



**Owner's Manual**



**Revision Date:** 2011-09-12

# **Falcon Marine LLC Falcon F16**

This manual covers the basic assembly of the above listed models. Before starting assembly, familiarize yourself with the contents of the containers and the steps in this manual. There are variations between models and may be some minor variations based on model year and options, be sure to follow the appropriate procedures where applicable.

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## 1.0 - Contents

Box contents as they are unpackaged:



Some parts may vary slightly from what is pictured.

The exact contents may differ depending on model and options.

Hulls, line and rigging kit, spars, foils, castings and tramp.

Sails not shown.

### **For assembly you will need:**

Pliers, Socket wrench (9/16), Phillips head screw driver, Tape measure, and Silicone sealant.

## 2.0 – Hull Assembly

After unpacking the hulls, verifying the contents and verifying they did not receive any damage in transport, find a flat level area to begin the assembly of your boat. Using the foam end blocks set the hulls so they are parallel and approximately 2,15 meter apart as measured from the centerline of each hull. If you do not have the foam shipping blocks, place the hulls on carpet, foam blocks, or other smooth items where they can be moved without damaging the surface. You can use towels or wedges to ensure that the hulls are set parallel and at the same pitch angle relative to each other.

With a tape measure first check the width, then make sure that they are positioned the same fore and aft, by taking opposing diagonal measurements from the same location on each hull. It is important to try and start with the hulls as close to the final position as possible. The beams have been prefit at the factory and the beam sockets in the hulls have very little slop. If they are positioned correctly, the beams will drop right in place, The forward beam pocket is much deeper and may be snug. Note: on the rear beam, the tramp lacing buttons should be aligned to the aft end.

(Figure 2.A).



**Warning:** Properly align the hulls before installing beams.  
Using the bolts or forcing the beams to align the hulls may cause serious structural damage.

Once the hulls are set, remove the end caps and the bolts from the cross bars and set on the hulls. Dry fit the bolts to ensure everything will fit smoothly. The hulls were pre- assembled in the factory, so if they are aligned properly, the bolts should slide smoothly into the hulls. After you are confident of the fit, lift the beams and place a bead of silicone around the bolt holes and another small amount around the perimeter of the beam landings. This will seal the holes to help prevent minor leaking of the boat. Now install the bolts and tighten to 24 to 27 N-m with a torque wrench, always making sure the hulls have not shifted. Note these bolts need to be kept tight. Always check them before sailing the boat. They will likely need tightening the first few times the boat is sailed. They should settle in after a few sails.

Figure 2B



Figure 2C



### 3.0 – Trampoline Assembly



Fig. 3A

After the beams are adequately tightened, now it is time to string the trampoline. Find the edge on the tramp with the large bolt rope, and slide it into the groove in the front beam with the zippered pocket facing up. (Figure 3.A)

Now feed the 1,8 meter long fiberglass rod into the pocket located on the aft end of the tramp, and center between the hulls. In the rigging box, locate a bundle of lines labeled “Tramp Lacing”. This bundle should contain:

- 1 piece 6 meter long
- 2 pieces 3,65 meter long
- 2 pieces 75 cm long

Begin by lacing the rear of the trampoline first. With the 1,6 meter long piece, tie a loop and wrap around one end of the tramp tie rod. (It will be helpful later if you leave 30-45 cm of extra line at the starting end of your loop). Pull the line snug and bring back under the rear cross bar and wrap over the first of the tramp lacing buttons located on the aft side of the cross bar. Bring the line forward and wrap over the exposed end of the fiberglass rod, and then back to the first lacing button again. Pull the line over the top of the first button and string over the top of the second. Once over the top of the second, go back under the cross bar and wrap around the fiberglass rod at the first notch, bringing it back to the second button, over this button then to the third. (Figure 3.B)

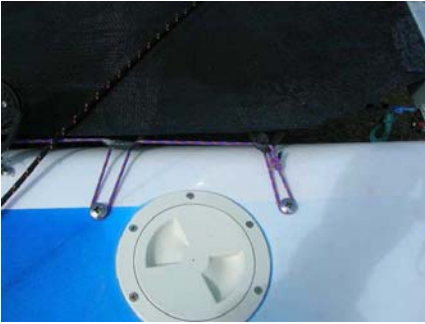
Continue across the entire tramp finishing the opposite side in a mirror of the start. This does not need to be pulled tight yet at this stage.



Fig 3.B



Second locate 1 of the 3,65 meter long lines and tie one end to the most forward loop on the side of the trampoline. This line will then feed to the first tramp lacing button on the top deck of the hull. Wrap the line around the button and then bring it back through the first loop. From there move the line to the second loop and repeat down the full number of buttons on the deck. Fig 3C.



Repeat this procedure on the opposite hull.

Note at this point the tramp will be loose. Make sure that the trampoline and tie bar are centered between the hulls.

Now proceed to tighten the rear and then each side lacing taking care to keep the trampoline and tie bar centered between the hulls. This will likely take several iterations to get a new trampoline to pull tight. Take care as you are tightening to keep both the tramp and the tie bar centered between the hulls.

After the tramp is sufficiently tightened use the tails of extra line to wrap around the end of the trampoline bar to prevent the first and last loop from slipping off the ends.

Once the tramp is laced, remove the 0,32 cm x 75 cm lines and tie the foot straps to the saddles provided on the rear cross bar.

It is important to maintain a tight trampoline on these boats. New trampolines will stretch a fair amount and it may be necessary to tighten your trampoline after each of the first few sails after it has been strung

## 4.0 – Trap Bungee

In the rigging box are 2 bungees labeled Trap bungee. String the forward bungee through the front beam. Run the bungee through the center of the beam end cap, install a 1" ball stop and secure a loop with the provided hog rings. Perform this same procedure on both sides of the beam. Fig 4A



Fig. 4A

The rear trap bungee will be fed through the ferrule located on the hull deck just forward of the dagger board trunk, and led under the trampoline to the same location on the opposite hull. Fasten each end the same as on the front: Through the ferrule, 1" stop ball and secure a loop with the supplied hog rings. (Figure 4.B)



Fig 4B

## 5.0 – Mast Rotation

Find the 5/32" line labeled "Mast Rotation". Feed this line through the cleat located on the hull just aft of the dagger board trunk, and then under the tramp. Bring the line back up through the tramp at the grommet located in the center of the tramp just aft of the storage pocket. Run this line through the turning block provided and back through the center grommet, under the tramp and back up through the cleat on the opposite hull.

Note: the turning block will be attached to the line run through the mast rotation arm on the mast after the mast is stepped to control rotation.



(Save the 61 cm section of line to tie to the mast rotation bar later in the assembly procedure)

## 6.0 – Mast Assembly

### 6.1 – Spreaders

Attach the spreader arms to the fittings located approximately  $\frac{1}{2}$  way up the mast. Use the barrel nut to adjust the rake of the spreaders such that they are equally positioned and a straight edge placed between them will provide a gap of approximately

$2\frac{1}{2}$ " measured between it and the mast. Adjust the extensions and rake of the spreaders so that they measure approximately  $32\frac{1}{2}$ " tip to tip, and  $2\frac{1}{2}$ " of rake. Note: these measurements are made from the location of the wire, and not the end of the retention clips on the spreaders. Make sure both are set at the same angle, as failure to do so may put a permanent twist in the mast.



Fig 6.A

With the spreaders is an 11" long piece of spectra line. Feed this line through the 2 holes located on the spreader arms to act as a guide for the spin halyard.

### 6.2 - Diamond wires

To install the diamond wires, first remove the base plate from the bottom of the mast. Feed the T-ball end of the diamond wire from the base of the extrusion out through the 2 slots located approximately 6" from the bottom, 1 diamond on each side of the mast.

Attach the base of the diamond wires, with  $\frac{3}{16}$  clevis pins, to the yoke located on the inside face of the base plate. ( Make sure the assembly is fully extended so that you have room to make the attachment at the top.) Fig 6B



Fig 6B

Once the yoke is attached slide the whole base assembly back onto the mast extrusion and secure with the 2 #10 screws on the side.

2/3rds of the way up the mast is located 2 receiver holes for the diamond wires. Pull the diamond wire up and insert the T-balls into these slots, by turning 90 degrees. Located at this hole is a foam plug in the mast. Once the diamond wires are set, you will apply a small amount of silicone to the hole to keep the mast assembly water tight. (Fig 6C) Once the top and bottom are secured, you will place the diamond wire over the ends of the spreader bars. Locate the wire in the forward position at the spreader tips.



Fig 6.C

Begin to tighten the wires using the 9/16 nut located on the bottom of the mast base plate. Once the wires just begin to get snug, verify that your lengths and spreader settings are correct. First verify your spreader rake is as desired by measuring from the mast track to a straight edge placed across the diamond wires. Then check to ensure that both are rotated back an equal amount by comparing a measurement from the sail track to the wire on each side. Once the spreader settings are verified, add a very small amount of tension and site down the length of the mast. The 2 wires should be the same length; if not the mast will pull to one side. Using the barrel adjuster on 1 of the diamonds, move it until the mast is straight.

At this point you can continue to adjust the tension until you reach the desired diamond tension. This should be around 204-227 kg using a Loos gage.

As tension is applied monitor that the spreader bars do not shift. They should set perpendicular to the mast extrusion. If the spreader bars are not perpendicular to the mast, mast failure can result.

Do not over tension the diamond wires! If additional or less prebend is desired, use the rake of the spreader bars to set and then maintain sufficient wire tension to support the mast.

The settings provided here are suggested starting points, and you will need to adjust them to fit your own sail, weight and sailing conditions. **Always ensure diamond wires have adequate tension.** If you notice your diamond wires loose at any time during sailing, stop and tighten them. Sailing with loose diamond wires can lead to mast failure or collapse. For a better guide to mast tuning, please refer to the tuning guide located on our web site. [www.theboatshop.be](http://www.theboatshop.be)

**Warning: Always tape spilt rings to prevent them from coming loose during sailing. Sailing with loose diamond wires can lead to mast failure or collapse.**

### 6.3 - Main Halyard

Attach the main halyard line to the main sail hook as shown. Run the opposite end of the line up the exterior of the mast and through the pulley located on the top of the mast and then back down the inside of the sail track. The end will then exit through the turning pulley located just above the mast base.



Fig. 6D

### 6.4 - Spin Halyard

Run the spin halyard through the pulley tied to the bail approximately 4' from the top of the mast. Feed the hoist end down the front of the mast, through the keeper loop attached to the spreader arms. Keep the spin head end outside of the mast and clear of the standing rigging.



Fig 6.E

## 6.5 - Standing rigging

Find the shrouds and forestay wires and attach to the lower hole in the mast hound with the 5/16" bow shackle as shown. Note the forestay wire should be placed in between the 2 shroud wires on the shackle.



Find the trapeze wires and attach them in the upper hole of the mast hound with the 1/4" bow shackle.



Feed the jib halyard wire through the pulley located on the pigtail attached to the forestay wire. Secure the 20mm becket block to the top of the halyard wire. There are 2 pieces of 1/8" line. Secure the shorter piece to the bottom of the becket. Tie the longer piece to the other end of the shorter to act as an extension to reach the base of the mast.

Attach the shroud adjuster on the hulls using a 1/4" clevis pin as shown. Temporarily set the shroud extensions to their longest setting until the mast is raised.



## 6.6 - Pelican striker assembly

The bridal wires should attach to the center of the pelican striker tube as shown with a ¼" bow shackle.



The opposite ends of the bridal wires then are fastened to each hull bow tang. Ensure the jib attachment tang on the striker tube faces aft.



## 7.0 - Stepping the mast

**Caution:** Always check for overhead wires when raising or lowering the mast. Contact with electrical power lines can cause serious injury or death.

### Before Raising the Mast:

1. Make sure the boat is on level ground. If the surface is not level, place the bows so they are facing down hill.
2. If the boat is on the trailer, make sure it is still tied down and that the trailer tongue is secured so that it will not lift during the procedure.

Place the mast lengthwise on the boat with the base pointing forward and the mast track down. Attach the side stays to the shroud adjuster plates with the pin located in the top hole.

Walk the mast aft until the mast base is in line with the front cross bar. Rotate the mast 180 degrees and pin the mast base to the mast pivot located under the mast cone. **On some masts there is a removable U shaped clip assembly. Slide the clip on the ball and pin in a similar fashion to the receiver located on the base of the mast.** Use the split rings with the rigging pin to keep it from coming loose during the raising procedure. Note, to ensure alignment with the base and cone you need to keep the mast held 180 degrees off until it is lifted into the vertical position.



Make sure the rigging is clear of the hulls, rudders or any other obstructions and that the forestay is not wrapped in the shrouds before you begin to lift the mast.

One person should stand on the tramp at the rear beam. The second person should walk the mast up to the person standing on the tramp. They should then raise the mast to their shoulders and walk forward extending their arms pushing the mast into a vertical position with tension on the shrouds. At this point rotate the mast 180 degrees back to a normal position and continue to hold the mast forward. While keeping pressure on the mast, hand the forestay to the second person and with the 1,5 meter long piece of line, lash the fore stay loosely and tie off.

To tighten the rig: first set the side shroud adjusters to their proper setting for the desired mast rake of your boat. Then using the lashing on the forestay, tighten the rig fully. It is very important there be adequate tension in the rig before continuing the rigging process. Never attempt to sail with a loose rig. The mast should be located somewhere from true vertical to slightly angled aft. This is a tuning adjustment and will vary with sail cut, personal preference, weight and sailing conditions.

**Caution:** Ensure there is adequate tension in your rig before continuing.

**Raising sails or sailing with a loose rig can cause the mast to separate from the mast step and the rig to come down.**

## 8.0 Rudders

### 8.1 – Surf System

The rudders will already be installed in the heads with ¼” bolts. Tie the short piece of 4mm line to the horns of the rudders in a loose loop. Run the

¼” bungee cord from this loop through saddle located on the tiller arm and back to the loop. Tighten until the rudder will stand in the raised position solely from the tension in the bungee cord. The rudder should be fully up but it is not necessary to excess tension beyond that. Excess tension will just cause extra pull on the release cleat and make it harder to deploy the rudders when leaving the beach.

There is a longer piece of 4mm line fed from the end of the tiller arm. This should be lead through a single block tied to the rudder pull down line. To deploy the rudder simply pull this line tight and cleat into the auto release jam cleat located on the side of the tiller arm. Note that these release cleats are adjustable with a cam turn. There is a + and – stamped on the housing. For the rudder system mounted on tiller arms, the release works best when set at or near the minimum tension. For the surf system with the cleats mounted to the rear cross bar, you should have the setting at or near the maximum release tension.

Install the rudder assembly on the gudgeon pintles so the angle of the rudder arms aims inboard. Pin the rudders in place with the retaining clip in each of the lower gudgeons. Note: the rudders will not stay attached to your boat if they are not properly pinned prior to use.



Attach the tiller tie bar by inserting the rubber flex adaptor into the receiver located on the inside face of the rudder tiller arm.



Install the hiking stick on the rear tiller cross bar with the hardware attached.

## 8.2 - Rudder Alignment

To lower the rudders, pull on the 4mm line now run on the inboard face of the rear cross bar. With the rudders in the down position, measure the distance between the rudders at the forward and then aft edges at a point approximately 4-6" below the hull bottom. Make sure the fore and aft points are the same distance from the water line. If this number is not the same, the toe of the rudders may be adjusted by detaching the tiller cross bar from the tiller arm on the side fitted with a threaded end and turning. Continue to adjust the rudder toe until you have an equal distance between the rudder edges both fore and aft.

The rake of the rudders is set at the factory. This may be adjusted as follows: There is a putty stop located in the lower section of the rudder housing. The rudder when deployed in the down position should seat firmly against this stop. If additional rake is desired, simply use some sand paper and remove some of the putty. If you desire less rake, you can add putty at this location to gain the final desired rudder setting;

**Note that it is very important that you first ensure that the rudders are fully seating against the stop before making the decision to adjust this setting. Also it is very important to ensure that you have selected a final mast rake setting and are properly trimming your sails while sailing. The F16 is a light weight performance boat. Improper sail handling and trim will often transfer to the steering system in the form of lee or weather helm. Adjustments to the rudder system will not solve helm issues if other items on the boat are being used or set improperly.**

## 9.0 Spin Pole

When first setting up your boat, you will need to rig the spin bag to the pole.

Locate the bundle of lines in the rigging box labeled “spin bag ties”. This will include:

1 – 0,32 cm by 1,2 meter long spyder line

1 – 0,16 cm by 3 meter long spyder line

1 – 0,32 cm by 1,8 meter long spyder line

1 – 0,48 cm by 41 cm long bungee

First feed 1 end of the 1,2 meter long section of spyder line into the small hole drilled on the side of the spin hoop. Tie a stopper knot. This will be used as a preventer line to keep the spin sheets from wrapping around the hoop while dousing.

Second, feed spin sock bolt rope onto the aluminum spin hoop ring.

Using the 3 meter piece of 0,16 cm spyder line lash the spin bag to the pole. Note: the last 2 grommets at the rear of the bag will be beyond the pole and they do not get tied.

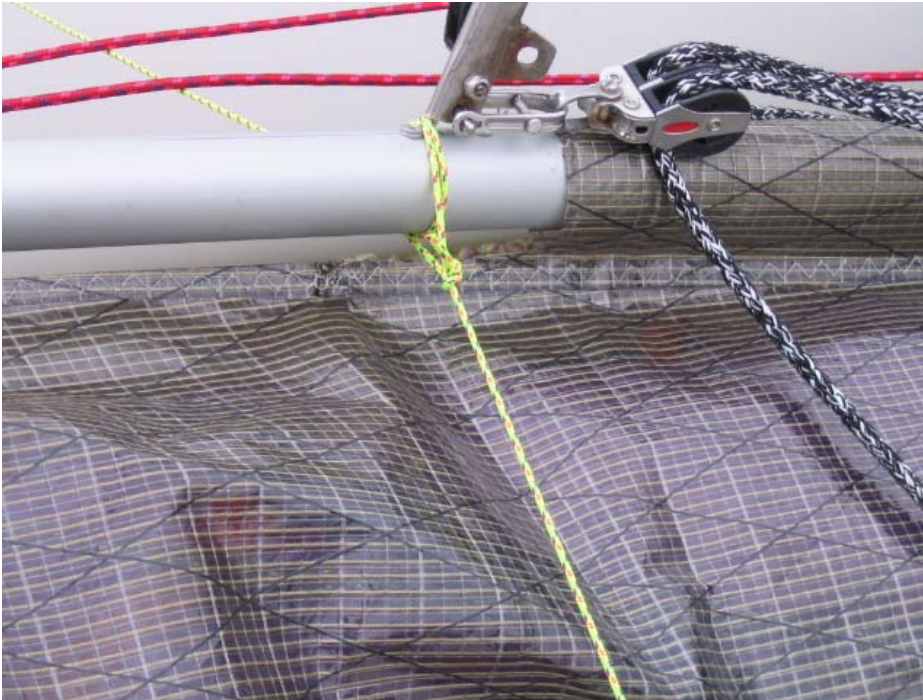
With the 1,8 meter long piece of 0,32 cm spyder line tie a loose loop under the tramp suspended from each of the foot strap mid point attachments.

Install the aluminum spin pole assembly. The aft end will slide over a bracket mounted to the front edge of the front cross just below the mast step. Pin the pole with the rigging pin provided at the front cross bar. Fig 9B



Fig 9.B

Then slide the saddle, mounted just aft of the spin hoop on the spin pole, into the bottom of the pelican striker tube assembly. This will then be pinned in place with the 2 stage halyard shackle. Ensure the halyard shackle faces aft when complete and has the 16mm blocks for the jib sheet attached.



Locate the 3mm lines labeled false bridal. Tie each to the spin pole just forward of the pelican striker attachment point. Tie the ends to the bridal tang at each hull. Tie these lines snug as this will help support the spin pole when using the jib. It is not required to tie tight.

**Caution:** Make sure that the rig is adequately tightened before tying these lines. Structural damage to the hulls or spars may result from having a loose rig and tight false bridal lines

Note: a small section of plastic tubing and 3mm spectra have been provided to run as a tie loop through the bow hole if desired. The bridal should be tied to provide a small amount of downward pre-bend in the spin pole. 5 – 10 cm should be sufficient. Too much bend can permanently deform the pole, while too little will not provide enough support while the spinnaker is being flown.

**Failure to rig the spin bridal before sailing or before raising the spinnaker will result in breaking the spin pole.**



Fig 9.D

## 10.0 - Jib Sheet System

Install the 20mm single block on the jib traveler car, mounted to the front cross bar, with the 0,32 cm bow shackle. Note: On first assembling the jib system, the single block attached to the traveler car will be attached with the 5/32 D shackle provided. This will require the U strap pinned to the traveler car to be removed first.

On OPTIONAL 4:1 system a becket block will connect to traveler car. Fig 10A



## 10.1 - Jib Rotation Limiter

Tie the 3mm jib traveler line to the center of the jib car. Feed this line then through the ferrule eye mounted approximately 30 cm forward on the spin pole. After exiting this block then return the line through the 2 cam cleat mounted on the port forward cross bar between the jib track pylons. By pulling on this line and cleating, the jib travel is restricted. Releasing this line will allow the jib car to travel further outboard.





## **10.2 - Jib Sheet**

Run the 3mm spec line through the block now mounted on the jib traveler car. Tie a 0,32 cm bow shackle to the upper side, which will be used to connect to the jib clew plate. ON the lower side of this line, tie the 30mm single block.

Feed the 6mm jib sheet line first through the pivoting cleat mounted on either of the jib track pylon posts. Run this then forward through one of the blocks attached to the pelican striker assembly. Then turn aft and through the 30 block attached to the jib clew line, and then back again to the other forward block on the pelican striker. Return the final time back through the opposite pivot cleat mounted on the other side of the jib track. The loose ends of the jib sheet can then be tied or run to make convenient for your sailing style.

Then back again to the other forward block on the pelican striker. Return the final time back through the opposite pivot cleat mounted on the other side of the jib track. The loose ends of the jib sheet can then be tied or run to make convenient for your sailing style.

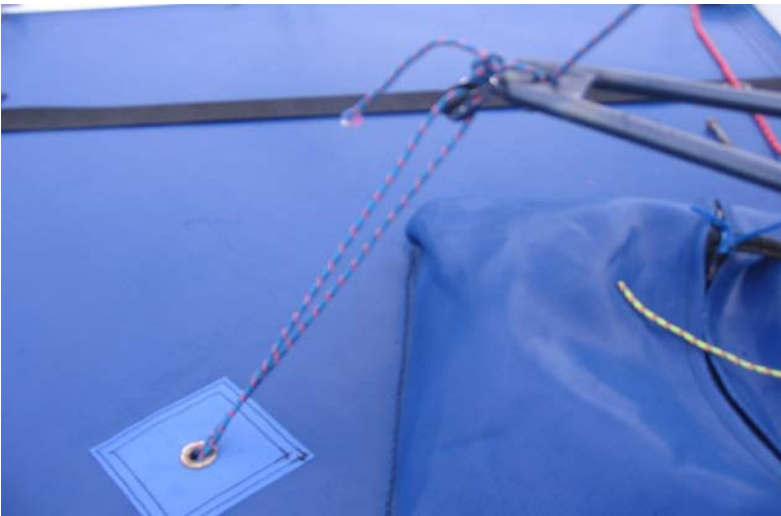
## **11.0 - Boom**

Attach the end of the boom gooseneck assembly to the mast bracket with the 3,8 cm rigging pin.

## 12.0 - Mast Rotation

Connect the single 20mm block, which is already attached to the rotation line coming through the center of the tramp, to the end of the mast rotation arm with a bow shackle or short piece of line depending on the style of arm fitted on your boat.

With the approximately 5 cm long piece of 4mm line tie the end of the mast rotator arm to the eyelet mounted on the lower boom face. When complete the rotation arm should be set approximately parallel to the tramp as to adequately clear the storage pocket.



### **13.0 – Mainsail**

Roll out the mainsail on a clean flat surface. Insert the battens into the appropriate pockets. Make sure they are inserted fully, and lie flat to allow them to go all the way into the cap sleeves on the sail luff. Tie each batten in place. Fold the batten tie line in half and loop through the grommet on 1 side of the sail. Lead both lines then through the hole in the batten and then through the grommet on the other side. Tie an overhand knot while pushing the batten firmly into the pocket on the sail with your thumbs. Tension the battens firmly enough to remove the wrinkles in the sail. Check to see that they are evenly tensioned and no one batten is bowed more than the others.



### **14.0 Raising the Sail**



Make sure the boat is first facing directly into the wind. Connect the main sail ring shackle to the head of the sail, and start feeding the sail into the mast groove, and remove the slack from the main halyard line. Continue to pull on the halyard line while making sure the sail is feeding properly into the sail track while being raised. If the luff rope in the sail comes out of the track at the bottom, stop, lower the sail slightly and continue as before. When the sail is fully raised, the ring will catch on the halyard hook at the top of the mast. Pull firmly on the foot of the sail several times to ensure that the ring is fully attached. Coil up the halyard line and tuck into the storage pocket to keep out of the way.

## **15.0 Lowering the Mainsail**

Make sure the boat is facing into the wind and that the mast rotation controls are untied or very loose, and that the downhaul is likewise disconnected. To lower main sail, uncoil the halyard, and pull firmly to raise the sail above the height of the halyard hook. Turn the mast 90 degrees, release the tension on the line and pull down on the foot of the sail. Once the sail moves a small ways, it is OK to let the mast rotate back straight and continue to gently pull the sail the rest of the way down.

## **16.0 - Mainsheet**

Thread the main sheet line. Either lay them on the ground, or attach them to the boom as if sailing. Start by feeding the line through the cleat on the lower block and continue as shown. Once strung, the lower block will attach to the main traveler car with a 0,63 cm shackle , while the upper block will attach to the loop on the main sail clew, which will also have the boom threaded through it.

The loose end of the main sheet will serve as the traveler adjustment. Feed the spit end of the sheet back through the cleat on the traveler car and through the sheaves mounted between the car and the main blocks. This will then be tied separately to each of the eye straps located on the rear face of the aft cross bar. See appendix for routing diagram.



## 17.0 – Downhaul

The Falcon F16 is equipped with an internally lead 12:1 mainsail down haul system. A cascading 6:1 system is internal to the mast and the final 2:1 is run through the sail tack grommet. Locate the 4mm line exiting the mast on the upper port face. Ensure that the 5mm lines entering the mast on each side at the base are uncled, and then pull the entire exit line out of the mast. (Make sure the ends of the 5mm down haul lines are either knotted or tied to prevent this line from being sucked into the mast.) Install the single block with a shackle to the main sail tack grommet as shown and then feed the 4mm down haul line through this block.



Attach the S-hook to the hole located in the mast base plate. Tie the 4mm line coming from the tack grommet to the S-hook. At this point you should pre load the down haul by applying an inch or 2 of down haul to the system. This will prevent the hook from becoming detached prematurely.

## 18.0 Outhaul

Make sure the fabric loop or the main sail clew lashing (Depending on your sail maker) is installed on the boom with approximately 2,5 cm of clearance relative to the boom. Locate the boom clew line in the rigging box. Tie a figure 8 stop knot in 1 end of the line and feed through the hole located in the rear of the boom. Feed the line then through the main sail clew and back to the slot on the boom rear. Tie a figure 8 stop knot in the clew line to set the desired amount of outhaul tension.

NOTE: The Glaser sails supplied with most boats are designed to be self setting. First apply the amount of down haul to the sail you expect to be using when sailing up wind. Then tie the out haul so the foot of the sail is relatively flat. When the down haul is released, the foot will become fuller automatically. If the outhaul is applied too tight prior to the down haul, the sail will be pulled out of the mast track. Repeating this procedure can damage your mast.



## 19.0 Jib

To raise the jib, attach the jib halyard wire to the head of the jib sail with the shackle. Start the jib luff zipper over the forestay with the halyard line included. Raise the sail while closing the zipper as you go. When the sail is fully raised, attach the jib sail tack to the pelican striker assembly with the shackle. Take the end of the halyard and feed through 1 of the cheek blocks mounted to the base of the striker assembly, and then back up through the small becket block located on the opposite side of the halyard wire. This will then be brought down and tied off to the eye strap mounted opposite the cheek block at the striker base. There should be 2 pieces of line. The longer line is temporary so the halyard can be reached with the mast in place. Remove this extra line and store when the sail is up.



**Warning:** Ensure the rig is properly tensioned prior to applying jib down haul. If the jib is tensioned and the rig is loose, halyard or sail damage will likely result.

## 20.0 Spinnaker

Mount the spin sheet turning blocks to the front beam, and depending on model, attach the other blocks to the saddle located on the hulls just forward of the side stay tang.

### 20.1 - Halyard Run

Temporarily tie the free end of the spin halyard line to the top of the pelican striker assembly. Pull the end running down the forward face of the mast and feed it through the spin halyard cleat mounted to the starboard side of the mast approximately 1m from the base. From there feed the line through the single block mounted on the saddle just outboard of the mast, and then back through the grommet in the tramp located midship just on the port side of the centerline. Once under the tramp, feed the line into the rear of the spin bag. Make sure that the line is fed through the grommet on the strap across the end of the bag, and that the bag is fit between the front cross bar and the dolphin striker. Temporarily tie this end of the line to the spin hoop. Clip off the ends of the spin bag to a tie line run under the tramp and connected to the foot strap lacing grommets.



### 20.2 – Tack run

Locate the spin tack line. Feed the tapered end of the line into the spin pole exit slot (An elongated hole on the starboard face approximately 30 cm forward of the base). Run the line all the way through the pole and exit in the middle of the spin pole end plug. Tie a knot here so the line will not pull back through. The covered end of the line will now feed around the back side of the front cross bar, and through the following in order: Cheek block – Tack release ring – Tack cam cleat – Pivoting lead block located on the starboard inside face of the front beam. Once through the pivot lead, tie off the end to a convenient lacing loop on the trampoline.



## 20.3 – Tack release

Locate the assembly labeled “Tack Release”. Feed the end with the loop through the grommet in the center of the tramp second aft of the trampoline pocket. Once below the tramp feed the line onto the small plastic ring and tie the larger metal ring on to the end. This should freely reach the front cross back face between the cheek block and the cam cleat. Tie the second shorter piece of 3mm line to the small plastic loop. This will then feed up through the grommet located at the forward end of the starboard foot strap. This adjuster line will then tie off to the foot strap. To properly set the tack release first: adjust the length of the primary line so that the ring just touches the front cross bar at the face of the cam cleat with very little to no slop in the line. Now tension the adjuster line, tied to the foot strap. This should be set so the small plastic ring is just in line with the opening to the cleat. If excess pressure is required to release the tack line while sailing, the adjuster line is likely too long.



## 20.4 – Attaching the Spin

Untie the free end of the spin halyard and fasten to the head of the spin.

Attach the spin tack line to the tack of the spin.

Untie the opposite end of the spin halyard exiting from the spin hoop, and feed up the back side of the spin through each of the pull patches in order from lowest to highest. Tie off the line on the upper patch

To raise the sail first pull the tack line to its full extent. Then pull the spin halyard line from just below the swivel cleat mounted on the mast. When the sail is fully raised, lift up the halyard and engage the cleat. To lower the spin, pull on the halyard line in a sharp motion to release the main cleat. Then pull on the halyard line from where it enters the trampoline. Dowse quickly. The spin will collapse and begin to be pulled into the hoop. Once the “wad enters the hoop the tack will need to be released. Pull on the tack release ring to release the tack line. Once this is pulled the spin is free to be fully snuffed in to the bag. With a new sail this may pull a little hard at first. Also note when testing on land with a slight head wind, or no wind, the sails may bunch up on the bridals or around the pole. Avoid using excess force to snuff the sail when it may be caught over or under an obstacle as you may rip the patches.

## **21.0 - Spin Sheet**

Tie a short section of line through the clew of the spin. Tie one of these to the spin sheet, and begin feeding it through the turning blocks. Start by going to the first one located at the side stay, and then up to the forward cross bar. Bring the excess to the rear of the tramp and repeat the opposite moving to the other side of the boat. Make sure that you follow the arrows on the ratchet blocks for the first side and opposite as you exit the other. Bring the opposite spin sheet end around the forestay and tie off on the spin clew as well. Your first few times it may be advisable to dry run the spin to ensure everything is free prior to hitting the water.



## **22.0 – Righting line**

Locate the lines labeled “righting line” Tie a small loop in 1 end of the 6mm line. Feed the other end through the single blocks mounted on the outside extents of the dolphin striker strap. Pull to the rear of the boat (Under the tramp) and then back forward through the single block mounted on the opposite side. Tie another loop. In the center of this righting line attach loosely the 6mm bungee cord. Lash the small turning block to the trampoline tie rod at the center of the boat. Feed the 6mm bungee then through this block and run forward to tie off the end to the dolphin striker post. The bungee should be tensioned so it just keeps the righting line from sagging below the trampoline bottom face.

**YOU ARE READY TO GO!**

## **22.0 - Sailing and Beaching**

### **Remember these important guidelines while using your catamaran:**

- Know what the weather may have in store for you while you will be out.
- Be familiar with your area and its hazards, especially overhead power lines and underwater obstacles that could damage your craft
- Know your limitations, and never sail in conditions above your ability putting yourself or others in danger.
- Always wear a life jacket while sailing
- Always carry the proper safety gear while sailing
- When launching into the surf, always head directly into the waves
- Always know the direction the wind is blowing before launching
- Secure drain plugs or ports prior to sailing
- After sailing remove drain plugs to equalize pressure in the hulls
- Carry your catamaran or use beach wheels with cradles whenever possible to minimize wear.

### **General notes prior to sailing:**

- All crewmembers should receive suitable training before operating the catamaran.
- The catamaran shall not carry more than the maximum load indicated for the appropriate model and trapezes shall not be used when carrying more than two persons.
- All inspection ports and drain plugs shall be closed while sailing.
- Bilge water shall be kept at a minimum.
- Do not breach watertight compartments.
- The stability of the craft is reduced when weight is added up high.

## **23.0 Righting after a capsize**

At some point in your sailing experience, you are likely to experience a capsize. As an owner, familiarize your self with the boat and how to right it, so that you can be prepared in an unpleasant situation.

Never sail with out a righting line installed on your boat. If you are not of a sufficient weight to right the boat by your self and sailing single handed, you should carry a righting bag for assistance.

As the boat flips over it is important to lower your self to the bottom hull as quickly as possible to help prevent the boat from turning completely over (turtle) Avoid jumping into the sails, or on the boom or hull as damage to the boat or yourself is very likely. **Do not let go of the boat as the current or wind may make it impossible for you to be able to get back.**

If the boat does go turtle, sit on the leeward hull as close to the transom as possible and the bow should rise. If not, pull the righting line around the windward hull and apply gentle pressure until the hull begins to rise.

When the boat is sitting flat, make sure all the sail sheets are uncleated. If possible, snuff the spin to make righting easier. To deploy the righting line, pull on the loop located near the upper hull. Pull the line tight stretching the bungee to forward beam. The boat should be pointed with the bows pointed directly or nearly directly into the wind. Move your weight forward or aft to swing the bows in the proper direction prior to righting.

With your weight at or just behind the front cross bar, grab the righting line and hike out backwards. Once the mast tip breaks free of the water the boat will come up very quickly. Move your weight inboard to control the speed to the righting boat. As it comes over and is falling freely, release the righting line and grasp a hold of the dolphin striker or the opposite hull to prevent the boat from continuing to capsize in the other direction, and ensure you keep attached to the boat. Once the boat is down and all crew is back on board, organize yourself and your sheets and your are ready to start sailing again.

## **24.0 – Trailing and Storage**

Remember these important guidelines while using your catamaran:

- Always use trailers and beach dollies with cradles designed to fit the hulls rather than single rollers.
- Always remove dagger boards, blocks and rigging when trailering.
- For long distances removal of the rudders and steering system is recommended. For short traveling distances be sure to secure the tiller tie bar so the system cannot turn. Also be sure to secure the rudders in the up position so they cannot be lowered accidentally while trailering. It is recommended that the rudder systems be removed prior to trailering in anything but a very short distance.
- Tie the boat down snugly using straps or Tie down lines. Be aware that tying down the boat too tight can result in hull damage. Do not use the dolphin striker for a tie down point or for pulling the boat. Use the main beam instead.
- Secure both ends of the mast. Be sure to have a red flag attached to the aft end of the mast.
- To protect against rocks, gravel and road debris, boat covers are recommended. They also provide protection from the weather and the elements.
- Mooring of your boat is not recommended.
- Always leave the drain plugs and inspection ports open to avoid the build up of air pressure and causing hull damage when not sailing.
- **Always check for overhead wires when raising or lowering the mast. Contact with electrical power lines can cause serious injury or death.**

## **25.0 - Design Category**

Design category "C2" Coastal and inland coast or protected waters.

The "Falcon" F16 is designed to the F16 class association rules for racing and is set up as a race boat exempt status.

### **Specific Information**

This catamaran is capable of supporting the crew even when swamped. The Catamaran is also intended to be recovered by the crew after capsize. The F16 rules do not dictate a minimum crew weight for racing. There is a minimum crew weight for righting the boat after capsize. This will vary on the wind and sea conditions. Be familiar with your boat and your capabilities and carry the proper equipment, righting bags or otherwise, anytime you leave the beach.

## **26.0 – Maintenance**

- Inspect rigging for signs of wear, corrosion, kinks or frayed wires. Damaged or worn wires can easily break during sailing.
- Check all threaded connections. The Optional swaged rigging gate fittings are threaded and need to be inspected every sail.
- Always check beam bolts for proper tension.
- Always check the steering system attachment points and fasteners are tight and in working order.
- Ensure all shackles are tight, and all split rings are taped to prevent loss or damage.
- Periodically inspect shackles, clevis pins and fasteners for wear or loosening.
- Periodically check the dolphin striker tension. The striker strap should be tight.

Before the mast is stepped, there should be a slight 6mm or so upward crown to the forward beam. With the mast raised and the rig tensioned the forward beam should be straight and no sag.

- Regularly inspect mast for water tightness and to ensure all fittings and attachment points are secure.
- Check hulls for excessive wear from beaching and dragging. Exposed raw fiberglass should not be visible. A bottom job should be done to replace any lost material before the hull is breached.
- If your hulls are taking on excessive water during sailing, check for leaks by applying soapy water around the fittings and blowing (with your lungs) into the hull. Do not use compressed air or power equipment such as vacuum cleaners as they will over pressurize your hull and damage it. Remove or replace leaky fittings, clean and reinstall with fresh silicone. If the leak is in an area with a fitting, this should be reglassed using proper methods to ensure bonding.
- Periodically check all cars, cleats and bearings to ensure they run freely. Replace the bearings as necessary, and rinse thoroughly with fresh water to free up any that may be stuck.
- Rinse ENTIRE boat with fresh water after each use.
- Check the sails and trampoline for rips and wear. Repair immediately to prevent further damage.
- Always keep trampoline lacing tight.
- Ensure sails are completely dry before storing. If storing for more than a day, loosen batten tension
- If the boat is to be store for long periods of time, do not leave the rigging at race tight settings. If storing for winter, release diamond wire tension, and for long term mast up beach storage, slightly loosen the rig tension between sails.

**DESIGN LOADS**

**FALCON F16 – Maximum capacity 2 persons total 181 kg**



## **FALCON MARINE LLC.**

### **CATAMARAN WARRANTY Purpose of Warranty**

As the purchase of a new catamaran represents a considerable investment, certain conditions are required to protect all parties involved and to prevent abuse of this warranty. This warranty is genuine, and we are here to serve you, so in the unlikely event that you feel your new catamaran has a problem, please tell us early so we can help.

### **Warranty**

Full Warranty Period, covering the first year from the customer taking possession of the boat for the first time.

During the Full Warranty Period, Falcon Marine warrants to the customer that Falcon Marine will at its option repair, replace or adjust free of charge any part of the boat Falcon Marine finds to be defective in factory materials or workmanship when used within the operating limitations of the boat and the provisions of this warranty. Falcon Marine's liability is limited to the repair or replacement of the defective component. No incidental or consequential damages will be allowed.

During the second year, Falcon Marine will cover the hulls only on a graduated basis. 50% of the hulls warranty repair cost value will be covered in the warranty settlement.

### **Conditions**

This Warranty is provided on the following conditions:

1. The defect is not a consequence of the customer's failure to properly use or maintain the boat in accordance with good practice, recommendations or instructions, its capacity or operating limitations or specifications, or to take preventative action to avoid further or secondary damage occurring if a fault becomes evident;
2. The boat must under normal circumstances be delivered at the customer's expense to the factory or its nominated representative for the warranted works as soon as possible after the need for the works becomes apparent;
3. This Warranty will not apply to any defect in, or which is attributable to, or which arises from the use of any modification made to the boat unless the modification has been made by or at the direction of Falcon Marine;
4. This Warranty does not cover damage or wear and tear arising as a consequence of the use of beach rollers, the use of a trailer, friction under the hulls, high speed beachings, collisions or failing to ventilate the boat;
5. All works under this Warranty must be performed by Falcon Marine or its nominated representative at their premises;
6. This Warranty is non-assignable;
7. Only measured sails, spars and equipment by an official class measurement officer appointed by either the class association, builder and/or importer shall be used;
8. The use of non 'class legal' or measured sails, spars and equipment shall void Warranty;
9. This Warranty is subject to the exclusions, operating limitations and responsibilities, which follow.

## Exclusions

This Warranty does not cover:

- • Damage by heat to composite laminates
- • "Print" on the hull surface
- • Print from internal frames on the hull skin
- • Faults resulting from collision, impact or other damage, including heel and other pressure dents to the hull skins.
- • Scratching of any Gel coat surface
- • UV damage or staining in Gel coat surface
- • Blistering or minor stress cracks in the gel coat surface
- • Minor leaks
- • Mast breakage due to capsize
- • Masts breaking due to rigging failure
- • Mast breakage occurring while using a spinnaker
- • Wear and tear on sheets and ropes and rigging
- • Failure of a component due to corrosion
- • Damage to sails due to misuse
- • Damage to sails due to capsize
- • Damage to sails due to mast breakage
- • Stretching and general wear and tear on sails
- • Boat tuning
- • Fittings and hardware - These are not covered by this Warranty, but are covered by any warranty of the fitting and hardware manufacturers

## Operating Limitations

This Warranty applies to boats used for recreational sailing or in organized club or championship racing on inland and coastal waters. It does not apply to defects occurring as a consequence of sailing in wind or sea conditions where a reasonable sailing club or association would not sail, or has abandoned racing due to extreme weather conditions, or to offshore sailing (lake or ocean), or long distance racing events.

Boats must be trailed on a trailer fitted with beam hanging supports or cups/cradles approved by the builder and/or importer and shaped to the hulls and padded.

Crew weight on the boat must not exceed:

- • 100 Kg One person
- • 180 Kg Two persons

**Limitations**

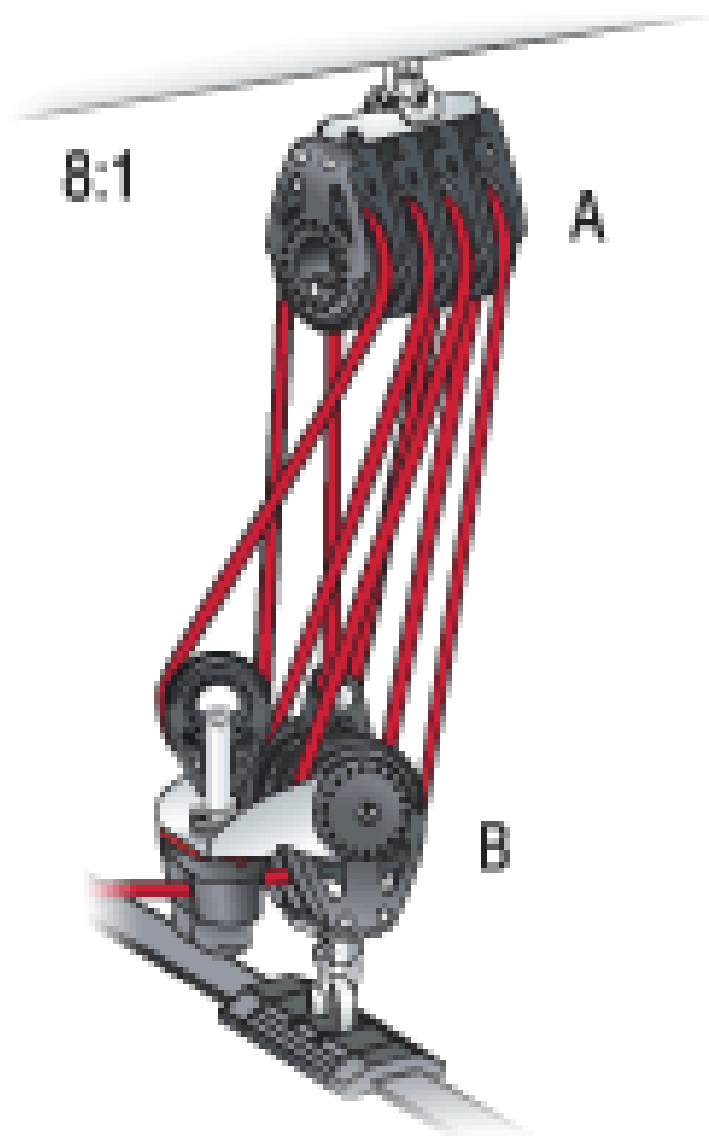
The buyer assumes all risk and liability whatsoever resulting from the use of the catamaran and its parts. In no event shall, this warranty include nor shall Falcon Marine be liable to the buyer for any indirect, special, incidental or consequential damages or lost profits. The provisions of this warranty and limitation of liability may not be modified in any respect, except in writing, signed by a duly authorized officer or representative of Falcon Marine. This warranty contains a complete and exclusive statement of Falcon Marine's obligations with respect to any of its products.

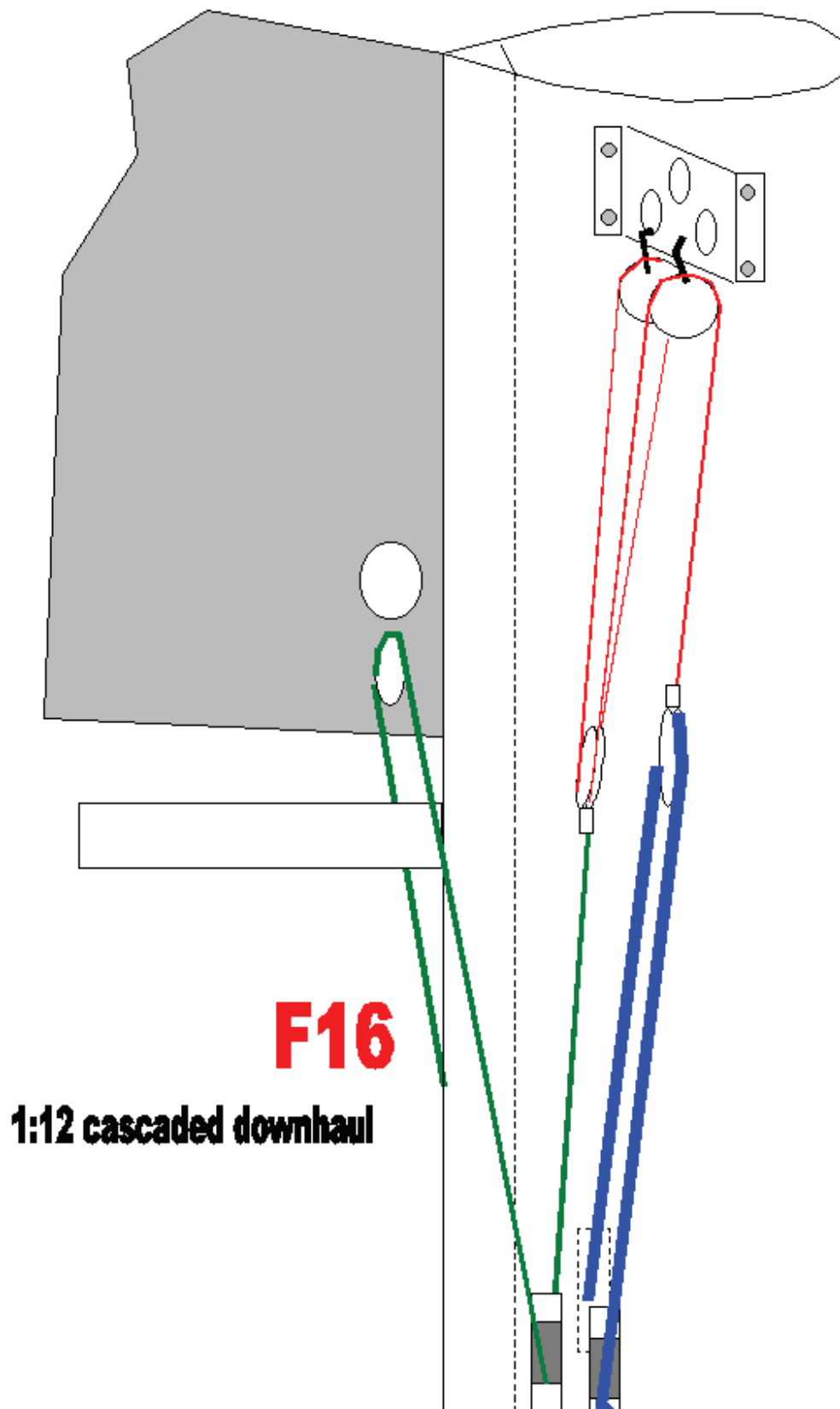
**Responsibilities**

This Warranty does not apply unless the owner has kept the boat in good order at all times, performed any necessary preventative maintenance, regularly inspected rigging for signs of fatigue, and taken immediate action to prevent further damage if any fault appears.

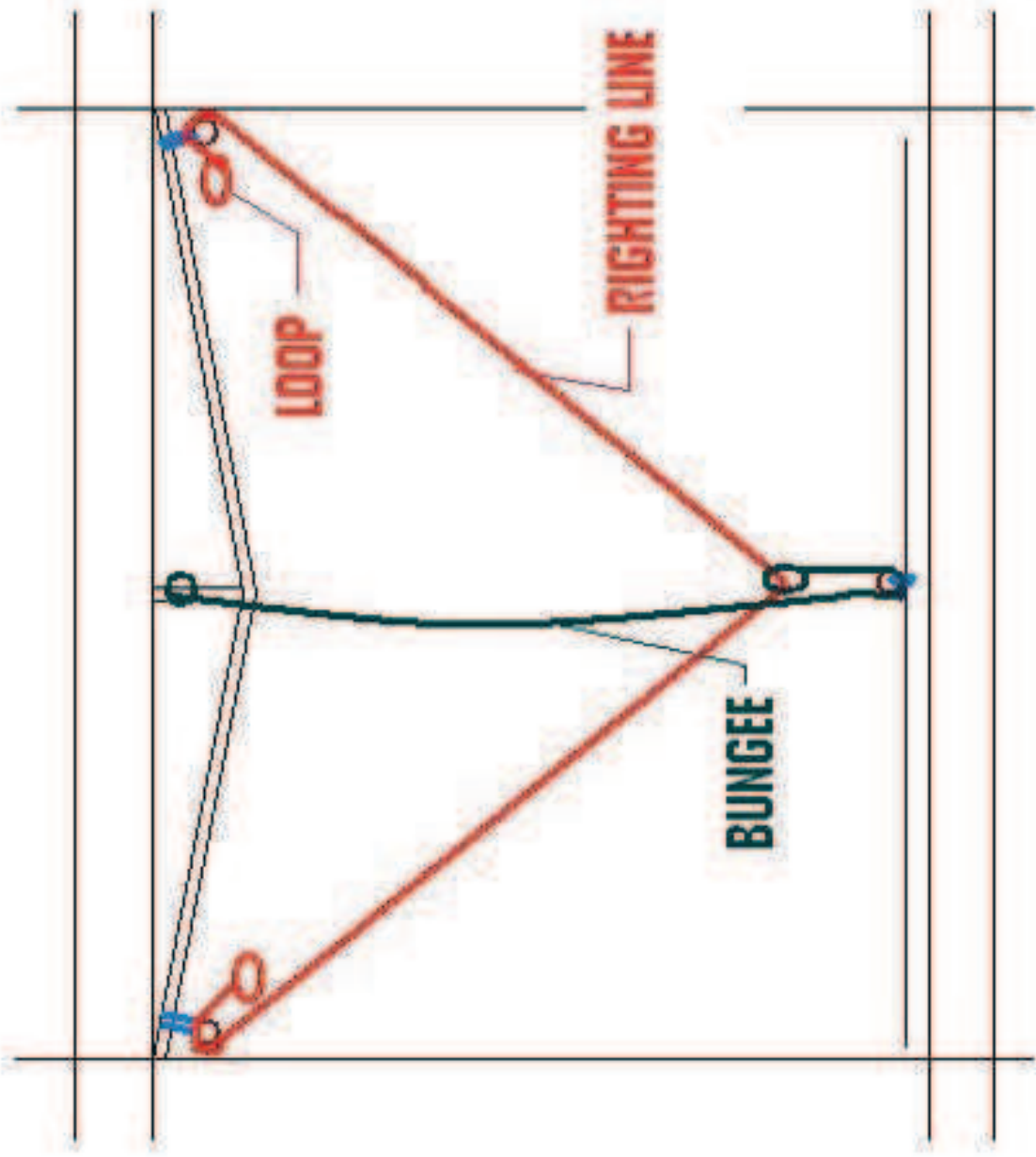
**Voided Warranty**

The builder and/or importer may void the warranty for any and all of the above points. The class association, builder and/or importer reserve the right to publish all sail and hull numbers of vessels that have had the Warranty Voided for any or all of the above points.



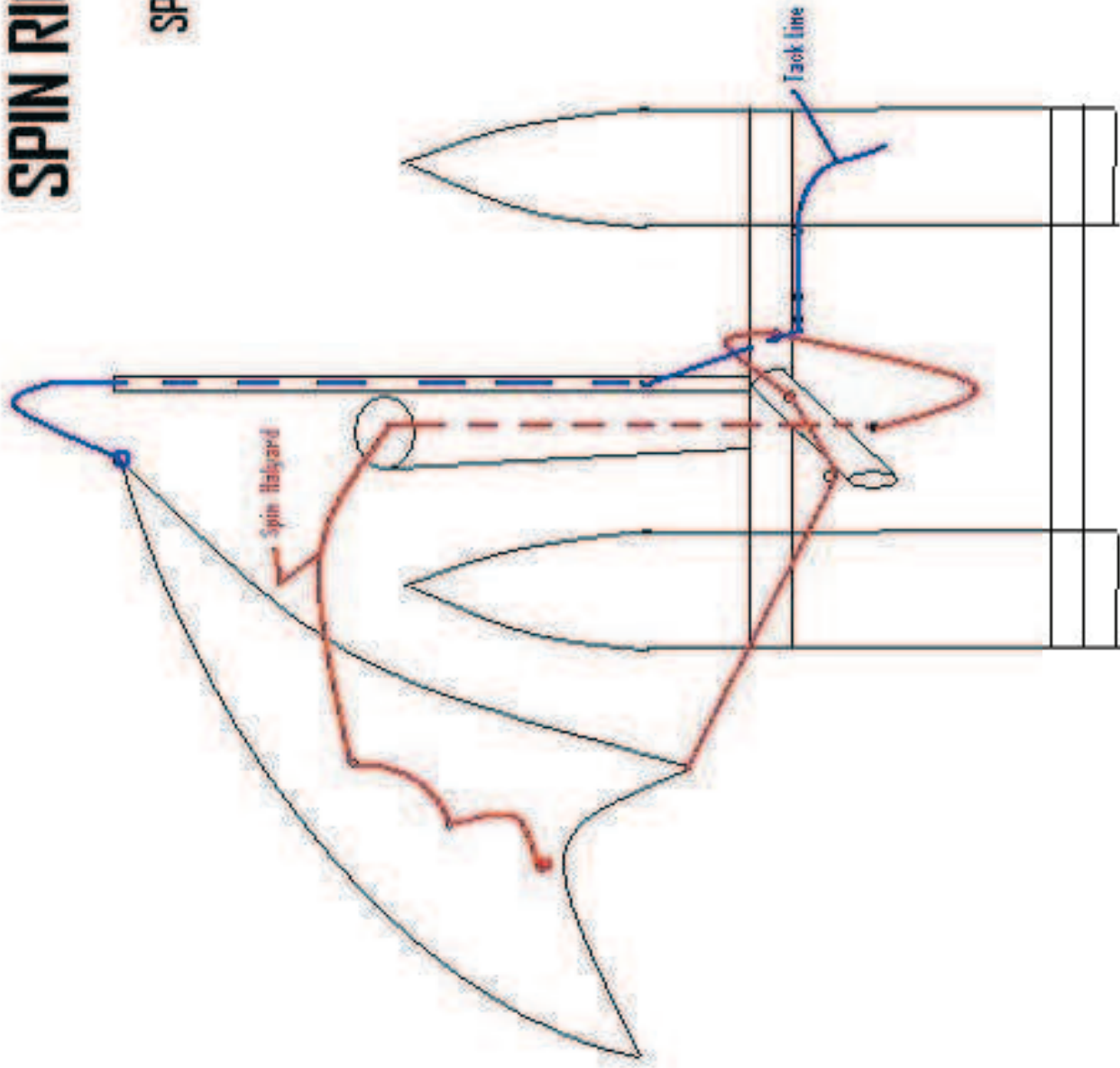


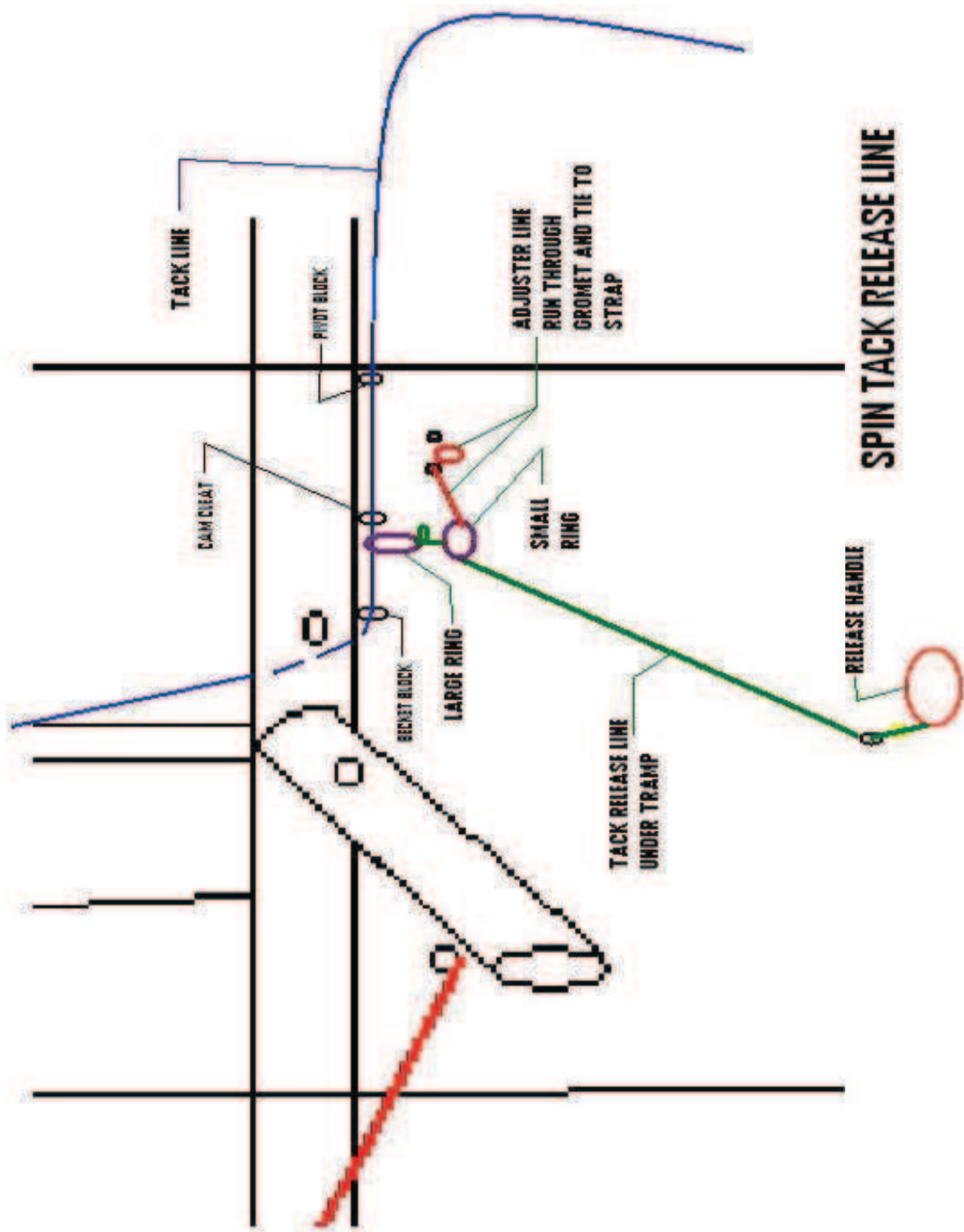
# RIGHTING LINE RIG



# SPIN RIG FALCON F16

## SPLIT TACK





TACK LINE

PIVOT BLOCK

ADJUSTER LINE  
RUN THROUGH  
GROMET AND TIE TO  
STRAP

CAM CLEAT

SMALL  
RING

BECKET BLOCK

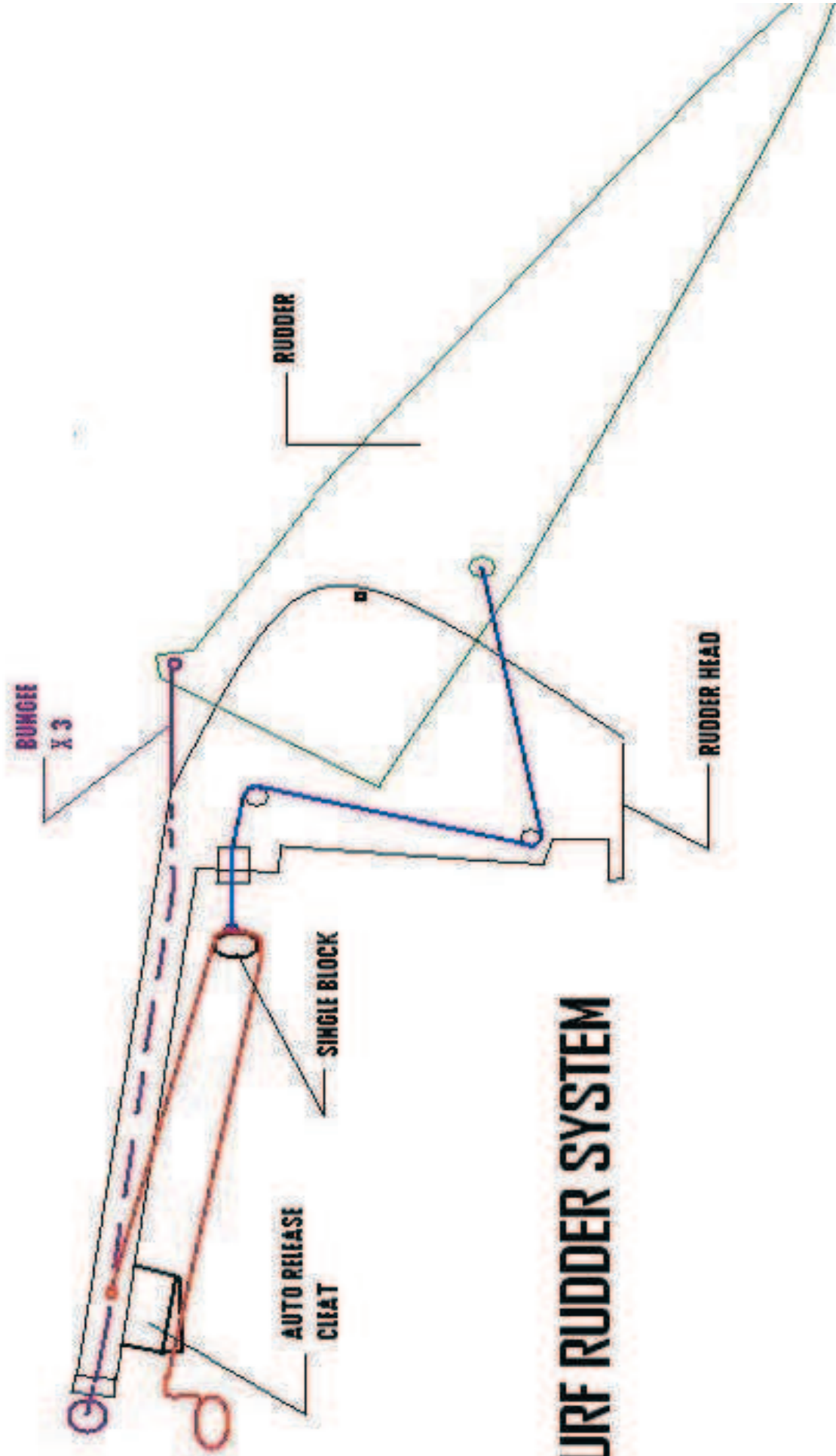
LARGE RING

TACK RELEASE LINE  
UNDER TRAMP

RELEASE HANDLE

# SPIN TACK RELEASE LINE





# SURF RUDDER SYSTEM