

# **ETTAZ**1-METER AMERICA'S CUP RACING YACHT

## INTRUCTION MANUAL

#### WARRANTY

Thunder Tiger guarantees this model kit to be free from defects in both material and workmanship. The total monetary value under warrant 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,

Should you find a defective or missing part, contact the authorized Thunder Tiger Service/Distributor nearest you.

#### WARNING

The 1 meter ETNZ America' Racing Yacht, 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 construction, or improper usage.

Thunder Tiger assumes and accepts no responsibility for personal and/or property damages resulting form the use of improper building materials, equipment, and operations. 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 un used condition to the place of purchase.



#### Notice

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







### Introduction

Thank you for your purchase of the Thunder Tiger 1/25 scale 1-M Emirates Team New Zealand America's Cup Racing Yacht. This ETNZ is both good for indoor display and outdoor sailing. With proper care taken during assembly, the ETNZ will provide you good performance and long service life. Please contact Thunder Tiger authoized distributor for tech support or customer service if you encounter any problem.

Team New Zealand won the America 's Cup, the world's oldest sporting trophy, in 1995 and successfully defended it in Auckland, New Zealand, in 2000. A Swiss team took the Cup from New Zealand in 2003. Now with sponsorship from the Dubai-based airline Emirates and Toyota New Zealand, the team is preparing for a challenge in Valencia, Spain, in 2007. For more ETNZ 2007 America 's Cup racing information, visit the website at www.emiratesteamnz.com.

## Items Required for Assembly

### Radio

A 2 CH surface radio system w/one Sail Winch Servo and one STD servo. ACE Nautical Commander is highly recommended(No.8501).

#### Features:

? Switch on Alarm
? Low Battery Alarm
? LED Power Indicator
? Servo Reversing Switch
? EPA for Throttle
? Digital Trim Lever
? 3 Position Switch for CH6
? 270 degree Trim Knob for CH7
? CH4 & CH5 Slide Lever for Auxiliary Function



## Winch Servo

Introduction of Thunder Tiger Sail Winch Servo. This servo is specially design for ETNZ 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 ETNZ radio compartment.







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Bowline Knot





Figure Eight Knot

Reef Knot





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## $\mathbf{28}$ **Display Stand Assembly** 8 8 4 5 5 5 5 1. Locate the display stand parts , then assemble the stand as shown at right. Use 3x15mm 57 wood screw 3 to secure the Hull Support 3 and Al. Stand B 5. You may apply a thin bead of 5-min. epoxy at the joint before you insert the Al. Stand B. 3 2. Next Insert the other four Legs (3) and install the Feet (3). It is not necessary to apply any epoxy for these four legs and feet. 3. Locate the black Foam Tube then use scissors to cut the 6 foam tube so it can be installed on the hull support as shown. This will protect the hull bottom from scratches during construction and storage. 8 Now you can place the Hull 4 on the display stand during construction. 4







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#### Keel and Rudder Tube Assembly

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- epoxy the two End Caps (6 2) in place. There are three big end caps and one small end cap. The small one for the bottom hull. Note: 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 on the inside the tube as it will be difficult to insert the keel shaft if there is any hardened epoxy inside. Note: You may need to sand contact area A of the hull if tube is higher than the deck.
- Rudder Tube m and the other





## ETNZ

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## ETNZ

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- underneath the hatch cover as illustration. Start from steering wheel end then push in the silicone tube in place. Try to smoothen the tube as you can. Hint: Avoid of pulling or squeezing too much of the silicon tube. Also do not cut away silicone tube.
- and wait final assembly.
- Wheel Stand 66 67 and Main
- secure the Winch 70 on the Main Sheet Winch Stand.
- Wood Screw (5).
- place, adjust the handle evenly then apply tiny CA at the joint.











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- to assemble the servo tray as shown.
- (5/64") from the edge to the adhesion.





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ball end to the ball.





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#### Main Sail Rigging

#### 2 3 6

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

Jump String A x 1	48"(120cm)
Jump String B x 2	38"(95cm)
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. Adjust the tension and make the same knot. 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.

Thread the string through the first hole of String Adjuster (30), then the second hole. Next thread through the Swivel (20) then the third hole. Make a Bowline knot.

Keep adjuster is about 10cm to 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.









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#### Radio Installation II

#### 2 20 28 29 29 39 43 49 33

1. Thread a Metal Clevis (2) on the pushrod. Attach the clevis to the servo arm. Adjust the clevis so that the servo arm and rudder steering arm are at ninety-degree angle to the pushrod when servo is in neutral position. Attach the rudder cover decal (3) on the rudder cover (3) then drill (5/64")2mm hole for antenna to go through. Thread antenna and attach the cover in place.

2. Epoxy the Mast Mount A (1), B (1) in place . Make sure there is no epoxy inside the mast mount A as the Mast will install in later. Epoxy the keel in bottom slot and whole mast mount is recommended if user would enhance the performance, however, the weakness is the keel can not be removed.

3. 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 in the drum then place the drum on the winch servo.

 Tie a Bowline knot to the Swivel on the other end of the control string. Keep the string about 1/8" (3mm) out of the front winch line guide. Note: The less turns of string in the drum the less chance for string to be out of the groove.

5. Do the same procedure on the Main Sail Control String but keep the string about 1-5/8"(40mm) out of the rear winch line guide.



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6. Do the sail adjustment in page 21, after you satisfied with the adjustment then secure the drum with the screw comes with the servo. Next secure the Winch Servo Cover (2) with two Standoff (2) and 3x25mm Wood Screw (2). You will need to trim a notch for the string to go.





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#### **Preparations for Sailing**

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

- A. Using clear tape, seal the radio hatch cover after turning on your radio to prevent water from entering the hatch.
- B. Make sure that your transmitter antenna is extended completely. Make sure that the receiver antenna is completely uncoiled (either inside or outside the hull).
- C. Always turn the transmitter on before the receiver, likewise, turn the receiver off before the transmitter.
- D. Check that each sail, line, snap, and fitting is properly installed and adjusted.

#### CAUTION:

On very windy days, periodically check all knots if loose and the inside of the hull to make sure that there is no excessive accumulation of water.











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

 Refer to the explanation of weather helm and lee helm below

the master a bit backward.

adjustments to your tuning to obtain the sail profile you want. The sail profiles shown in the figure are viewed form behind.







#### 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).







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PJ6051 Hull п П End Cup A (1) End Cup B (3) Keel Tube (1) Rudder Well Cover (1) Rudder Tube (1) Winch Line Guide A (2) Winch Line Guide B (2) Hull (1) PJ6052 Decoration Set A PJ6053 Decoration Set B Chain Plate (1) Railing (1) Steering Wheel (1) Winch (1) PJ6072 Sails PJ6055 Rudder Linkage OE·· B PVC Strip (L/3,S/2) Wheel Collar (1) 3x5mm Screw (1) Steering Arm (1) Clevis (1) Rudder Pushrod (1) PJ6057 Head Crane PJ6058 Spreader i Head Crane (1) Wire (1) 2x14mm Pin (1) Spreader (1) PJ6073 Rigging String











# ETNZ<sub>1-METER</sub>

## AMERICA'S CUP RACING YACHT

#### No.5555

Specifications: Length: 39"(993mm) Beam: 6.75"(172mm) Sail Area:744sq.in.(48dm2) Mast Height: 51.4"(1306mm) Overall Height: 67"(1700mm) Overall Weight: 3.5 Kg(7.7 lb.)



Emirates

#### Manufactured by THUNDER TIGER CORP.

http://www.thundertiger.com Made In China

