



Owner's Manual

FALCON F18

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**Falcon Marine LLC
Falcon F18**

This manual covers the basic assembly of the above listed models. Before starting assembly, familiarize your self 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.

The Falcon F18 is a performance boat built and designed for racing. A basic understanding and knowledge of spinnaker rigged performance sail boats is required to properly set up this vessel and operate it safely. The F18 is not recommended for beginner and novice crews. Contact the factory or your closest Falcon representative if you have any questions regarding how this boat should be assembled, set-up or operated. Improper use or set-up of this boat can result in damage, injury or even death.

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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 and spin hoop not shown.

For assembly you will need:

Pliers, Socket or box wrench (3/4"), Phillips head screw driver, Tape measure, level, 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 84 1/2” apart as measured from the centerline of each hull. The hulls of the F18 are canted outboard 3 degrees. Use a wedge on the base of the foam blocks to set the hulls so that they are at this 3 degree canted position. To verify the placement of the hulls, use a bubble level placed in the beam pocket of each hull. The pocket base will be level once the hulls are adjusted to the proper degree of cant. If you do not have the foam shipping blocks, place the hulls on carpet, foam blocks, or other smooth item 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. Note, that once the hulls are canted to the proper 3 degrees, the width measurement along the hull centerline will not be same along the length due to the contour of the hull shape. 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. On the front beam the traveler track should be placed forward.

Warning

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

(Figure 2.A).



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 18 to 20 ft/lbs with a torque wrench, always making sure the hulls have not shifted. Note these bolts need to be kept tight. They may need tightening after the boat has been sailed few times. They should settle in after a few sails.

Figure 2B



Figure 2C



3.0 – Trampoline Assembly



After the cross bars are adequately tightened, now it is time to string the trampoline. Find the edge on the tramp with 5 large scallops. Center the middle scallop around the center of the cross beam at the mast step post. The tramp will wrap around the front of the cross beam and then hook the loops on the tramp over each of the corresponding buttons located on the back face of the trampoline. (Figure 3.A)

Now feed the 6' long fiberglass rod into the pocket located on the aft end of the tramp, and center between the hulls.

Fig 3A

In the rigging box, locate a bundle of lines labeled "Tramp Lacing". This bundle should contain:
1 piece 25 foot long
2 pieces 12 foot long
2 or 3 pieces 30 inches long

Begin by lacing the rear of the trampoline first. With the 1, 25 foot long piece, tie a loop and wrap around one end of the tramp tie rod. (It will be helpful later if you leave 12-18" 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



Fig 3.B

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.

Second locate 1 of the 12 foot 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



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 1/8" x 30" lines and tie the foot straps to the saddles provided on the rear cross bar. Fig 3D



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– Line Feeds and Rings

In the rigging box locate the bundle of 3mm bungee and rings labeled “Convenience kit” Using 1 of the 2mm x 600 long lashing lines, tie the 50mm stainless steel ring to saddle located on the center of the aft face of the forward cross beam.

Locate 2 of the 30mm stainless rings and lash them similarly to the trampoline tie bar at each of the outer most cut outs. Note: Place the lashing outboard of the trampoline tie line, on each side, to prevent the ties from wearing on the trampoline.

Set aside the remainder of the kit to install in later steps.



Rear – same both sides of tramp



Front – At beam center

5.0 – Trap Bungee

In the rigging box are 2 sets of bungees labeled Trap bungee. The longer ones are designated for the forward cross beam, or the crew bungee. String the forward bungee through the front cross bar. Open the beam end cap and tie 1 end of the bungee to the screw post located just forward of the bolt. Run the bungee through the center of the beam to the opposite side and feed through the pivot cheek block fastened just aft of the main bolt. Feed the line back through the beam and exit through the end cap in the 7mm bushing. Install a 20mm stopper ball and hog ring as shown to finish. Perform this same procedure on both sides of the beam. Fig 4A Note that with the race kit the

forward bungee system may already be routed in the beam.

The rear trap bungee will be fed through the fairlead located on the hull deck just forward of the dagger board trunk, and led under the trampoline forward and through the 50mm stainless ring lashed to the center of the forward cross bar. Feed the bungee then aft to the opposite corner and tie to aft outboard 30mm stainless ring lashed to the trap tie bar. The starting end of the bungee will be finished with a 20mm stopper ball and hog ring as shown. Perform the same procedure to install the bungee on the opposite side. (Figure 4.B)



Fig 4A



Fig 4B

6.0 – Mast Rotation

Find the 5/32" (4mm) 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.



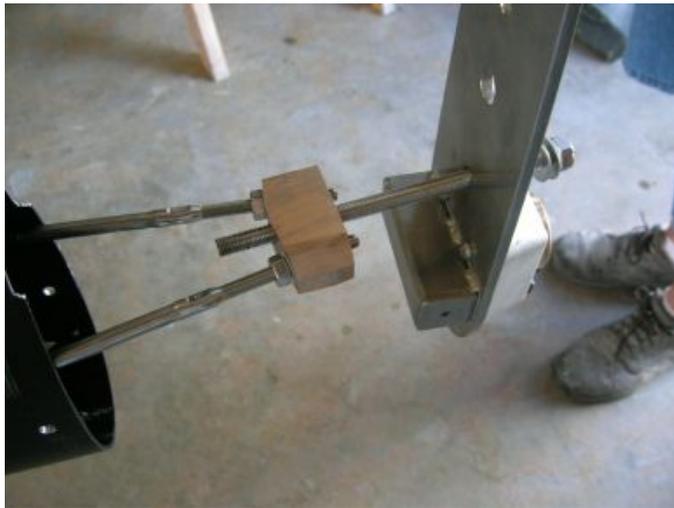
7.0 – Mast Assembly

7.1 - 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 56mm measured between it and the mast. The spreader arm should be approximately 450mm in length.



7.2 - Diamond wires: To install the diamond wires, first remove the base plate from the bottom of the mast. Feed the threaded stud end end of the diamond wire into 2 slots located approximately 6" from the bottom, 1 diamond on each side of the mast. Thread the studs into the bronze adjuster nut and connect the long bolt through the base and into the center hole of the adjuster nut. Start with the wire studs just even with the bottom face of the nut. At this point do not secure the lock nuts located on the studs.

(Make sure the assembly is fully extended so that you have room to make the attachment at the top.)



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 strap plates for the upper diamond wire attachment. Pull the diamond wire up and insert the clevis pin to attach wires to the



plates. (Note at this point you may want to place a small piece of tape over the pin to keep it from falling out and delay installing the split rings until all of the mast diamond adjustments have been made.) 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 center position at the spreader tips.

Using the adjuster nut located on the bottom of the mast base, tighten the system until there is gentle pressure on the mast and most and all the slack is removed from the wires.

Site up the mast. If there is a significant side bow in the mast, adjust it now. If the side bow is slight, continue setting the rake and the final bow adjust will be made later in the procedure.

To adjust for side bow on the wires: Note the direction the mast is bowing and then loosen the diamond adjuster bolt; the direction the mast is bowing will now be referred to the “short” side. Unpin the clevis pin at the upper diamond attachment from the “long” side. Turn the wire clock wise to shorten the assembly on this side. Make sure the threaded stud is turning in the block as you rotate the wire. Repin the diamond wire to the strap, tighten the adjuster bolt again and note the new straightness of the mast. At this point it just needs to be close.

Start with the extension on the mast spreader arms at its inner most setting. Carefully measure the distance from the mast track to the center of each wire at the spreader attachment. This distance should be the same measured on both sides. If one is longer than the other adjust the rake on one side with the barrel nut adjusters until they are the same. 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 when wire tension is applied. Place a straight edge across the diamond wires and measure the distance from this to the mast track. Start with a measurement of approximately 56mm.

If the track to wire setting is the same on both sides, you can adjust the barrels equally on each side until the desired rake is attained.

Once the spreaders arms are even on both sides and the desired starting rake is achieved, apply slightly more tension from the diamond adjuster bolt at the mast base. At this point carefully sight up the mast and verify that there is not a bow side to side. Using the same procedure above make any final adjustments to the wire length to ensure the mast is straight. Once you are happy with the straightness of the mast and the settings of the diamonds, you can tighten the jam nuts located on the threaded studs against the top of the adjuster nut.

Tighten the diamond wires to approximately 36 on the pro Loos gage, approximately 500-600 lbs of tension.

Note that all of these mast settings are approximate for starting your rigging procedure. Please refer to the tuning manual for the latest settings being used in varying conditions. Also note small differences may be required to match your particular sail to the mast. Different sail maker combinations could require significantly different starting points to accurately match you rig to your sail.

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.



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, yet ensure that there is sufficient tension such that the windward wire will not go slack while sailing. If more 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.falconmarinellc.com

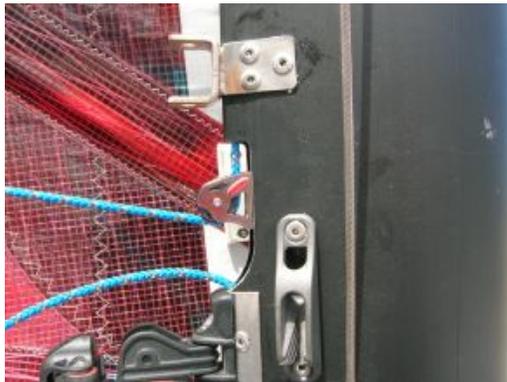
Warning

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.

7.3 - 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 a hole located directly below the sail track on the mast base. The halyard turning block is located just below the boom attachment point. The mainsail will be hoisted from this point. Once the sail is up and secure the slack halyard can be pulled through the mast base and placed in the trampoline pocket while sailing.



Fig 6.D



7.4 - 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. Note the spin halyards supplied with these boats are tapered. The spin head end of the halyard that will attach to the spin head is the tapered end (core only). The hoist and snuffer end of the halyard will be the cover only.



7.5 - 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 plain loop end through the pulley located on the pigtail attached to the forestay wire. Secure the 3mm x 6m tag line to the end of the wire.



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



Note the bent loop shackle is provided to secure other lines. This should be placed on the forward side of the side stay connection.

7.6 – Bridal Wire Assembly: The bridal wires should attach to the center of the bridal assembly as shown. At the apex of the bridals, the large eye will face aft the formed eye will be forward and the D shackle will face port. The opposite ends of the bridal wires then are fastened to each hull bow tang. Ensure the port hull connection is the bridal wire with the additional D shackle. The starboard hull connection will be with a plain marine fork and clevis pin.



8.0 Stepping the Mast

Caution

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 downhill. To make the process easier if there is a strong wind, make sure the wind is coming from the rear of the boat.
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.

The F18 race version comes with the jib and downhaul assemblies continuous and permanently spliced into the front cross bar of the boat. Make sure these are clear of the mast attachment with the jib controls located forward of the cross bar and the downhaul assembly located aft of the cross bar.

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 that mast ball using the Mast Step clip provided as shown. Note, to ensure alignment with the base and ball 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 thread the forestay stud end into the calibrated turn buckle located on the top of the diamond wire assembly.



The rig can be tightened either from the side stays or the forestay turnbuckles. A starting point for mast rake should be approximately half way between the gudgeons using the trap wire measuring method. When tightening the rig make sure the 2 side stays are set at the same setting. Rig tension should be brought to approximately 200 lbs. See tuning manual for the most accurate recommended setting for the conditions. 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.

To set the mast rake using the trap wire method; detach one trap wire assembly once the rig is set and tight. Walk the trap wire forward and hold the attachment line against the bridal tang fitting. Keeping this point on the line marked and held, then walk the trap wire to the rear of the boat making sure you clear all of the mast and rigging. Hold the trap wire to the hull aft and note where the marked point of the line intersects the hull along its center line. This point should be relatively close to half way down the transom as a rough starting point.

Caution

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. Lose standing rigging can cause other systems to become overloaded and fail during use.

9.0 Rudders

9.1 – Surf System: The rudders will already be installed in the heads with ¼” bolts. Tie the short piece of 3mm line to the horns of the rudders in a loose loop. Connect this line to a 16mm block that is run through the inside of the tiller arm extension. Inside the tiller arm is another 4mm line running from the front of the arm around the block and exiting through a jam cleat located on the inside face to the tiller arm. By pulling this line the rudder will move to the up position. Adjust the length of the line such that a grab loop will be located just at the jam cleat when the rudder is in the full down position.



There is a longer piece of 4mm line fed from the end of the tiller arm on the outside. 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 placing the tie bar in the pins provided on the tiller arm. Secure with a large split ring.



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

9.2 - 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 F18 is a 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.

10.0 Spin Pole

Locate the spin pole and the line labeled “tack Line” in the rigging box. Feed the tapered end of the tack line into the spin pole starting at the large oval hole located approximately 1 foot from the base on the side of the pole. Feed the line all the way through the tube to exit out the forward end of the pole. Install the spin bridal lines in the end plug as shown and then feed the tack line through the middle hole in the



plug from the rear.

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 – 3mm by 7 foot (2.4m)

1 – 3mm by 4 foot (1.2m)

First feed 1 end of the 4 foot long section of 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, tie the 7 foot long piece of line under the trampoline between the keepers holding mid section of each foot strap. At this point the under tramp line will be hung loose.

At this point connect the end of the spin pole to the front cross beam with the rigging pin as shown.



With the 30 inch long piece of 3mm spyder line tie a lose loop from the forward eyelet to suspend the spin pole from the bridal assembly. At this point the pole should be 6-8" below the bridal junction.



Tie each end of the spin pole bridal lines to the bow of each hull. Ensure the pole is centered between the hulls. Using the center tension line, tighten the line to provide a prebend in the spin pole of 2-4".

There should be enough prebend in the spin pole such that the pole will not bend upwards while sailing under spinnaker. When the sail is full and properly sheeted under load, the pole should be straight or still slightly bowed down.

See appendix for the installation instructions for the SNU snuffer system.

The bungee located at the aft end of the SNU sock will connect to the spin bag tie line installed under the tramp earlier. Once the bag is connected, adjust the tie line so there is some slight tension pulling the bag aft and it will not easily move forward as the spin tack line is pulled.

Warning

Warning: Failure to rig the spin bridal before sailing or before raising the spinnaker will result in breaking the spin pole. The spin pole is not supported for downward forces. Do not lean or pull down on the spin pole tip.

11.0 - Jib Sheet System

In the rigging box is a kit of lines labeled Jib clew control.

11.1 - Jib Rotation Limiter

Tie the 3mm X 7 foot long cored line to the center of the jib traveler car. Feed this line then through the ferrule eye mounted approximately 1 foot forward on the spin pole. After exiting this block then return the line through the jam 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.



Connect the 16mm becket block to the center of the traveler car also as shown. Typically the U provided on the traveler car by Harken is removed, but it is possible to attach the becket directly to the car or to the U. Rout the 3mm Dyneema line through the becket block and another 16mm block with a twist shackle as shown. The forward end of

the Dyneema line will terminate in a 2nd 16mm block and connect to the sheet.



11.2 - Jib Sheet

There is a 4mm continuous line run through the forward beam for the jib sheet.

At each beam opening there should be a stainless steel ring on this sheet. These rings will be lashed back to the bent loop shackle attached to the forward side of the



side stay connection on both hulls.

The jib sheet will come out of each beam and through the rings as shown. They will then lead forward through the jib swivel cleats mounted on the forward cross bar and forward to towards the bridal attachment. On the sheet is attached a pair of 16mm blocks with an additional length of line. Locate a button on the spin pole bottom face just aft of the bridal attachment. Wrap the extra length of line around the pole 2 times and bring back and tie to second block. The jib sheet will form an M with the center 16mm block coming from the traveler car main Dyneema line.



Note that once the line is tied, the jib sheet can easily be removed from the pole by sliding the blocks slightly forward and providing slack to the lines around the pole. The complete jib assembly can then be easily slid the length of the pole when disassembling the boat, eliminating the need to tie off the blocks each time. To reinstall the next time the boat is assembled, form a quick loop in the line and slide it back over the pole.

12.0 – Boom and Outhaul

Attach the end of the boom gooseneck assembly to the mast bracket with the 1 1/4" clevis pin



Feed the 4mm line from the rigging box labeled "boom" through the small hole in the end of the boom and secure with a stopper knot. Feed the other end through the micro block with a 1/4" shackle as shown and then back through the other side of the boom and through the jam cleat located inside the boom. Tie a stopper knot. The shackle will attach to the clew of the mainsail. Pulling on the line will act as an outhaul on the main sail.

13.0 – Down Haul Assembly

Slide the down haul removable bracket assembly onto the base of the mast. This will slide into a notch located on the mast base on top of the rotation arm. The assembly will be fastened in place with a ¼” clevis pin and split ring.



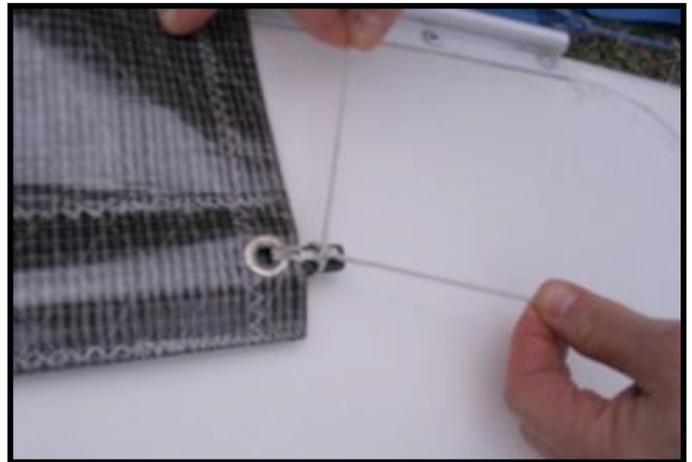
14.0 - Mast Rotation-Quick Release Connection

Locate the line assembly called “quick release rotator assembly” Feed the plain end of the line through the swivel cleat located near the mast base. This line will then continue down through a lead block approximately 2” below the flip cleat. Once out the bottom of the lead block feed the line through to the bushing located at the end of the rotation arm. Place the 20mm parallel ball back on the line and tie a stop knot in the line. The bitter end of the line will then tie to the 16mm block attached to the mast rotation adjuster installed earlier through the trampoline. By adjusting the length of line able to move through the cleat you can control the amount of rotation that is released by uncleating this control line.



15.0 – 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.



16.0 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 with the line feeding through the ring from the aft side as shown. Start feeding the sail into the mast groove, and remove the slack from the main halyard line. Note the halyard lead block on the F18 is located directly below the boom tang and not at the mast base as on other Falcon models. 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. Feed the halyard slack back into the mast and through the hole in the base of the mast. Coil up the halyard line and tuck into the storage pocket to keep out of the way.

17.0 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.

18.0 - 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 ¼" 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.



19.0 – Downhaul

The Falcon F18 has a continuous downhaul line system integrated into the front beam. This line is fed through the removable down haul bracket that should now already be attached to the mast. As the down haul line exits from the front beam there should be a stainless steel ring located on each side. This ring will be lashed to the loop formed at the bungee for the crew trap line also exiting from the front beam.



Located in the rigging box is a pair of micro blocks with a short piece of spectra line. Use this line to lash the blocks through the grommet located at the tack of the main sail. 1 block will end up on each side of the sail as shown above. Located on each side of the down haul bracket assembly is a 16mm double block with a 4' length of line. Feed this line through the blocks tied to the main sail clew on each side of the sail. Pull as much line as necessary from the front beam to allow the double blocks to raise up against the micro blocks on the sail. With both blocks together pull down on the mainsail to provide some preload on the sail. Run the end of the line then through the jam cleat located on the side of the mast just below the boom. Both sides of the sail should be set the same. If desired, tie the excess line in front of the mast.



20.0 Outhaul

Secure the ¼" shackle located at the end of the boom to the clew of the mainsail. By pulling on the line extending through the cleat inside the boom end the outhaul will be pulled tighter. Note that the sail is cut so that the outhaul will automatically become tighter as down haul is applied to the sail/mast. **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.**

21.0 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 eyelet, on the aft side of the bridal wire apex, with the 3/16 bow shackle. Once the jib wire approaches the bottom of the sail, connect the S-hook, tied to the bridal connection, to the loop at the end of the wire. At this point the tag line tied to the jib wire can be removed, coiled up and stored until it is time to lower the jib.



The section of Dyneema line should be tied first through the forward eylet on the bridal assembly. This is led up and through the s-hook, then back down through the D shackle lead and along the port bridal wire. At the port bridal tang should already be located a second D shackle lead. Feed the jib line through this and then back tying off to a plain 16mm block. Located on the lower face on the port side of the front cross bar will be a short section of 3mm spectra core line. Feed this line through the block tied to the end of

the jib line and feed it back to jam cleat located on the port side, top face of the front beam. By pulling on this line the jib luff tension will be increased.



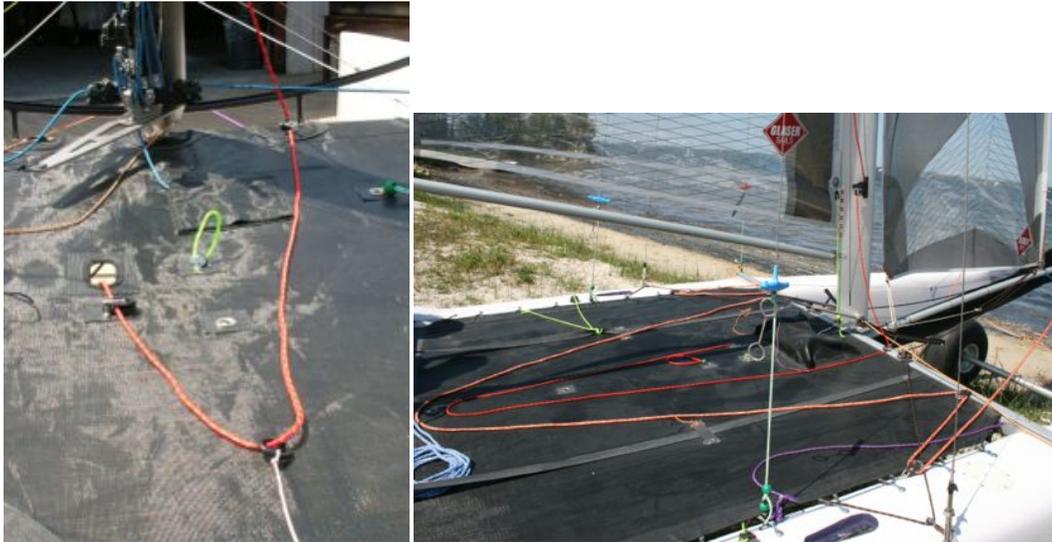
Warning

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.

22.0 Spinnaker

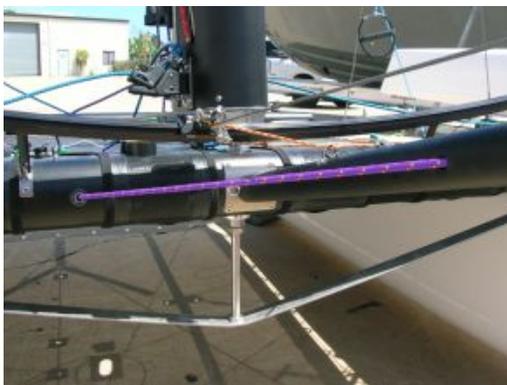
Mount the spin sheet turning blocks to the front beam, and depending on model, attach the other blocks to the saddle located on the hulls just forward of the side stay tang.

22.1 - Halyard Run: Temporarily tie the free end of the spin halyard line to the top of the bridal 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 a large nylon ring located near the aft most center grommet in the trampoline. Feed the line forward and through the 29mm block attached near the center of the trampoline. Once through this trampoline block, feed the line through the large hole in the tramp and then into the end of the spinnaker bag/sock. 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.



22.2 – Tack run: With the line kit will be a 9 foot piece of 3mm bungee. This bungee will tie to the large nylon ring that is now fed through the spin halyard. Feed the other end of the line through the rear most center grommet in the trampoline and then port to the outer ring attached to aft end of the tramp. Once through this ring feed under the tramp to the starboard hull just forward of the dagger board trunk and tie a 16mm plain block to the end.

The spin tack line will exit from the spin pole approximately 1 foot forward of the base on the starboard side of the boat. A tag line should have been provided leading through the front beam. Tie the end of the spin tack to the tag line and pull through the front beam. Once through the beam, the tack line will feed through the tack release line ring and then to the cam cleat located on the inside back face of the beam. From there it continues starboard through the flip flop block on the port outer beam. Feed it then aft through the same ring used to hold the jib sheet and then through the 16mm block tied to the bungee attached to the spin halyard. The bitter end will then just tie to one of the trampoline side loops.





Note if the tag line is lost it is easiest to feed the wire back through the beam using a short piece of stiff wire. There are many other lines and bungee systems already installed in the beam, so it works best to try and feed the tack line over the top of the other systems already strung inside the beam.

22.3 – Tack release: Locate the assembly labeled “Tack Release”. Feed each end of the bare spectra line through the grommet holes located on the starboard forward part of the trampoline.

Tie the stainless steel ring to each side of the line. The length of each line should be set such that the ring will easily ride against the back face of the front beam just behind the tack cleat. The 2 lines need to be at the same tension.



22.4 – Attaching the Spin: Untie the free end of the spin halyard and fasten to the head of the spin.

Attach the spin tack line, coming out the end of the spin pole, 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. This line should automatically cleat under the front beam. If the line does not cleat check to make sure the line is routed properly and that the tack release line is not tied too short. The tack line should pass freely through the release ring, if the lines are tied too short, the ring will put pressure on the line and not allow it to fully seat in the cam cleat.

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 behind the 29mm guide block fastened to 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.

With the spinnaker fully hoisted, check the tension on the luff of the sail. Do this by grasping the sail luff in your hand and twisting the sail approximately 2-3 feet above the spin pole end. You should be able to freely twist the sail 45-90 degrees. If you can move the sail more than this, or if it is too tight, the primary adjustment for this is located at the top of the mast. The line connecting the spin turning block to the head of the mast can be adjusted to achieve the desired spin luff tension.



23.0 - Spin Sheet

The spin sheet is fixed with a short section of Dyneema line spliced onto the middle of the sheet. Tie this line to the clew of the Spin. Feed 1 side of the sheet down

each side of the boat. Going first to the large spin ratchet located on the hull feed the spin sheet through this block following the arrow stamped on the block. Then run the line forward and through the smaller ratchet block located on the front beam. Mirror the same thing on both sides of the boat.

The ends of the spin sheet can be tied together at one of the rear tramp grommets, or they can be lead across to opposite sides of the boat to a point just forward of the skipper seating position. In either case there is a 7 foot long section of 3mm bungee provided that can be tied to the spin sheet ends and led under the tramp to hold the ends in the desired location.



24.0 – Righting line

Locate the lines labeled “righting line” Tie a small loop in 1 end of the 8mm line. Feed the other end through the saddles 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 large ring centered on the front beam. The bungee should be tensioned so it just keeps the righting line from sagging below the trampoline bottom face.



YOUR READY TO GO!

25.0 - Sailing and Beaching

Remember these important guidelines while using your catamaran:



- Be familiar with your area and its hazards, especially overhead power lines and underwater obstacles that could damage your craft
- Know what the weather may have in store for you while you will be out.
- 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 (if installed on your model) or loosen the deck lids 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.

26.0 Righting after a capsize

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

Never sail without a righting line installed on your boat. If you are not of a sufficient weight to right the boat by yourself and sailing single handed, you should carry a righting bag for assistance.

As the boat flips over it is important to lower yourself 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.

27.0 – Trailering 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.



Caution

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

28.0 - Design Category

Design category “C2” Coastal and inland coast or protected waters.

The “Falcon” F18 is designed to the F18 class association rules for racing and is set up as a race boat exempt status.

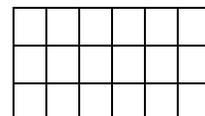
Specific Information

This catamaran is capable of supporting the crew even when swamped. The Catamaran is also intended to be recovered by the crew after capsized. The F16 rules do not dictate a minimum crew weight for racing. There is a minimum crew weight for righting the boat after capsized. 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.

29.0 – 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 F18 – Maximum capacity 2 persons plus gear
200kg (440 lbs)**

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total