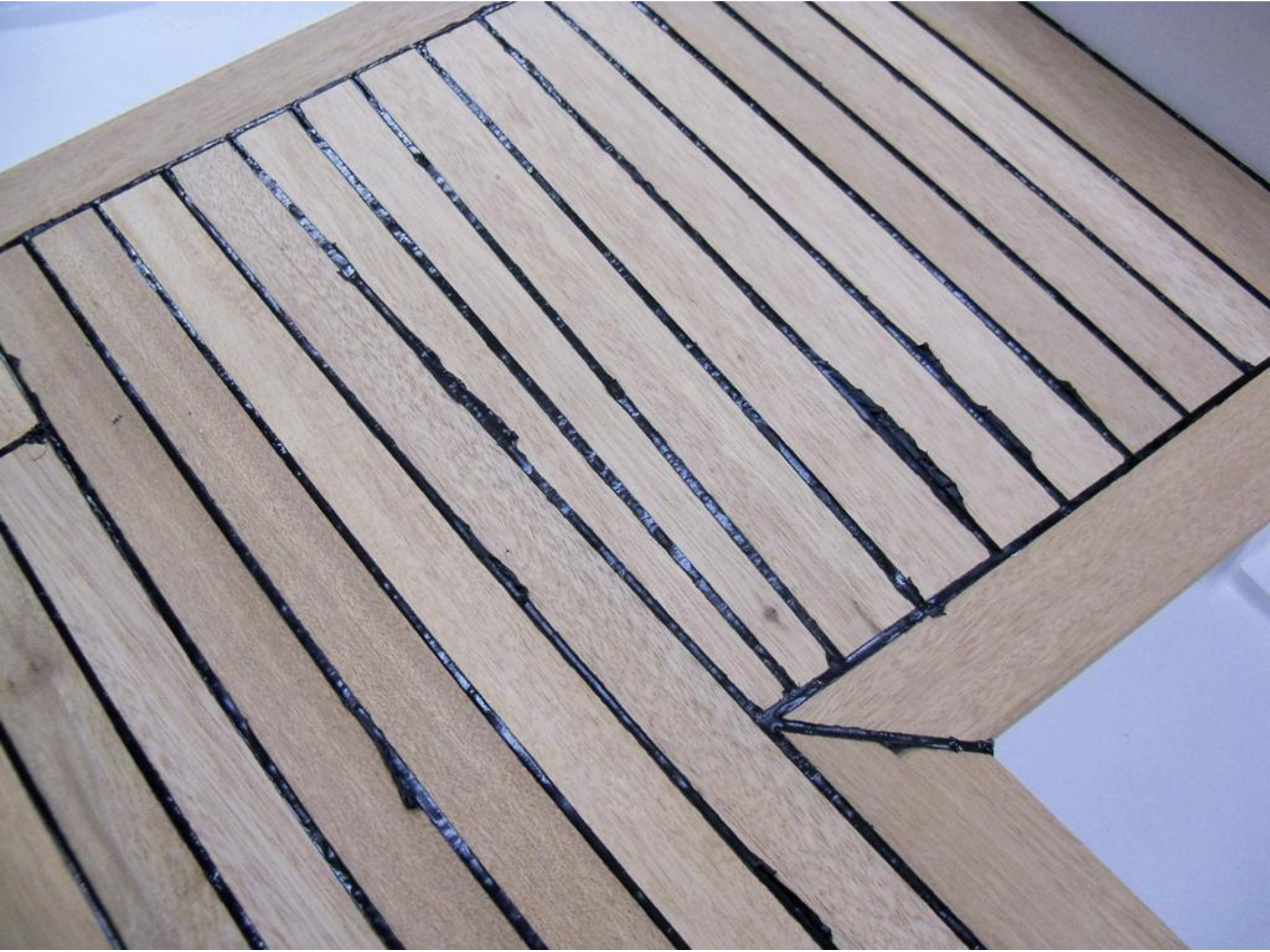










































































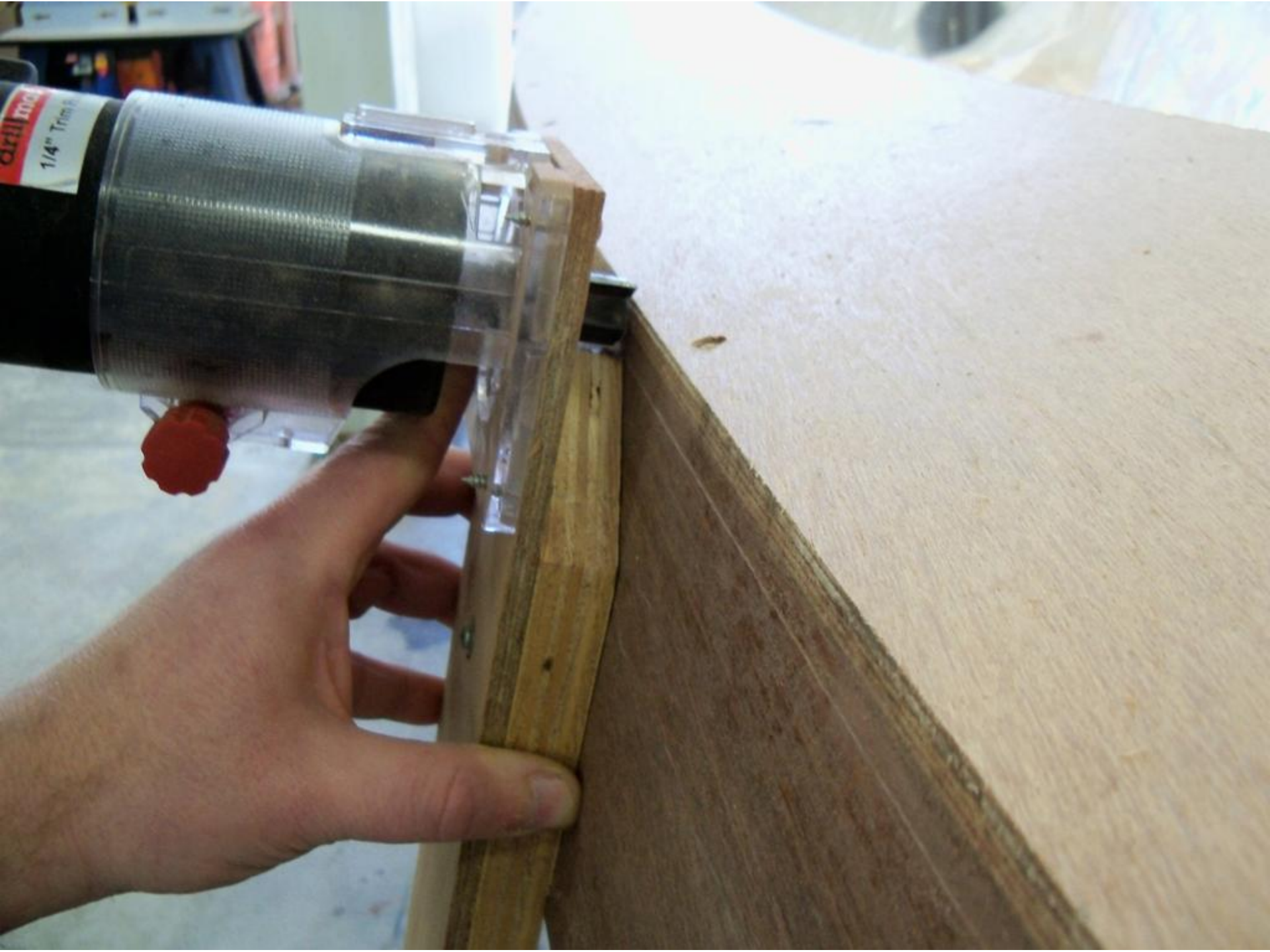




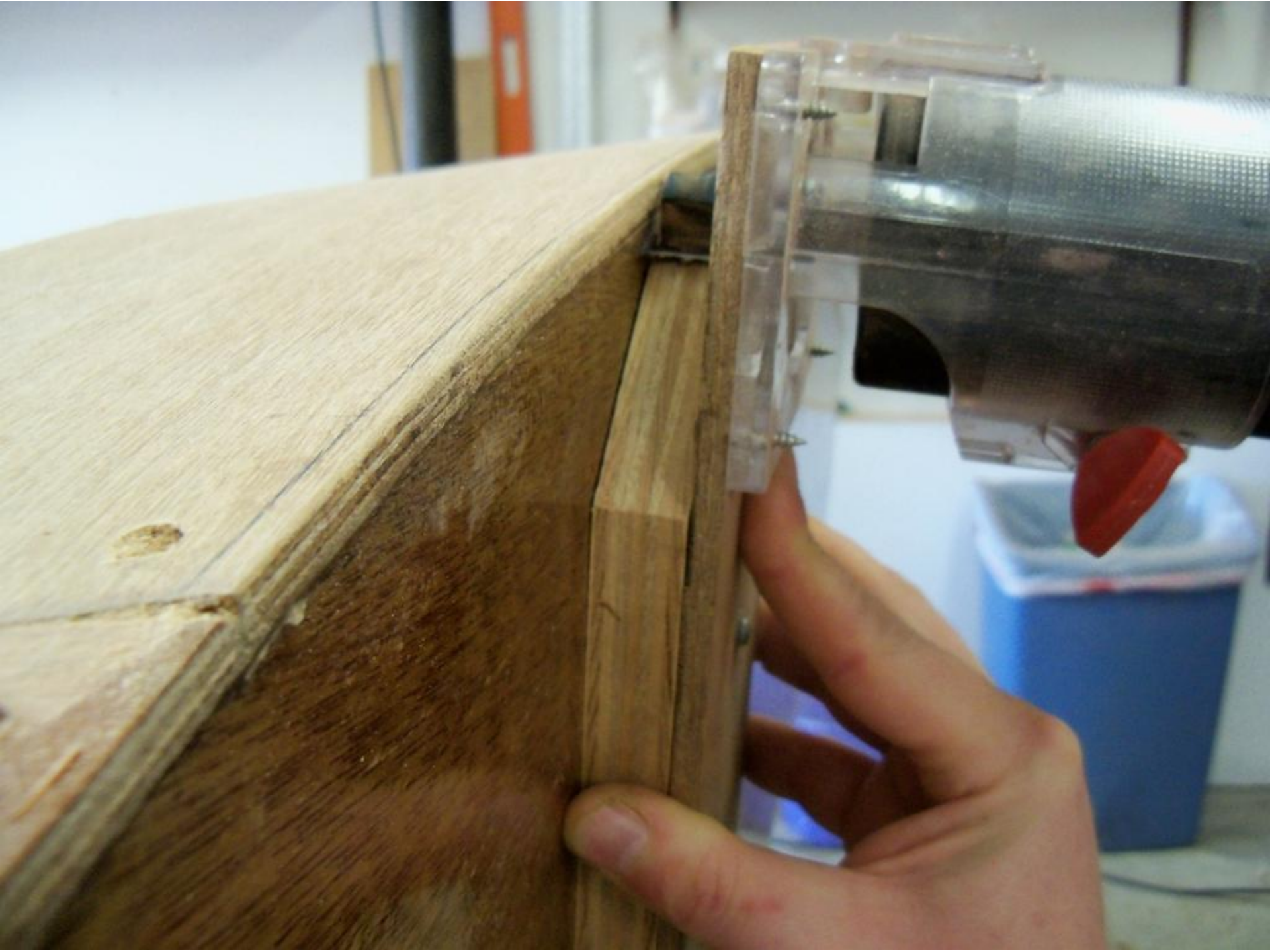


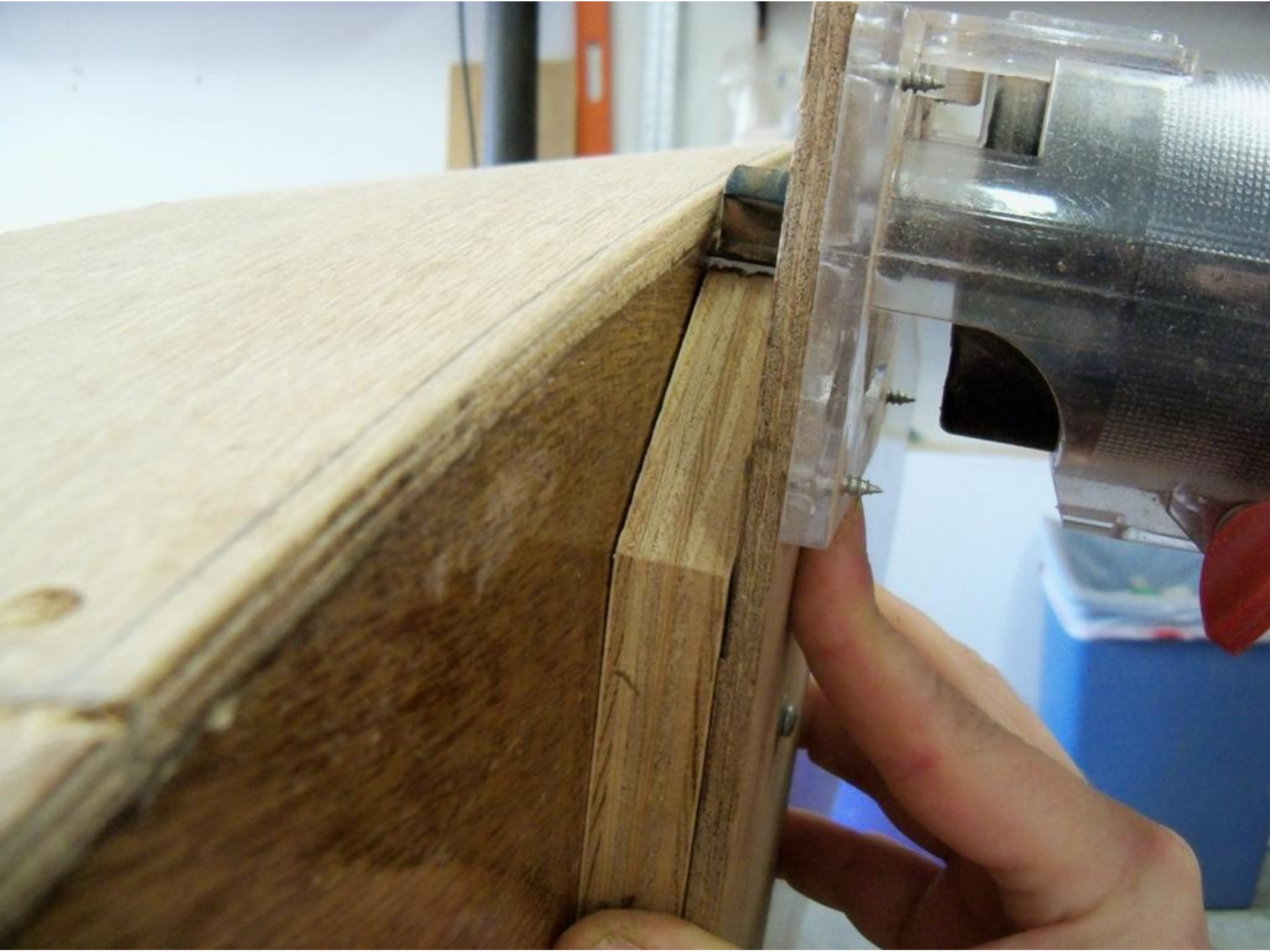






drill ma
1/4" Trim



































































ROAD

















ROAD RUNNER







5228















WN4759RP

2012

ROAD RUNNER







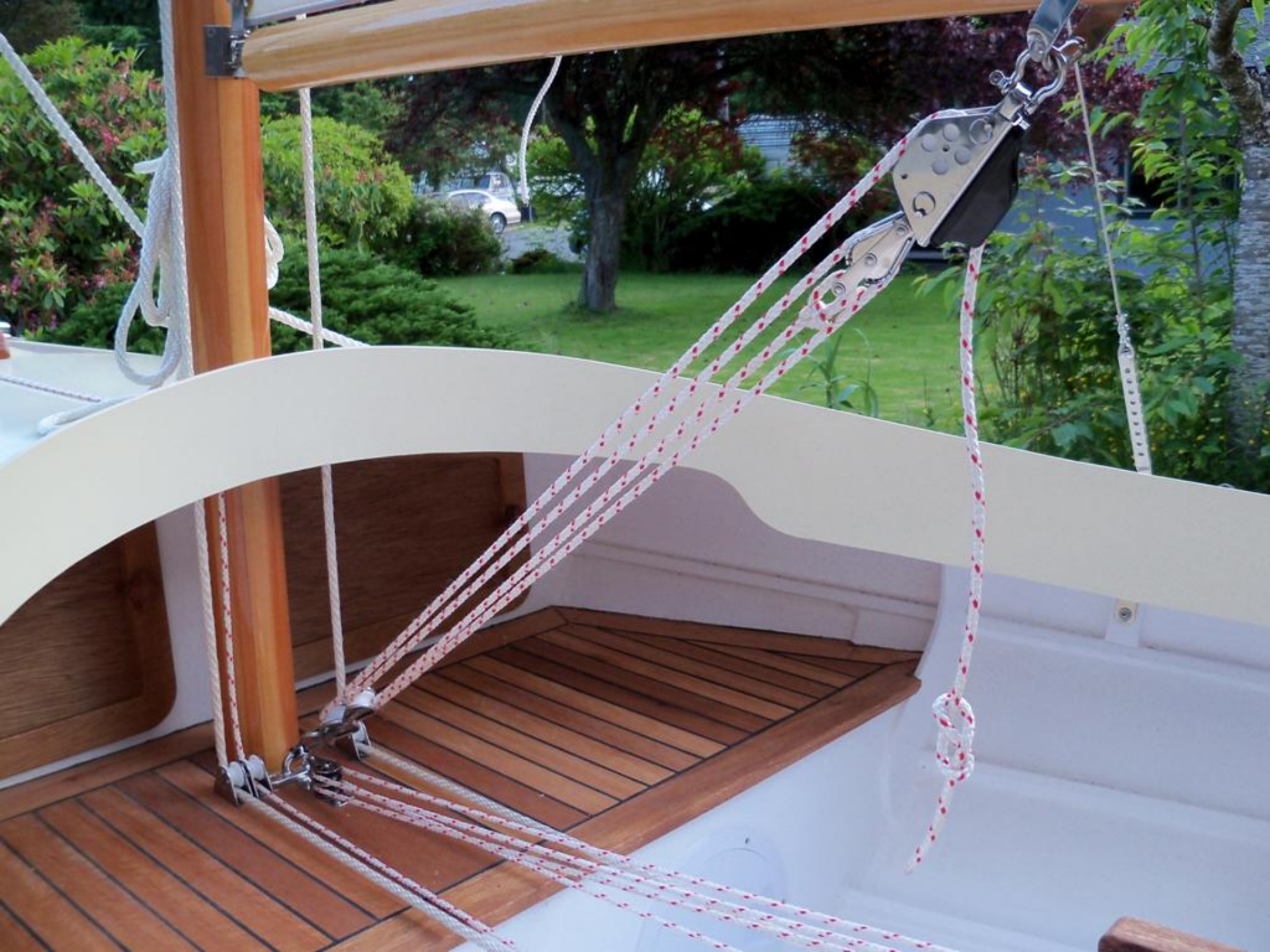




















WASHINGTON
JUNE
2012

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2019 WN4759KF

ROAD RUNNER













































































