



¿Qué Tal? sailing downwind between islands in the Sea of Cortez. The inboard end of the pole should have been set slightly higher, so the pole is perpendicular to the mast.

Installing a Track-Mounted Whisker Pole

By Carolyn Shearlock

Cruisers often bemoan the fact that they just don't sail as much as they would like. The wind, it seems, it always on the nose or dead astern. A little over a year ago, my husband Dave and I installed a whisker pole on our Tayana 37 *¿Qué Tal?* and more than doubled the amount of sailing we've done, as it has made it feasible to sail with the wind astern. Further, it better balances our sail plan, often allowing us to use our Monitor wind vane while going downwind.

The trick in putting a whisker pole on your boat is to make it easy to use. A line-control pole mounted on a mast track is simple to deploy and stow for almost anyone, as the pole can't get away from you and the pole's weight is supported by the rigging. Although push-button or twist-lock poles or ones stowed on deck are cheaper, it's a false economy if the pole isn't used because of the difficulty in setting it.

After looking at several boats, we designed our system. A track is mounted on the front of the mast and the inboard end of the pole is attached via a special toggle car. Blocks on the car and the mast, along with cleats on the mast, allow a single line to control the height of the inboard end (I'll call this the "up/down line" to distinguish it from the control line on the pole). The pole's control line determines how much of the telescoping pole is extended. A topping lift supports the weight of the extended pole. Fore- and aftguys keep the pole under control while being set or stowed. The foreguy also insures that a wind shift won't smash it backwards into a stay, breaking either the pole or the stay. Finally, a chock at the base of the mast secures the pole when not in use.

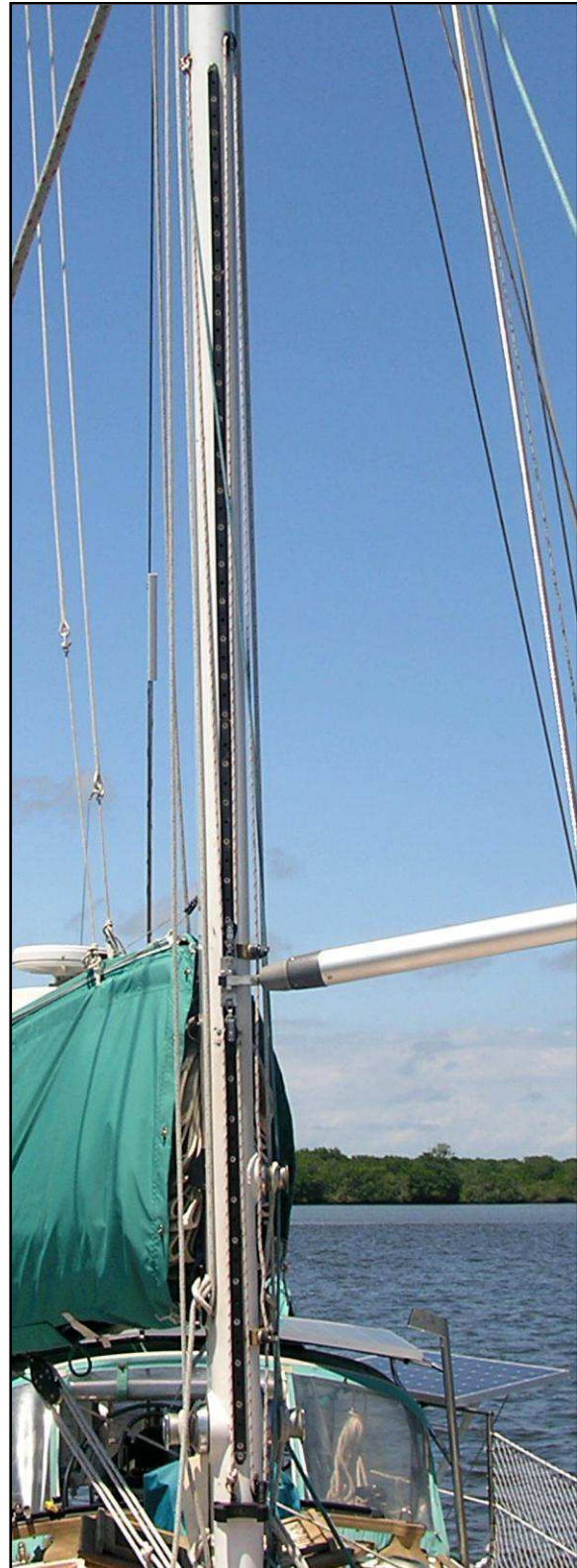
If you want double poles for double headsails, the set up for each is identical, except that the tracks will be just to each side of the center of the mast with enough room between them for the toggle cars to easily pass side by side.

Pole Size

The first step is to determine the length of the pole for your boat. The pole should be sized so that when extended, its length will at least equal the length of the foot of the sail. The foot of our genoa is 24', so we ordered the Forespar LC 13-24 (meaning 13' collapsed, 24' when extended), with the proper inboard end to mount it on the mast with the toggle car. When it arrived, the pole looked huge and heavy. In use, however, it has been perfect. Using too small a size will not only seriously hamper the efficiency of the rig as the sail won't be fully extended, but can also be dangerous if the pole breaks due to a too-high load. The complete parts list is shown in the sidebar.

Planning the Installation

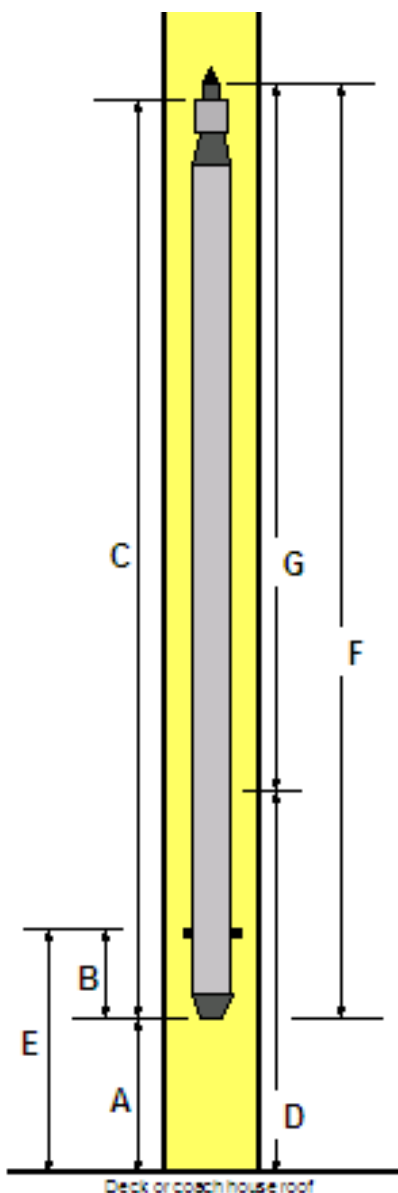
Before starting the installation, invest a little time in planning it. Are there any fittings on the front of the mast that need to be moved out of



The pole and track in use. The inboard end of the pole can travel up and down on the track, controlled by a single line cleated on the mast.

the way of the track? We had to relocate a pad eye that we clipped our safety tethers to and filled the holes with pop rivets. Next, look at your mast and find a vertical area where the up/down line can be mounted – it must be unobstructed for the full length of the track plus 6" on each end (I'll refer to this as the "clear vertical line"). It doesn't have to be right next to the track. For us, the only place that didn't have winches or cleats in the way was on the curve of the mast, presenting a slight problem for mounting the cam cleats for the line. We had a local woodworker make two mounting blocks for us, flat on one side and curved to match the curve of the mast on the other.

There are four key measurements to make (see measurement illustration):



A = height above deck for bottom of the stowed pole. If there is anything on deck immediately in front of the mast (in our case, a staysail traveler), measure it and add 2" for clearance. If there is nothing in the way, use 2 inches above the deck so that the pole won't scrape the deck.

B = distance from jaw end of pole to top side of pole chock. Put the pole chock on the pole as close to the jawed end as it will comfortably fit, then measure the distance from the jaw end of the pole to the far side of the chock.

C = length of pole and toggle car. Attach the toggle car to the collapsed pole, turn the toggle car 90° to simulate how it will sit on the front of the mast and then measure the combined length of the car and pole.

D = lowest height above deck you would set the pole. When in use, the pole should be set perpendicular to the mast at the height of the genoa clew. This is hard to measure because the clew will go higher as the sail goes out, due to the angle of the forestay. On a windless day, if you take the clew of the genoa straight back to the mast with equal tension on the leach and foot, you can then measure the distance above deck and be assured that you will never need to set the pole below this height. This is where the bottom end of the track will reach.

Now make three quick calculations for the other measurements:

E = height of the top side of the pole chock = A + B

F = height of the top end of the track = A + C + 3 inches

G = minimum length of track needed = F - D

Note that the lower end of the track must be above the pole chock.

If your purchased track section is longer than "G", you can either cut it exactly to length or use the full length of the track by increasing "F" (the height of the top end of the track) and/or decreasing "D" (the distance from the deck to the bottom end of the track).

Installation

I'll assume that you are familiar with attaching hardware to the mast and will just use the word "attach" to mean the appropriate procedure for your type of mast – aluminum or wood. If you are not familiar with securely attaching mast hardware and preventing corrosion or rot, consult a rigger, a friend with experience or one of the many reference books available.

Overall, this project is MUCH easier with two people – one up the mast in the bosun's chair doing most of the actual "work" and one on the deck assisting. Be sure to follow all the normal safety precautions for working from a bosun's chair; the person on the deck should also be careful to never stand where a tool accidentally dropped from the bosun's chair (such as a drill) would cause injury.

The track. Begin by marking the top and bottom ends of the track on the mast, using measurements "D" and "F" above. Then find the center front of the mast by measuring around the mast from one edge of the mainsail track to the other, and dividing this in half. Mark the center near the top and bottom marks, and use a long straight edge (the track itself works well) to connect these points with a pencil line right down the center front of the mast.

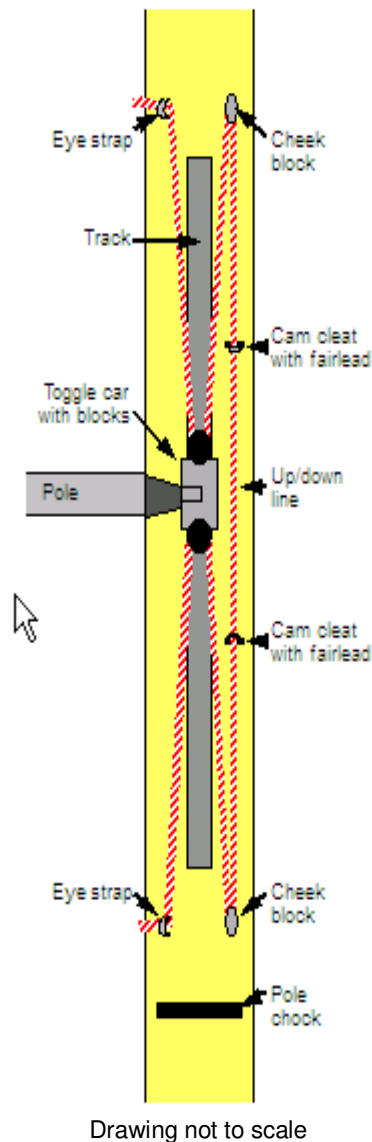
Working from the top of the mast to the bottom, attach the track to the mast with machine screws, centering the screw holes on the line you just drew. If you have an aluminum mast, tap the holes very carefully so that the screw heads will lie flush with the track. If any are not, the pole will be difficult – if not impossible – to raise and lower. Similarly, if you have to piece the track from shorter lengths, make sure that they are smoothly and straightly butted together.

Next, take the toggle car off the pole and put it on the track. Attach a halyard to the top side and a light line to the bottom. Slide the toggle car up and down the track a few times, checking to see that it travels smoothly. If it catches on any screws or joints, fix them now. When the toggle car runs smoothly, leave it on the track and install the track end stops. Don't install the bottom track end if there is not room for it above where the pole chock will be installed.



The pole chock and fittings for the up/down line.

Pole chock. Attach the pole chock to the mast, with the top edge at measurement "E." Be sure to use washers between the screw heads and the pole chock.



Up/down line. Shackle the blocks to the toggle car. We used cotter pins instead of the supplied ring-dings. If you had to use swivel shackles, keep them from swiveling with a cable tie (if they can swivel, they will; the line will become twisted and the pole difficult to raise and lower).

Attach an eye strap as a dead end for the up/down line on the side of the track away from the clear vertical line at least 3" above the top of the track. On the side with the clear vertical line, rivet a cheek block an equal height above the top of the track and so that the edge of the sheave away from the track is just on the clear vertical line. Put the other eye strap and cheek block on the same sides of the track and similar distances away from the track, but 3" below the bottom of the track. Note, however, that both must be above the pole chock; if necessary, reduce the distance from the bottom of the track and/or temporarily remove the chock and install the fittings so that one end of each of them will lie just under the chock. Now, run the up/down line as shown in the drawing, tying bowlines around both eye straps and cutting off any excess line.

Mast cleats. With the line in place, install the two cam cleats on the mast with machine screws, using mounting blocks if necessary. The remaining two eye straps should be mounted on top of the cleats as fairleads. The lower cleat should be approximately 36" off the deck,

with the upper cleat about 40" above it. The two cleats must open towards each other.



Mounting blocks allowed us to put the cleats on the curve of the mast; eye straps as fairleads provide good clearance above the cleat for the line while keeping it in place.

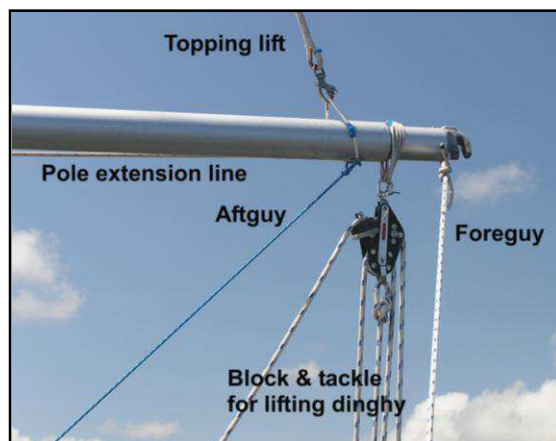
Foreguy and Aftguy. Attach the foreguy and aftguy to their attachment points on the pole. The foreguy is attached to the inner, or extending, portion of the pole, while the aftguy is attached to the end of the outer pole that does not extend (see photo). Then adjust the up/down line in the cleats so that the toggle car is as low as it goes and attach the whisker pole to the toggle car. Raise the inboard end of the pole and stow the pole in the chock. (NOTE: In rough weather, we tie a line around the mast and pole so that it can't come out of the chock.)

Coil the foreguy and aftguy and secure them at the base of the mast.

Topping lift. If you need to add a topping lift, install a single swivel block with an eyestraps as high as possible on the front of your mast. This block has considerable force on it, so use good quality hardware. Run the topping line through the block and tie one end of it to the topping lift attachment point on the pole with a bowline (since you won't be removing it, there is no need for a shackle). Cleat the other end at the mast and secure the bitter end.

If you already have a topping lift (or spare halyard) in place, just attach it to the pole with whatever shackle is already on the line.

Your new whisker pole is ready for use!



Attachment points for the lines. The pole comes with the pole extension line attached and the attachment points for the foreguy, aftguy and topping lift in place. We added the loop of line needed to attach the block & tackle for lifting our dinghy.

Sidebar – Parts List and Cost

This parts list assumes an aluminum mast. You will also need a few small cotter pins and some corrosion inhibitor. If you have a wooden mast, you may have to use different fasteners and you will also need some epoxy.

For our Tayana 37, with parts purchased in La Paz, Mexico, the total parts cost was \$1786. All parts were new and of high quality. We hired a professional rigger to do the work from the bosun's chair, which cost an additional \$280, for a total of \$2066. We already had a topping lift in place; if you need to add one, the parts will cost about \$75. We designed the system, ordered the parts, did the prep work and worked with the rigger on installation day.

- Line control whisker pole with one jaw end and one socket end for the toggle car (see text for determining length)
- Mast chock (has to match pole diameter)
- Toggle car (generally proprietary to pole manufacturer)
- 4 eye straps –2" long, 1½" hole centers to match cleats (2 for dead ends, 2 for fairleads)
- 2 cam cleats with 1½" hole centers
- 4 – ¼" stainless RHMS ½" long for eye straps (dead ends)
- 4 – 3/16" (#10) stainless RHMS for cleats and fairleads (length dependant on whether mounting blocks needed)
- 3 – ¼" stainless RHMS 1¼" long for mast chock
- 3 – stainless washers for mast chock
- ¼" FHMS ¾" long for T-track and end caps (number determined by length of track + 2 for end caps)
- T-track – size determined by toggle car, generally 1¼" (see text for determining length; best if all one piece)
- 2 track ends for track
- 2 cheek blocks with 1½" sheave
- Pop rivets for cheek blocks
- 2 non-swiveling single blocks with 1½" sheave (if you can only find swivel blocks, as was our case, stop them from swiveling with a very small cable tie)
- 2 micro stamped "D" shackles to attach blocks to toggle car
- 5/16" polyester braid line for lifting/lowering line on mast (need three times the collapsed length of pole plus 5')
- 3/8" polyester braid line for foreguy (length determined by where your deck cleats are, but will need at least the extended length of the pole, possibly up to 6' more)
- 3/16" polyester braid line for aftguy (again, length determined by where your deck cleats are, but likely to be anywhere from collapsed to extended length of pole)
- 2 wood mounting blocks for cam cleats (if needed)

If you need to add a topping lift, add one more eye strap, two more ¼" RHMS ½" long, a single swivel block with 1½" sheave (this one DOES need to swivel) plus sufficient line (don't bother with a shackle on the pole end – just tie it on). I assume there is a cleat on the mast you can use for it.

Sidebar – Using Your Track-Mounted Whisker Pole

A single whisker pole is typically set on the windward side of the boat when sailing downwind. We have found that we can use the pole when the apparent wind is within 10° to 50° of dead astern – or even sail by the lee if not using the main.

As with any new equipment, use your whisker pole for the first time on a light-air day if possible. Over the past year, we've experimented with numerous ways to set the pole. The following seems to work best for us:

1. Set the jib lead block as far aft as possible on the side that you will be setting the pole.
2. Take the pole out of the chock and swing it forward and outboard over the lifeline on the side that you want to set the pole on. Hook it onto the jib sheet on that side.
3. Cleat the aftguy to a deck cleat behind the shrouds, taking care to keep the aftguy inside and clear of the jib sheet. You want just enough slack in the line so that when the pole is lowered to horizontal in step 6 below, the pole can't go more than about 6" forward of the forward sidestays. The first time you use the pole, you will have to guess at the proper amount of slack to leave in the line and possibly adjust it as you lower the pole in step 6 below. After the pole is set, you can mark the line and in the future just cleat it at the mark.
4. Cleat the foreguy to your forward deck cleat, again taking care to keep it inside and clear of the jib sheet. Here, you want just enough slack so that when the pole is horizontal and extended, it will be near the forward sidestay but cannot swing aft and hit it. Again, you will probably have to do some adjusting the first time you use the pole, but if you mark the line when it is set correctly you can quickly cleat it off in the future.
5. Uncleat both jib sheets, making sure that the bitter ends are secured. The lines need to be free to run as the pole position changes.
6. Use the topping lift and the up/down line to move the pole into a horizontal position at the approximate height you want, adjusting the fore- and aftguys as needed. Again, you will quickly learn the correct height for your boat.
7. Use the control line on the pole to extend the pole, adjusting the foreguy as needed.
NOTE: Only extend or shorten the pole with the jib furled (or dropped), in accordance with instructions from the pole manufacturer.
8. When the pole is fully extended, the fore- and aftguys should hold it 3" to 6" ahead of the forward sidestay. Make certain that it is not rubbing on the stay.
9. Unfurl (or hoist and sheet in) the genoa, sheeting it so that the clew is just at the pole jaws.



Unfurling the genoa with the pole in place is easy as long as you remember to move the jib lead aft.

10. Make any adjustment you need to the height of the inboard end of the pole so that it is perpendicular to the mast. Then adjust the aftguy and sheeting as necessary. You may have to ease the aftguy some so that the pole can swing further forward for the optimum sail position.

The whole purpose of the aftguy is to prevent the pole from swinging forward as you are setting or stowing the sail. If the pole is allowed to go forward to the forestay, it takes a great deal more effort to unfurl the sail and it is hard to get a tight wrap when furling the sail. The aftguy is not needed while sailing with the pole, although we leave it in place so that we don't have to remember to hook it up before stowing the pole.

To stow the pole, reverse the steps, first stowing the sail, retracting the pole, then stowing it in the chock. To jibe, it's best to stow the pole, jibe, then reset it on the other side.

As winds increase, you can leave part of the genoa furled and not extend the pole all the way, or use the pole with a staysail, again not extending it fully.

Sidebar – Hoisting Your Dinghy with Your Whisker Pole



Hoisting your dinghy at night helps prevent both theft and barnacles. Using your whisker pole to hoist your dinghy is better than just using a halyard as it keeps the dinghy away from the side of your boat and allows you to use a block and tackle instead of a halyard winch.

To do this, add a loop of line at the end of the pole that you can hang a block and tackle from. We use a 4-part block and tackle with a cleat that is part of our detachable running backstays. The top block is a fiddle with a cam cleat and snap shackle, and the lower block is a fiddle block with a becket and a snap shackle (you could also use a fiddle block with a double becket and a carabiner). Using ball bearing blocks will make it much easier to lift the dinghy.

Position the pole so that it is horizontal and secure it with the fore- and aft guys so that it won't rub on the side stays. Make sure that the

lower end of the block and tackle is close enough to the water that the hoisting strap will reach it, then lead the free end of the lifting line to the life line and loosely tie there just so it doesn't get away. Don't extend the pole.

Get in the dinghy and put your hoisting strap on it. Clip the lower block to the hoisting strap with a carabiner or snap shackle. Tie a stern line from the dinghy to an aft deck cleat, and pull the drain plug if it might rain. Then get out of the dinghy. After hoisting the dinghy high

enough that the motor is out of the water, re-cleat the dinghy painter and the stern line tightly so that the dinghy won't swing in the wind or as the boat rolls in swells.