Rigging the Jibe Tech Jet 14

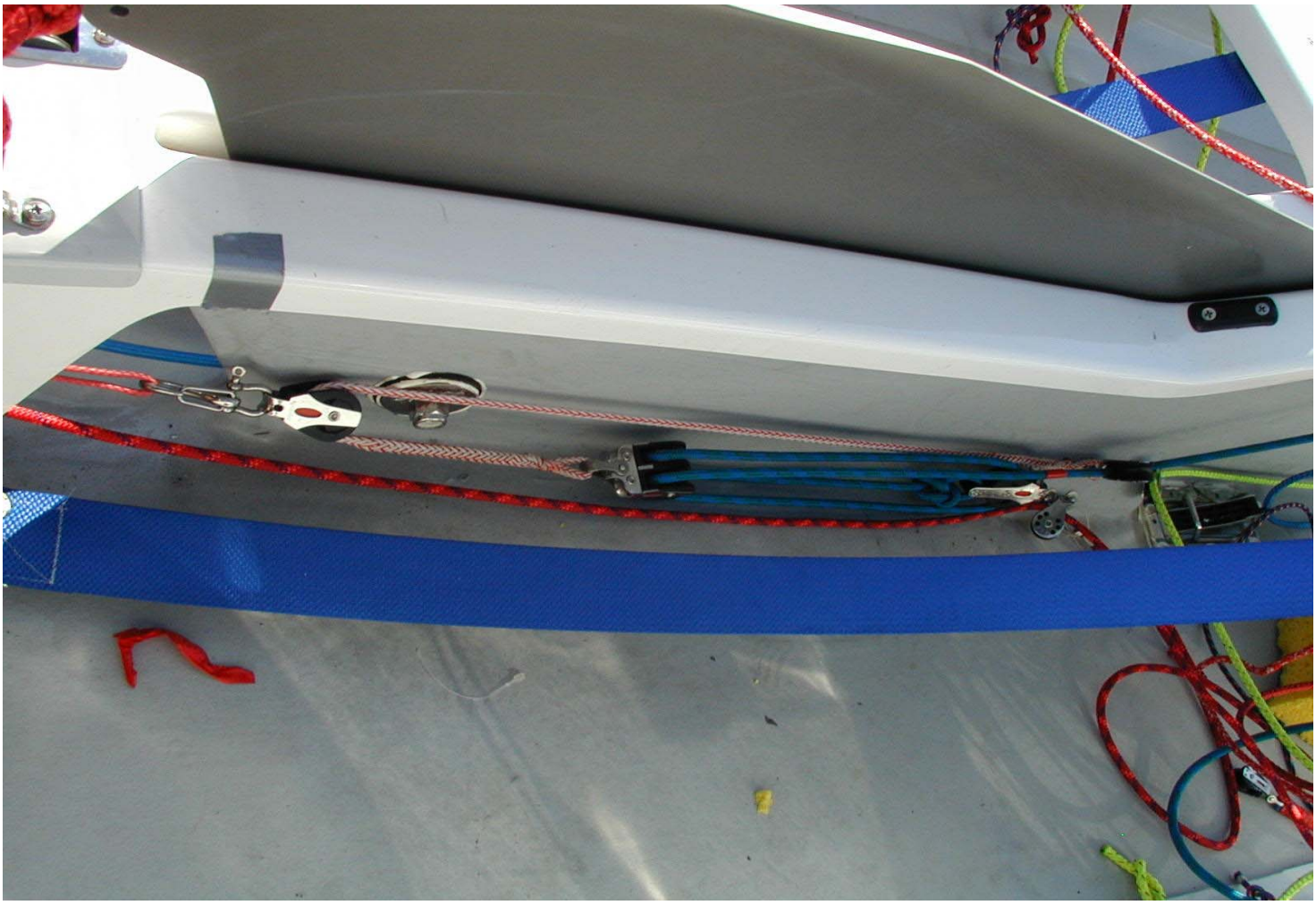
As a follow up to my rigging control spreadsheet here is the rest of the story on rigging the new Jibe Tech Jet 14. All of the systems are based on experiences I have had over the years racing Jets and are designed to be simple to use and effective in purpose. While the focus of this article is the Jibe Tech Jet 14 all of these systems can be set up on older Jets. I have included some photos to help explain the rigging I have laid out in the spreadsheet. Not shown in these pictures is the mast rigging. I will discuss that at the end and eventually include some pictures. My methods of rigging are solid in my opinion but by no means are without room for improvement. This is how I rigged my boat and I think it works pretty well. I welcome any questions and am glad to help anyone rigging a Jet in any way possible. All of the rigging shown is based upon the specs of the National Jet 14 Class Association and is class legal to the best of my knowledge.

The fist picture shows the mast step, part of the vang system and part of the centerboard system. The step was designed by Brent Benson and is being produced by an associate of his. Made from a high density plastic it is designed to accept the loads a fully tensioned Jet 14 sailed in heavy air will experience. All of the mast rigging exits here negating the need to cut any holes in mast in this area. This is important because keel stepped Jet 14 rigs achieve prebend in their masts at this area and the DM 1 mast has failed most often in this section. I have not added any stiffening sleeves here and feel confident that if sailed properly this area should be strong enough. (Remember to ease vang when turning downwind in heavy air)

The red line exiting the mast on the left most sheave is the jib halyard. This Vectran halyard has a high load ball bearing exit block where it leaves the mast above. The line has a small loop spliced into it so that when the jib is pulled up by hand the loop can be attached to a tensioner, more on that later. The next line in from the left is the spinnaker halyard. This line is led through a small block then tied to the mast base. Another line is tied to the small block so when pulled we achieve a 1:2 hoist. This means that for every 1 foot of control line pulled 2 feet of halyard is raised. Some have gone to a 1:3 system but I think it is overkill as a 1:2 allows full hoist in about 3 pulls. The next line over on the step is the spinnaker pole topping lift. Inside the mast is rigged a 2:1 purchase. The topping lift hook is attached to a line that runs through a standard load exit block up the mast, and has a small block (19mm) attached to the end. The line exiting the mast step runs through this block and is dead-ended inside the mast. The topping lift line is led through the Harken roller cleat you see mounted at the top of the photo near the centerboard. Many folks have a 1:1 but I have found that in heavy air the pole can be hard to adjust. The fourth line exiting the mast step is the main halyard; it is a simple 1:1 system that after exiting the mast runs to a small cam cleat located inside the centerboard trunk upright support, this cleat can be seen in a later photo. The two red lines leading down from the deck to small blocks are part of the vang system. These lines come down from the mast just above the deck and lead aft to the thwart where they are lead up to the side tanks and cleats.

The centerboard purchase system is 3:1 and most of its components can be seen in this photo. Some sailors have gone to a 2:1 system with the lighter aluminum board. If you are rigging a steel board I recommend at least 4:1 with 6:1 being optimal. Please excuse the messy lines as I took these photos while de rigging the boat after the 2004 Crystal Bowl Regatta.

This next shot shows the 8:1 purchase system that the jib halyard is attached to. This system is very important to Jet 14 performance as rig tension is controlled here. This system includes a double 30mm block with a single 30mm with becket led up to the trunk for 4:1; the double is attached to a cascade that is dead-ended completing the 8:1 system. I have tried to eliminate as many knots as possible and replaced them with splices due to their neatness and higher strength. Having a loop spliced into the jib halyard ensures easy duplication of rig settings at any time. The line exiting the deck has been marked for tension at 100, 150, and 200 lbs. Note this is only when 2 blocks are placed behind the mast at the partners for prebend. When 3 are used the tension setting at the marks is lower. At the far right of the photo is one of the traveler controls which is led the side tank similarly as the vang control, more on that later.

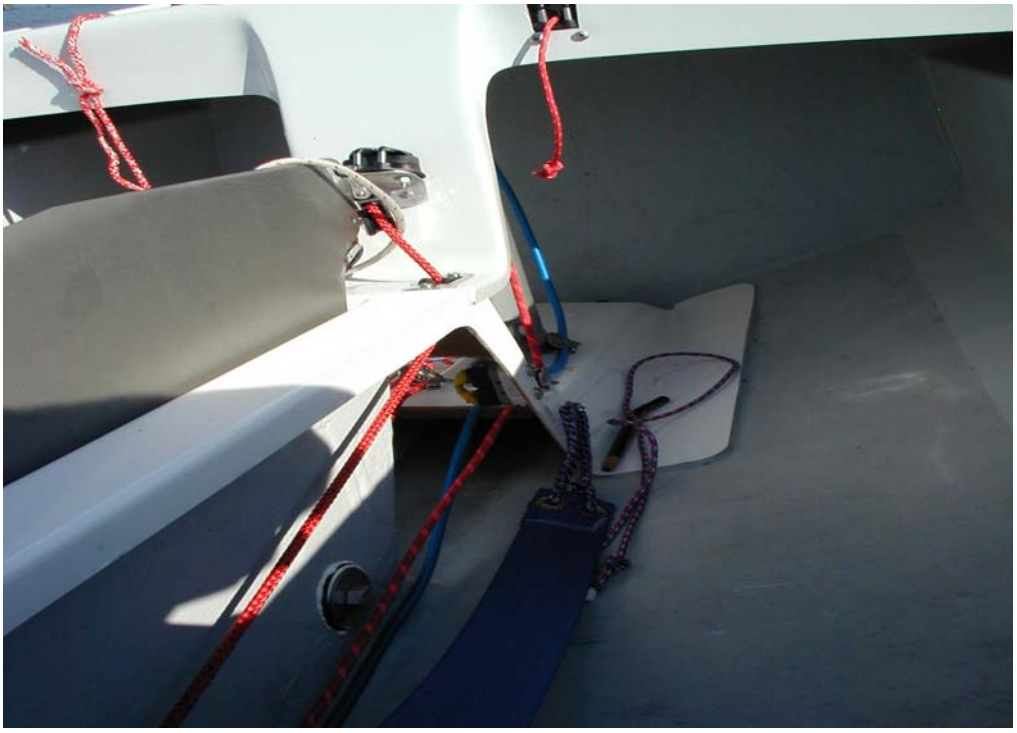


This next photo shows the vang system, which I am quite pleased with thus far, thanks go to James McKenna for holding the blocks. It is a 12:1 purchase that I based on a snipe I saw in a Harken ad in Sailing World magazine. 12:1 may seem a bit extreme but the vang is the most important tool in depowering a Jet 14 in heavy air. It allows lighter crews such as me to keep the boat under control and flat in breeze. Being a small guy I get tired faster when it is windy and the 12:1 purchase makes it easier to play the vang. Again I have tried to use splices when ever possible. The block at the bottom is a 30mm triple the one just above it is a 30mm single and the one on the boom end, which James is holding, is a 30mm single with a becket. The red line running through the bottom block is a single piece of line that runs from one side of the boat forward through the 4:1 part of the system and back out to the other side of the boat. The 3:1 cascade above completes the system making it 12:1. My most aft mast block has 2 holes drilled in it with bushing fairleads leading the lines down to the mast step area. In the lower right part of the photo one can see where the vang and traveler lines are cleated. Also in this shot is the main cunningham, which is simply a clam cleat on the mast. A line is tied to the gooseneck, led through the cringle in the sail and back down to this cleat. The small red line exiting the deck near the mast is the jib cloth tensioner. It is led through a tube forward and exits at the stem fitting.

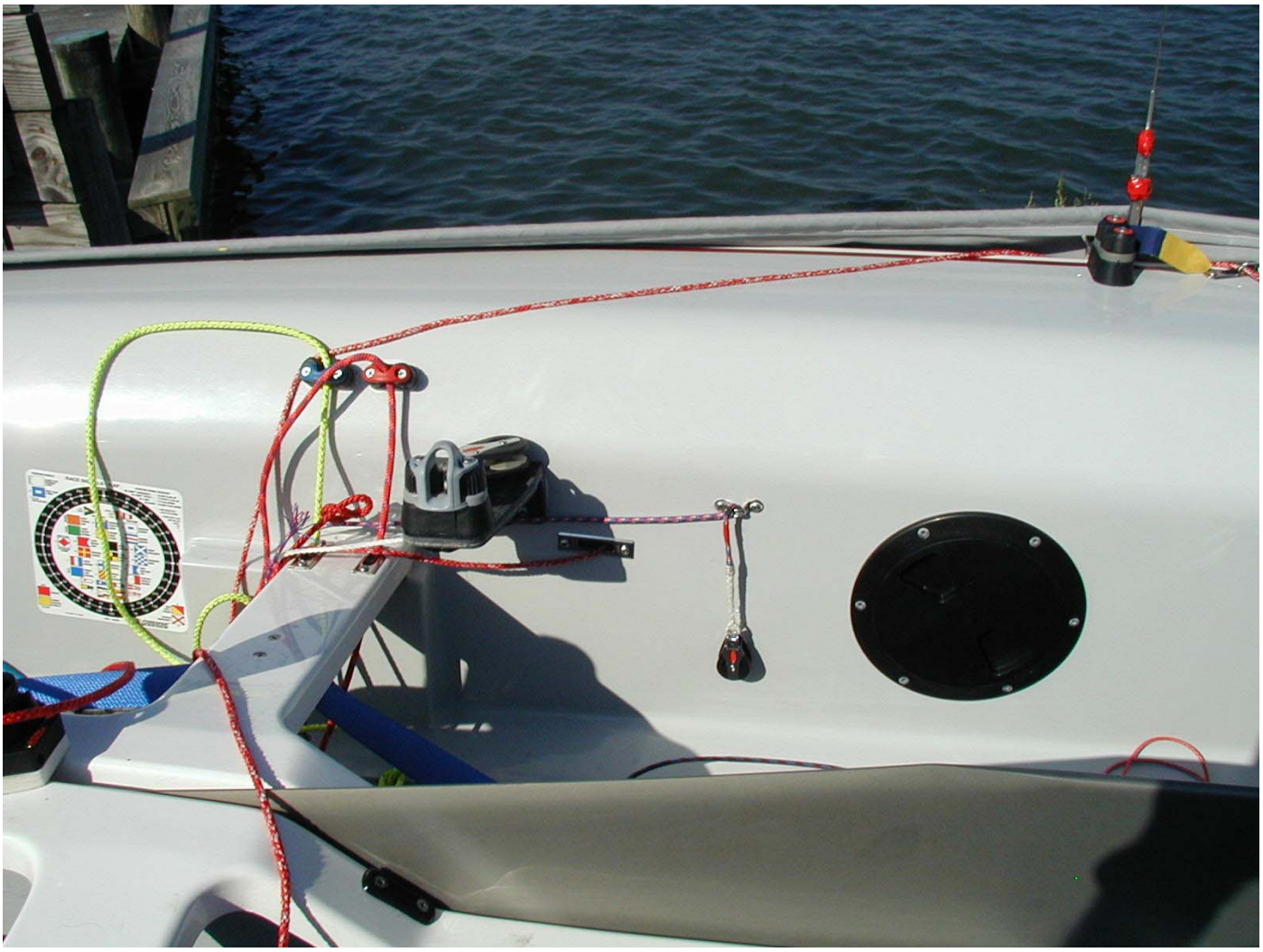
This next photo shows the traveler system and the rest of the spinnaker halyard control. The traveler is the lime colored line that runs through the block from one side of the boat to the other. This is a 2:1 system. Leading from the 30mm block aft is a line that is attached to the mainsheet bridle ends just aft of a 22mm block. The bridle ends pass through small 19 mm blocks mounted to the edge of the deck about 12” forward from the transom. These ends lead down and are tied to a ½” diameter ring. The ring is attached to the line running forward through the 22mm block then to the 30mm block. When sailing the ring is pulled up tight to the 22mm block permitting no traveler movement. When the lime colored line is eased the ring leaves the 22mm block and can float to leeward allowing traveler movement. The more the line is eased the more the traveler will tend to leeward. The blue line is the spinnaker halyard control line. It runs from the centerboard trunk through an exit block down to a cheek block, not shown in this photo, then aft to another cheek block and finally forward where it is attached to a small 19mm block that the spinnaker halyard runs through before being dead ended at the mast base. A 1:2 system.

The photo below shows how the centerboard control is led as well as the vang and traveler controls. The red line exiting the trunk is the centerboard control the blue one on the other side on the trunk is the jib halyard tensioner. Also shown in this picture part of the jib sheeting system.

This picture shows the main halyard cleat mounted to the inside of the trunk upright. Also shown is the jib cloth tensioner.



This picture shows the jib sheeting system components. Starting with the cleat mounted to the carbon fiber shelf the jib sheet runs through a 38mm auto ratchet block then forward to the 30mm floating block you see hanging from the fairlead attached to the side tank. The line attached to the floating block is led through the fairlead to a clam cleat mounted to the side tank under the shelf. This line when adjusted serves the purpose of the sliding car on a track system common in many jets. By tensioning this line the lead is moved forward putting more twist in the leech of the jib, when eased it removes twist. The 38mm auto ratchet blocks are mounted at 29" apart. This ensures adequate sheeting angles can be met. Not shown in this photo is the spinnaker twing system I have rigged on this boat. Jibe Tech installed exit blocks just forward of the chain plates and ran tubes aft to another set of exit blocks located under the jib shelves. The twing is cleated via a cam cleat mounted on the underside of the jib shelf. In place of regular nuts I used barrel nuts, which have a flush fit so no lines can get snagged. Shown in this photo next to the shroud is the cleat for the fore guy. When the twing is tensioned it holds the sheet close to the cleat, when the twing is uncleated the guy uncleats itself.



Included in my spreadsheet are numerous parts for rigging the mast itself. I have not yet taken photos of the mast but will try to outline its rigging here now. I will include some photos at a later date. I used the DM 1 section by Dwyer, as it is the most competitive section currently allowed by class rules. All running rigging is led internally. I used T-Ball ends for the shrouds for reduced windage and ease in rigging. The spreader kit I used was made by Proctor and has since been replaced by an improved version that has less windage. This kit should be available at APS, Annapolis Performance Sailing. The spreaders are fully adjustable in both length and angle making rig tuning much easier. Super Spars makes the gooseneck I chose. Many use the Dwyer goosenecks and are happy although I have had them fail. They do not hold up well to the heavy vang sheeting a Jet 14 experiences in strong breeze. I used Holt Allen standard load exit blocks in all areas except the jib halyard where I chose a high load ball bearing sheave. I don't know that this is entirely necessary as the halyard moves very little when adjusted under load. The masthead fitting I used that features a sheave for the main halyard was from Brent Benson and I being manufactured I believe by him. I have been extremely pleased with both fittings from Benson as they were quite affordable and offer flawless functionality. Since I began rigging my boat the National Class has amended the specs to allow forestays made from line of suitable strength. I used 3/32" wire for all of my shrouds. I chose the Stay Master adjustable shroud tensioners for their ease of adjustment. The class specs cover pretty clearly the rigging locations of everything on the mast with the exception of the spinnaker pole ring. I placed mine 12" above the 52" black band. The most important thing to remember when cutting the holes in the mast for the exit blocks and anything for that matter is to make sure all of your holes are rounded. Any sharp corners will cause the mast to be significantly compromised and likely to fail when placed under load. Round All Holes! I it also a good idea to use an anti galvanic compound such as anti seize where ever you have stainless steel fittings in contact with aluminum. The boom was rigged very simply with a 3:1 cascade for the outhaul run internally. I used the Dwyer boom end fitting for the mast end of the boom and had to slightly modify it to accept the ½" diameter pin of the Proctor gooseneck.

Hopefully these materials are useful and please feel free to contact me at any time with questions. I can be reached at ted_Reshetiloff@yahoo.com.

Best of Luck
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