CHESAPEAKE LIGHT CRAFT
THE BEST BOATS YOU CAN BUILD™

How to Build the Fin Box Conversion Kit

Kaholo Fin Box Conversion Kit

The Fin Box Conversion Kit

The Fin Box Conversion Kit adds versatility to your paddleboard or surfboard. The 10.5” (267mm) channel accommodates most standard fins, so that you can change fins as desired. Alter your stand-up paddleboard’s handling characteristics to match your style and the conditions.

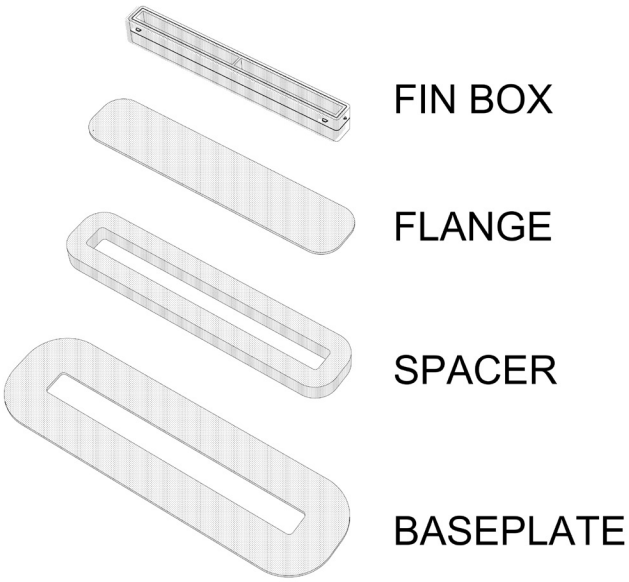
The best time to add the fin box kit is at the beginning of the build, as you’ll need to modify the internal structure of the paddleboard to fit the assembly. If you encounter any technical problems while assembling the kit please feel free to call us: 9am to 5pm (Eastern time) Monday through Friday at 410-267-0137. You can email any time.

Chesapeake Light Craft - www.clcboats.com

email - info@clcboats.com

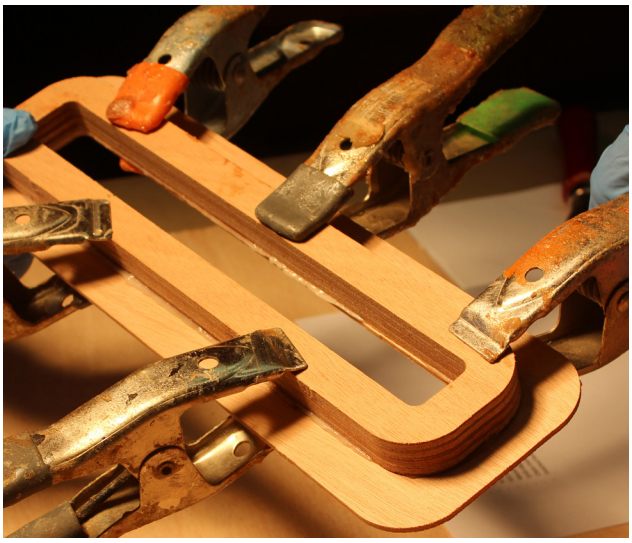
Assembling the Fin Box Housing

Begin by unpacking the fin box conversion kit and locating the spacer and the baseplate. Set the other parts aside for now.

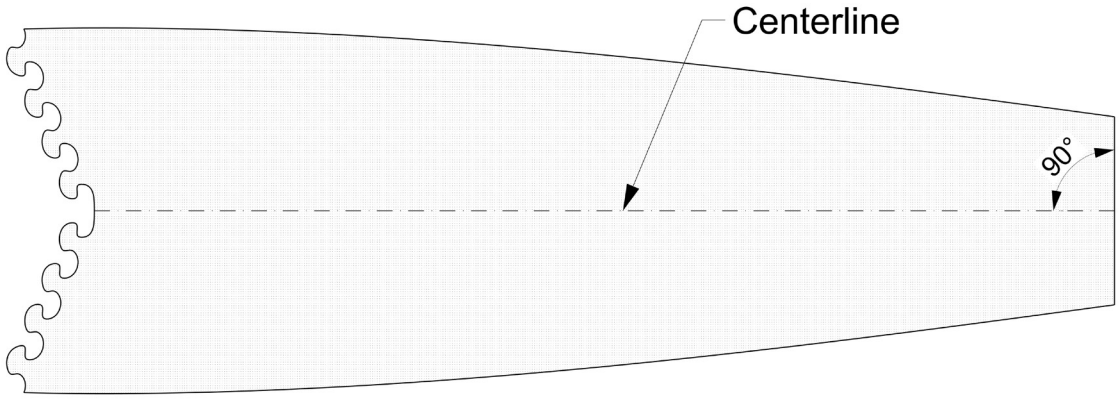


Mix up a 2oz (30ml) batch of epoxy, thickened to paste consistency with Cell-O-Fill, and brush a generous slather onto the the mating face of the spacer.

Clamp the spacer to the baseplate with half a dozen spring clamps. Make sure that the inside edges of the two parts are perfectly aligned.



You'll know that you have used enough epoxy if it squeezes out from between the two parts. Carefully scrape off the excess goo and set aside the assembly. Allow the epoxy to cure for 24 hours before removing the clamps.



AFT BOTTOM PANEL

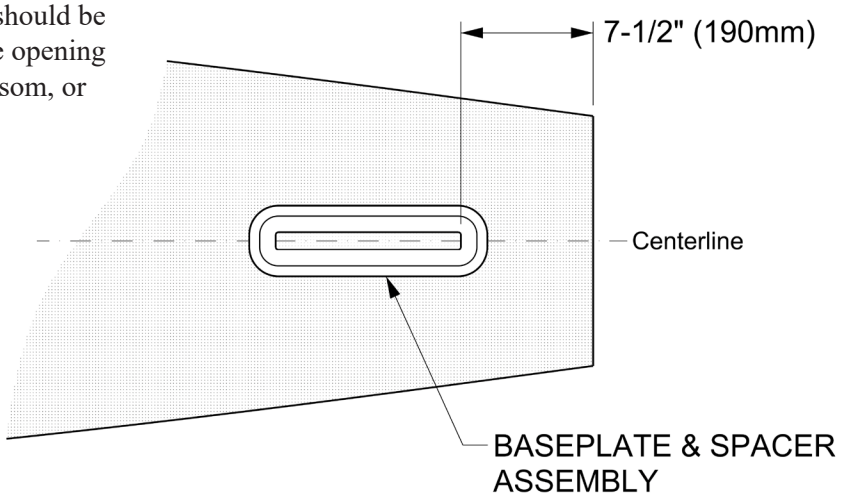
Begin assembly by marking the centerline along the **INSIDE** of the aft bottom panel, as shown above. If you install your fin box off-center or on an angle, you'll end up paddling in circles!

Take two transverse (widthwise) measurements along the back of the aft bottom panel, one measurement at the back edge *(above, left)*, and another about 12" (300mm) forward *(above, right)*. Mark the centers.

Connect these two marks with a pencil and straightedge.

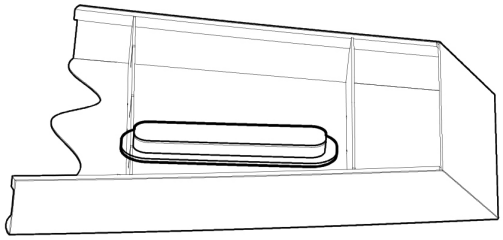
Again, you are working on the **INSIDE**of the bottom panel here.

For optimal performance, the fin box should be positioned so that the ***back edge*** of the opening is 7-1/2” (190mm) forward of the transom, or “tailblock” in paddleboard lingo.

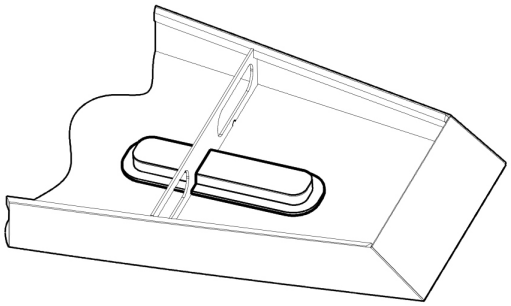


Mark the back edge of the opening, align the baseplate and spacer assembly on your mark, and trace the perimeter of the baseplate on the bottom panel.

Modifying the Frames



Kaholo 12-6



Kaholo 14

The fin box is intended to interface with an internal frame inside your paddleboard; this will stiffen the fin mount. The diagrams above show the positions of the frames relative to the fin box for the Kaholo 12-6 and Kaholo 14. For the 12-6, you'll need to modify **frame 10** to make room for the baseplate. For the Kaholo 14, you'll modify **frame 11** to fit the baseplate, spacer, and cap.

Use a fine-tooth bonsai saw, shinto rasp, or wood file to excavate a notch into the appropriate frame. Frame 11 for the Kaholo 14 is shown here, notched to fit the entire fin box housing.

Here's how your frames should look once they have been notched to accept the fin box. Frame 11 for the Kaholo 14 is shown on the left, frame 10 for the Kaholo 12-6 on the right.

Once you have notched the frames, you can return to the Kaholo build manual and continue wiring the frames into the hull.

Installing the Fin Box

When the epoxy bonding the spacer to the baseplate has cured, you can prepare to install the assembly onto your paddleboard. Now is a good time to double check your measurements!

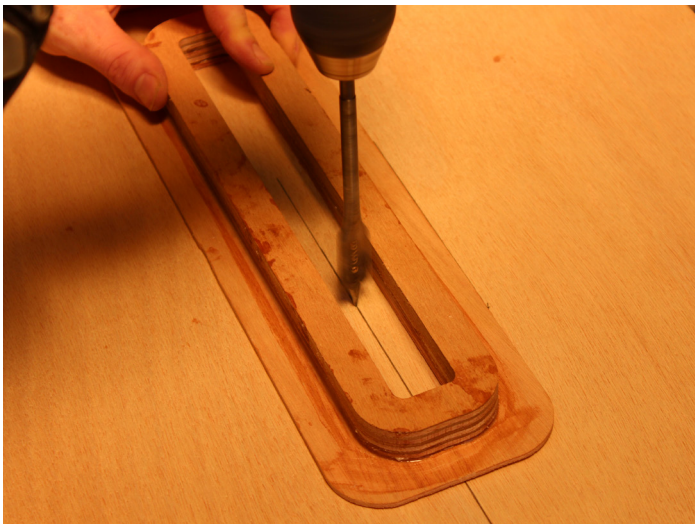
Mix up a batch of epoxy, thickened with Cell-O-Fill to paste consistency, and coat the mating face of the baseplate.

Press the assembly into position, making sure that the baseplate is sitting within the perimeter outline you drew earlier.

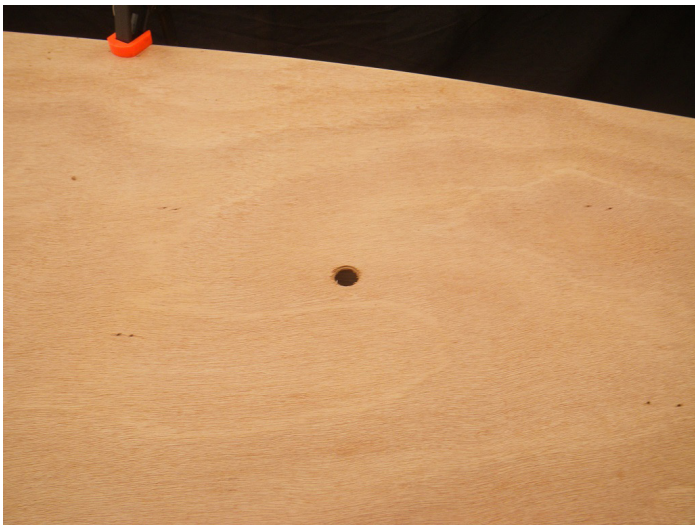
Clean up the excess epoxy from around the baseplate and use a weight to hold the assembly in place while the epoxy cures.

Now it's time to put the first hole in the board! The easiest way to open the slot for the fin box is with a router and a "flush-trim" bit. The bearing of the bit will ride along the inside face of the spacer and the bit will trim a perfect slot. Alternatively, you can use a saber saw or bonsai saw, and sand the edge flush by hand.

You'll need to drill a hole into the bottom panel to make room for your router bit. Equip your drill with a 1/2" (12mm) spade or forstner bit, and drill a hole inside the the spacer and baseplate assembly.



Flip your paddleboard upside down onto your sawhorses. Here's the hole you just drilled from the underside of the board.

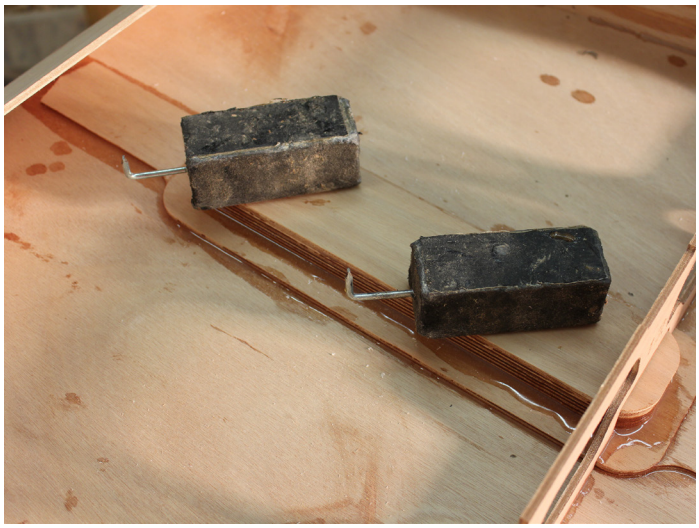


Fit a 1/2" (12mm) flush-trim bit into your router and excavate the slot, starting with the hole you drilled previously.

Here's the finished slot, perfectly cut by the router.

Now it's time to add the cap. Flip the board back upright and mix a small batch of Cell-O-Fill thickened epoxy. Spread the epoxy onto the mating face of the cap...

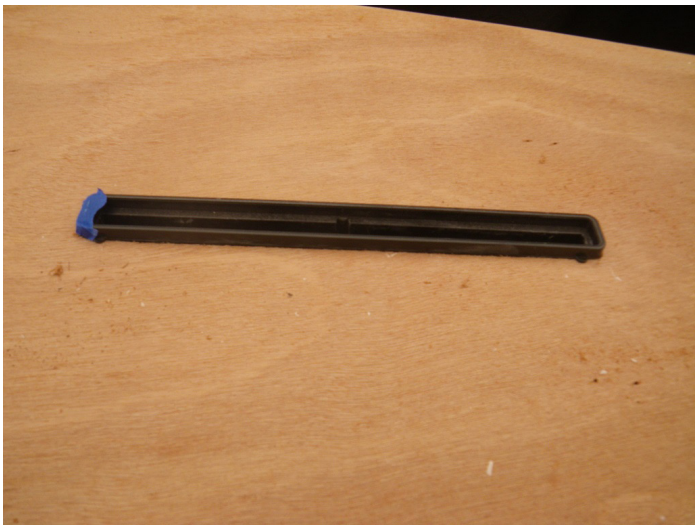
...and glue the cap to the spacer. Use a few small weights to hold the cap in place while the epoxy cures...



...but before the epoxy hardens, crawl under the paddleboard and scrape out any excess epoxy that may have squeezed out from the cap.

Ignore this step and you'll be sanding cured epoxy drips for hours!

Once the epoxy has cured, test-fit the plastic fin box into the slot. The small tabs on the fin box will set the depth; do **not** sand these off! The fin box itself should protrude approximately 1/4" (6mm) from the bottom of the board.

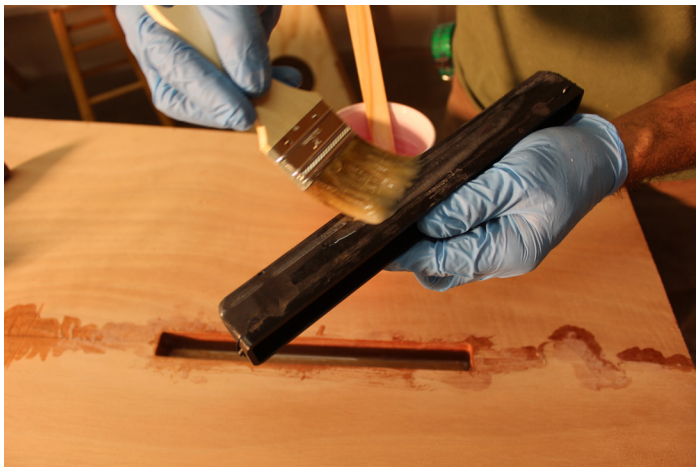


If you are struggling to get the fin box to fit, check the slot to make sure there are no drips of epoxy preventing you from inserting the box. If the inside of the slot is smooth, lightly sand the exterior of the fin box until it slips neatly into the slot.

Note: After you've sanded the fin box, and before you install it into the board, wipe it down with a solvent to eliminate any mold-release wax from the surface.

Now you are ready to permanently install the fin box. Brush a generous amount of thickened epoxy into the slot...

...and coat the exterior of the fin box. Be extra careful not to let any epoxy drip into the fin box channel!



Press the fin box into the slot...

...and clean up the excess epoxy.

In this close-up image *(right)*, note how the small plastic tabs on the fin box set the proper depth. These should rest against the plywood bottom panel. A few weights will keep the fin box in place while the epoxy cures.

Once the epoxy has fully cured, trim the excess fin box material with a sharp block plane...

...and finish the job with 120-grit sandpaper on your random orbital sander.

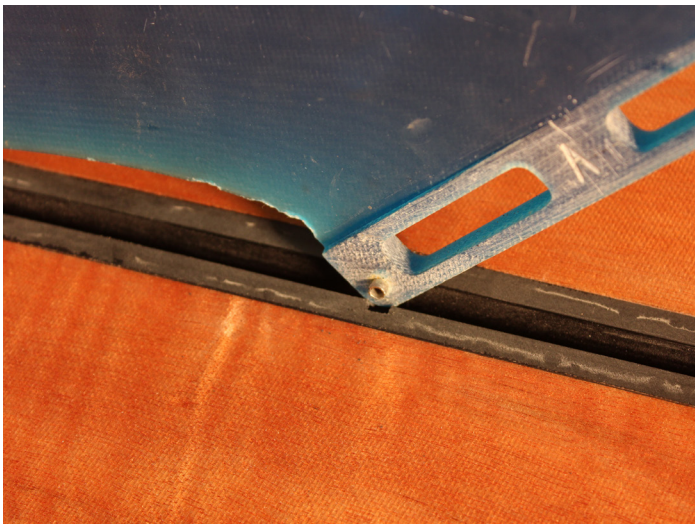
The fin box should be perfectly flush with the surrounding plywood bottom panel.

Fitting the Fin & Finishing

The finbox has a small spacer leftover from the mold; remove this with a fine-tooth saw...

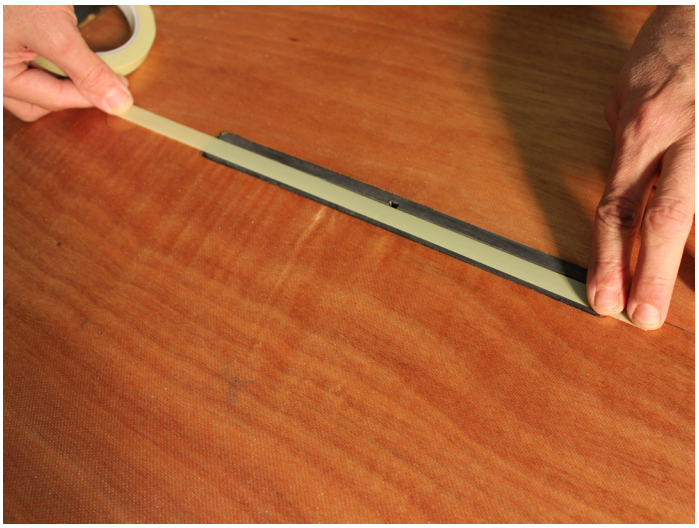
...or break the piece out with needle-nose pliers.

Time to test-fit your fin! The fin pin drops into the center slot, then slides forward or aft along the internal track.

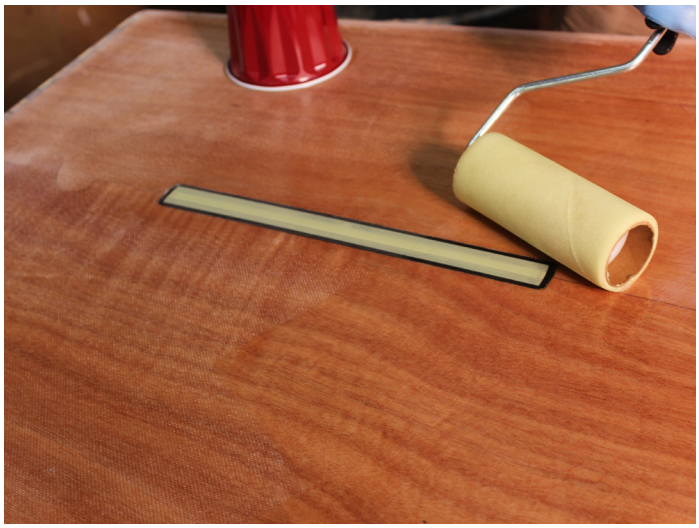


If the fin is too wide to fit into the box, lightly sand the inside faces of the fin box until the fin can be fully inserted.

You are now ready to proceed with the rest of the build. But before you do, carefully mask the fin box with tape. As you apply fiberglass and epoxy to the bottom of the board, the carefully-placed tape will prevent epoxy and other detritus from collecting in the channel.



Here, we're varnishing the bottom of the paddleboard, right over the taped-off fin box. At this point, you will have removed the first batch of tape when you cut the fiberglass around the fin box. You will need to re-apply fresh tape before varnishing or painting.



When your paddleboard is finished and ready for the water, it is time to pop in the fin! Insert the fin pin into the the transverse groove and slide the fin back along the channel. (Note that some fins come equipped with the pin on the forward, or leading edge, of the fin).

The opposite end of the fin is locked in place with a machine screw and square nut, as shown here.

Slide the nut into the groove...

...and rotate the fin down so that the hole aligns with the nut.

Insert the screw through the fin into the nut...

...and tighten it by hand.

And voilà, ready for the water! You can easily remove the fin to facilitate transport and storage, or swap out different fins for different conditions.

CHESAPEAKE LIGHT CRAFT

THE BEST BOATS YOU CAN BUILD

CLCBOATS.COM

CHESAPEAKE LIGHT CRAFT

1805 George Avenue, Annapolis, Maryland 21401

TEL. 410.267.0137

FAX. 410.267.5689

For shipping quotes and ordering assistance,
e-mail us at info@clcboats.com
For answers to technical questions, e-mail us at info@clcboats.com