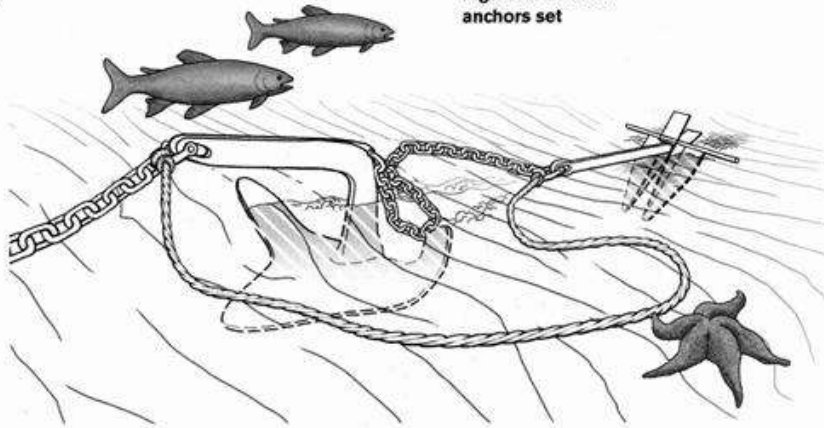


Figure 2: Tandem anchors set



Once the hooks are down, if the primary anchor drags, it'll set the anchor in front of it, which will stop the dragging.

drop both anchors over the bow so they lay down one at a time with the full stretch of chain on the bottom between them. When we've let out as much scope as we want, we start reversing gently on the rode, gradually increasing the power in reverse to firmly set the anchors. In normal conditions the Bruce will set immediately, though the Danforth may not. However, if the Bruce starts to drag, it'll set the Danforth, and the pull of the Danforth will in turn stop the Bruce from dragging. (See Figure 2.)

To retrieve the anchors, we use the windlass to pull up the Bruce as we normally would. When the Bruce comes to rest in the bow roller, we then untie the retrieval line and run it through the port bow roller. If the anchor and chain aren't too heavy, we simply pull the Danforth into the port bow roller by hand. Otherwise, we lead the line to the rope gypsy and use the windlass to pull the Danforth into the bow roller. Once the Danforth is in the roller, we use the retrieval line to secure it to the port cleat. When we're finished, the chain will dangle in front of the boat

between the two anchors. We then unshackle it from the shank of the Bruce and stow it with the Danforth.

To adapt this solution to your boat and anchors, you may need to make some slight modifications to our procedure. The most important issue is deciding precisely where to attach the chain from the second anchor to the primary anchor. This is a subject of much debate and disagreement among anchoring experts. There are four alternative attachment points: to the crown of the anchor, where there's typically a shackle hole for a trip-line; to the shank of the anchor, where the main rode is also attached; in a loop around the head of a plow anchor; or through a dedicated hole for tandem anchoring placed on the axis of rotation of the blade.

In practice, we know people

who've used the first two attachment points successfully. Attaching the chain to the shank of the primary anchor means that the pull from the second anchor may come at an angle to the primary anchor's holding axis, which in turn may cause the primary to roll or trip or may even bend the shank. It's also more difficult to deploy the two anchors without getting the chain looped around the primary if the chain is attached to the shank. For these reasons, we prefer attaching the chain from the forward anchor to the crown of our primary anchor. (See Figure 3.) While some people have argued that this may cause the anchor to

When setting up a dual anchor, the chain from the first anchor to be deployed can be attached to the crown of the primary anchor.



Figure 3: Primary anchor crown attachment

rotate out of the bottom under extreme load, we've never heard of this happening.

However, on some anchors (specifically, the CQR), the hole for attaching a trip-line to the crown of the anchor isn't strongly engineered and may not be sufficient to handle the loads generated by the second anchor. In that case, a loop of chain can be taken around the anchor just above the plow and below the crown and shackled in a "slip knot" to itself so that the chain tightens around the anchor. The chain may make it more difficult for the plow to set, and it's a bit fussy to get set up correctly. The final solution—attaching the chain to a special hole located along the anchor's axis of rotation—is one that's been pioneered by Pete Smith, the designer of the ROCNA anchor. You could theoretically drill a similar shackle hole in any other plow-type anchor after experimenting to see where the best location for such a hole would be.

The longer the chain between the two anchors, the easier it is to set the first anchor and the greater the overall holding power; however, it requires a lot more effort to recover the second anchor. We've settled on using 10 to 20 feet of chain, which is our typical anchoring depth. This means that the first anchor will reach the bow roller when we're right over the second anchor and it's just off the bottom. From there, we can usually raise the second anchor by hand.

All in all, a single big anchor is the best everyday anchoring solution. But store the notion of a tandem anchor setup in your bag of tricks for when you encounter a particularly difficult anchoring situation.

Evans Starzinger and his partner, Beth A. Leonard, are currently cruising the coast of Mexico aboard their 47-foot aluminum sloop, *Hawk*.

Twice the Security

When it comes to setting the hook in dicey anchorages, extreme conditions demand you deploy tandem anchors

IN ALMOST ALL SITUATIONS, THE optimal anchoring solution consists of two parts: a large anchor on a length of chain with adequate scope for the conditions, and elasticity from a snubber or section of rope rode. Like most experienced cruisers we know, we prefer to carry a storm-sized anchor on our bow and employ it in all conditions. On our aluminum 47-footer, a Van de Stadt Samoa sloop called *Hawk*, we use a 110-pound Bruce on 150 feet of 3/8-inch chain as our primary anchor and rode. However, some circumstances—a bottom with unusually poor holding, very high winds, or crowded anchorages in which it's impossible to put out adequate scope for the conditions—demand extra holding power, more than that supplied by even an oversized primary anchor.

In such cases, conventional wisdom calls for a second anchor set off the bow at a 45-degree angle to the first. But this tactic has two major drawbacks. First, when it's blowing hard, most sailboats sail back and forth at anchor. With two anchors set, the boat often ends up loading first one anchor, then the other, so the load is rarely split equally between the two and holding power isn't significantly increased. Second, if

When deploying tandem anchors aboard *Hawk*, we connect our Danforth (to port) to the primary Bruce anchor using a length of chain, then lower the Danforth from the port bow roller using the retrieval line.

the wind shifts or the current changes, the two rodes will twist together as the boat rotates around the two anchors. At the very least, this makes retrieval difficult and time-consuming; at worst, the effective scope will be reduced, and one or both anchors may be tripped if the rodes become tangled.

The alternative is to deploy both anchors on the same rode. The so-called "tandem" anchoring solution provides more holding power because the load is distributed across both anchors. Tandem anchors are employed relatively frequently in Chile, where

high winds and rocky, kelp-covered bottoms cause anchors—even those that have been effective nearly everywhere else—to drag.

They're also used in crowded Mediterranean anchorages with soupy bottoms, where the holding is poor and scope is limited.

The few times we've needed extra holding power on *Hawk*, we've used our primary anchor, the 110-pound Bruce, in tandem with our 40-pound Danforth. We put the Danforth in the port bow roller and hold it in place using the retrieval line, a 15- to 20-foot length of polypropylene line secured to the shackle on the shank of the anchor and tied off to the port bow cleat. We run the bitter end of this line forward through the port bow roller and back in through the starboard bow roller, then tie it to the shank of the Bruce. If you're regularly anchoring

with tandem anchors, a dedicated polypropylene retrieval line with snap shackles spliced into both ends facilitates this operation. We then shackle one end of a 12- to 15-foot length of chain to the eye in the crown of the Bruce and the other end to the shackle in the shank of the Danforth. (See Figure 1.)

The key to successfully anchoring on tandem anchors is to set them properly.

The technique is the same as when setting a single anchor, but more care must be taken to ensure that the two anchors don't end up in a single heap on the bottom. After connecting the two anchors with both the line and chain, we power upwind of where we want the Danforth to set. We lower the Danforth anchor using the retrieval line until it's dangling by the chain below the Bruce. Then we back up slowly while using the windlass to

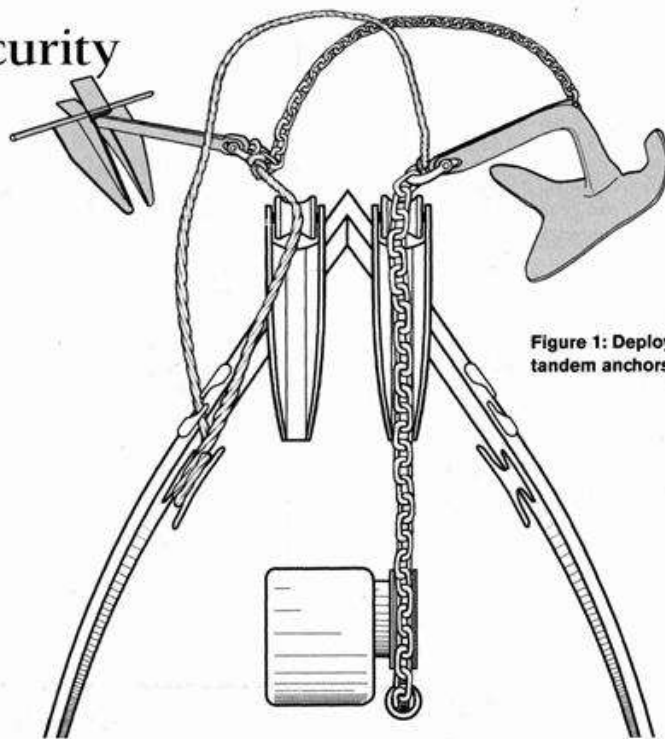


Figure 1: Deploying tandem anchors