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THIS IS NOT A TOY

201603 Version

65 DRAGON FORCE

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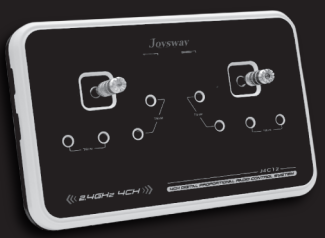
www.dragonforce65.com

2.4GHz RTR R/C RACING SAILBOAT



SPECIFICATION:

- Length:655mm
- Beam:116.5mm
- Mast height:915mm
- Overall height:1338mm
- RTR total weight:1350g
- Sail area (Main):14.6 dm^2
- Sail area (Jib):7.66 dm^2
- Sail area (Overall):22.26 dm^2
- Hull material:Plastic molded with colorful printing decal stickers and painting
- Required: 4“AA” Alkaline batteries for transmitter
  4“AA” Alkaline batteries for receiver

INSTRUCTION MANUAL THIS MODEL IS NOT A TOY!

THESE INSTRUCTIONS SHOULD BE READ BY A SUPERVISING ADULT

DRAGON FORCE V5 2.4GHz RTR SAILBOAT

Model No:8805 V5

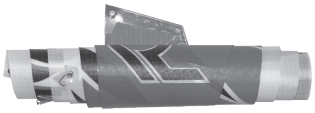
IMPORTANT:

1. This is not a toy. Assembly and operating of this boat requires adult supervision.
2. Please take time to read the instructions carefully and completely before attempting to operate your model. This manual contains the instructions you need to safely build, operate and maintain your R/C sailboat.
3. Please do remember to switch off MXMD button on the left side of transmitter before operation.

CONTENTS OF KITS

Hull with winch servo, rudder servo, battery box & receiver pre-installed

2.4GHz 4CH Transmitter



Jib Sail & Main Sail

Keel

Balance weight

Rudder

EVA

boat stand

Long mast

Short mast

Jib boom

Main boom

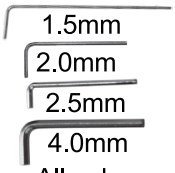
Mast fitting tube

Spare rubber band

M5x12 Inner hexagon screw
M5x20 Inner hexagon screw

Rudder arm

Masthead swivel



Allen key

Dyneema cord

Deck Cloth patch

Metal backstay crane

10 pcs Bowsie

ITEMS REQUIRED FOR COMPLETION

Eight “AA ” Alkaline batteries. (four for the transmitter, four for the receiver battery box.)

BASIC BOAT TERMINOLOGY

BOW: The front of the boat.

STERN: The back of the boat.

PORT: This is the left side of the boat when view the boat from the stern. An easy way to remember this is that port and left both contain four letters.

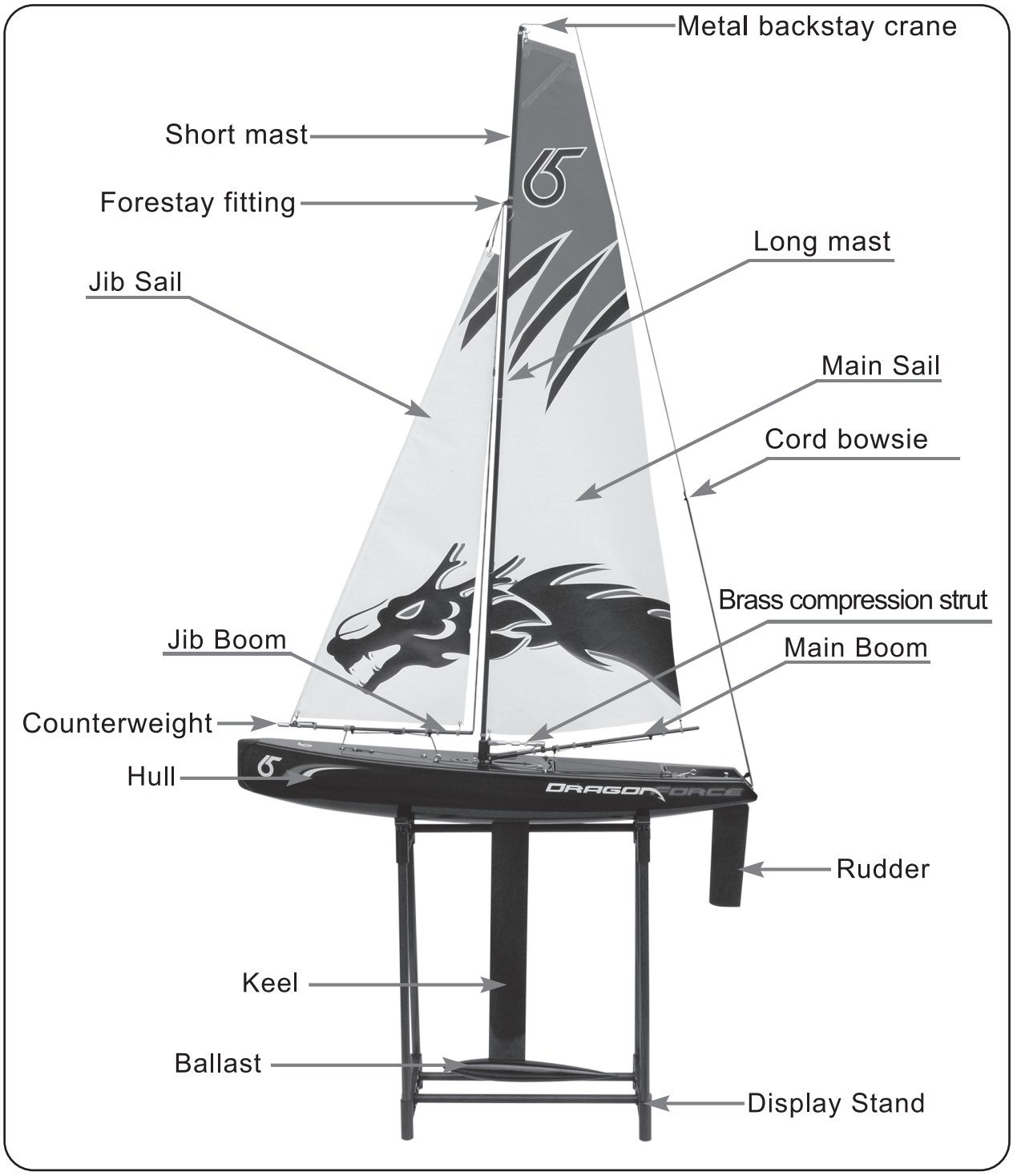
STARBOARD: This is the right side of the boat when view the boat from the stern.

HULL: The body of the boat.

DECK: The top of the boat.

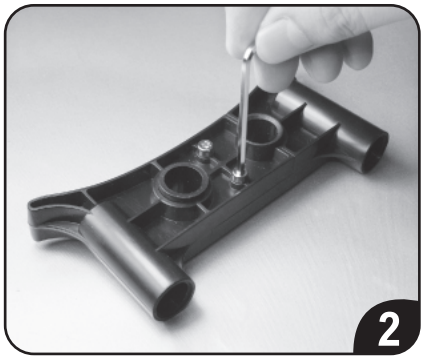
KEEL: A weighted blade that protrudes from the bottom of the hull as a means of providing lateral stability.

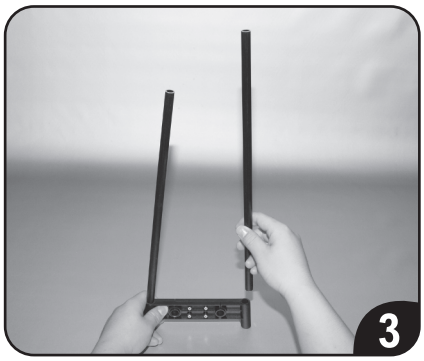
RUDDER: The hinged vertical plate mounted at the stern that controls steering.

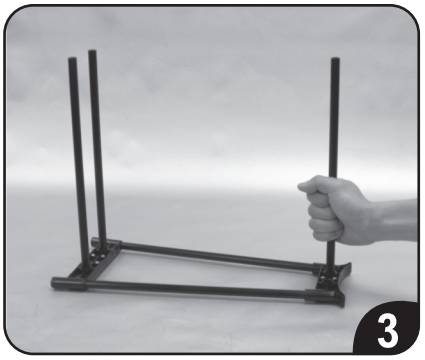


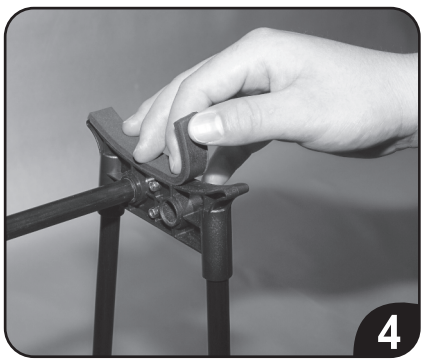
DISPLAY STAND ASSEMBLY

1. Take polyfoam out of inner box, take boat stand out which is placed in the bottom of polyfoam.
2. Bolt the plastic moulded components together with the twelve nut & bolts supplied.
3. Assemble boat stand as shown in photos. Notice four longer tubes are the vertical side ones, while three shorter tubes are the horizontal top and bottom ones.
4. Locate the EVA on the hull support as shown.This will protect the hull bottom from scratches during construction and storage.



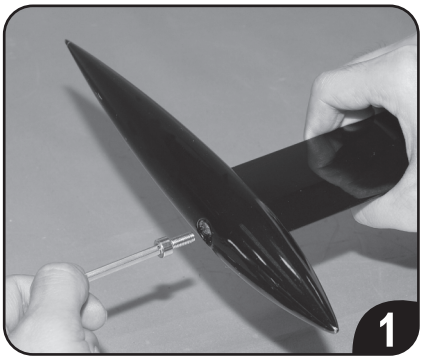


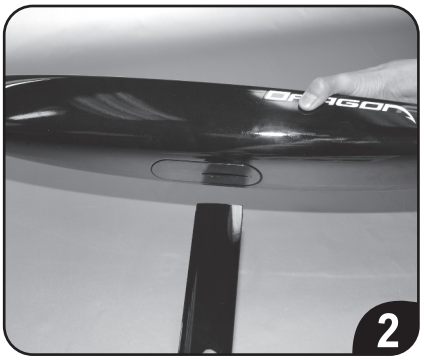


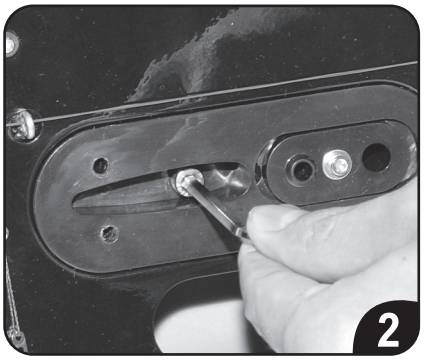


KEEL & BALLAST & RUDDER ASSEMBLY

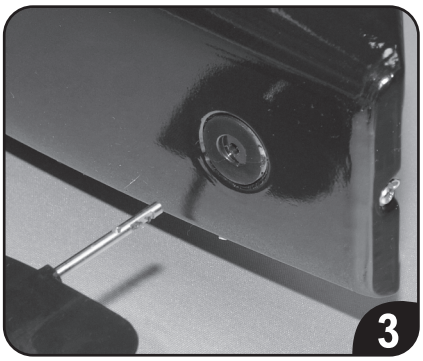
1. Secure keel and ballast with M5x20mm screw and 4.0mm allen key.
2. Secure keel and hull with M5x12mm screw and 4.0mm allen key.

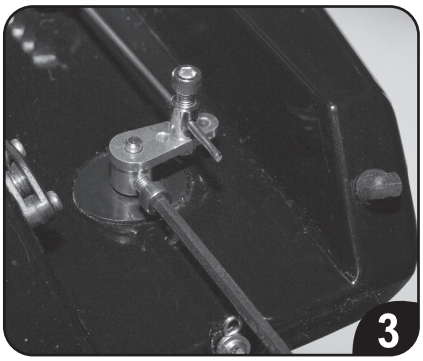


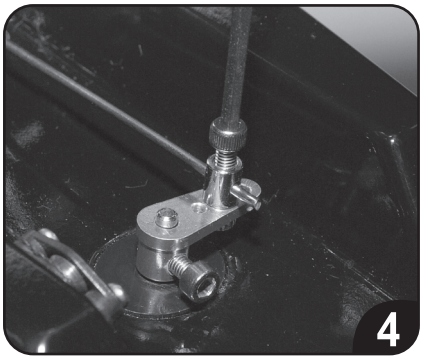




3. Insert the rudder shaft up through the bottom of the stern of hull with the metal rudder shaft nearest to the front of the rudder blade. Use 2.5mm allen key to secure the rudder shaft on the rudder arm. Make sure rudder can freely rotate and can move up and down by no more than 0.5mm
4. Steering pushrod goes through clevis on the rudder arm, make sure rudder is aligned on the center line of hull, then use 2.5mm allen key to tighten the clevis screw.







MAIN SAIL RIGGING

1. Thread Mast Fitting Tube (longer side) down through bearing on Main Boom, insert Mast Fitting Tube and Main Boom into mast mount tube in the deck (the smaller diameter hole at the rear of the sliding deck plate) as shown. See page 6.

2. Insert Long Mast into Mast Fitting Tube (shorter side). See page 6.

3. Take the Mainsail and thread three Mainsail Luff Rings over Long Mast. See page 6.

4. Thread Metal Backstay Crane through Mast Head Swivel and insert into plug in top of Short Mast. See page 6.

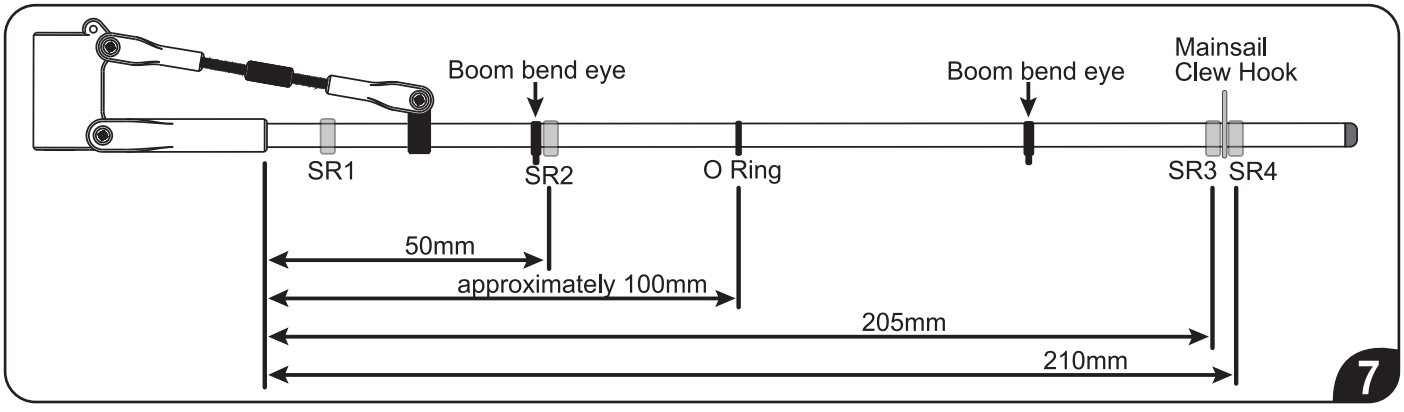
5. Insert Short Mast into Long Mast. Cut a length of Dyneema cord at around 1300mm, tie it to Metal Backstay Crane eyelet, the other end of cord thread through a Bowsie's two holes in proper order, through Stern Eyelet then tie cord to the end eyelet of the Bowsie. Adjust Bowsie to pull cord tight and straight. See page 6.

6. Cut a length of Dyneema cord at around 200mm, use it to attach eyelet at top of Mainsail to Mast Head Swivel eyelet. Notice that gap between Mainsail tip and swivel is within 6mm-10mm. See page 6.

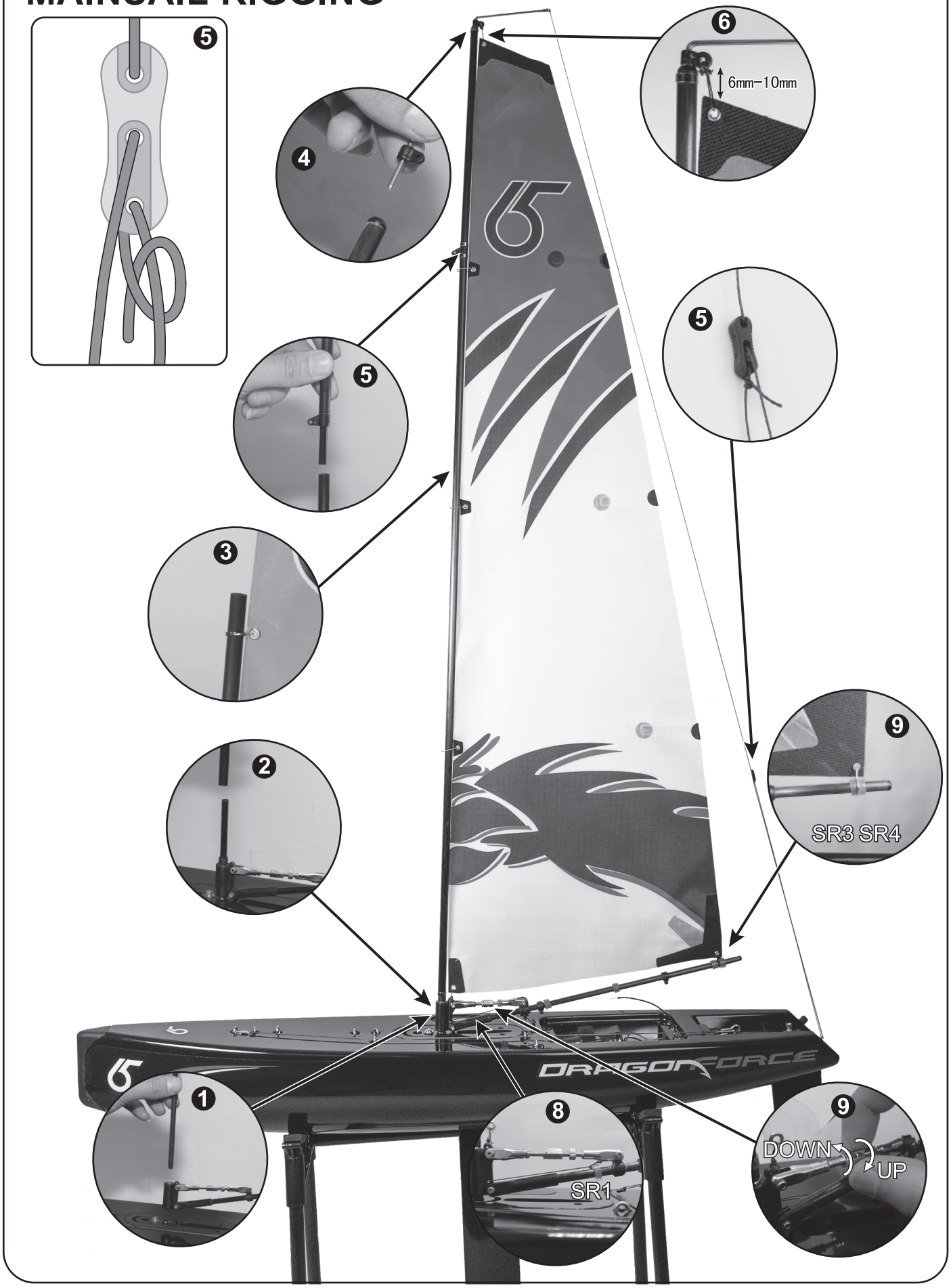
7. Adjust silicone ring ("SR" for short) positions on Main Boom as shown in diagram on page 5.

8. Cut a length of Dyneema cord at around 250mm, tie it to eyelet located on the top of Main Boom Bearing, the other end of cord thread through eyelet in lower front corner of the Mainsail from front side to back side, then back through eyelet on top of Main Boom Bearing, then through eyelet on bottom of Main Boom Bearing from front side to back side, then tie cord to silicone ring "SR1" which should be posioned centrally between the two plastic fitting on Main Boom. Adjust SR1 to lightly tension front edge of Mainsail.

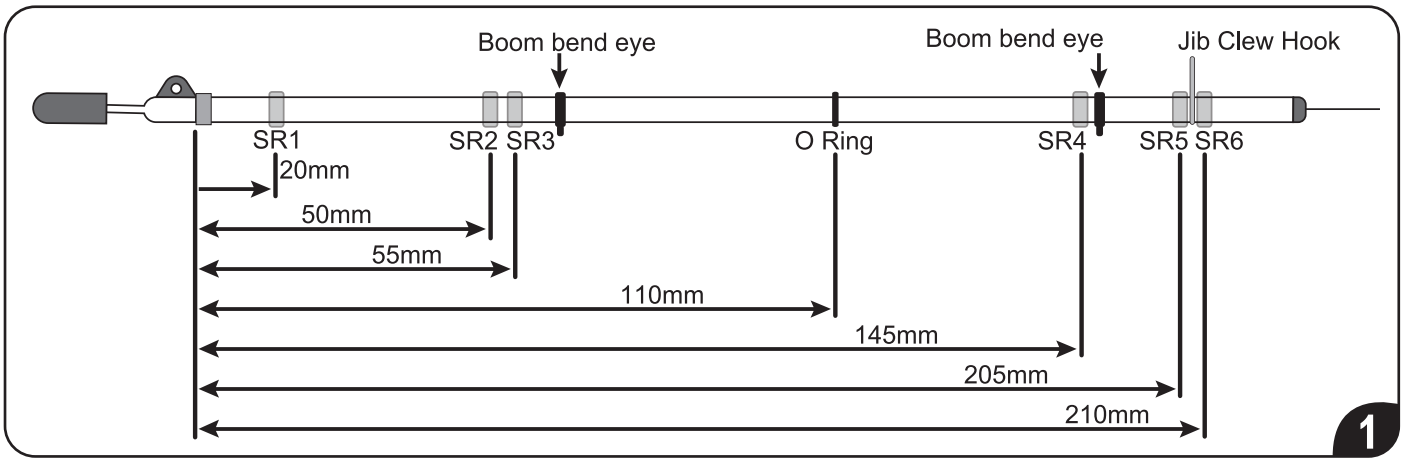
9. Hook the eye in the Mainsail Clew (bottom rear corner) onto the Mainsail Clew Hook.the two rings SR3 and SR4 are used as a clamp to prevent Mainsail Clew Hook sliding. You can adjust the shape of the Mainsail foot by moving the ring positions. Rotate the brass Compression Strut to adjust the tension in the rear edge (Leech) of the Mainsail (see page 6). When adjusted correctly the Mainsail leech should have a small amount of twist when viewed from the Stern. Do not over tension so that the Leech is tight. When sailing you can use the Compression Strut adjustment to alter the sailing balance (trim) of the boat.



MAINSAIL RIGGING



JIB SAIL RIGGING



1. Adjust silicone rings (“SR” for short) to positions on jib boom as shown above.

2. Tie a loop in the forestay cord below the lower front corner of Jib sail, then loop around Jib Weight shaft. Cut a length of Dyneema cord at around 200mm, attach it to eyelet in Jib Boom front end fitting. The other end of cord thread through eyelet in lower front corner of Jib sail, then back through eyelet in Jib Boom front end fitting again, pull cord to make sure Jib sail is 7mm above top of Jib Boom, then tie cord to silicone ring “SR1” on Jib Boom. Slide SR1 position to maintain the 7mm gap above Jib Boom.

3. Hook the eye in the Jib Clew (bottom rear corner) onto the Jib Clew Hook. the two rings SR5 and SR6 are used as a clamp to prevent Jib Clew Hook sliding. You can adjust the shape of the Jib sail foot by moving the ring positions.

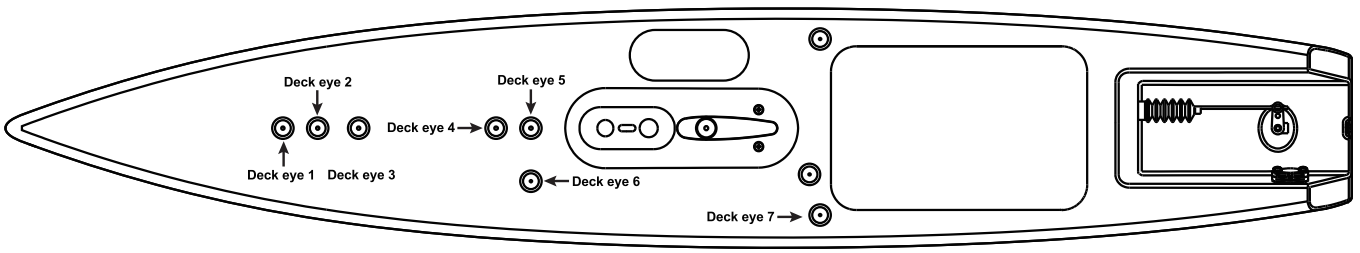
4. Cut a length of Dyneema cord at around 300mm, tie a 20mm loop in one end, hook the loop over Deck Eye 3 (Deck Eye 3 is already converted into a hook), thread the cord forward through Deck Eyes 1 & 2 and then wrap it around the jib boom three times between “SR2” and “SR3”, adjust the gap between the underside of the Jib Boom and the top of Deck Eye 1 to approximately 10mm and tie the loose around the cord below the Jib Boom and make sure the knot is secure. This arrangement allows rigs to be changed quickly and easily by unhooking from Deck Eye 3 with no bowsie adjustments necessary.

5. At the top of the Jib, thread the Forestay Cord through a bowsie’s two holes in proper order, then through eyelet in the Forestay Fitting and then tie back to end eyelet of the bowsie. (Tip: ensure the bowsie is closer to forestay fitting when tied to give greater room for tension adjustment).

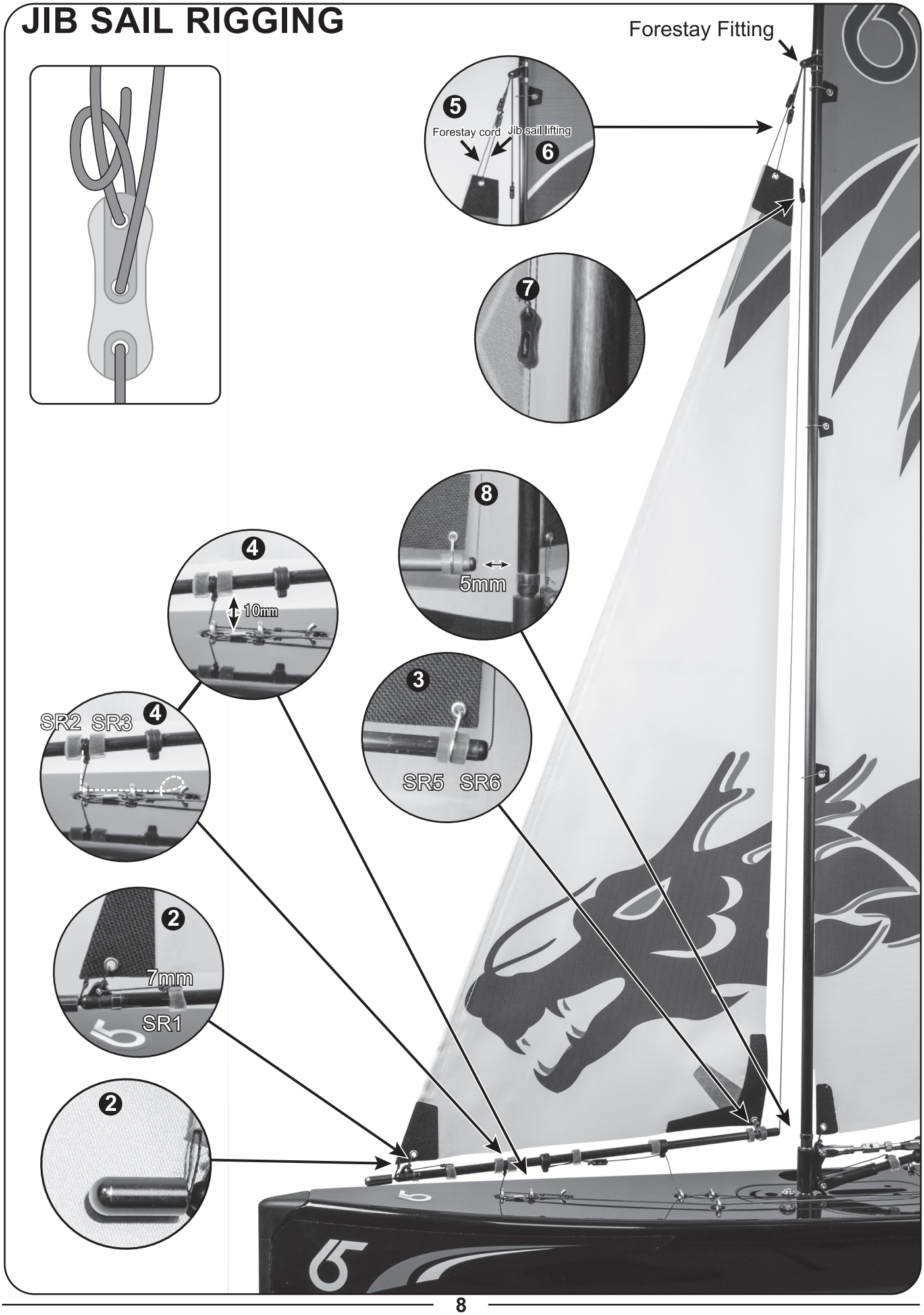
6. Cut a length of Dyneema cord at around 200mm, attach it to eyelet in top of Jib sail, thread the other end of the cord through a bowsie’s two holes in proper order, then through eyelet in the Forestay Fitting and then tie back to end eyelet of the bowsie. (Tip: ensure the bowsie is closer to forestay fitting when tied to give greater room for tension adjustment). This cord is Jib Sail Lifting.

7. Use Jib Boom Lifting Cord to thread through a bowsie’s two holes in proper order, then through eyelet in Forestay Fitting, attach cord to end eyelet of bowsie.

8. Tension all three cord bowsies (Forestay Cord, Jib Sail Lifting Cord and Jib Boom Lifting Cord), then adjust SR2 and SR3’s position on jib boom so that Jib Boom rear end is around 5mm distance to mast.

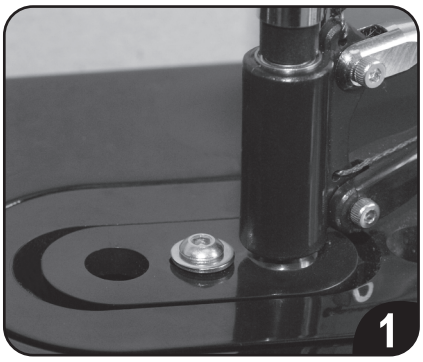


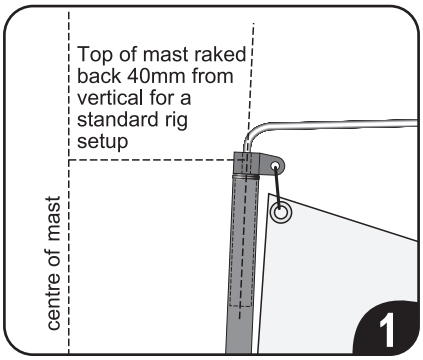
JIB SAIL RIGGING

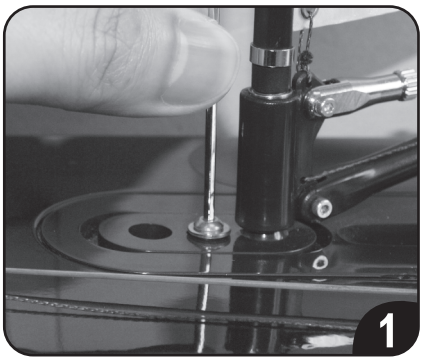


MAST, JIB SAIL, MAIN SAIL ADJUSTMENT

1. Sliding Mast Mount is pre-set in factory as shown in photo. This setting will ensure top of Mast is raked back around 40mm from vertical line for a standard rig setup when Backstay and Forestay Cords are pulled tight. To adjust mast rake for different wind conditions, loosen Sliding Mast Mount with 2mm Allen Key (provided), adjust length of Forestay and Backstay Cords using bowsies and then tighten Sliding Mast Mount.
2. Adjust Backstay Cord bowsie and Forestay Cord bowsie to apply a reasonable amout of tension into both.
3. Adjust SR1 position on Main and Jib Boom to lightly tension front edges of Jib and Mainsail. Adjust metal compression strut so that the back edge of the Mainsail is not tight and has a small amount of twist. Adjust Jib Sail Lifting cord bowsie to allow a small amount of twist in the back edge of the JIb Sail.
4. Normally, in strong wind, move SR3 and SR4 position on the Main Boom and SR5 and SR6 position on the Jib Boom towards the back end of the booms to flatten the foot (bottom edge) curve of both sails. In lighter winds move them forward to put some curve into the foot to a maximum of 20mm from the boom centres. Through experience and experimentation you will learn how to adjust all rig controls to suit the wind conditions.

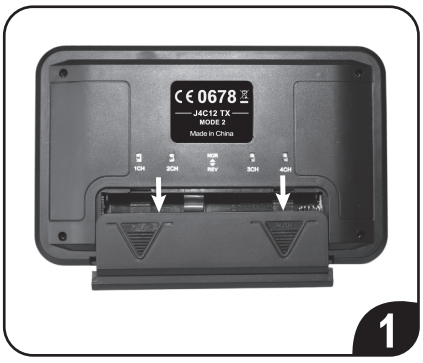


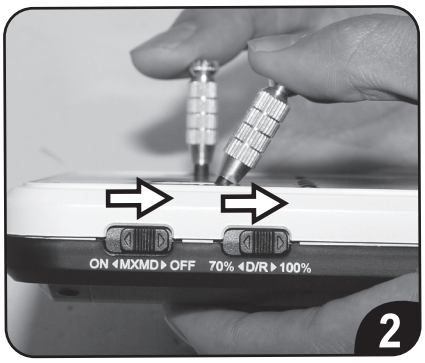


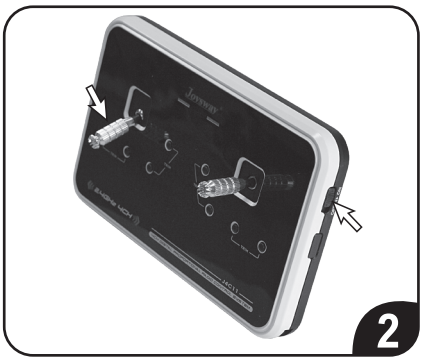


MAIN BOOM & JIB BOOM RIGGING

1. Slide off the battery door on the back of the transmitter.Install 4 fresh “AA” alkaline batteries into the transmitter in the configuration molded into the battery compartment. Re-install the battery door onto the back of the transmitter.
2. Push down the sail control stick (Left stick) till the end as shown. Before turning on the transmitter, make sure MXMD button is on “OFF” position, Dual RATE is on “100%” position, Then turn the transmitter on using the switch on the right side **IMPORTANT NOTE:** After switching on the transmitter, power indicator light will flash, push up throttle stick (Left stick) to the top end then push it down to the lowest position again, power indicator light is now solid, meaning the transmitter is now activated.



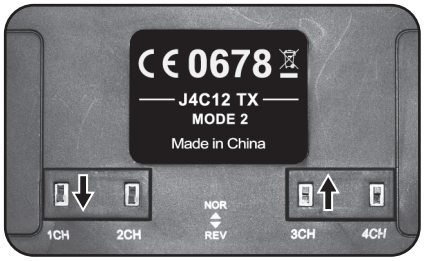




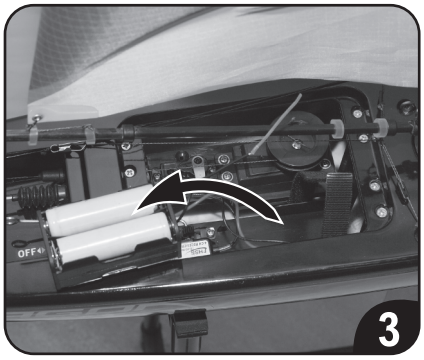
TRANSMITTER RUDDER & THROTTLE REVERSE SWITCH POSITION

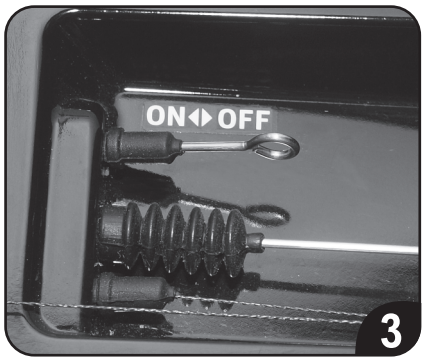
Please note that 1CH (rudder) reverse switch should be on bottom position as factory pre-set.

Please note that 3CH (throttle) reverse switch should be on top position as factory pre-set.



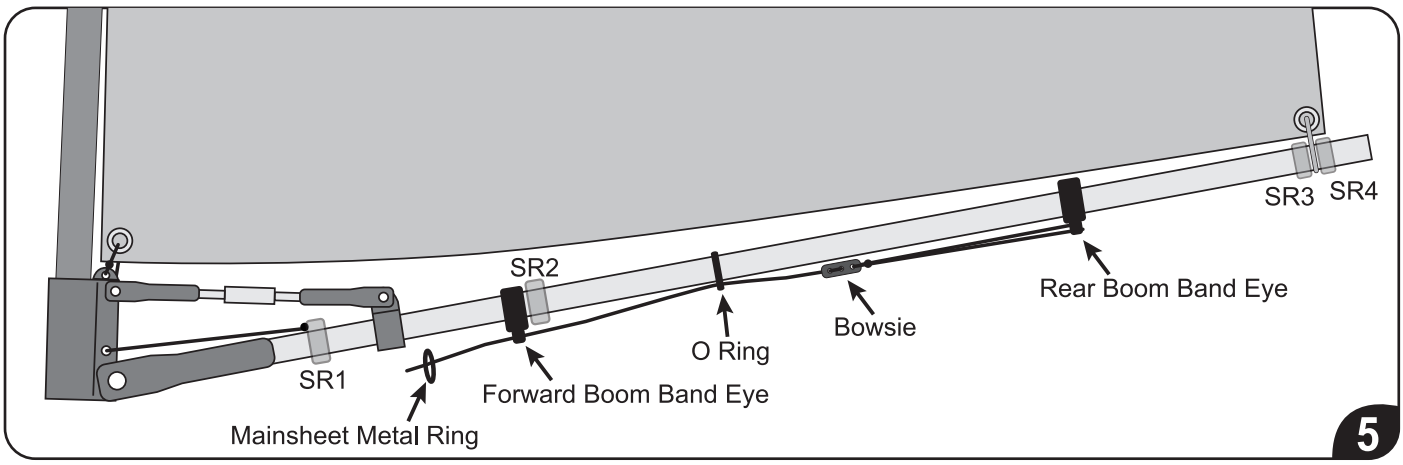
3. Take the battery box for receiver out from the plastic servo tray inside the hull, install 4 fresh “AA” alkaline batteries into the battery box. Replace the battery box on the plastic servo tray and use Velco strap to tie battery box securely in place. Push in Switch rod to switch on receiver.

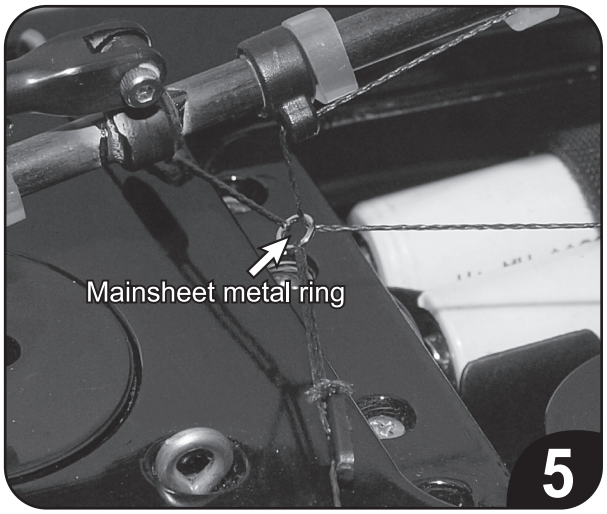


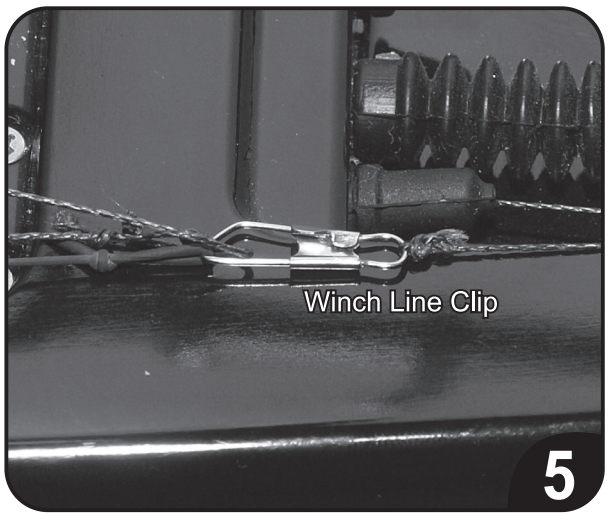


4. On the transmitter, move the sail control stick (left stick) all the way down, the sail winch servo will reel in the winch line so that the metal clip will be near the back of the boat. Then swith off the receiver and then transmitter.
Note: If the winch line clip moves forward when the sail control stick is moved down, you will need to reverse the 3CH switch on the transmitter

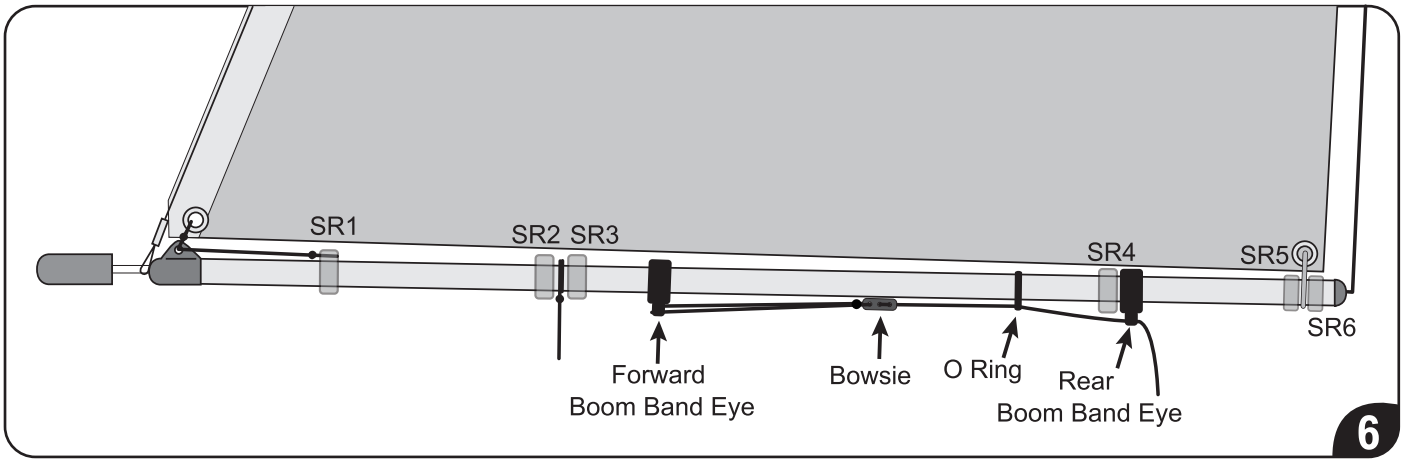
5. Cut a length of Dyneema cord at around 700mm. Tie one end to an end eyelet of a bowsie, thread the other end of the cord through rear Boom Band Eye on MAIN BOOM as shown, then through bowsie’s two holes in proper order (tips: bowsie closer to Boom Band Eye for easy adjustment), then through O ring on main boom, then through forward Boom Band Eye, through mainsheet metal ring. Pull Main Boom into centreline of boat and attach end of cord to metal winch line clip by tying a loop in the cord end. Adjust bowsie position on Main Boom so that the boom is just off the centreline of boat (when viewed from the stern, the Main Boom should be pointing approximately at the corner of the boat) when the winch is fully pulled in.

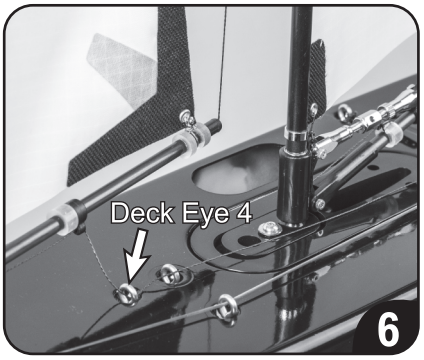


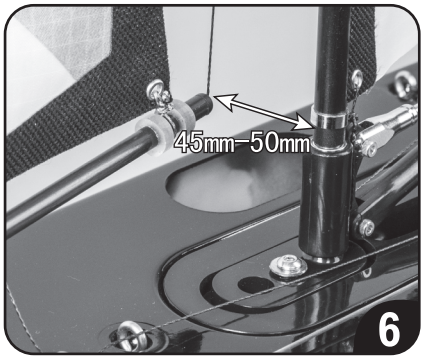




6. Cut a length of Dyneema cord at around 700mm. Tie one end to an end eyelet of a bowsie, thread the other end of the cord through forward Boom Band Eye on JIB BOOM as shown, then through bowsie's two holes in proper order (tip: position bowsie closer to forward Boom Band Eye for easy adjustment), then through O Ring on Jib Boom, then through rear Boom Band Eye, through Deck Eye 4, then take to rear of boat under the Mainsheet Rope Bridle and around metal Winch Line Clip. When rear end of Jib Boom is 45-50mm from centreline of boat, mark the position of cord as it passes through the metal clip, remove and tie a loop. Attach this loop to the metal clip and adjust bowsie on Jib Boom to check the rear end of boom is 45-50mm from centreline when sail control stick is fully down.

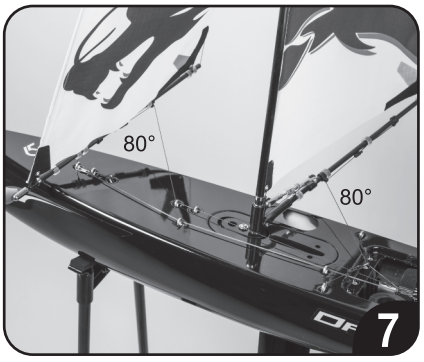


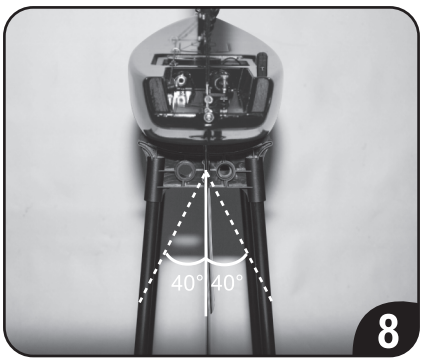




7. Switch on transmitter and push in Switch rod on deck. If transmitter power indicator light flashes, push up throttle stick to the top end, then push down to the lowest end again, transmitter power indicator light should now be solidly on, now transmitter is activated. Push up sail control stick (Left stick), sail winch servo will loosen all cords out, move Mainsail and Jibsail out to the maximum angle, Mainsail and Jib should travel out to an angle of about 80°, if not, adjust boom band eye and SR2 position on MAIN BOOM to adjust its traveling angle. Adjust boom band eye and SR4 position on JIB BOOM to adjust its traveling angle.

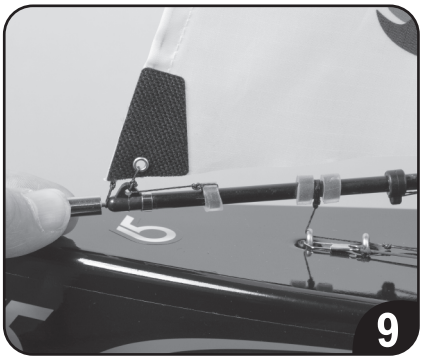
8. Move Rudder Control Stick (right stick) left and right. When looking from behind, the rudder should move to the left when stick is moved to the left, if not, reverse 1CH swith on transmitter. When Rudder Control Stick is centered the Rudder blade should be parallel to the boat's centreline. If not, loosen and adjust the linkage on the Steering Arm. Fine tuning of the rudder centering can then be made with the right hand pair of Trim buttons on the transmitter

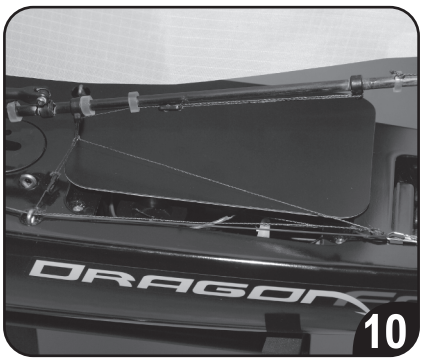




9. Rotate Counterweight on front of the Jib Boom in a clockwise direction, adjust counterweight position, to make sure Jib Boom rests horizontally when boat is held on its side. The Jib Boom is then 'balanced'.

10. Turn off transmitter and power switch on deck, check all the cord knots are tight (for added security the knots can be fixed with a small drop of cyano glue), then apply cloth deck patch over deck hatch and beside fin box position. It can be re-used many times. The hole beside fin box is for end user who want to use a smaller, lighter battery pack for competition. A smaller battery pack could then be fixed by Velcro to the side of the finbox. This also helps the overall weight distribution of the boat by keeping the heavier items close to the centre of the boat.

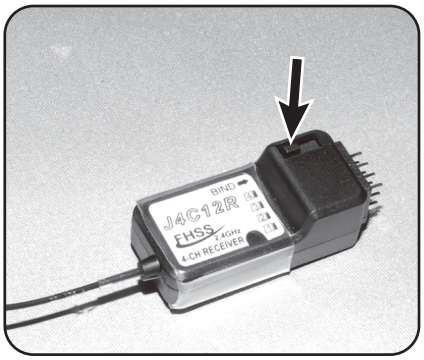




TRANSMITTER/RECEIVER BINDING

The binding process effectively ties the J4C12 transmitter and J4C12R receiver together. Under normal circumstances, both items are supplied pre-bound from the factory. If, however, you find that your transmitter and receiver are not bound (receiver's red LED will be illuminated), you should do the following:

1. Push down transmitter throttle stick (Left stick, MODE 2) to the end, make sure DUAL RATE switch is on "100%" position, MXMD button is on "OFF" position, then switch "ON" the transmitter. Transmitter power indicator light will flash, push up throttle stick to the top end then push down throttle stick to the lowest position again, power indicator light is solid, meaning transmitter is now activated and functional.
2. Switch "ON" the receiver by switching "ON" the battery box power button.
3. Press down the "BIND" button on the receiver as shown, until the receiver's red LED flashes then let go, the receiver's green LED will be on to indicate that binding has been successful and the receiver will now accept commands from the transmitter.



Note 1: You would also need to carry out the binding process if you were to replace the supplied receiver with another J4C12R receiver.

Note 2: Typically, for the binding process to be effective, transmitter and receiver should be no more than one meter apart and no other similar devices should be within 10 meters of both during setup.

PREPARATIONS FOR SAILING

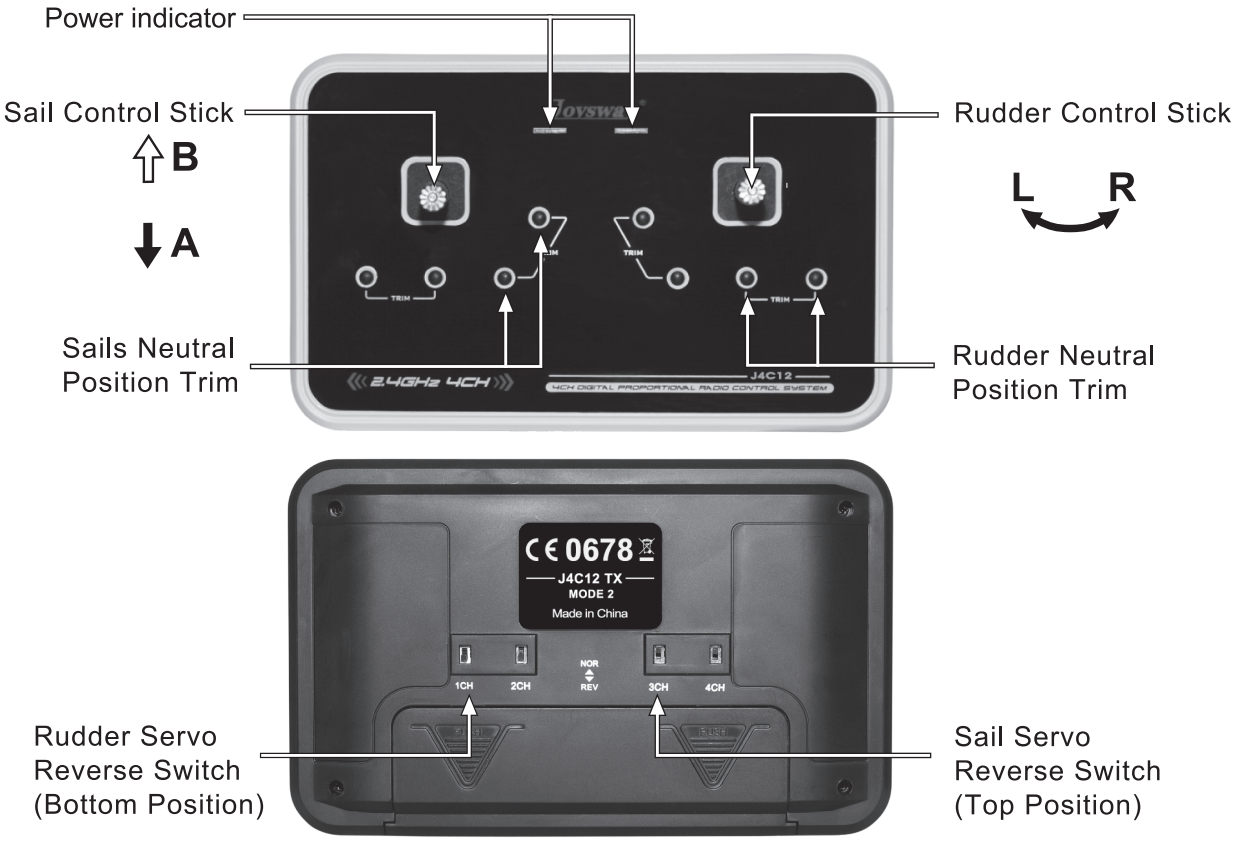
Before sailing your Dragon Force for the first time, take note of the following:

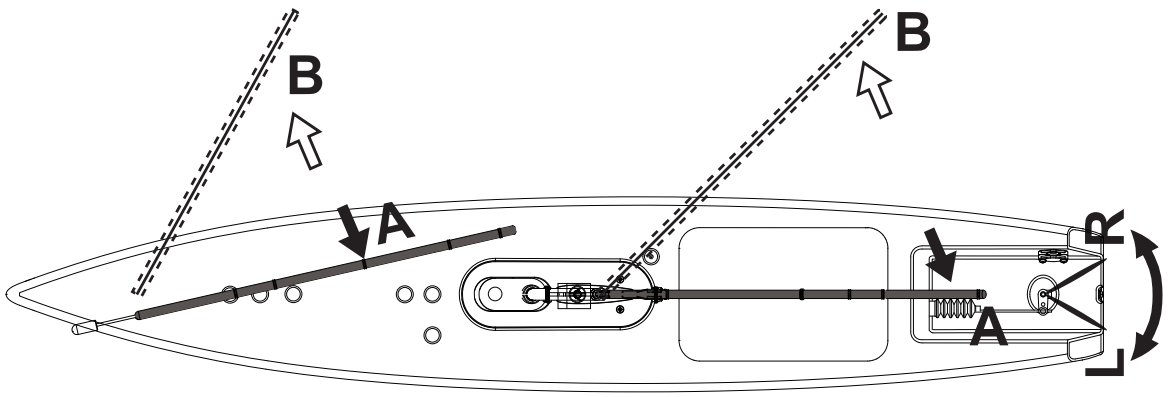
1. Always turn the transmitter on before the receiver, likewise, turn the receiver off before the transmitter. Please do remember to switch off MXMD button on the left side of transmitter. Switch DUAL RATE button to 100%.

2. Check that each sail, rigging rings and fitting is properly installed and adjusted

Following these procedures to check the radio and sailboat's function:

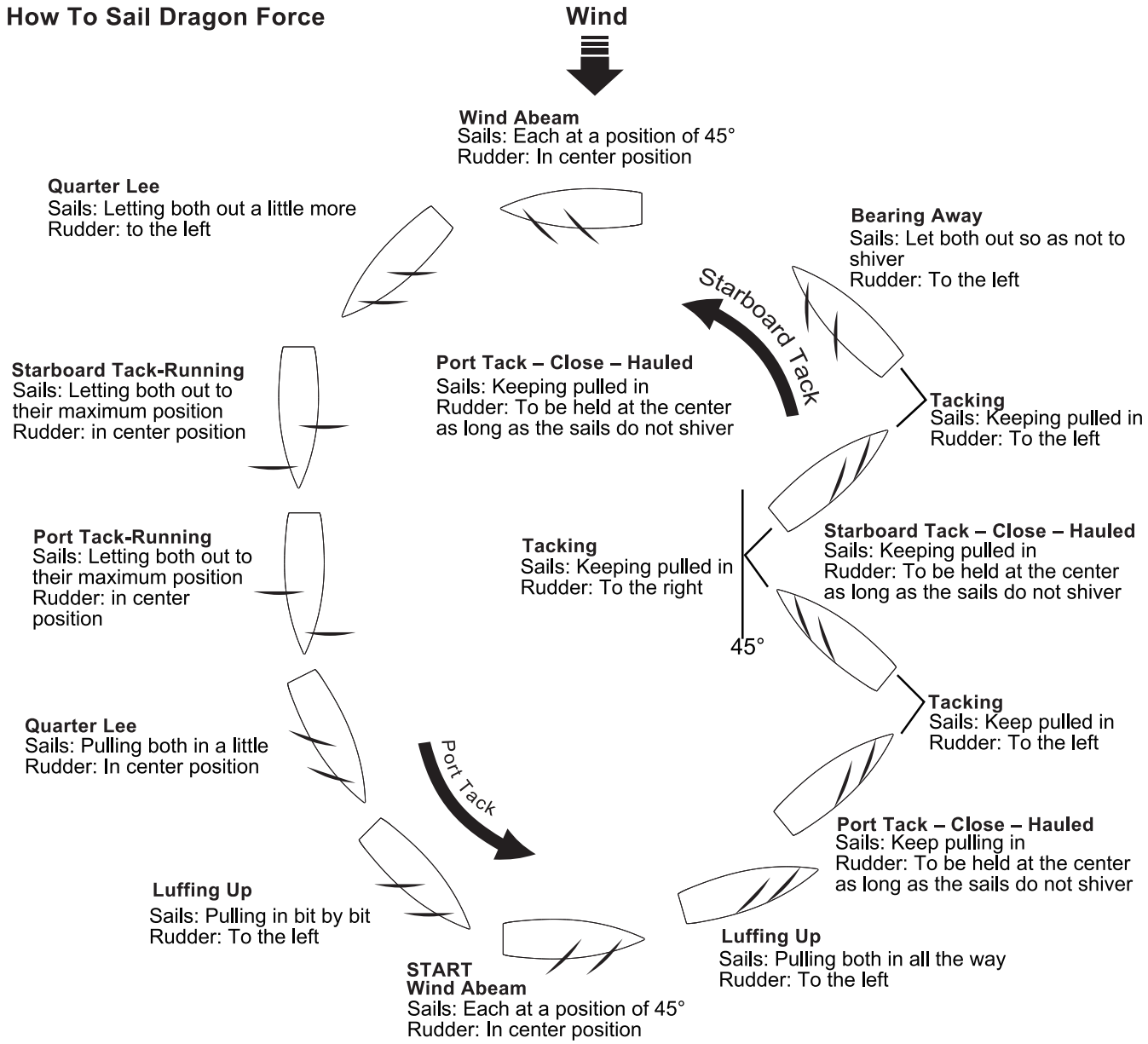
1. Dragon Force is supplied with 2.4GHz 4CH radio system. For sailing the Dragon Force, you will only need 2CH. Please see following function of the transmitter.
2. For Sail Control Stick, when stick is in position A, the Main Boom and Jib Boom should be in position A as shown. When stick is in position B, the Main Boom and Jib Boom should be in position B as shown. If this is not the case, simply move the sail servo reverse switch to the other position. You may also adjust the sail servo neutral position by pressing the sail neutral position trim button up or down.
3. For rudder control stick, the rudder turns left when the rudder control stick is pushed to the left. Rudder turns right when rudder control stick is pushed to the right. If this is not the case, simply move the rudder servo reverse switch to the other position. You may also adjust the rudder servo neutral by pressing the rudder neutral position trim button left or right.





SAILING THE DRAGON FORCE SAILBOAT

Unlike propeller driven boats that you basically point and accelerate, sailboats present an interesting challenge. Sailing requires constant reaction to water movements, any wind gusts, and any wind direction changes. These reactions then require adjustment of the rudder and sails in order to find the best possible course. There is no substitute for actual " on-the-water" experience and after your first couple of outings you may want to read through this manual again in order to help you to gain a better understanding of the "art" of sailing. While learning to sail, it is a good idea to pick up on as much sailing terminology as possible. This will make it easier to grasp some aspects.



IMPORTANT NOTICE:

1. Sail your Dragon Force only in still bodies of water. Never sail your boat in running water such as streams or rivers, as it is easy to lose control of your boat.

2. Never attempt to swim after a stalled or stuck boat! Wait patiently for the wind currents to return the boat to shore.

3. After sailing, remove the deck patch and allow the interior of the boat to dry out completely. If you neglect to do this, it may result in corrosion of the electronic components. After sailing in salt water, rinse the boat carefully with fresh water, especially the bearings around the mast in the front part of the Main Boom.

SPARE PART LIST

To order Dragon Force spare parts, use the part numbers in the spare parts list that follows.

PART NO.	DESCRIPTION
880502	Standard keel with screws
880503	rudder
880504	550g standard ballast
880505	fin box and mast fitting
880509	Front bumper (pk2)
880510	Sheeting pulley block
880511	1m Sheeting elastic
880514	9g metal gear rudder servo
880515	Transmitter and receiver set
880516	receiver
880518	5m dyneema cord
880519	winch line rubber cap (pk2)
880522	mast set for "B" rigging w/ 4pcs protection metal ring
880523	mast set for "C" rigging w/ 4pcs protection metal ring
880524	standard sails set
880529	masthead fitting
880531	6cm silicone tube
880532	deck eyes (pk10)
880534	240mm Keel with screws
880535	Aluminum alloy rudder arm set
880536	Rubber bung (PK4)
880537	Jib boom counterbalance weight (PK4)
880539	"B" sails set (plain white color)
880540	"C" sails set (plain white color)
880542	Plastic molded boat stand
880544	pushrod with rubber bellow
880545	2014 version winch servo set
880549	Standard mast set w/ 4pcs protection metal ring
880550	protection metal ring for Jib Boom (PK5)
880551	protection metal ring for Mast (PK10)
880552	Battery box for receiver
880553	Radio set transmitter sticks(PK4)
880554	Mast fitting tube
880555	2015 version Hull with white color painting
880556	2015 version Mainsheet metal ring (pk2)
880557	2015 version Deck and battery Cloth patch(pk4)
880558	Switch rod w/ rubber bellow & switch connector set
880559	Cord attachment clip (PK2)
880560	Standard "A" sails set (plain white color)
880563	DF65 V5 Complete "B" Rig Assembly (No Sails)
880564	DF65 V5 Complete "C" Rig Assembly (No Sails)
880565	DF65 V5 Pear shaped mainsail luff rings (pk10)
880566	DF65 V5 Metal kicker assembly
880567	DF65 V5 Main boom Metal kicker assembly & fittings
880568	DF65 V5 jib boom & fitting w/ 1pc protection metal ring
880569	DF65 V5 Sails clew hook(pk10)
880313	servo plastic tray
881210	bowsies (PK10)

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PLEASE KEEP THIS INFORMATION FOR FUTURE REFERENCE

FCC REQUIREMENT

FC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifi cations to this product not expressly approved by the party responsible forcompliance may void the user's authority to operate the equipment.

For more information about the boat and the Dragonforce Racing Class visit

www.dragonforce65.com