THUNDER TIGER

Volans

1-METER TRIMARAN



INTRUCTION MANUAL

WARRANTY

Thunder Tiger guarantees this model kit to be free from defects in both material and workmanship. The total monetary value under warranty will in no case exceed the cost of the original kit purchased. This warranty does not cover any components damaged by use or modification. Part or parts missing from this kit must be reported within 60 days of purchase. No part or parts will be sent under warranty without proof of purchase.
To receive part or parts under warranty, the service center must receive a proof of purchase and/or the defective part or parts. Should you find a defective or missing part, contact the authorized Thunder Tiger Service/Distributor nearest you.

WARNING

The 1 meter trimaran, Volans, its parts and its construction tools can be deadly weapons . Always exercise extreme caution when using this product. Improper operations may cause personal and/or property damage. Thunder Tiger and its distributor have no control over damages resulting from shipping, improper construc - tion, or improper usage.
Thunder Tiger assumes and accepts no responsibility for personal and/or property damages resulting from the use of improper building materials, equipment, and opera - tions. By the act of assembling this product, the user accepts all resulting liability. If the buyer is not prepared to accept this liability , then he/she should return this kit in new , unassembled, and unused condition to the place of purchase.

Notice

This is not a toy. Assembly and operating of this boat requires adult supervision.

No.5548

Introduction

Thank you for your purchase of the Thunder Tiger Volans, the 1M Trimaran. This yacht is both good for indoor display and outdoor sailing. With proper care taken during assembly, the Volans will provide you a good performance and long service life.
Please contact Thunder Tiger authoized distributor for tech support or customer service if you encounter any problem during the assembly.
Enjoy the sailing fun with Thunder Tiger Volans.

Items Required for Assembly

Radio

ACE JAGUAR 2 CH Radio is highly recommended(No.8216).

Features:



- AM Digital Proportional Control
- Available in 2 ch
- Unique Ergonomically Transmitter Design
- Servo Reversing
- CH1 & CH2 Trims
- Adjustable Netural Position for Throttle
- LED Battery Level Indicator Light w/Low Power Flashing
- Easy Access Crystal
- External Charging Jack for Rechargable Battery

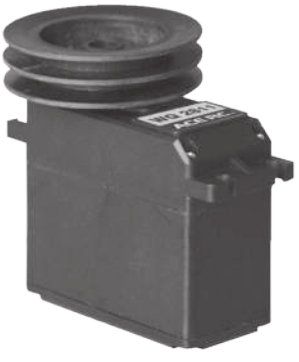


No.8216

Winch Servo

Introduction of Thunder Tiger Sail Winch Servo. This servo is specially design for 1M Yacht that torque is up to 11kg-cm, the speed is at 0.28sec/60 and max. rotation at 2 turns (720°). Standard quarter size with water proof seal between cases. All plastic gears. Comes with drum and mounting hardware.
Fits to most sailing yachts in the market.

Specifications:
Length: 58mm
Width: 28mm
Height: 52mm
Weight: 120g
Speed: 0.28s/60°
Torque: 9.5kg-cm at 4.8V 11kg-cm at 6V



No.8141

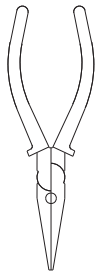
Battery

AcePower NiMH 3600mAh 4.8V Battery Pack is recommended. High capacity for long time use and perfect fit in the hull radio compartment.

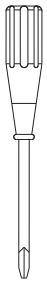


No.2980

Tools Required for Assembly



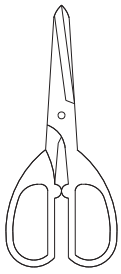
Needle Nose Pliers



Phillips Screwdrivers Med & Small



Hobby Knife



Scissors



CA Instant Glue



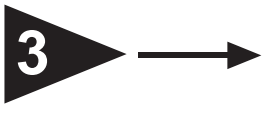
Drill Bit
3/64" , 1.2mm
5/64", 2mm
3/32", 2.5mm
1/8", 3mm
5/32", 4mm

- Sandpaper (#400 grit)
- Rubbing Alcohol

Before Assembly

- Read all directions thoroughly before assembly.
- Check the parts against the parts drawing on page 3-4.
- When mixing epoxy, apply equal volume from two bottles.
- When tighten screws, be sure not to overtighten, as the metal thread will strip out or damage the plywood, plastic or Aluminum.

In each step, the needed parts are shown the number right below. Locate all parts for the step.



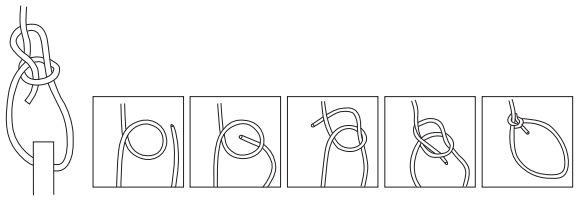
Sequence of the step

Display Stand Assembly → The section will be assembled in the step.

44 80 81 → Refer to the parts listing and locate the needed parts.

Clear a place on your workbench or table, and let's begin.

Some Basic Knots



Bowline Knot

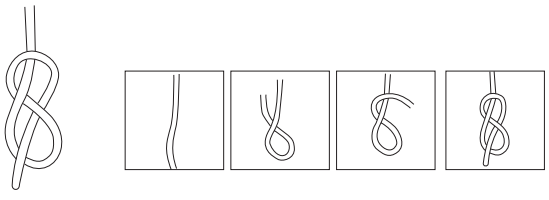
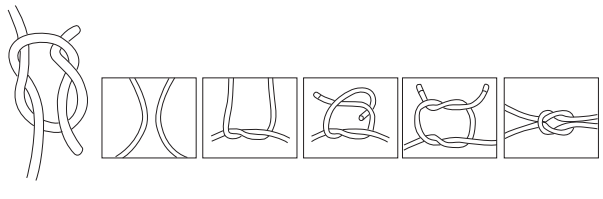


Figure Eight Knot



Reef Knot

SCALE 1:1

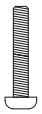

9 M4 Locknut (6)


10 M3 Locknut (8)


11 M2 Nut (9)


12 Ball (2)


13 Pin (1)


14 2x12mm Screw (9)


15 3x4mm Setscrew (1)

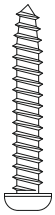

1 4x32mm Screw (1)


2 4x15mm Hex Screw (6)


3 4x20mm Socket Screw (4)


4 3x30mm Socket Screw (4)


5 3x28mm Socket Screw (4)


6 3x25mm Wood Screw (2)


7 3x10mm Wood Screw (28)


83 Threaded Washer (6)


8 2x8mm Wood Screw (23)


16 Ball End (2)

17 Tie Rod (1)


18 Line Guide A (2)


19 Line Guide B (2)


20 Keel Tube (1)


21 Rudder Tube (1)


22 End Cap A (2)

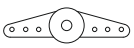

23 End Cap B (2)


24 Rubber Boot (2)


25 Rubber Plug (3)


26 Rudder Pushrod (2)


27 Clevis (2)

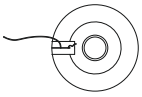

28 Steering Arm (1)

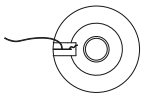

29 Rudder (1)


30 Keel (1)

31 O Ring (2)


32 PE String (1)


33 White String (1)

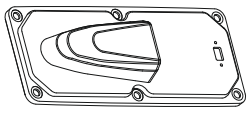

34 Black String (1)


35 Brace FL (1)


36 Brace FR (1)


37 Brace RL (1)


38 Brace RR (1)


39 Cabin (1)

40 Grommet (6)

41 Silicon Tube (1)

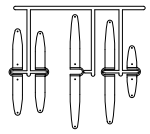
42 Side Hull (2)

43 Cross Beam (2)

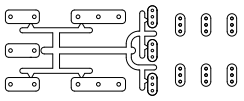
44 Centre Hull (1)

45 Cross Beam Mount (2)

46 Hand Nut (6)

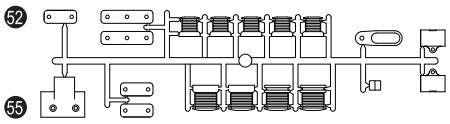


47 48 49 50 51
Spreader (1 of each)

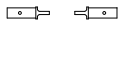


52 53 54
Chain Plate (1-hole, 6) (2-hole, 2)
Adjuster (9)

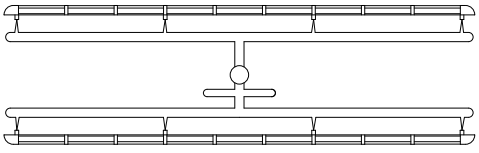
57 Tie Rod Base (1)



52 55 56 58 59
Boom Joiner (1)
Winch (2)
Wire Base (1)
Slider (2)



60
Jib Boom End (2)



61 Railing (2)



62 63
Main Boom End (1 of each)



64 Jib Boom (1)



65 Main Boom (1)



66 Swivel (11)

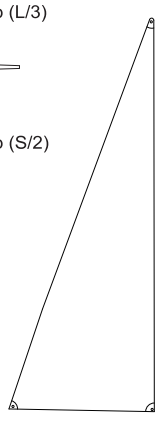
67 Servo Disk Cover (1)

68 Standoff (2)

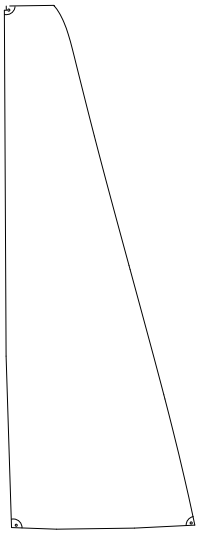


69 PVC Strip (L/3)

70 PVC Strip (S/2)



71 Jib Sail (1)



72 Main Sail (1)



73 Mast A (1)



74 Mast B (1)

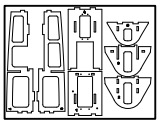


75 Mast Joiner (1)



76 Head Crane (1)

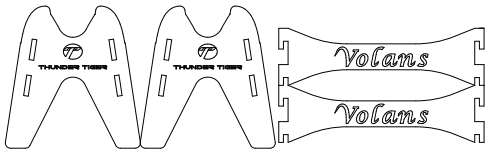
77 Wire (1)



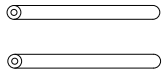
78 Servo Tray (1)



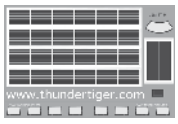
79 Bulkhead (1)



80 Stand (1)



81 Foam Tube (2)



82 Decal (1)

1

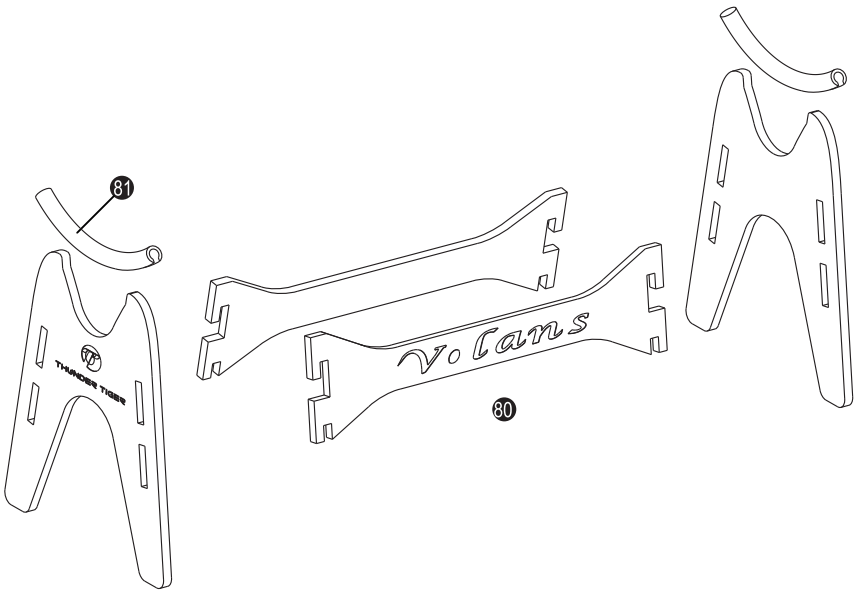
Display Stand Assembly

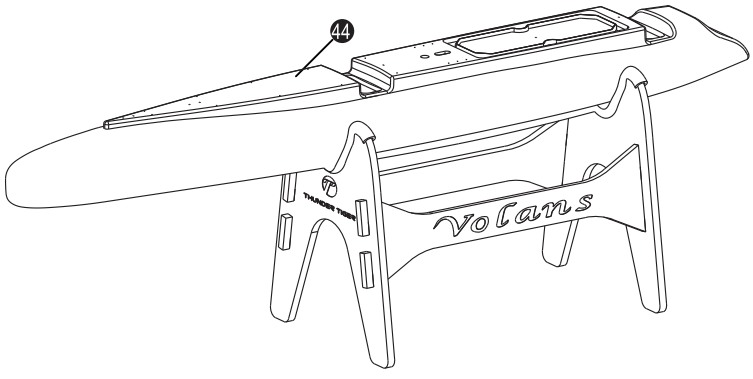
㊹ ㊽ ㊾

1. Locate the Display Stand ㊽ then assemble the stand as figure by inserting two beams to the supports.

2. Cut the black Foam Tube ㊾ so it can be installed on the hull support. This will protect the bottom hull from scratching during the construction and storage.

3. Place the Centre Hull ㊹ in the display stand and proceed the other assembly.





2

Centre Hull Assembly

❷ ❼ ❾ ⓲ ⓳ ⓴ ㉑
㉒ ㉓ ㉔ ㉕ ㊺ ㊸

1. Insert the Keel Tube ⓴ from the hull top and reach the hull bottom then epoxy the two End Caps ㉒ ㉓ in place. The small one is at the bottom and the big one is at the top.
Note: the end caps are working as waterproof and epoxy will help to fill the gap between cap and tube. However, do not leave any excess epoxy in the tube as it will be difficult to insert the keel shaft if there is any hardened epoxy.

2. Using the same way to install Rudder Tube ㉑ and the other two end caps in place then allow the epoxy to cure.

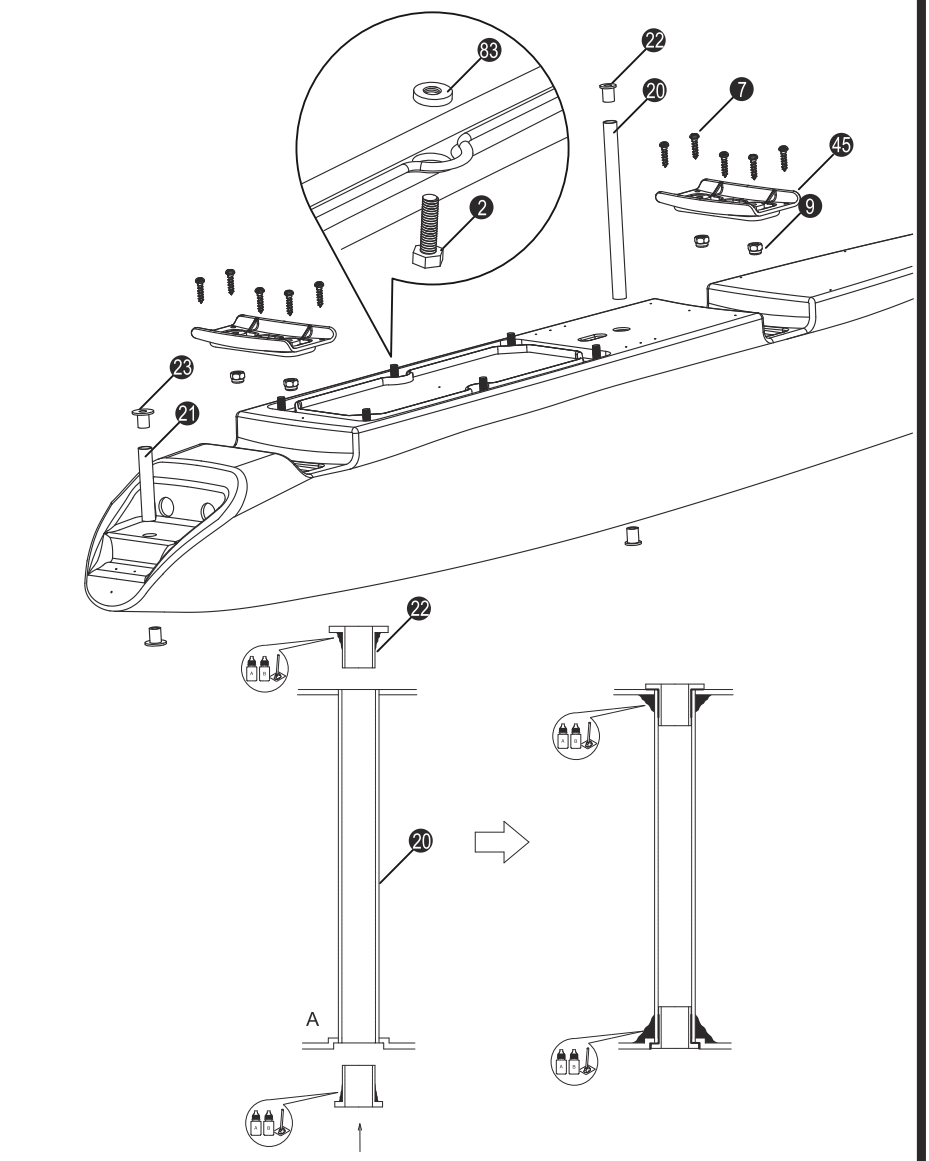
3. Thread the Hex Screw 4x15mm ❷ from inside of the hull then secure the hex screw in place firmly with the Threaded Washer ㊸. Do the same way on the other hex screws.

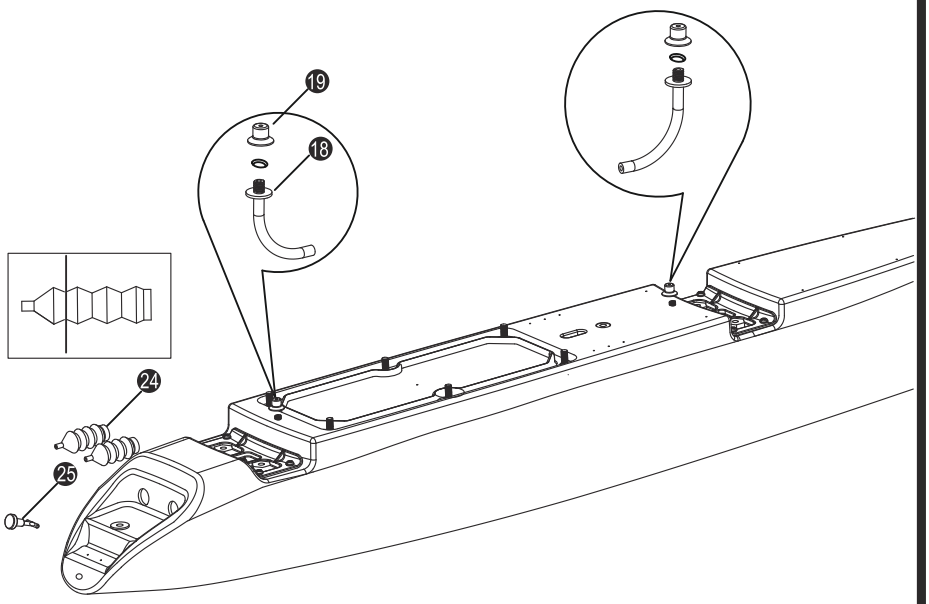
4. Locate the two Cross Beam Mounts ㊺, 3x10 Wood Screws ❼ and M4 Locknut ❾. Place the locknut in the mount then drill 2mm(5/64") pilot holes next secure it in place with wood screws. Do not over tighten the screws or it will strip the hull. Do the same procedure for the other cross beam mount.

5. Locate the two Rubber Boots ㉔ and insert them to the holes at the rear of centre hull. Note insert the boot all the way in to the last ring then apply CA to secure them in place. Make sure the boots are well glued or water will seep in.

6. Locate the Rubber Plug ㉕ and insert it to the water drain hole.

7. Drill 4mm(5/32") hole at the dot then install the Winch Line Guide ⓲ from the inside of the hull then secure the Line Guide Cap Screw ⓳ on the deck.
Do the same procedure for the other line guide as figure. Make sure two line guides are toward to the Winch Servo Drum. (see page 17) .





3

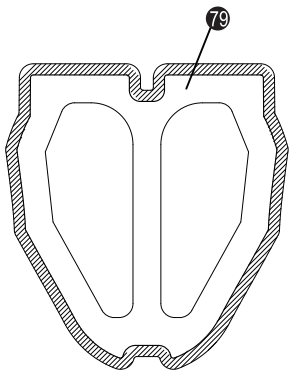
Keel and Rudder Assembly

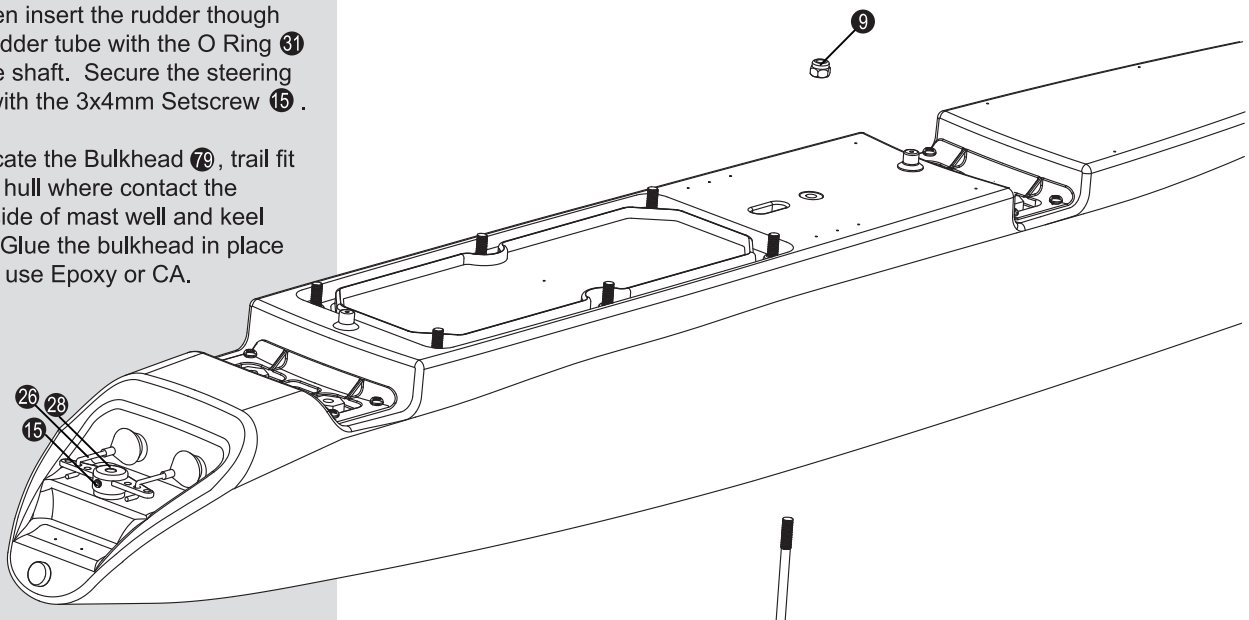
❾ ⓯ ㉖ ㉘ ㉙ ㉚ ㉛ ㊼

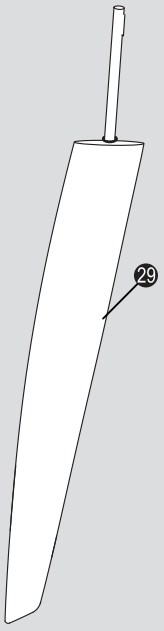
1. Apply the O Ring ㉛ onto the keel shaft then insert the Keel ㉚ through the keel tube. Secure the keel with M4 Locknut ❾ .

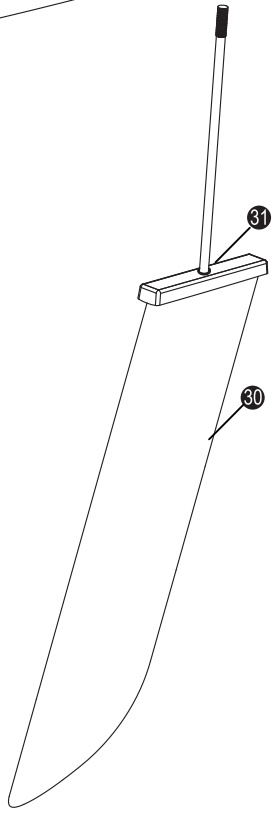
2. Insert the Pushrods ㉖ through the rubber boot and leave the Z bend end outside the hull. Install the pushrods on the Steering Arm ㉘ then insert the rudder though the rudder tube with the O Ring ㉛ on the shaft. Secure the steering arm with the 3x4mm Setscrew ⓯ .

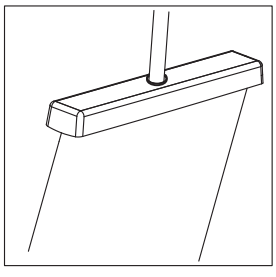
3. Locate the Bulkhead ㊼, trail fit in the hull where contact the backside of mast well and keel well. Glue the bulkhead in place either use Epoxy or CA.











4

Hull Fittings Assembly

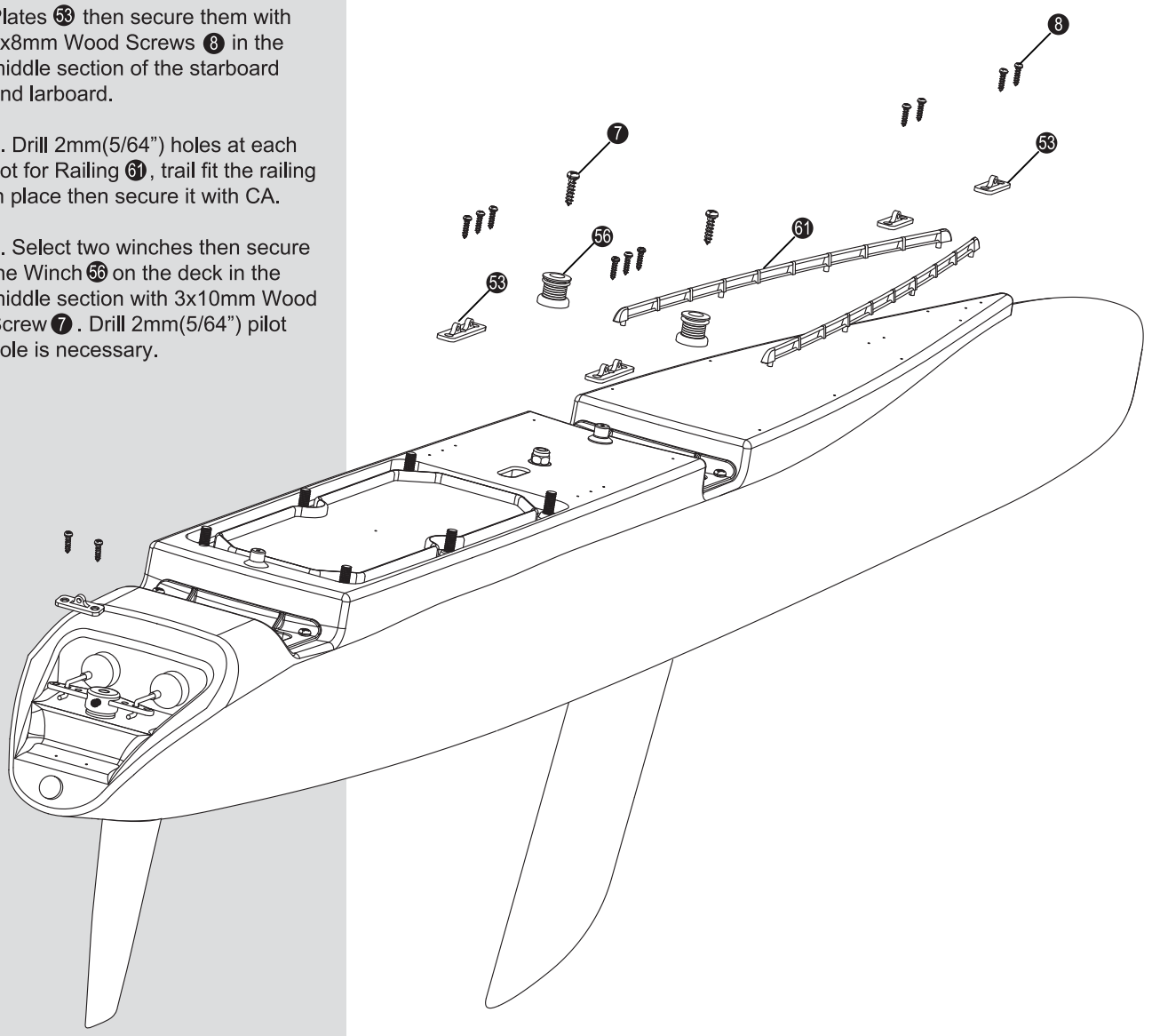
❼ ❽ ㊷ ㊸ ㊻ ㊶

1. Locate three one-hole Chain Plates ㊷ then secure them in place with 2x8mm Wood Screws ❽ , two at bow and one at stern. User may need to use 1mm (3/64”) drill bit to drill the pilot hole for securing the wood screws.

2. Locate two two-hole Chain Plates ㊸ then secure them with 2x8mm Wood Screws ❽ in the middle section of the starboard and larboard.

3. Drill 2mm(5/64”) holes at each dot for Railing ㊶, trail fit the railing in place then secure it with CA.

4. Select two winches then secure the Winch ㊻ on the deck in the middle section with 3x10mm Wood Screw ❼ . Drill 2mm(5/64”) pilot hole is necessary.



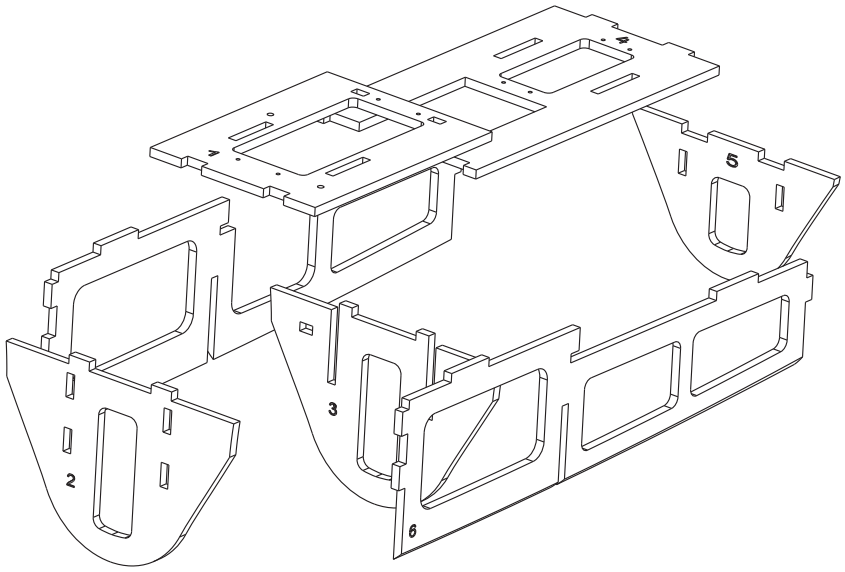
5

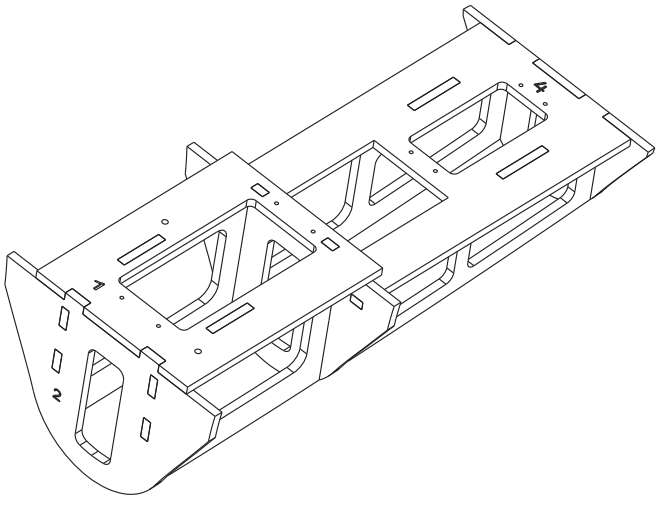
Servo Tray Assembly

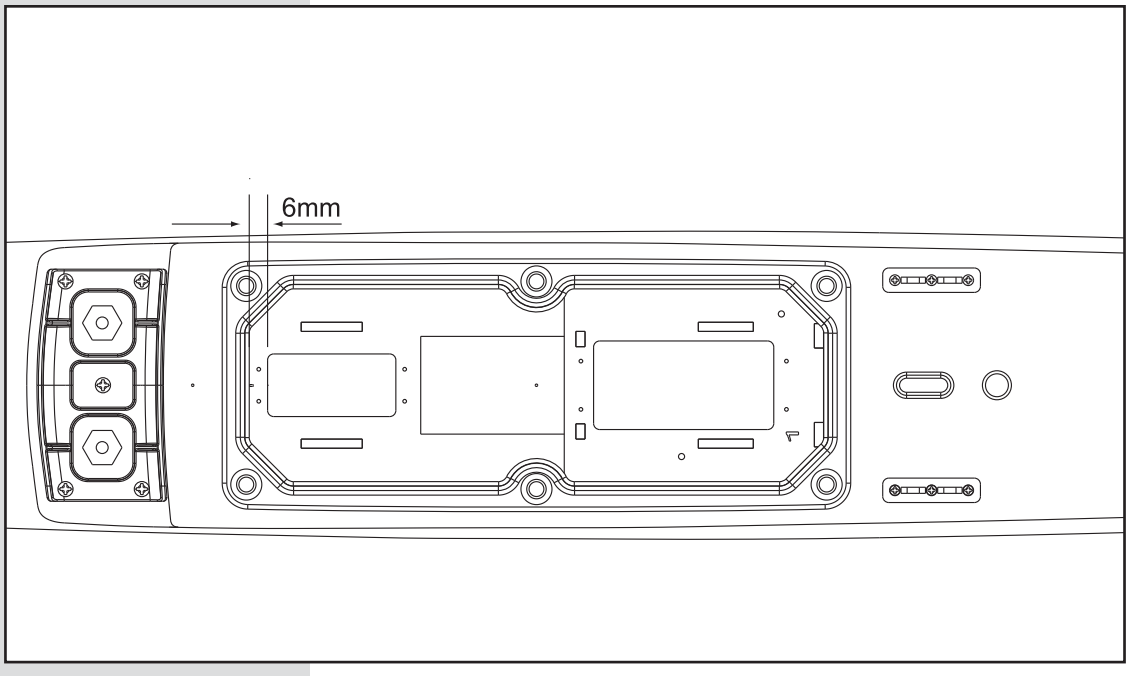
㉘

1. Locate the Servo Tray ㉘ plywood sheet, remove all pieces then assemble the servo tray as figure shown. Use thick CA to glue them securely.

2. Slightly sand the glue area inside the hull then apply thick CA to glue the servo tray in place. Note: the position will be about 6mm (1/4”) from the laser-cut line to the hatch opening if you see from the top vertically.





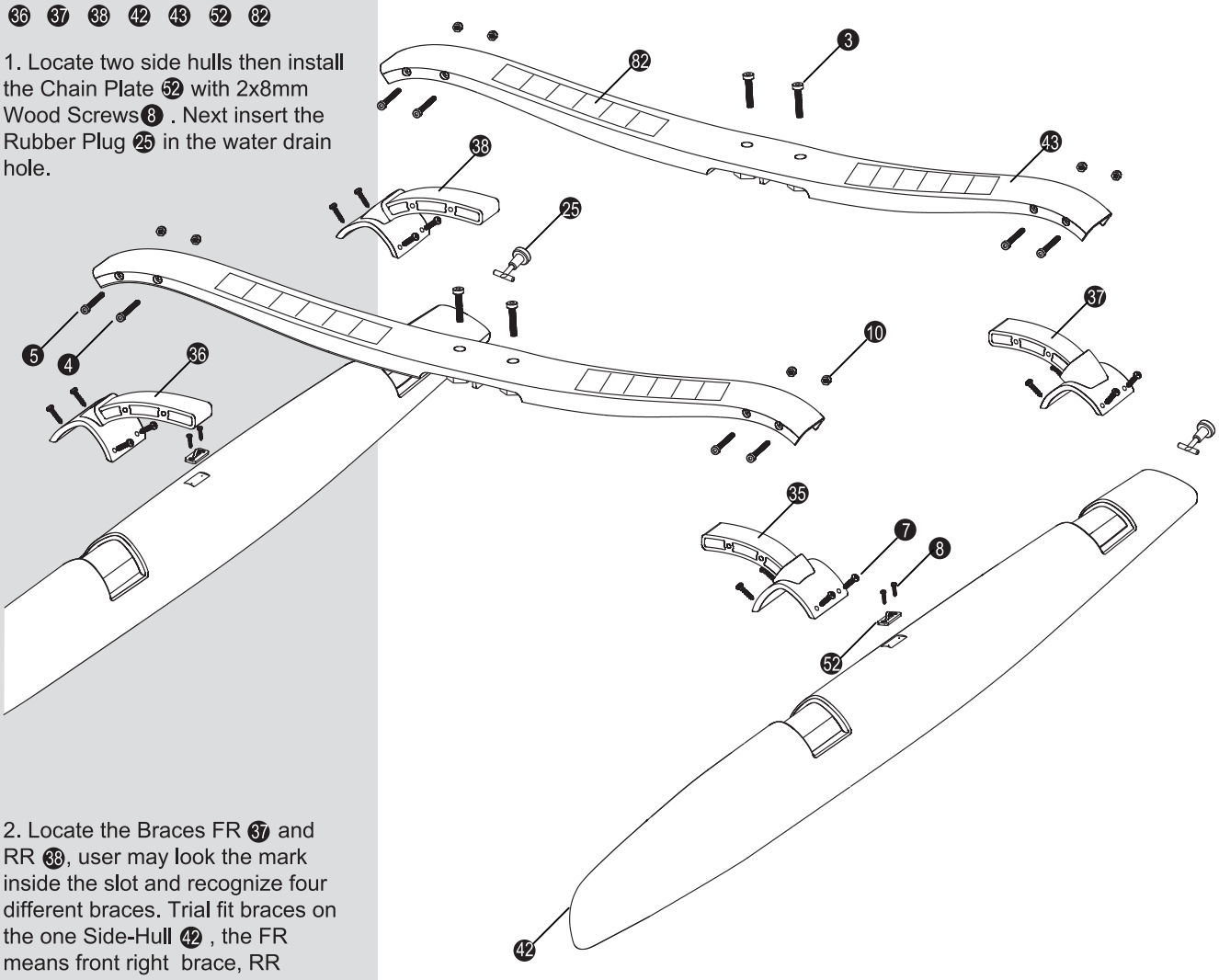


6

Side-Hull Installation

❸ ❹ ❺ ❼ ❽ ❿ ㉕ ㉟
㊱ ㊲ ㊳ ㊷ ㊸ ㊷ ㉜

1. Locate two side hulls then install the Chain Plate ㊷ with 2x8mm Wood Screws❽ . Next insert the Rubber Plug ㉕ in the water drain hole.



2. Locate the Braces FR ㊲ and RR ㊳, user may look the mark inside the slot and recognize four different braces. Trial fit braces on the one Side-Hull ㊷ , the FR means front right brace, RR means rear right brace. Make marks on the drill holes then drill 2mm (5/64”) holes. Secure the each brace with four 3 x10mm Wood Screws❼ .
Do the same procedure on the other side-hull with left braces.

3. Secure the side-hulls to the two Cross Beams ㊸ with 3x28mm❺ , 3x30mm❹ Socket Screws and M3 Locknuts ❿.

4. Apply decal ㉜ on the cross beam.

7

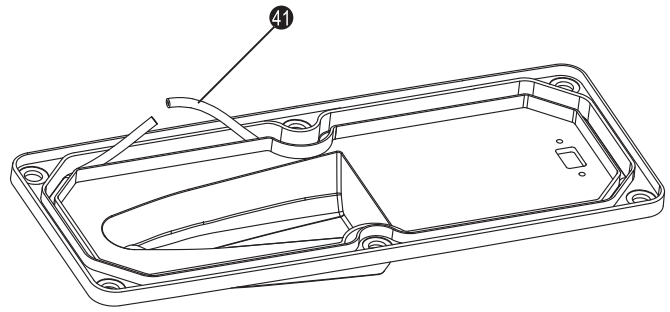
Cabin Hatch Cover Installation

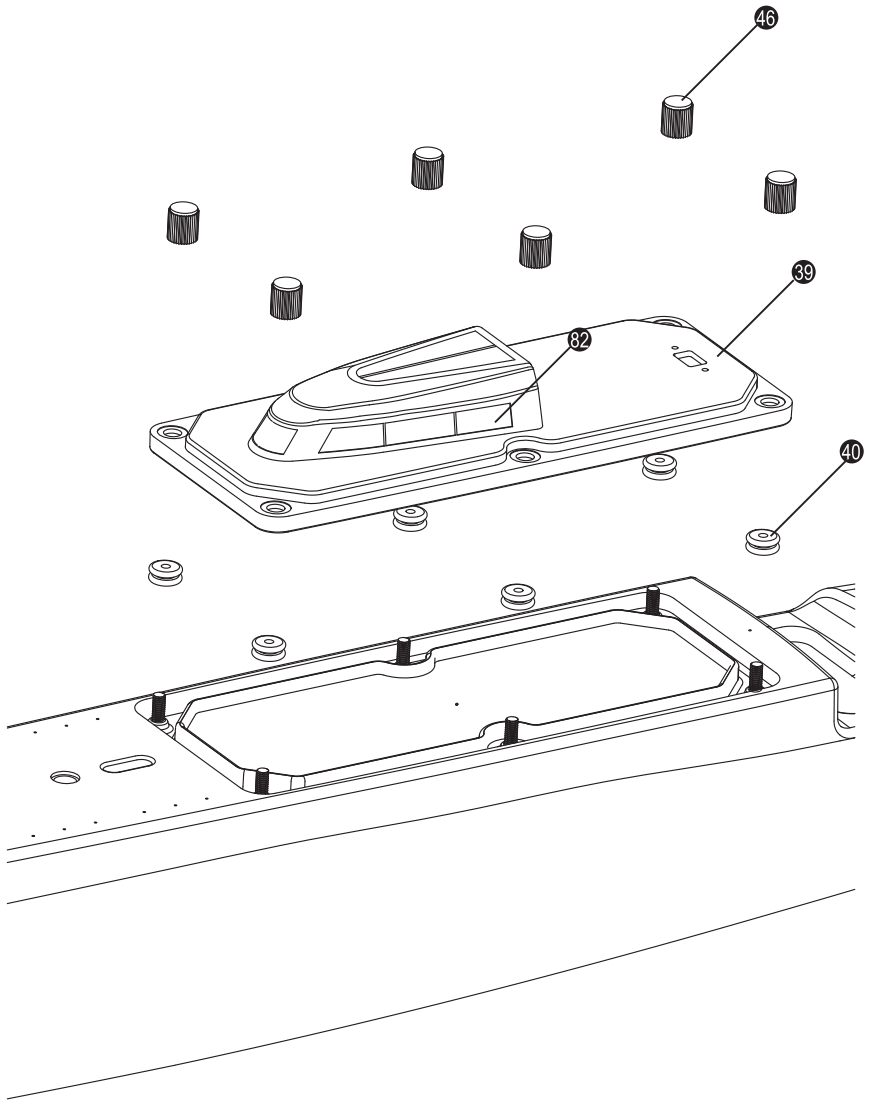
㊴ ㊵ ㊶ ㊻ ㉘

1. Locate the Silicon Tube ㊶, install the tube in the groove of the backside cabin. Push the silicon tube in the groove but without pulling or squeezing too much. Also do not cut away the tube as it is measured correctly in factory.

2. Locate Cabin Hatch Cover ㊴ and Decal ㉘, refer to the photo on box top to attach the decal on the cabin hatch cover.

3. Trail secure the hatch cover in place with the AL Hand Screws ㊻ and Grommets ㊵.





8

Mast Assembly

❶ ❽ ❾ ⓫ ⓬ ⓮ ⓰ ⓱
㊼ ㊽ ㊾ ㊿ ㊿① ㊿② ㊿⑤ ㊿⑦
㊿② ㊿③ ㊿⑤ ㊼③ ㊼④ ㊼⑤

1. Secure the two Ends ㊿② ㊿③ onto the Main Boom ㊿⑤ with 2x8mm wood screws ❽ .

2. Secure the Chain Plate ㊿② on the main boom with 2x8mm wood screws ❽ .

3. Secure the Ball ⓬ on the boom with 2x12mm Screw ⓮ .

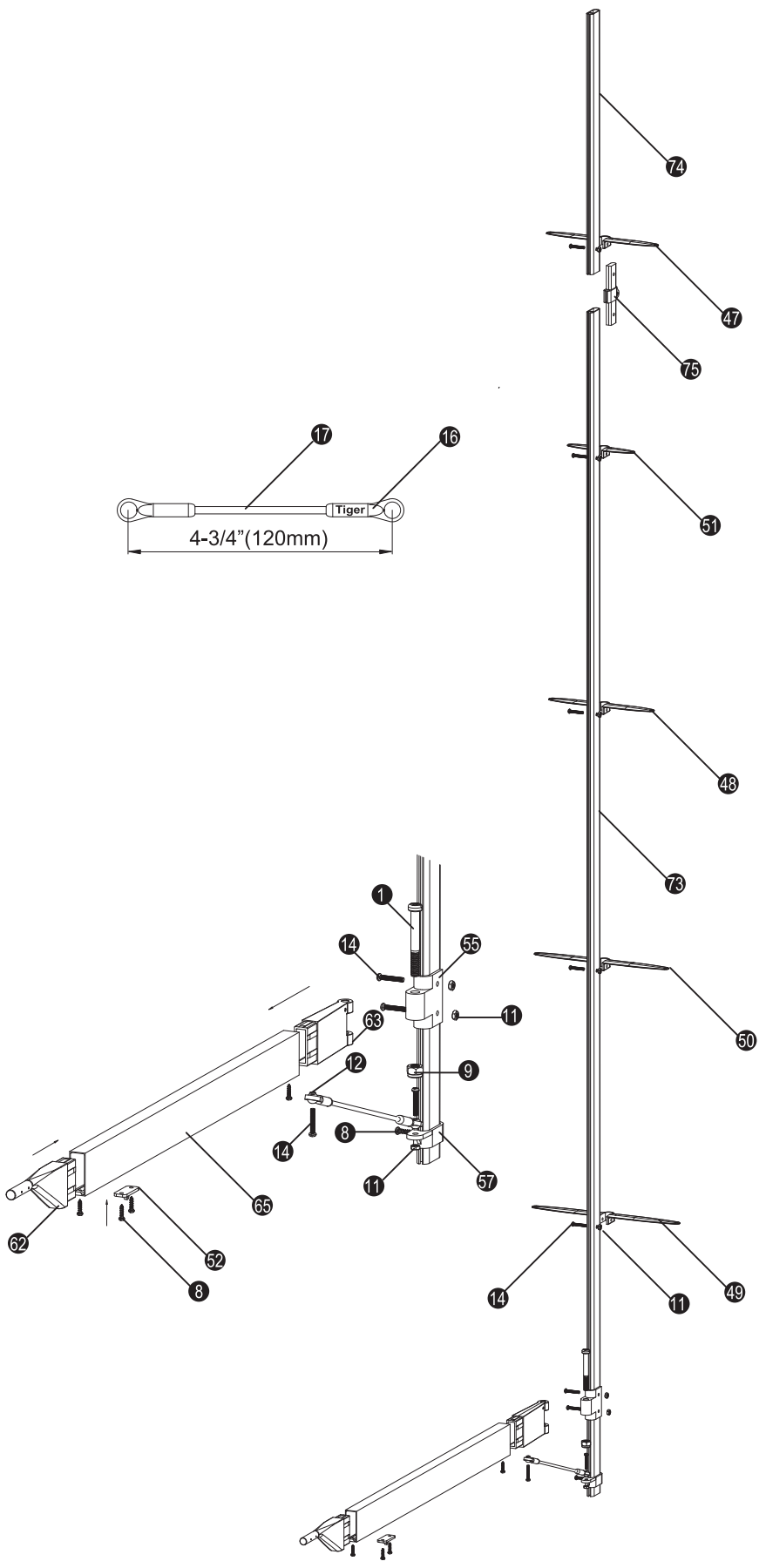
4. Assemble and Main Mast A ㊼③ and B ㊼④ with the Mast Joiner ㊼⑤ and Boom Joiner ㊿⑤ . Secure the boom joiner with 2x12 mm Screw ⓮ and M2 Nut ⓫ .

5. Install all Spreaders ㊼ ㊽ ㊾ ㊿ ㊿① in place as illustration with 2x12mm Screw ⓮ and M2 Nut ⓫ . Do not over-tighten the nut as it may damage the mast.

6. Install the ball on Tie Rod Base ㊿⑦ with 2x12mm Screw ⓮ and M2 Nut ⓫ . Next secure the base at the bottom of main mast with 2x8 mm Wood Screw ❽ .

7. Install the main boom on the boom joiner with 4x32mm Screw ❶ and M4 Nut ❾ . Keep the main boom rotates freely.

8. Assembly the Tie Rod ⓱ with two Ball Ends ⓰ as illustration. Note the “Tiger” marks are either way at two ends. The “Tiger” mark always faces up when pushing the ball end to the ball.



9

Main Sail Assembly

⓭ ㉜ ㉞ ㊽ ㊾ ㊿ ㉒ ㊻ ㊼

1. Install the Head Crane ㊻ as illustration with Wire Base ㊽ and Sail Wire ㊼ . Thread the sail wire to the base about 5mm (13/64”).

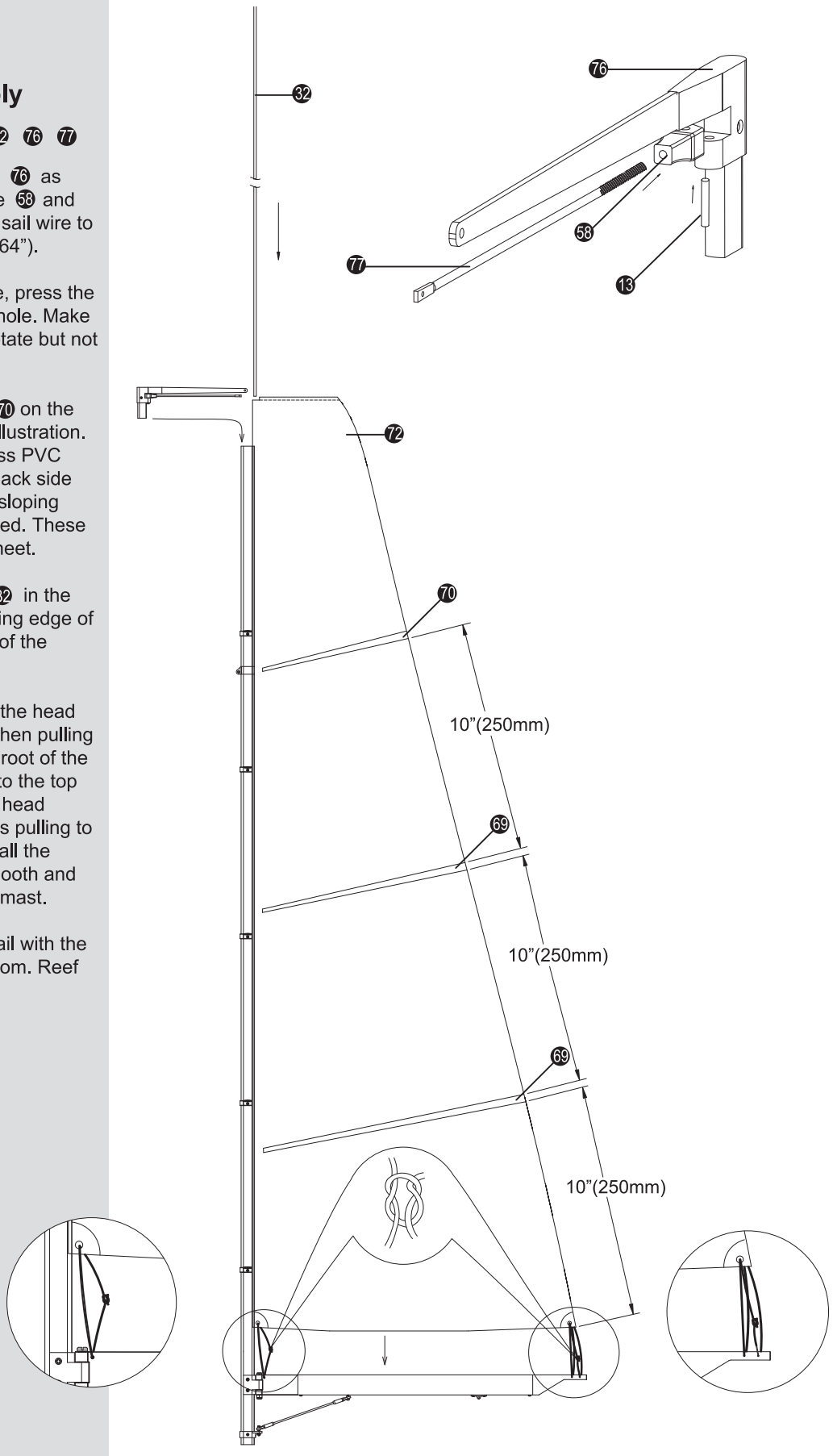
2. With wire base in place, press the 2X14mm Pin ⓭ into the hole. Make sure the wire base can rotate but not freely.

3. Apply PVC Strips ㊾ & ㊿ on the Sail ㉒ in the position as illustration. You may cut off the excess PVC strip. Note: Apply at the back side and perpendicular to the sloping side of the sail is suggested. These Strips will reinforce the sheet.

4. Thread the PE String ㉜ in the sheet, next slide the leading edge of main sail into top groove of the mast.

5. You will need to install the head crane at the same time when pulling the sail all the way to the root of the mast. Thread the wire into the top of the sail then install the head crane in place when sail is pulling to the root. Make sure that all the leading edge of sail is smooth and securely in the groove of mast.

6. Now you may tie the sail with the Black String ㉞ on the boom. Reef knot is Suggested.



10

Main Sail Rigging

34 54 66

1. Cut 7 pieces Rigging Strings 34 into the lengths as shown for use in this step.

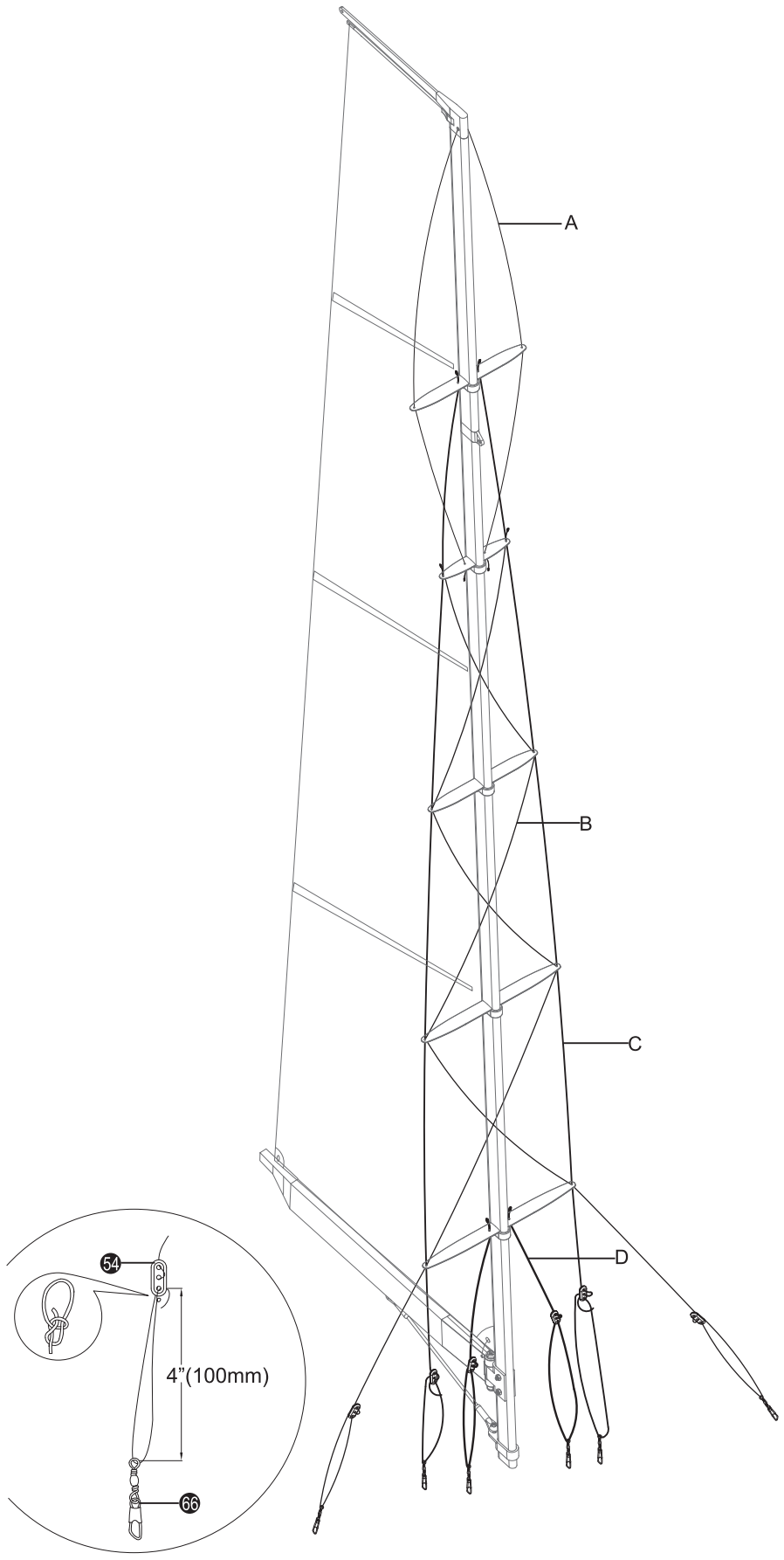
Jump String A x 1 48”(120cm)
Jump String B x 2 51”(138cm)
Mast String C x 2 52”(130cm)
Mast String D x 2 16”(40cm)

2. Jump String A
Thread the jumper string A from the second spreader root through the first spreader tip, head crane, the first spreader tip and finally back to the second spreader root. Try to adjust the string as tight as possible and make both two Figure Eight knots at the second spreader root.

3.Jump String B
Make a Figure Eight knot then thread Jump String B from second spreader tip to the other side of the third spreader tip, the other side of fourth spreader tip then the other side of the fifth spreader tip.
Thread the string through the first hole of String Adjuster 54 , then the second hole. Next thread through the Swivel 66 then the third hole. Make a Bowline knot.
Keep adjuster is about 10cm to the swivel. when snapping onto the chain plate.
Do the same procedure for the other Jump String B.

4. Mast String C
Make a Figure Eight knot then thread Mast Rigging String C from the first spreader root through the second spreader tip, the third, the fourth and the fifth spreader tip. Same as rigging string B to connect the swivel.
Do the same procedure on the other Mast Rigging String C.

5. Mast String D
Make a Figure Eight knot then thread Mast Rigging String D from the fifth spreader root then do the same way on the string adjuster and swivel.
Do the same procedure on the other Mast String D.



11

Jib Boom and Jib Sail Assembly

❽ ㉞ ㊾ ㊿ ㊹ ㊾ ㊿ ㊶

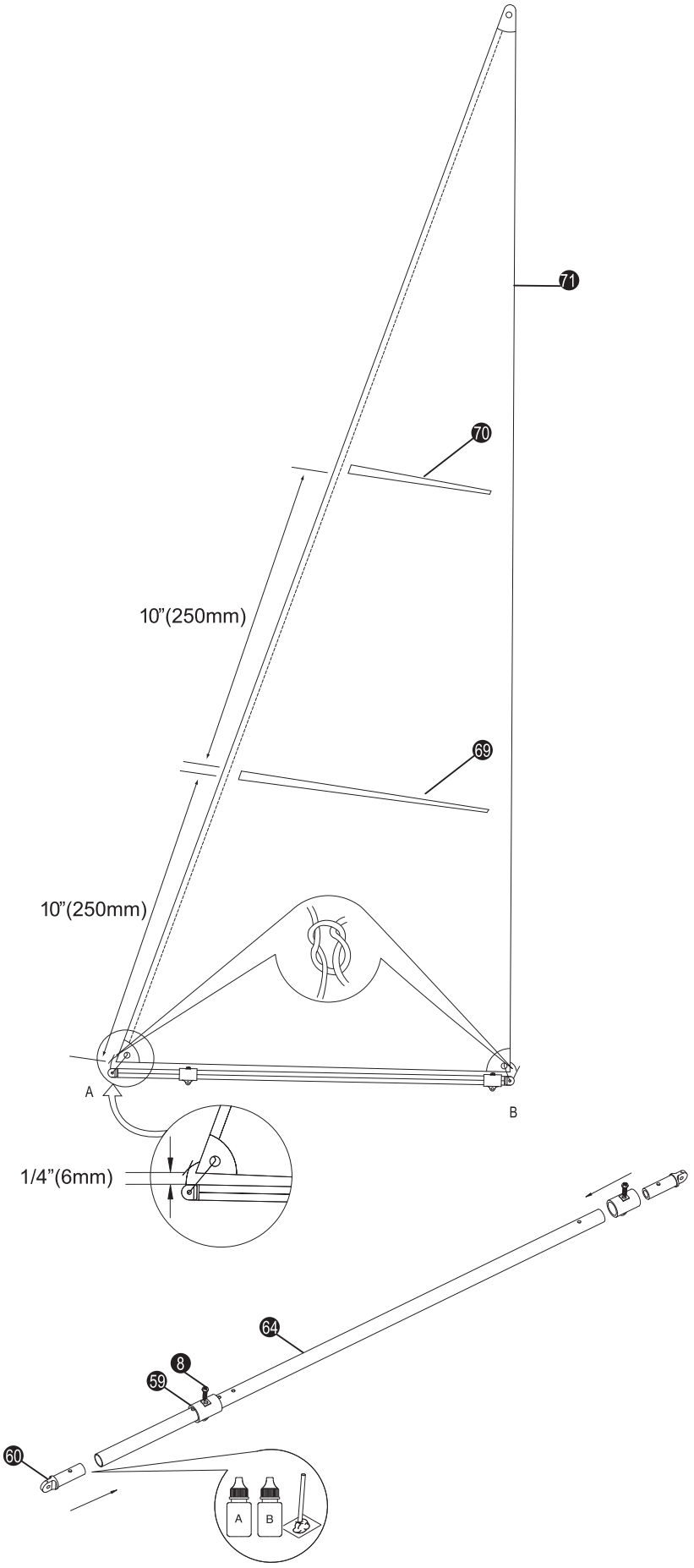
1.Place the plastic Slider ㊾ on the boom ㊹ as illustration then secure the slider at the second hole with 2x8mm Wood Screw ❽.

2. Place the other slider on the other boom end then insert the Jib Boom End ㊿. Next secure the slider and jib boom end together with 2x8mm Screw ❽.

3. Epoxy the other Jib Boom End in place. Note the orientation of the ring.

4. Apply PVC Strips ㊾ & ㊿ on the Jib Sail ㊶ in the position as illustration.
Note: Apply at the back side is suggested.

5. Use Black String ㉞ to tie the jib sail on the boom. Reef knot is suggested.
Keep the jib sail about 5~6mm (7/32") to the jib boom.



12

Jib Sail Attachment

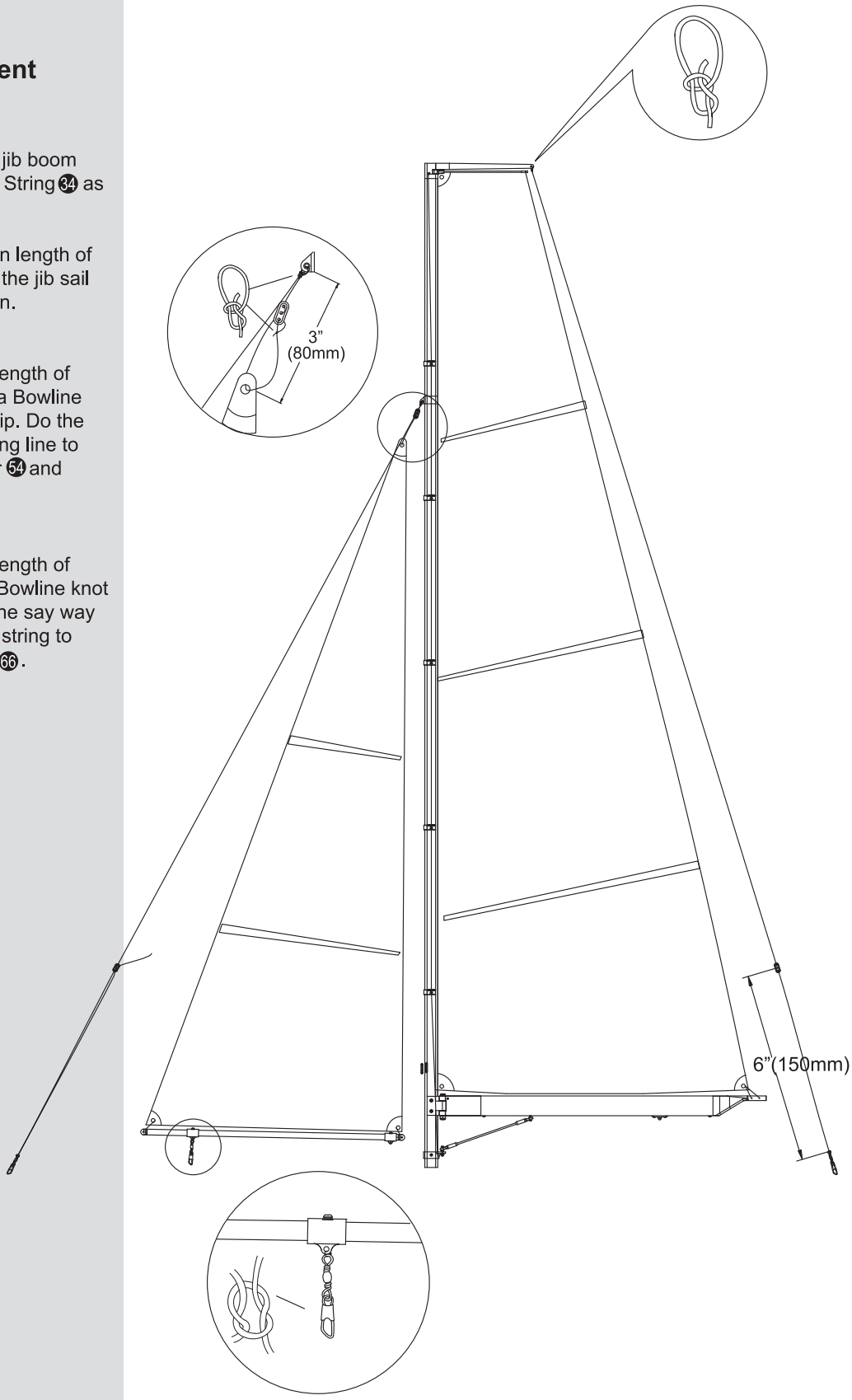
㉞ ㊿ ㊻

1. Tie a Swivel ㊻ at the jib boom control slider with Black String ㉞ as illustration.

2. Cut a piece of string in length of 12” (30cm) then secure the jib sail on Mast Joiner as shown.

3. Backstay String
Cut a piece of string in length of 63”(160cm) then make a Bowline knot at the head crane tip. Do the same way as mast rigging line to thread string to Adjuster ㊿ and Swivel ㊻.

4. Forestay String
Cut a piece of string in length of 51”(130cm) then make Bowline knot at the mast joiner. Do the say way as backstay and thread string to Adjuster ㊿ and Swivel ㊻.



13

Radio Installation I

㉝

1. First cut two sail control lines ㉝.

Main Sail Control Line 25”(65cm)
Jib Sail Control Line 30”(75cm)

2. Thread the control lines through front and rear winch line guides then try to reach the line inside the hull. Temporally secure the two ends on the deck and servo tray with tape to prevent the line loosened.

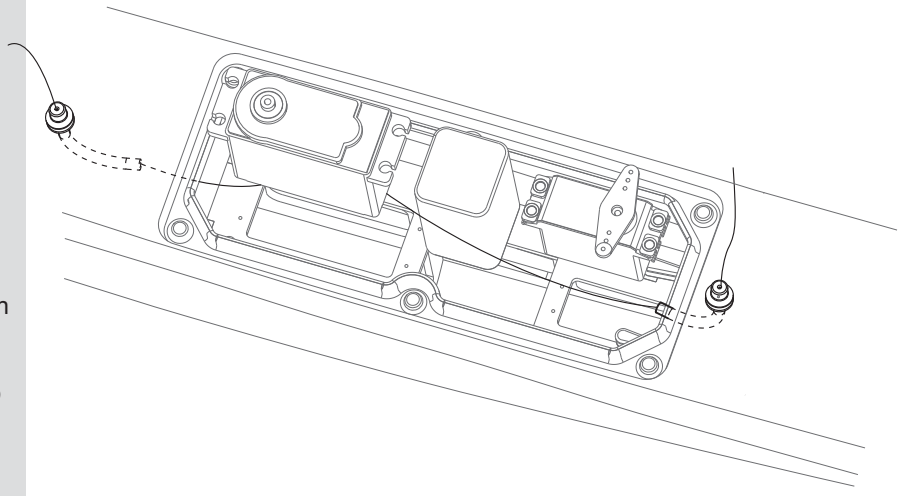
3. Refer to servo manual and install the servo mounting hardware then secure the servos in place. Note the servo orientation.

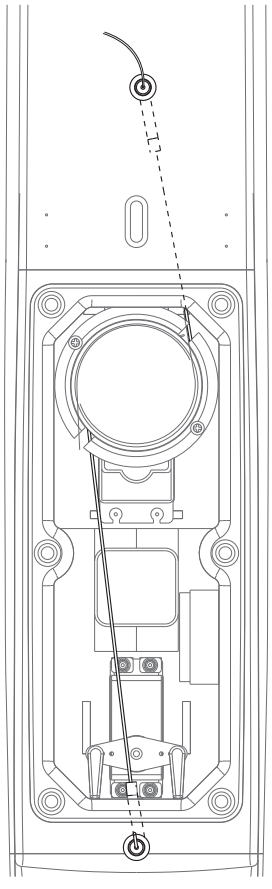
4. Install the switch in place.

5. Connect the radio system following the manufacturer instructions. Place the receiver in the radio compartment at the right side of servo tray.

battery is recommended (No.2980) which you can place in battery holder.

7. Tape the receiver antenna wire to underside of the deck then thread the antenna to the rudder steering well.





14

Radio Installation II

❻ ㉗ ㉞ ㊻ ㊼ ㊽

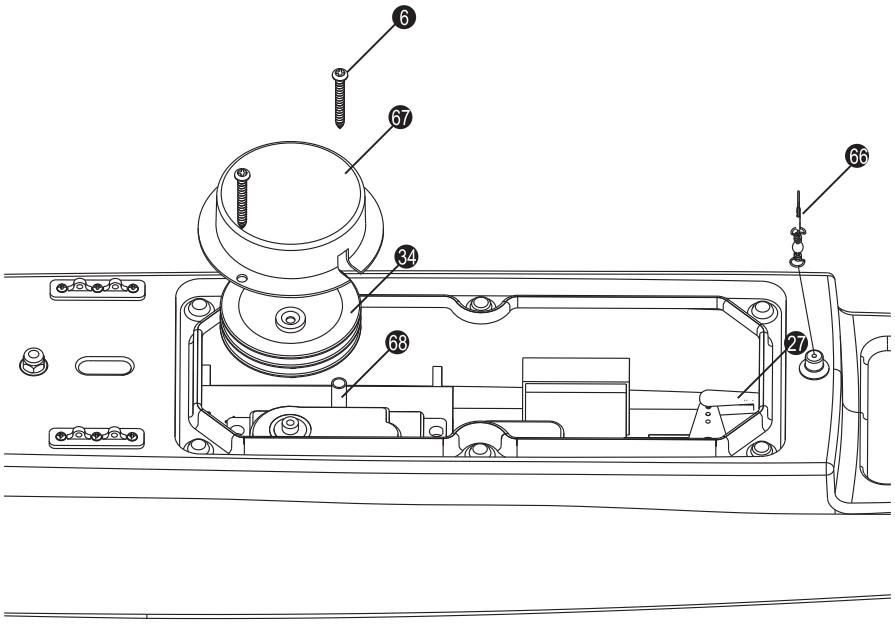
1. Thread the clevises ㉗ on the pushrods then adjust and attach the clevises to the servo arm when servo and rudder are at neutral position.

2. Thread one end of the Jib Sail Control String to the servo drum. Make a Figure Eight Knot in the drum. Turn on the radio and make sure the control stick is full down then wind the string for two turns I the drum then place the drum o the winch servo.

3. Tie a Bowline Knot to the Swivel ㊻ on the other end of the control zstring. Keep the string about 5/16”(8mm) out of the front winch line guide(the length is string only not includes the swivel). Note: the less turns of string in the drum the less chance for string to be out of the groove.

4. Do the same procedure on the Main Sail Control String but keep the string about 3/4”(20mm) out of the rear winch line guide(the length is string only not includes the swivel).

5. Do the sail adjustment in page 20 after you satisfied with the adjustment then secure the drum with the screw comes with the servo. Next secure the Winch Servo Cover ㊼ with two Standoff ㊽ and 3x25mm Wood Screws ❻ . You will need to trim two notches for the strings to go.



15

Attaching the Rigging Snaps

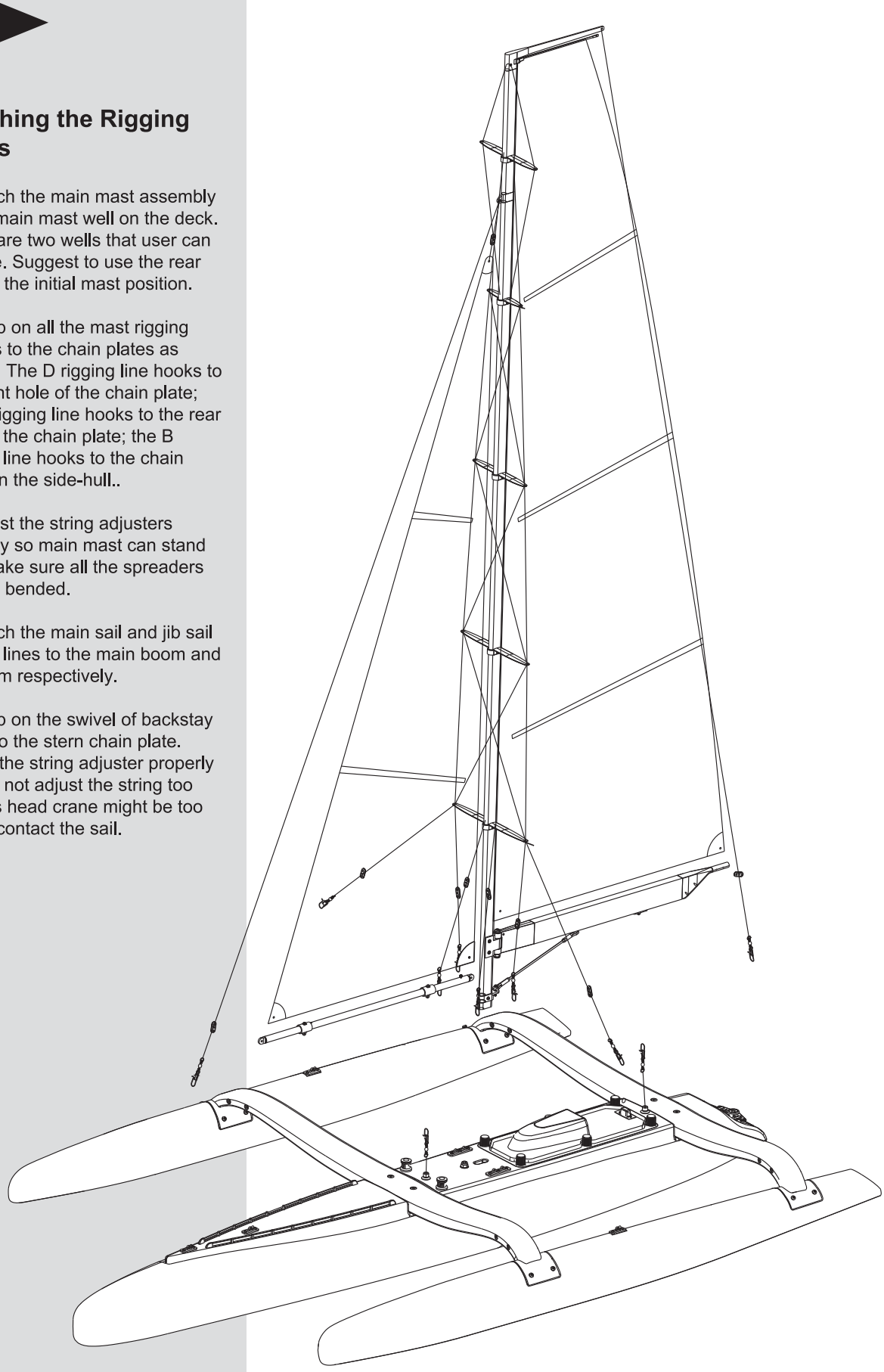
1. Attach the main mast assembly to the main mast well on the deck. There are two wells that user can choose. Suggest to use the rear well as the initial mast position.

2. Snap on all the mast rigging swivels to the chain plates as shown. The D rigging line hooks to the front hole of the chain plate; the C rigging line hooks to the rear hole of the chain plate; the B rigging line hooks to the chain plate on the side-hull..

3. Adjust the string adjusters properly so main mast can stand still. Make sure all the spreaders are not bended.

4. Attach the main sail and jib sail control lines to the main boom and jib boom respectively.

5. Snap on the swivel of backstay string to the stern chain plate. Adjust the string adjuster properly and do not adjust the string too tight as head crane might be too low to contact the sail.



16

Adjustment

A. The sail winch servo drum should rotate to the dead end point and both sail control lines are tight when the sail winch control stick of the transmitter is at the full " down" position. The jib sail and main sail now are at about 0-degree. If not, you will need to adjust the string length until it will.

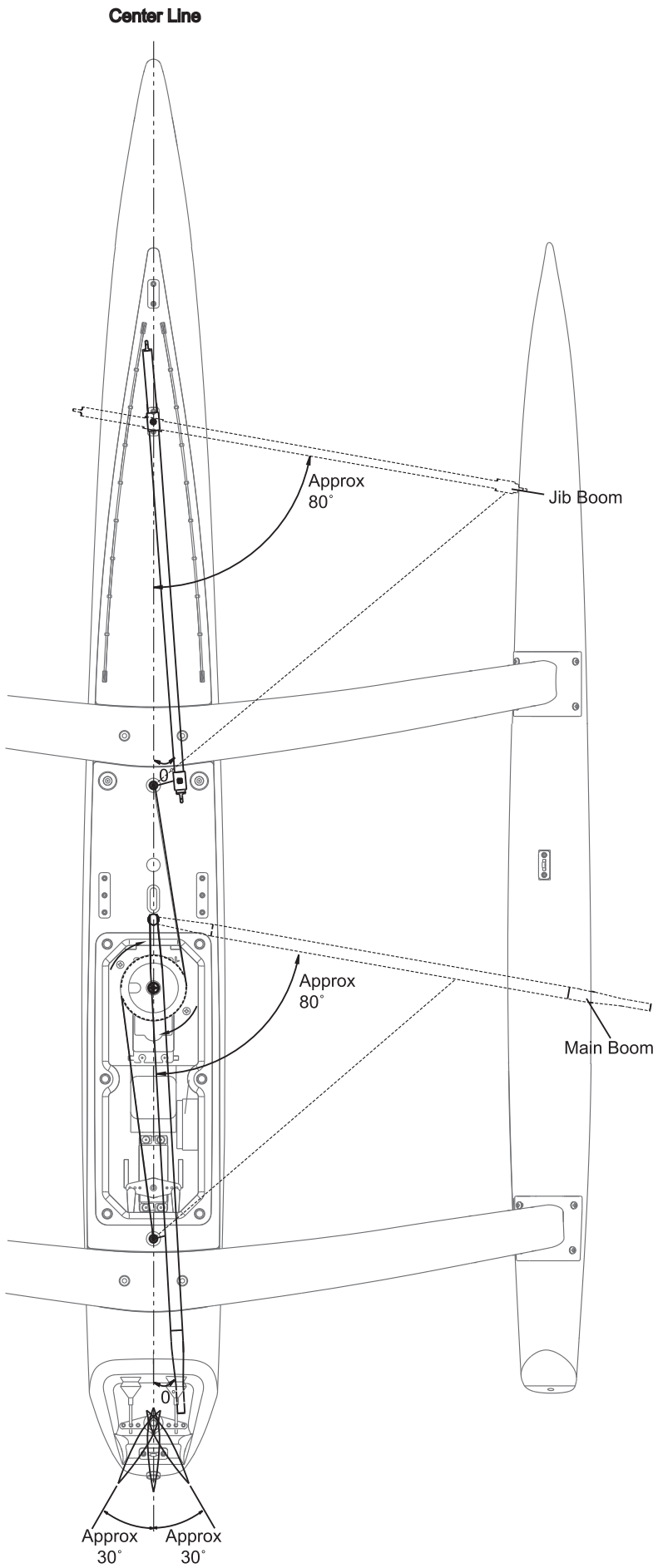
B. With winch drum is at the full "up" position, open the main boom and jib boom to a deflection of about 80-degree.

C. It will be necessary to readjust the " full down" setting again, as both of these adjustments are effected by one another. The goal is to reach the best compromise possible.

D. Normally use the trim on transmitter will help the adjustment. It will be much easier to adjust the sail angle if using a quality radio which has the end position adjustment function

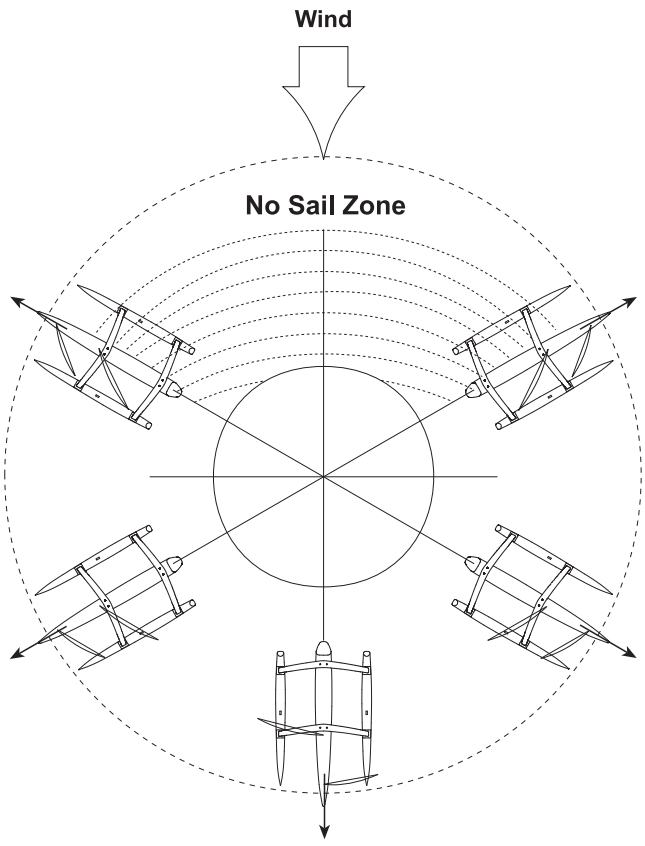
E. If user use other servo then the control throw might vary, In this situation, user will have to change the position of the chain plate on main boom and the slider on jib boom. Drill 1/16" holes at the desire position then user furnished 2x8mm wood screw to secure the slider and chain plate on the booms.

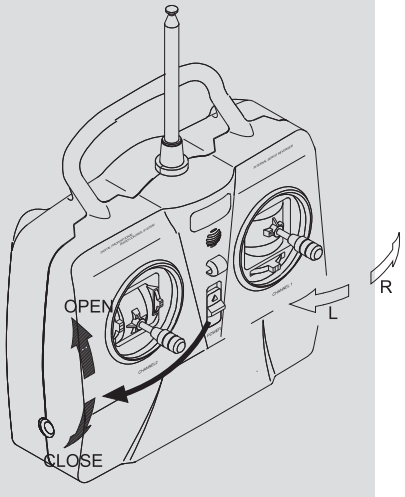
F. Make sure Rudder defects 30-degree each direction. If it does not, move the clevis closer to the center of the servo arm.

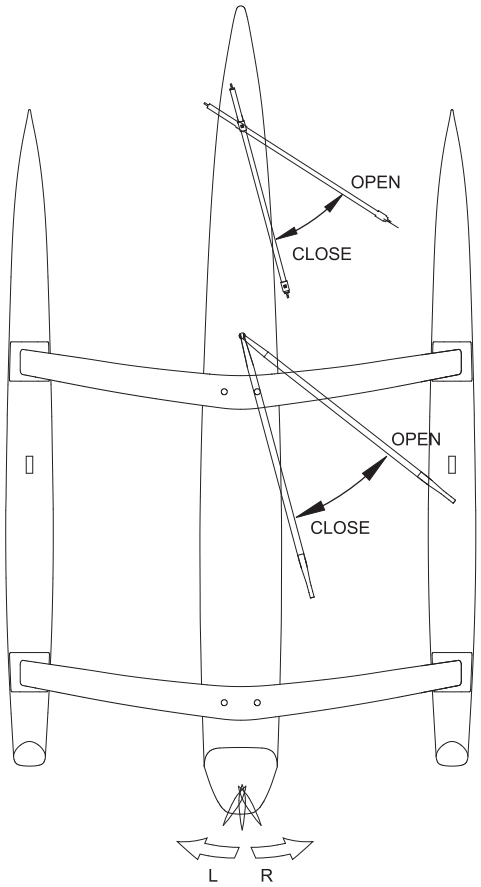


Preparations for Sailing

Before sailing your Volans for the first time, take note of the following:
A.Check that each sail, rigging line, snap and fittings are properly installed and adjusted.
B.Check the boat on all screws and knots, make sure they are tighten perfectly.
C.Refer to the manufacturer's manual and make sure that radio works correctly with antennas are extended completely either on transmitter or on receiver.
D.Always check battery power and turn transmitter on before the receiver, likewise, turn the receiver off before the transmitter.
E.Check the wind direction and pick a good location for sailing.
F.Never sail the trimaran in the flowing water like creeks, rivers or sea.

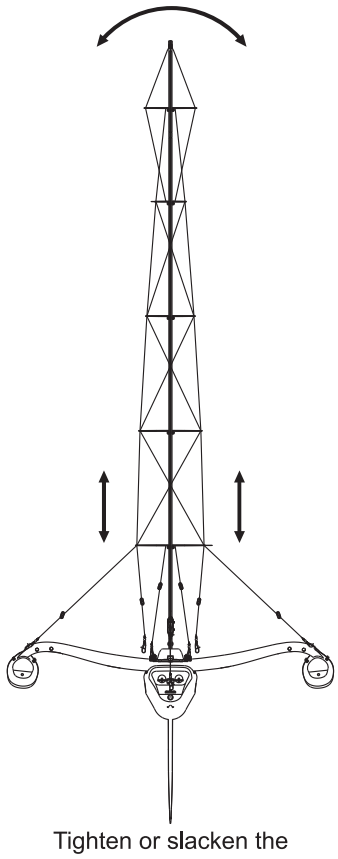






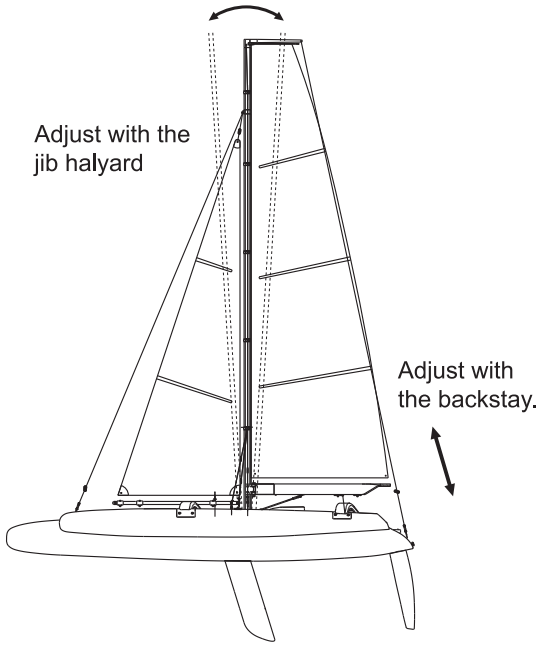
Tuning your Naulantia for Proper Operation

Straighten any left or right leaning of master



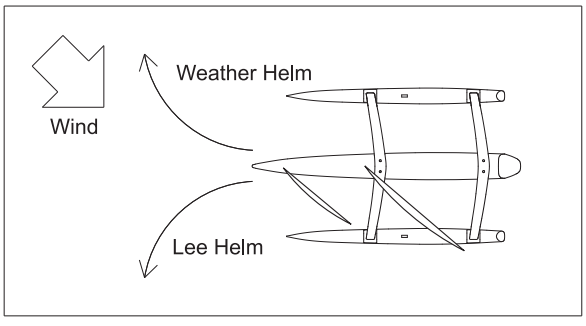
Tighten or slacken the adjuster in order to straighten the mast.

Straighten any forward or backward inclination of master



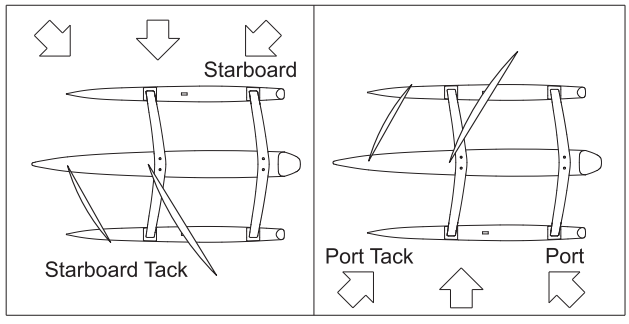
1. If your boat carries weather helm, incline the mast a bit forward.
2. If your boat carries lee helm, incline the master a bit backward.

• Refer to the explanation of weather helm and lee helm below



Weather Helm and Lee Helm

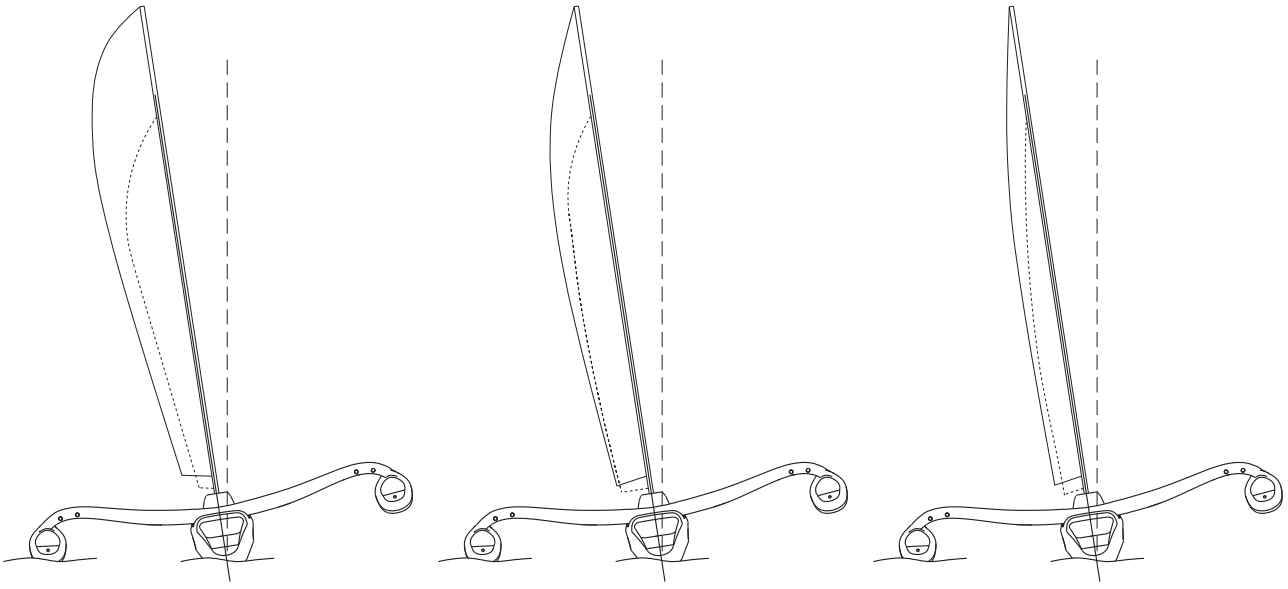
With the Rudder in line with the Keel, if the boat tends to turn windward, it is said that the boat carries weather helm. If it tends to turn leeward, it is said that it carries lee helm. The situation in which the boat shows neither tendency is called balanced helm. In general, a boat carrying a slight weather helm is better in performance than one carrying lee helm or having balanced helm. Therefore, after adjusting the boat to balanced helm re-adjust it so that it carries slight weather helm.



Starboard Tack and Port Tack

The right side of the boat is called starboard and the left side of boat s called port. When the yacht sails with the wind cross the starboard and the mainsail is on the port side, it is said that the boat is on a starboard tack. When it sails with the wind cross the port and with the mainsail on the starboard, it is said that boat is on a port tack. You can sail on a starboard or port tack when sailing close-hauled (i.e. windward), wind abeam (i.e. leeward).

Mast Adusting



Too little tension

Proper adjustment

Too much tension

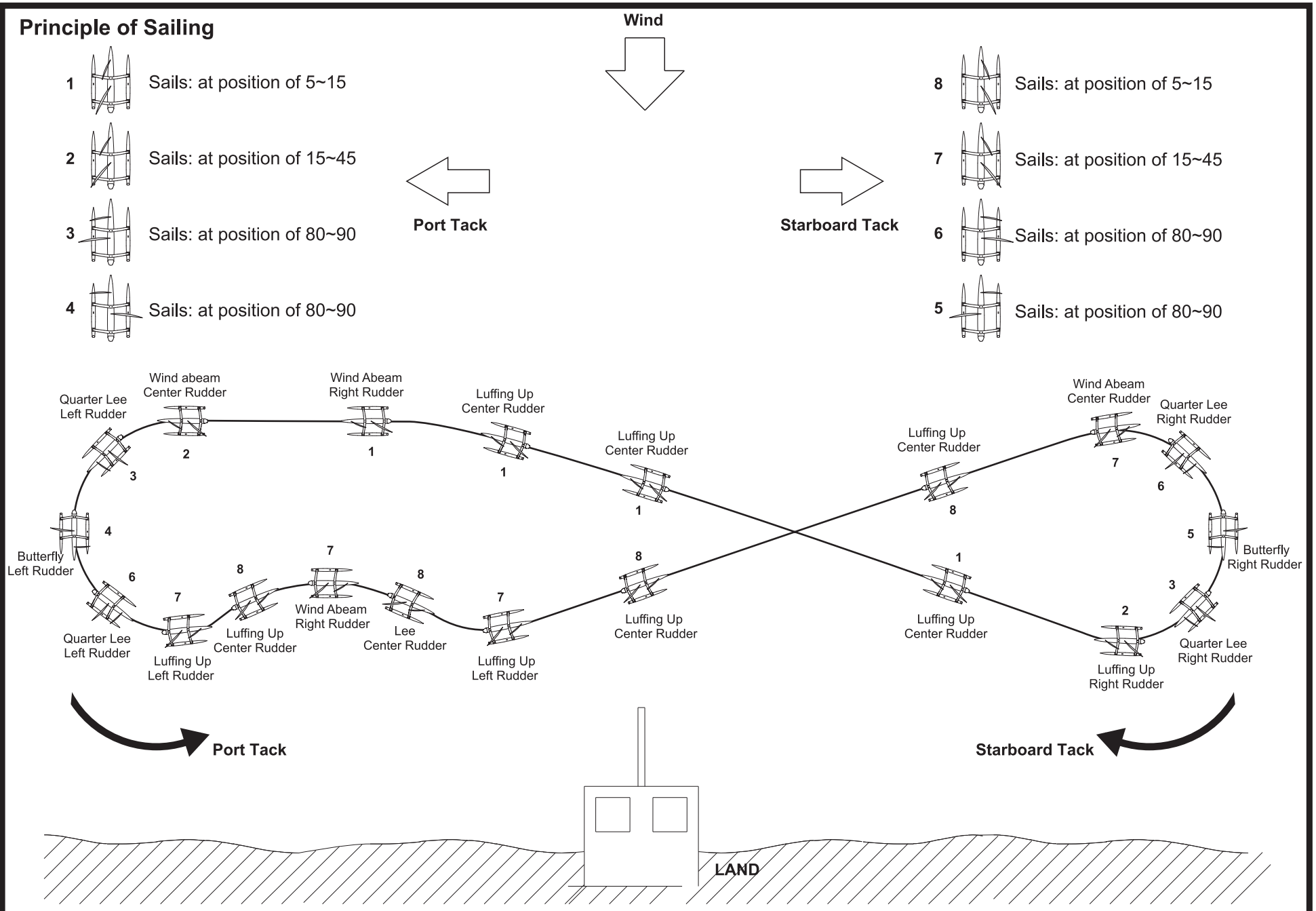
Maintaining an optimum sail profile is important for both speed and control. You may need to make some finer adjustments to your tuning to obtain the sail profile you want. The sail profiles shown in the figure are viewed from behind.

Caution

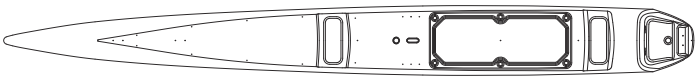
A. Periodically check all knots if loose, remove Rubber Plug to drain water out and check the inside of the hull to make sure that there is no accumulation of water.
B. As trimaran is lighter than the same size mono hull sailing yacht as well as the keel size, strongly recommended to note the sail zone. Always use care to pick the good sailing location or it will be trouble to get the boat back from the lake or pond.
C. This trimaran design is good for wind speed about 3~5M/sec. (10~18km/hr.) or 10~15ft./sec.(6~12 mile/hr.). Neither a light wind nor a strong wind is good for sailing.
D. Strong wind may cause trimaran flip over, if the sail is not at a proper angle. Always keep away at 0-degee of the sail angle when wind direction is perpendicular to the hull.
G.As trimaran has a wide cross beams with side-hulls and it does not have a ballast, the trimaran is hard to do a quick smoothly turning. Strongly suggest user turn the trimaran by the LEE HELM instead of WEATHER HELM.
H.Apply rudder gently, if control throw is too much then it will reduce its speed.
I.It is very important to release the rigging line of the sails before turning, special when trimaran ride the wind at good speed. It may flip over if turning too fast, the reason is the inertia as well as the sail angle is changed when turning(wind pressure may increase) , the hull nose will dive into the water and cause flip over.

Once Flip Over
A.Do not jump into the water or swim after a flit over boat.
B.Check the wind direction and the wind will carry it to the shore slowly.
C.Retrieve the trimaran with a fishing rod that equips real with at least 12 lb. string.
D.The best way is get a rubber dinghy or a small boat to get the boat back.
E.Once you reach the boat, flip it back from the bow or stern, never flip from the side hull as the sail in the water is hard to move at this direction.

Principle of Sailing



PJ6321 Centre Hull


Centre Hull (1)


Keel Tube (1)


Rudder Tube (1)


End Cap A (2)


End Cap B (2)


Cross Beam Mount (2)

M4 Locknut (4)

3x10 mm
Wood Screw (10)

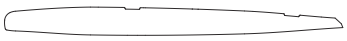

Threaded Washer (6)

4x15 mm
Hex Screw (6)


Line Guide A (2)


Line Guide B (2)

PJ6324 Side Hulls


Side Hull (2)

PJ6325 Brace Set


Brace FL (1)

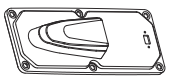

Brace FR (1)


Brace RL (1)


Brace RR (1)

3x10 mm
Wood Screw (16)

PJ6322 Cabin


Cabin (1)

Grommet (6)


Silicon Tube (1)

PJ6326 Cross Beam


Cross Beam (2)

M3 Locknut (8)

3x28mm
Socket Screw (S) (4)

3x30mm
Socket Screw (S) (4)


4x20mm
Socket Screw (S) (4)

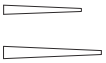
PJ6327 Mast

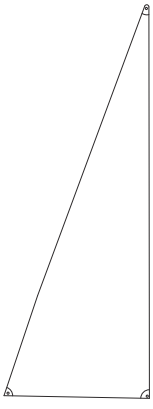

Mast A (1)

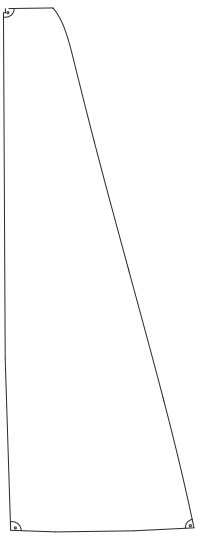

Mast B (1)


Mast Joiner (1)

PJ6323 Sails

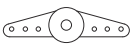

PVC Strip (L/3, S/2)


Jib Sail (1)


Main Sail (1)

PJ6328 Rudder Linkage


Rudder Pushrod (2)


Steering Arm (1)

Clevis (2)

3x4mm Set Screw (1)

PJ6057 Head Crane


Head Crane (1)

Wire (1)

Pin 2x14 (1)

PJ6073 Rigging String


PE String (1)

White String (1)

Black String (1)

PJ6331 Boom Set



Jib Boom (1)



Main Boom (1)

PJ6061 Boom Retaining Set

Tie Rod (1)



Ball End (2)

Ball (2)

PJ6329 Rudder



Rudder (1)

PJ6330 Keel



Keel (1)

O Ring (2)

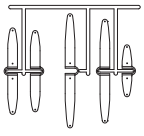
M4 Locknut (1)

PJ6332 Swivel



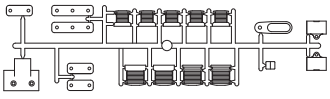
Swivel (11)

PJ6058 Spreader



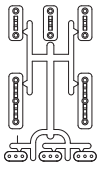
Spreader (1)

PJ6052 Decoration Set A



Decoration (1)

PJ6333 Chain Plate



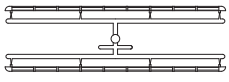
Chain Plate (1)

PJ6060 Boom End



Boom End & Stab (1)

PJ6334 Decoration Set B



Railing (1)



Boom End (1)

PJ6063 Servo Disk Cover



Servo Disk Cover (1)

Standoff (2)

3x25mm
Self-tapping Screw (2)

PJ6335 Hardware



4x32mm Screw (1)

3x25mm
Self-tapping Screw (2)

3x10mm
Wood Screw (28)

2x8mm
Self-tapping Screw (23)

2x12mm Screw (9)



M2 Nut (9)



M4 Locknut (1)

PJ6336 Water Proof Set

Rubber Boot (2)

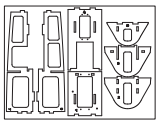
Rubber Plug (3)

PJ6337 AL Hand Nut



Hand Nut (6)

PJ6338 Plywood Set

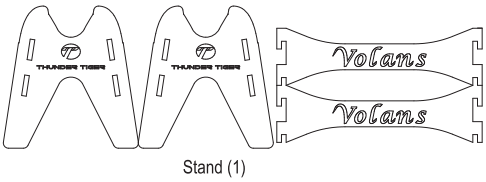


Servo Tray (1)

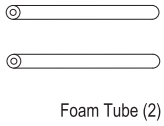


Bulkhead (1)

PJ6339 Boat Stand

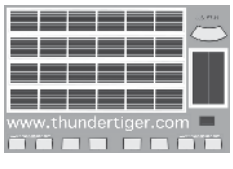


Stand (1)



Foam Tube (2)

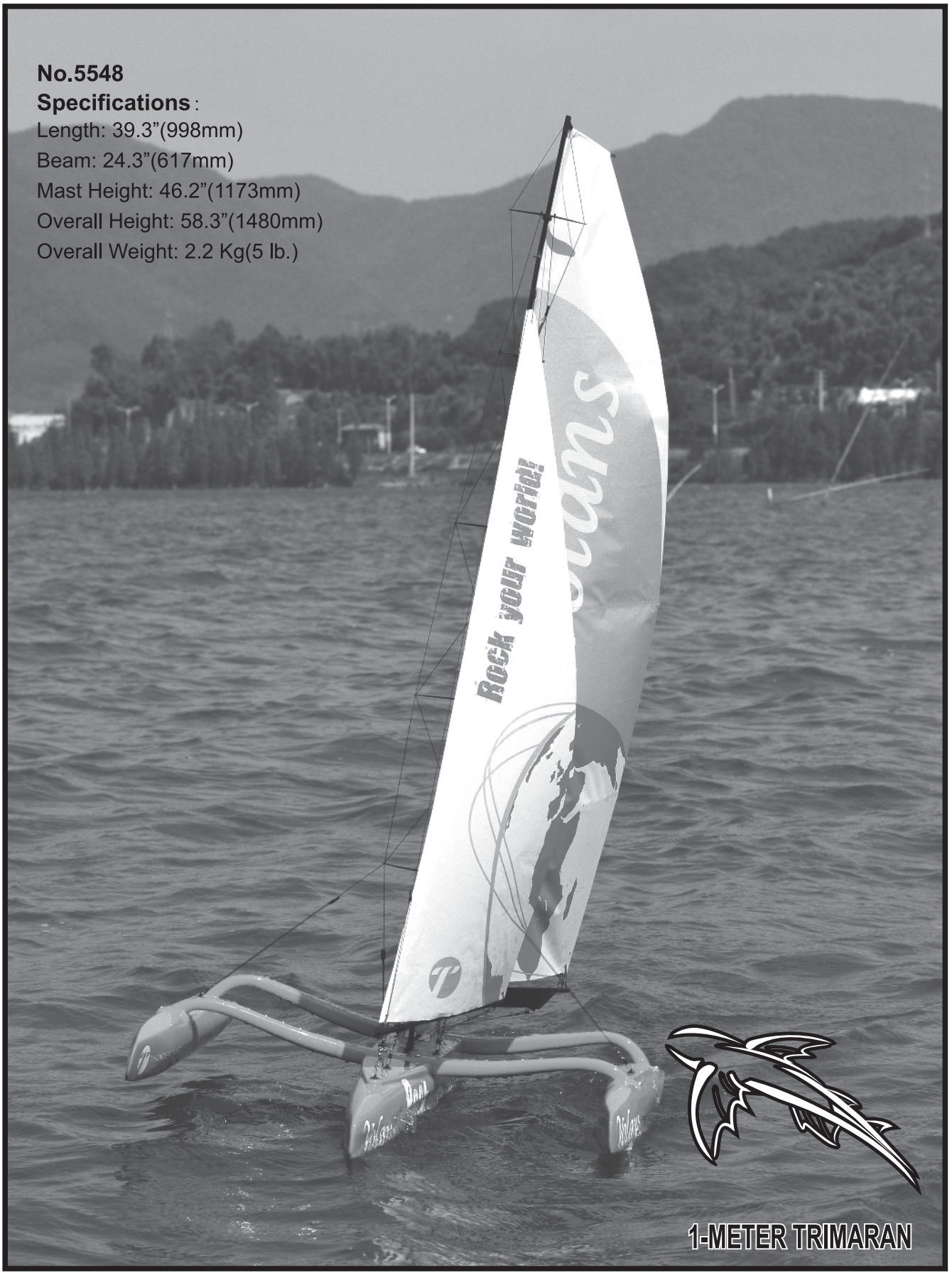
PJ6340 Decal



Decal (1)

THUNDER TIGER

Volans



No.5548

Specifications:

Length: 39.3”(998mm)

Beam: 24.3”(617mm)

Mast Height: 46.2”(1173mm)

Overall Height: 58.3”(1480mm)

Overall Weight: 2.2 Kg(5 lb.)

Manufactured by

THUNDER TIGER CORP.

http://www.thundertiger.com

Made In China