Making a Star Raft

Making a “Star Raft”, sometimes called a “Circle” raft, is not terribly difficult but it is a bit more complicated than just making a plain ‘ol raft. But it is fun to do, it’s fun to be part of one, and by doing it, you can get a great photo of a group of friends in their boats. In a traditional linear raft, you can really only see and talk to the two boats on each side of you in the raft. Yes, you can walk across a series of decks to visit someone a few boats away, but it’s a bit of a hassle. In a Star raft, you can see and talk to just about everyone in the raft without having to leave your cockpit.

There are 20 boats including 5 catamarans in this photo. You can include any size and type of boats, sail and power, large or small.

So how do you do it?
Fundamentally, you anchor 4 boats stern-to stern in a “cross” pattern, and then add 4 more anchored boats between each arm of the cross. At this point, you have 8 boats, all anchored and tied together. This is a very stable platform. Then you can add more boats in between any pair of the 8 boats. By taking up on their anchor lines, the original 8 boats can widen the circle to add more than 16 boats.

Making a Star Raft

Here are the details on how to do it:

- First, anchor one of the larger boats. Use a LOT of scope and back down on the anchor to set it securely. If it is blowing at all, it helps to anchor the first boat head to wind as normal.

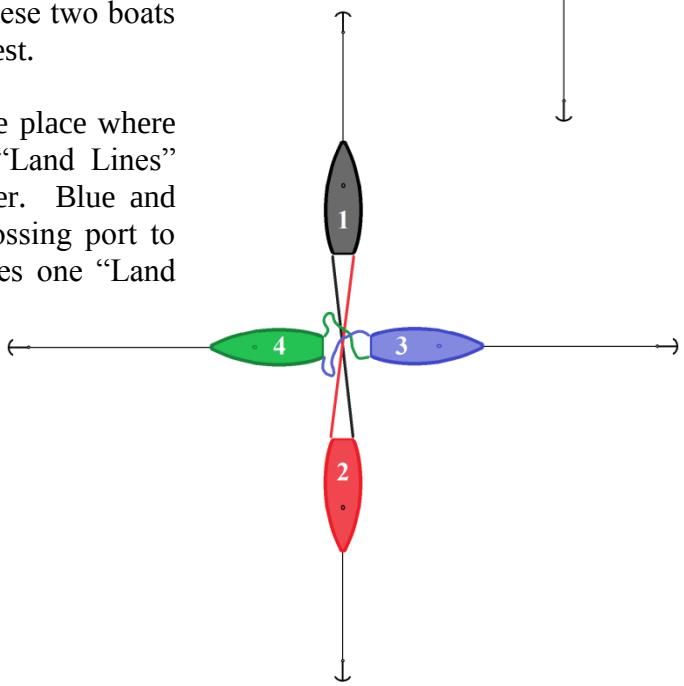
The diagrams on these pages do not show the anchor line to scale. All boats deploying anchors need to use a lot of scope.

Then have a second boat with a substantial anchor go directly downwind of the first boat, drop an anchor far downwind, and back into the wind all the way back to Boat #1, letting out on his anchor line as he goes. He needs to back up close enough to Boat #1 so the two boats can pass "Land Lines" from starboard stern cleat to starboard stern cleat and port stern cleat to port stern cleat of both boats.
These "Land Lines" need to be long.
Boat #1 supplies one "Land Line" and Boat #2 supplies one.
This process is somewhat similar to Med Mooring.

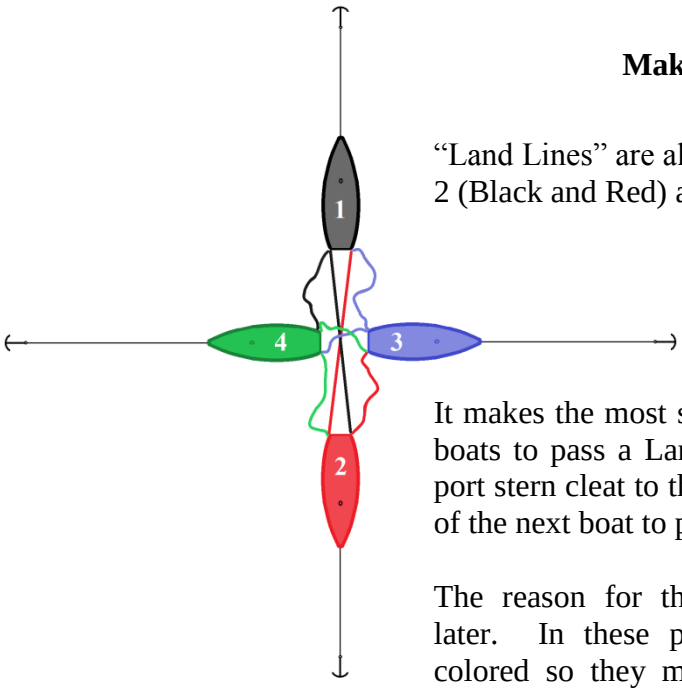
Then Boat #2 takes up on his anchor line to move downwind away from Boat #1, both boats paying out the "Land Lines" as needed. Boat #2 continues to take up his anchor line and move away from Boat #1 until the sterns of both boats are 2-3 boat lengths apart. This distance is not critical as it will be adjusted later, but it does need to be at least a couple of boat lengths or more. The more boats that will be in the raft, the farther away the two boats should be initially.

The next step is to have two more boats anchor far out and back together to form the crossbar. If North is "up", then these two boats (green and blue in the diagram) come from East and West.

After dropping their anchors, they back up towards the place where the two Land Lines cross. At this point, the two "Land Lines" between Black and Red are taut and out of the water. Blue and Green pass "Land Lines" from their sterns, again crossing port to port and starboard to starboard. Each boat contributes one "Land Line".



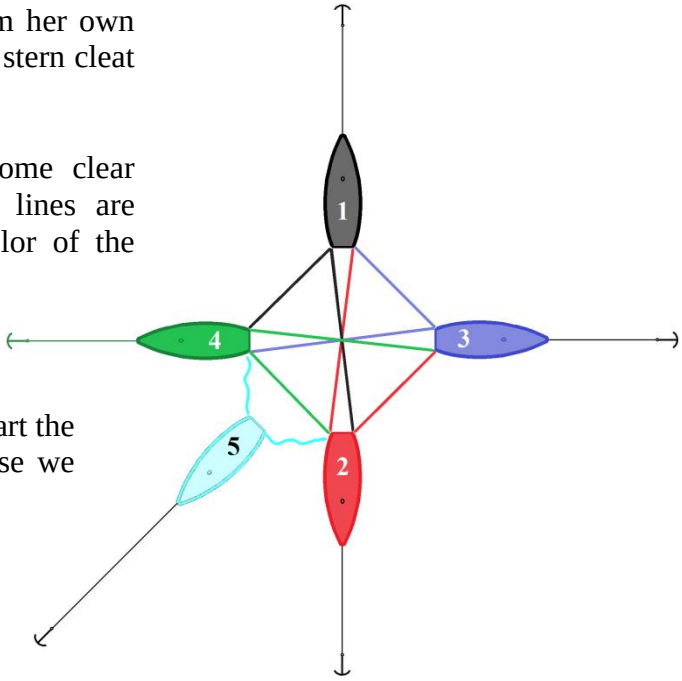
Making a Star Raft



"Land Lines" are also passed between the stern cleats of Boats #1 and 2 (Black and Red) and Boats #3 and 4 (Blue and Green).

It makes the most sense for each of the 4 boats to pass a Land Line from her own port stern cleat to the starboard stern cleat of the next boat to port.

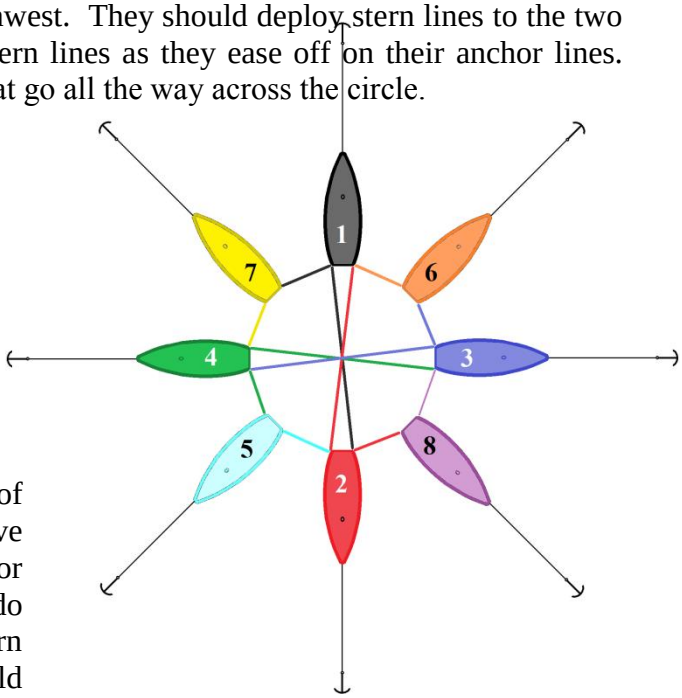
The reason for this will become clear later. In these pictures, the lines are colored so they match the color of the boat that owns them.



Then Boats 3 & 4 take up on their anchor lines to move apart the same distance as Boats 1 & 2. This is important because we want to make a circular raft, not an ellipse.

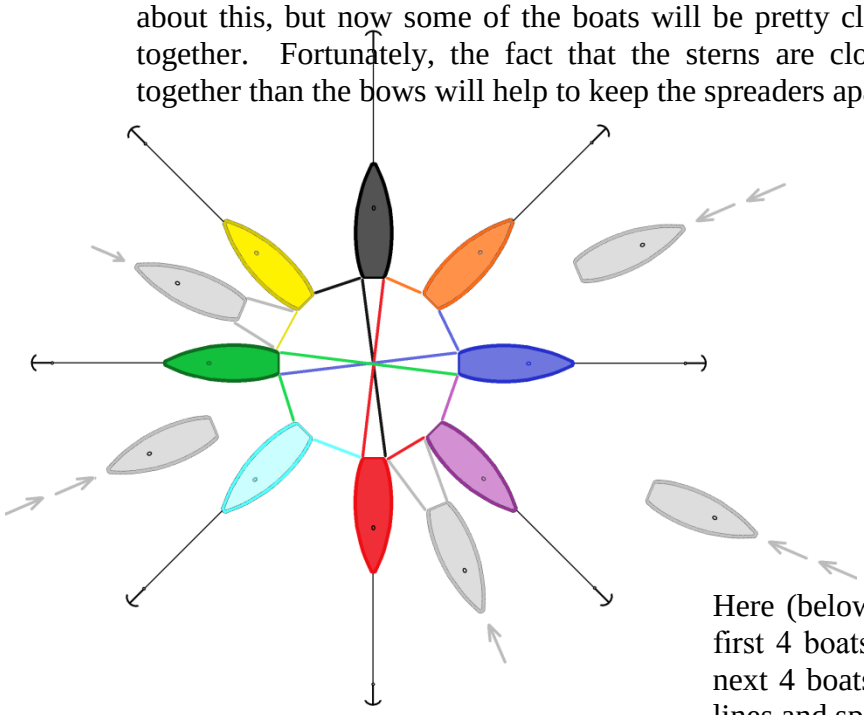
As soon as the "cross" has been formed and all the Land Lines are taut and out of the water, you can start bringing in additional boats as shown by the light blue boat above. The next 4 additional boats should drop their anchors far out and back in from the Northeast, Southeast, Southwest (as shown) and Northwest. They should deploy stern lines to the two boats that they are coming between, and tighten these stern lines as they ease off on their anchor lines. The 4 additional boats do not need to use "Land Lines" that go all the way across the circle.

This is what it looks like with the first 8 boats in place.

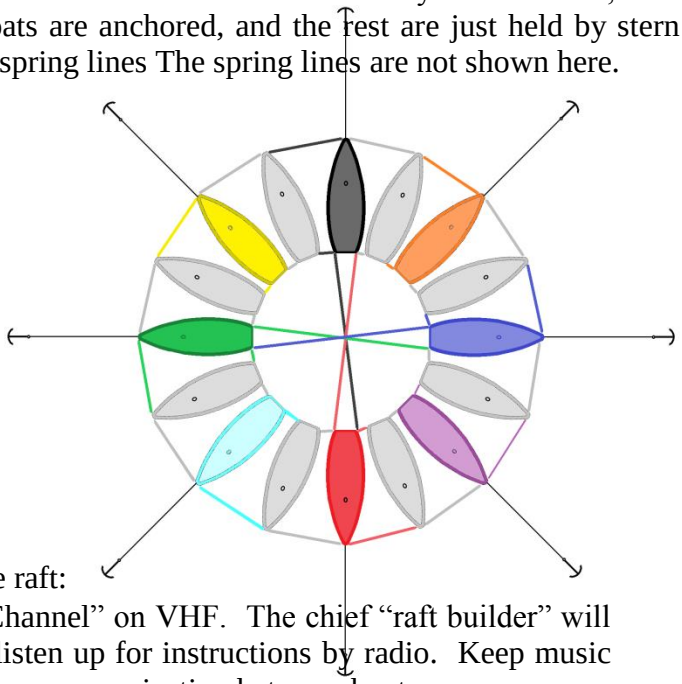


At this point, you can begin bringing in the remainder of the boats. After the first 8 boats have anchored and have joined the star/circle, the remaining boats may anchor or not, as they please. They do not need to anchor if they do not want to. They just back in, once more deploying stern lines on each side. Once they are in place, they should spring fore and aft on each side for stability. At this point,

you will want to ensure that spreaders from neighboring boats do not touch. The first 8 boats do not need to worry about this, but now some of the boats will be pretty close together. Fortunately, the fact that the sterns are closer together than the bows will help to keep the spreaders apart.



Here (below) is what the raft looks like with 16 boats. The first 4 boats are anchored and tethered by "Land Lines," the next 4 boats are anchored, and the rest are just held by stern lines and spring lines The spring lines are not shown here.



There are a few things to keep in mind as you build the raft:

- Everyone should monitor the "Raft Building Channel" on VHF. The chief "raft builder" will sound a horn whenever he needs everyone to listen up for instructions by radio. Keep music down during the construction process to enhance communication between boats.
- Keep all stern lines and "Land Lines" tight so nobody catches one with a prop.
- The first 4 boats should form a square, not a rectangle. The next 4 boats will form the circle.
- When backing down, start backing far enough away so your prop walk will not push you sideways. Get on line early and come back with enough speed so your rudder bites. Once you get far enough back, put it in forward to stop. Only back far enough to throw lines to the boat you are tying up with. Once again, keep lines out of the water. Turn off all engines as soon as it is practicable for safety and noise reduction.

Making a Star Raft

- Everyone needs to deploy more fenders than they think they will need. The boats will touch aft of amidships, so hang your fenders between amidships and the stern. The first 8 boats can build the basic raft and then deploy their fenders as other boats are coming in, but any boats from #9 and up need to have fenders already in place before they enter the raft.
- Be aware of spreaders and keep them apart. This should not be a problem because of the geometry of a Star Raft, but just keep a lookout anyway.
- The first 8 boats should have substantial ground tackle. Before Boats #5-8 join the raft, the first 4 boats should have everything locked down.
- The first 4 boats should pass stern lines from their own port side stern cleat to the adjacent boat's starboard stern cleat. If everyone does this, each boat only needs to deploy one lateral stern line. As additional boats enter between boats already in place, the working end of these lateral stern lines can be passed off to the intermediate boat, who deploys her own port side stern line to the boat giving her the free end of the stern line. The free end of the port stern line is passed to the entering boat who affixes it to her own starboard stern cleat. By doing this, eventually every boat's port side stern line is cleated to the starboard stern cleat of the boat to his port as shown in the drawings.
- Finally, a bow line is passed from the bow of each boat to the bow of the boat to her port. This further serves to stabilize the raft. The thickness of the line has been accentuated in the last two drawings so you can see whose line is whose.
- Obviously the stern cleats will be loaded up with lines, particularly those on the first 4 boats. Do not take excessive turns on a cleat with your initial lines, because additional lines will be placed on the same cleat later. If you have cleats that allow a line to be threaded through the base of the cleat, make your port side lateral lines with a loop tied through the cleat. This will free up more space on the cleat for later lines. You may also use winches as cleats.
- The first 8 boats should mark their anchor with a small float. You can use a small fender or a plastic milk jug, anything that will float and mark the location of your anchor. The East end of Willoughby bay is a uniform 9-11 ft. deep with a mud bottom. Only use 15 ft. or so of line on the float to account for the tide, so it will stay right above the anchor. This will help to prevent anchor lines crossing… though if you follow these instructions, there should be no anchor snags.

If someone has a drone, take a photo of the raft and send copies to all participants! Before taking the photo, we'll ease off on all "Land Lines" so they go under water for the duration of the photo shoot. This makes a more pleasing photo. Then tighten the Land Lines once more. So long as there is not a lot of chop, we will keep the raft in place overnight. It is quite stable. Whenever you build a Star Raft, it is advisable to do it in a well-protected anchorage. (Like Willoughby)