

# A Third Hand for Sailing or Other Things

by **Wade Tarzia** on March 8, 2008

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## intro: A Third Hand for Sailing or Other Things

(Updated August 2008: new applications in new boat)

Evolution has done its best for us. However, evolution is conservative -- it uses what it has on hand, and it (if indeed it were an entity, which it is not) is happy enough if a modification does not kill us, does not detract from our survival, and of course better still, aids our chances of survival.

Aids survival, that is, at least until we have produced offspring and lived long enough for our offspring to have offspring. Some theories suggest we should survive a little beyond being grandparents to help our offspring with their offspring for a few years. After that, evolution is done with us, and we should quietly die (preferably after digging our own graves and being of minimal trouble to our kin group during this last stage of aging). Well, life is hard but them's the rules, and I didn't make them, though no doubt I will try to foil them by living for as long as I can).

All this has led to a defficiency of hands.

Yes, you heard me right. Evolution did not foresee that we would be sailing boats alone, or climbing ladders while carrying too many things, and etc. But, contingency is the wild card of evolution, which, when dealt, makes evolution's facial expression crinkle up in interested annoyance.

Now that the textual minimalists are pissed off, I must get closer to my point; simple: Many of us have experienced the sudden need for a third hand (seldom a third foot, but I am not so sure about that). You can buy a third hand from any store stocking carpenter tools, usually. You can build something more specific to your needs, too. Here I offer one for sailing.

But not just for sailing; I imagine you could attach a third hand to your belt/clothes for other uses. We do that even now, and it is called the carabiner or spring-slip, although we can improve even that very useful stage in the evolution of the third hand. But here is the specific context of my third-hand:

Often we need several hands when we are solo-sailing. These are called "cleats" and they have proved excellent companions. Sometimes we need cleats that allow quick-release features. These are often called "spring-loaded cam cleats" and they are great things.

I merely extended the idea. I wanted a cam-cleat thingie that I could use for any chance need on a boat. That is, some cam-cleats are dedicated, as you might see from a photo on my proa instructable -- its bolted to the hull and fastens down the sail shunting line and does nothing else. But I had other, more varied needs on the boat, and for that I devised a non-dedicated third hand.

It hangs around, literally, until asked to do something. It might hold my sheet line when I need to fix something else with two hands, but I can quickly jerk the sheet loose to avoid a capsize. It might hold my canteen (all my boat stuff generally has a short line on it for cam-cleating). Or it might hold moy occasionally needed steering paddle or kayak paddle. You can see one of them hanging just below the gunwale in the photo below, left center.

Please have a look.



## step 1: Comfortable, Streamlined, Both?

My first third-hand was for my dory, and I cut it out of 3/4 inch marine ply and installed two cam-cleats and a brass screen-door handle as a line-guide (to help prevent the lines from angling out of the useful grip-range of the cam-cleats). See picture below, the round one, with the ghosts of the two camcleats I once had installed. This worked well. It held my jib sheet and main sheet when the wind was light and with no risk of capsize from gusts.

Note that the third-hand always has a dedicated line with a loop on it (I call it the attachment line; clever, eh?), for tying to a traditional cleat or some other member of the boat. Sometimes I held the third-hand in my hand, and sometimes I attached the third-hand to a cleat as I lazily ghosted along paying attention only to the tiller.

On windy days, no, (no, no, no!) -- I held the lines in my hands (sometimes steering with a leg crooked over the tiller) because short semi-dories capsize easily and are a real bummer to bail out (waves keep refilling it; I once sailed mine back to the ramp mostly full of water and without a rudder, which had floated away, but that is a tale for another day).

Anyway, the round third-hand was comfortable to hold and was later pressed into service for my sprit sail. The sprit sail has two important lines, the snotter and the brail. The snotter pushes the sprit up into the peak of the sail to give the sail its full shape. The brail bundles the loosened sail to the mast to depower the boat, beach/anchor it, or stow the sail and take down the mast and lay inside the boat (the sprit rig excels in these functions, making it very useful in a small boat that is rowed almost as often as it is sailed; see Tim Anderson's canoe spritsail here on Instructables). The third-hand excelled at caring for my small sprit rig, whose set-up tensions were low enough for these small cam-cleats to handle.

Later, when I built my proa, I wanted new third-hands for occasional use. I built the more slender version in the left of the photo below. I gave it a somewhat artistic (I hope) shape which also offered a good grip. Yet, you might guess that it is less-holdable than the simple round version. True, but these third-hands were attached at each end of cockpit (Proa 101 lesson: you switch ends when you tack/shunt a proa, old stern becomes new bow, so you need duplicate things at each end of the boat). They dangled on their attachment lines ready to use for a variety of purposes, as outlined above. For that purpose, more streamlined, artsy third-hands were fine. No reason why aesthetics should not be married to engineering, from time to time.



## step 2: Third-hand on Life-Vest

The ultimate evolution of the concept is to bring the third-hand back to your body. There are various interesting (perhaps freaky and painful) ways to do this, but I favor just attaching a third-hand to the life-vest with a carabiner (photo below). You might attach to your belt for nonsailing applications.

Concept Theory:

The third-hand should be so configured to hold your line but enable quick detachment from the line. That is why I have abandoned the brass line-guide used on the early round version. You can do clever thinking by visualizing the angles between the hand and its duty-line and between the hand and its attachment-line, and then finesse the configuration until it works best.

Generally, the shorter and thicker the third-hand, the more the forces will be off-set, and so a twist or rotation (or moment?) will be introduced, which could twist the duty-line out of the cam cleat. That wording sounds awkward, I know, but it might make sense if you draw sketches.

The design I have here worked fine. The way I knotted the attachment line through the end of the handle gave a slight tilt or lengthwise rotation to the handle when loaded, which did not encourage the duty line to pull out of the cam-cleat.



### step 3: More third hands on the next boat, one a travelling cleat

I have third hands all over my new outrigger canoe, which has a ketch rig made from standing lug sails, so plenty of lines hang around to keep me from getting bored.

The most useful one hangs amidships on a cross-rail, and can hold my main sheet when I need to turn around and wrestle with my mizzen sail. It is pictured below along with the 'traveling cleat' which has traveled all over the boat as I found new places for it or old places where it was not needed much.

It is just a cleat on a stick, with a smoothed hole to add a line. I can turn the main sheet around it to ease my grip, or tie off anything that needs tying down (a picnic anchor, a line that has torn out its dedicated cleat, whatever: I haven't broken anything yet but it happens, you know).



#### step 4: Giant third hand control board

Sometimes things go way out of control and you need big help. Of course, this happen daily to some people (monthly to me), and perhaps such events are beyond the help of any fabrication. But for those times when engineering is THE solution, or when you might as well build something when the option is to sit quietly and await your doom, then, what the hell, try a giant third hand.

Pictured below is a third hand, though it may not look like one. It fulfills my (admittedly easy going) criteria by being a portable thingie that holds things. This one looks pretty well attached, but that's the wonderful secret: it is held into the aft end of my canoe cockpit with lashing ropes that attach to a cleat behind the control board. So, theoretically, I can move this around. I hope you will not feel too cheated when I say this giant third hand will probably stay right there.

But look at it! If I must say so myself, it is lovely....and it has fingers! Note all the cleats, the cam-cleat, the aforementioned 2nd edition third hand, and the carabiner on a short line, all ready to assist.

The far right cleat and cam hold my rudder line (if I hit something, I quickly release the line, or to launch from shallows, I tug the line and secure it as soon as the depth is enough for the rudder). The next is the mizzen sail tack downhaul cleat, to tension good sail shape. The middle is the halyard cleat. The pulley (block) is the lower downhaul block, and the far left cleat is for the mizzen sheet. The carabiner is for anything: my canteen, GPS, paddle line, and such.

I've used it only once but it made sailing this canoe more precise and a little easier, though you not think so to hear all this explanation.

The giant third hand is adaptable to many situations. Think of some. I can think of one already: hang your possessions from your ceiling when you run out of room. Each cleat holds up a bundle of categorized things, sort of the way they did it in some large Polynesian family huts (read Melville's novel, Typee, based on a real-life sojourn).

That's it! -- wt 9/10/08





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
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## Comments

16 comments [Add Comment](#)

 **Number5Alive** says: Mar 26, 2009. 2:50 PM [REPLY](#)  
As a sailor, I love this; there have been a ton of times where I want a cleat attached to my hip to hold a line while I work on something else. But man, it's pretty nerdy.

 **Wade Tarzia** says: Mar 31, 2009. 5:22 AM [REPLY](#)  
Nerdy? How so? No worse than wearing all those other things sailors wear such as hats, gloves, lifevests, knives, not to mention that cellphones-on-belts are the new fashion style, as nerdy as you can get (Star Trek, any one?). Consider it a mere incremental evolution, and you will do just fine ;-)

 **axesdad** says: May 12, 2008. 10:01 AM [REPLY](#)  
Great idea. Thanks. I've been singlehanded for many years and never thought of this. There is a fairlead that looks sort of like a cleat with the horns bent back past each other that you could put in front of the cam cleat to keep the line pulling in the right direction.



**Wade Tarzia** says:

I used a brass door handle (flattened U shape) as a fairlead on my first version. I think I'd like your version better because sometimes you want to get the line out of there faster.

Jun 1, 2008. 8:42 PM [REPLY](#)



**Kiteman** says:

What a neat idea!

Mar 10, 2008. 3:08 PM [REPLY](#)

How *thin* a line could they hold? They could be used to anchor single-line kites when you're flying a few at once.

+



**konablue** says:

marine stores (like west marine-the blood suckers of the boating world) sell extremely small cam cleats as well as other types of cleats and blocks (pulleys) that would certainly fit kite lines. if you were serious you could anchor blocks in the ground and run them back to a central table with adjustable cleats lol. then kick back at you "command center" as wade called it, and have a beer!

Mar 23, 2008. 10:20 PM [REPLY](#)



**Wade Tarzia** says:

Mine do not touch when closed, and I just tested it on 1/8th inch cord, and no go. However, these plastic cams could be modified by adding something to them so that they would touch, I should think. Glob on some rubbery adhesive that might stick to the plastic cam and mix in an abrasive for good line-holding, and then separate the cams with something that would not adhere to the glob-mixture (plastic wrap?), who knows? Sounds like you could have a kind of kite-line command center if it could be made to work!

Mar 10, 2008. 5:54 PM [REPLY](#)



**LinuxH4x0r** says:

What! Kiteman make a spelling mistake!? Blasphemy!  
Nice instructable. +1

Mar 10, 2008. 4:25 PM [REPLY](#)



**Kiteman** says:

click-click

**BANG!**

thud

Mar 11, 2008. 10:06 AM [REPLY](#)



**lennyb** says:

oi mate there be no shootin in ere.  
this be a stabbing site.

ssshhkh squish!!! THUD.

Mar 11, 2008. 3:50 PM [REPLY](#)



**Wade Tarzia** says:

I rather wish it were a writing site. A Violence-Free Zone! ;-)

Mar 11, 2008. 4:11 PM [REPLY](#)



**agent** says:

Just stab him with a *pencil!* Duh!!

Mar 14, 2008. 6:52 AM [REPLY](#)



**Wade Tarzia** says:

OK, as long as it is the rubber eraser end.

Mar 14, 2008. 9:32 AM [REPLY](#)



**Kiteman** says:

*"Truly, the pen is mightier than the sword, but only if the sword is wooden and the pen is four feet long with a sharpened steel nib."*

Mar 24, 2008. 4:02 AM [REPLY](#)



**GorillazMiko** says:

Too smart. Great job. Amazing. +1. :-)

Mar 11, 2008. 4:00 PM [REPLY](#)



**aerohydro** says:

This is seriously clever. It's usually not too much trouble to attach a dedicated cleat permanently but this is perfect for refining the rigging of an experimental boat without drilling holes all over the place. A few of these are going on my still-to-finish list.

Mar 10, 2008. 8:42 PM [REPLY](#)