

- Do not run your Outlaw on a flowing water like creeks or rivers as well as jump into the water or swim after a stalled or capsized boat!
- Always keep running away from wildlife, do not intend to threaten with any wildlife with your Outlaw. This is prohibited at any lake or pond.

Happy Boating!

MAINTENANCE

Basically you need to dry and clean the boat after running, specially if you would store the boat for a period of time. Lubricate the motor, grease the drive shaft is required.

RADIO BOX

Check radio box immediately once flipping is occurred. Always keep radio box dry or electric device will be damaged, suggest to open the box after running. This is to absorb any moisture inside the box.

In case of capsizing, you will need to disconnect the battery power immediately then dry the electrics completely before using them again:

Motor-See motor instruction for motor care.

Controller-If you can not make sure the controller is dry or not, you may cut away the heat shrink tube then let dry completely. However, you will need to get a new tube to heat shrink or tape the old tube tightly to make sure the cooling tank contact the PCB properly.

Receiver-Open and receiver case then let PCB dry completely or it will be out of control.

Lipo Battery-Let dry completely or it will hurt the battery if use again. Normally the battery will get high temperature up to 60~70-degree when it is working, this will get a lot of steam inside the heat shrink tube and this will hurt the battery sometime will short the battery and cause fire or explosion. Extremely use care to dry the battery before using it again.

HULL

- 1.Prepare the sponge or cloth which will help to remove the water in the hull.
- 2.Always clean the hull after each run special the area has fuel or exhaust residue.
- 3.Exam the hull after each run, make sure there is no damage at side and bottom.
- 4.Always remove the hatch cover, this will help to dry the inside of the hull.

DRIVE SHAFT

Remove the drive shaft, includes Teflon Tube, Flex Shaft, and Prop Shaft. Clean and dry these parts then apply new grease.

RACING

It is always exciting to race with other boats. Be aware of following suggestions before you go race with other boats.

Race with other boats.

- 1.Well exam the boat completely and make sure all screws are fasten firmly, all wires are well connected, all water tubes are working smooth without linking or binding.
- 2.Aware of the environments and racing course.
- 3.Aware of the rough water created by other boats. Keep distance to other boats and avoid crash.

MODEL BOATING ORGANIZATIONS

Please browse the following website for more details of regional or national racing.

United States and Canada:
 APBA www.Apba-rcboating.com
 IMPBA www.impba.net
 NAMBA www.namba.com

France
 FFMN www.ffma.fr

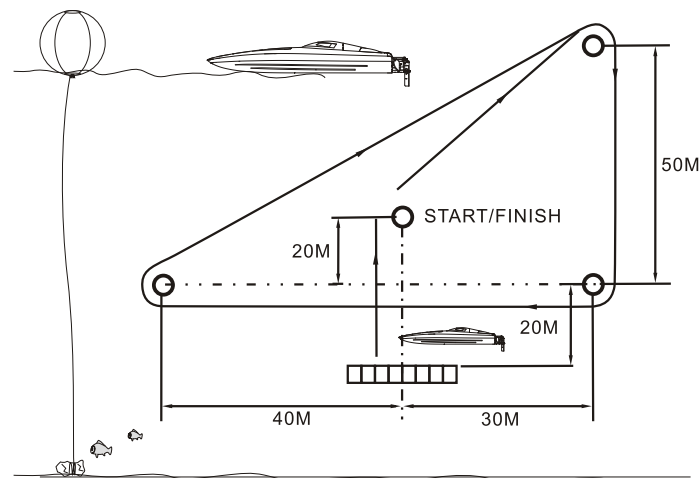
Great Britain
 MPBA www.mpba.org.uk

Sweden
 SMBF www.smbf.info

Australia
 AMPBA www.ampba.asn.au

Here are some suggestions for setting up a simple race course for boats:

Make 3 simple "Maker Buoys" with beach ball, string, and heavy objects for anchors, similar to the above sketch. Place the buoys as above sketch. for "OVAL RACING" The length can be vary.



OUTLAW OBL

Off-Shore Deep Vee

Assembly Manual



No.5121
Specifications:
 Length: 42.9" (1090mm)
 Beam: 12.4" (315mm)
 Height: 9.6" (243mm)
 Weight: 7.7lb. (3500g)
 Motor: OBL 36/15-46M Installed
 Controller: Water Cooled BLC-60M

Warranty

This kit is guaranteed to be free from defects in material and workmanship at the date of purchase. It does not cover any damage caused by use or modification. The warranty does not extend beyond the product itself and is limited only to the original cost of the kit. By the act of building this user-assembled kit, the user accepts all resulting in liability for damage caused by the final product. If the buyer is not prepared to accept this liability, it can be returned new and unused to the place of purchase for a refund.

Notice: Adult Supervision Required

This is not a toy. Assembly and running this product requires adult supervision. Read through this book completely and become familiar with the assembly of this boat. Inspect all parts for completeness and damage. Browse www.thundertiger.com for more information or customer service if you encounter any problems.

INTRODUCTION

Thank for purchasing Thunder Tiger Outlaw OBL Off-Shore Deep Vee! This performance racing boat is test approved by Hydro World Champion Jorgen Andersson that you will experience the racing thrill very soon. Read the manual thoroughly to familiar with this boat spare parts and starting step as well as some tips and safe cautions is strongly recommended. If you encounter any problem in running this boat, contact Thunder Tiger for tech support and customer service.

TABLE OF CONTENTS

Introduction.....	2
Safety Precaution.....	2
Items Needed Check List.....	2
Parts Drawings.....	3-4
Assembly.....	5-6
Radio Check.....	7
Adjustment.....	7
Running Tips.....	7
Maintenance	8

SAFETY PRECAUTIONS

- Do not get anything close to the spinning propeller as it is dangerous and may cause serious injury.
- Never run this boat in water where there is any swimmer, animal or obstacle. It might cause property damage and serious injury if a collision occurs.
- Refer to radio manual or always do the range, frequency checking to avoid any possibility of interference. Never take the risk to run the boat without doing these checking procedures.
- Always exam the water tube, make sure there is no leak and the tubes are in well condition.
- Do not touch the Motor as well as the Wires until it has cooled down.
- Always let Motor cool down before next operation.
- Always attach the water fin sleeves as the fin is very sharp may cause body injury.
- Wear safety glasses is strongly recommended as spinning propeller may throw loose material such as sand or gravel into your face.

ITEMS NEEDED FOR COMPLETION



No.8306

Radio - Suggest FM or PCM radio system. Thunder Tiger COUGAR P3i 3CH computerized radio is recommended.



No.2819

Battery Pack-4S1P 4500mAh Lipo Battery Pack is recommended. High capacity for long time use and perfect fit in receiver box. Suggest to prepare more sets for boating.



No.2532

Battery Charger- ELC4 LiPo Battery Charger



No.2970

Radio Conversion Kit, 110V / 2P (w/12PCS Ni-MH 1.2V 1000mAh Batteries)
 No.2970 110V/2P
 No.2971 230V/2P
 No.2972 230V/3P

ITEMS INSTALLED



No.2365
OBL-36/15-46M

Motor-Water Cooled Motor is installed. Check the manual for the Motor Care.



No.8076

Speed Controller-Water Cooled BLC-60M Speed Controller. Check the manual before operation.

COMPREHENSIVE ITEMS NEEDED CHECK LIST

- Rubbing Alcohol
- Paper Towels
- Sponge
- Misc. Household Tools
- Lubricant oil or WD40
- Grease



PJ6254 Hull

Hull (1)

PJ6255 Hatch Cover

Hatch Cover (1)

PJ6090 Turn Fin Set

Turn Fin (L/1,R/1) Turn Fin Mount (2) Blind Nut(4)
 3x12mm Socket Screw (2) 3x15mm Socket Screw (4) M3 Locknut (2)

PJ6094 Strut MNT

Strut Mount (2) Blind Nut(4) 3x15mm Sink Screw (4)

PJ6091 Trim Tab Set

Nut (4) Blind Nut(4) 3x15mm Socket Screw (4)
 Trim Tab (2) Trim Tab Mount(2) 4x22mm Socket Screw (4)

PJ6093 Strut

Strut (1) M4 Locknut (1) 4x15mm Socket Screw (1)

PJ6095 Rudder MNT Set

Rudder Mount (1) Rudder Retainer (1)
 3x15mm Sink Screw (4) Pin (1)
 Standoff Ball (1) Steering Arm (1) Blind Nut(4)

PJ6256 Pushrod Set

Rudder Pushrod (1) Clevis (1)

PJ6098 Flexible Shaft

Flexible Shaft (1)

PJ6186 Teflon Tube

Teflon Tube A (1)
 Teflon Tube B (1)

PJ6257 Adaptor

Adaptor (1)
 3x3mm Setscrew(3)

PJ6100 Drive Collar

Teflon Washer (1) M4 Locknut (1)
 Prop Drive Collar (1) 4x4mm Setscrew(1)

PARTS LISTING

OUTLAW OBL



PJ6258 Radio Box Radio Box (1) Servo Tray (1) Nut (5)			PJ6099 Prop. Shaft Prop. Shaft (1) 3x2.5mm Setscrew(2)		
Waterproof Seal (1) Radio Box Cover(1) 4x15mm Socket Screw (5)			AJ0364 225 Prop. Propeller (1)		

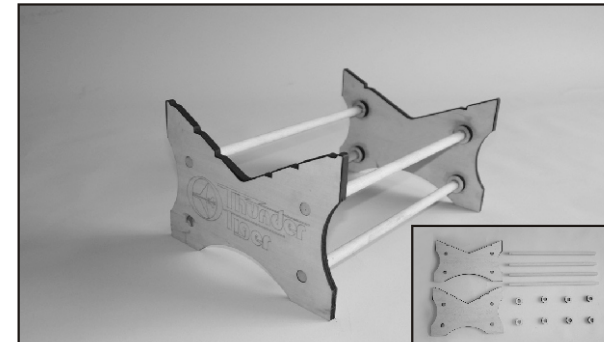
PJ6259 Waterproof Socket 2x8mm Wood Screw (2) Socket (1) Cover (1)		1250 Silicone Tube φ 3 Silicone Tube (1)		PJ6190 Antenna Set Antenna Mount (1) Antenna Tube (1) 2x8mm Wood Screw (2)	
--	--	--	--	--	--

2819 Lipo Battery 14.8V 4.5AH/25C Lipo Battery (1)		PJ6260 Motor Casing Upper Case (1) Bottom Case (1) Rubber Damper (4) 3x15mm Wood Screw (8)		PJ6097 Rudder Set Rudder (1) 4x18mm Socket Screw (1) M3 Locknut (1) 3x17mm Sink screw (1) M4 Locknut (1)	
--	--	---	--	--	--

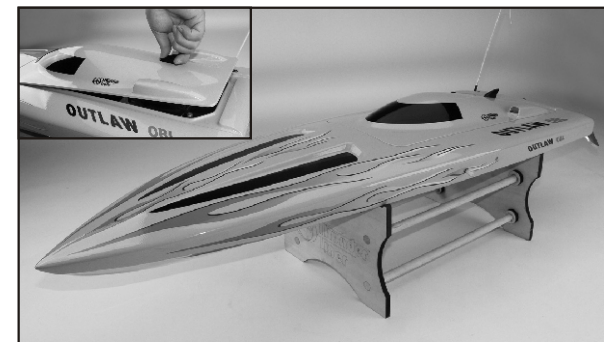
2365 OBL36/15-46M OBL36/15-46M (1) 3x8mm Socket Screw (4)		PJ6191 Waterproof Set Waterproof Seal (2) Ring (1)	
--	--	---	--

8076 BLC-60M BLC-60M(1)		PJ6192 Wrench Set M1.5 Hex Wrench(1) M2 Hex Wrench(1) M2.5 Hex Wrench(1) M3 Hex Wrench(1) 4 Way Wrench(1)		PJ6193 Boat Stand Wood Stand (1) Wood Stick (4) Foam Tape (4)	
-----------------------------------	--	---	--	---	--

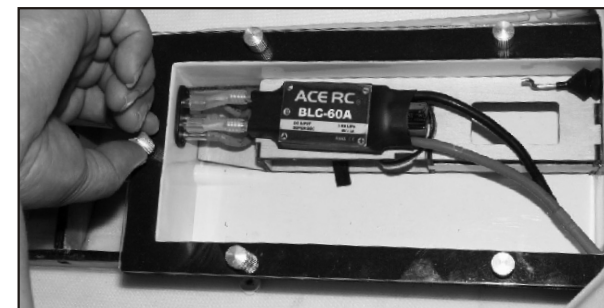
OUTLAW OBL



1. Locate two stands, 4 sticks and 8 doublers. Assemble the stand as illustrated. You need to use epoxy or CA to secure the sticks and doublers. Locate the foam tapes, then apply on the top side of the front and the rear stand, this is to protect the bottom surface of the hull.



2. Now you can place the Outlaw on the stand. Note the orientation, if you place the Outlaw in a wrong way then there will be a big gap between the bottom surface and stand. Open the hatch cover with your index finger at the black fin.



3. Remove the radio box cover by loosening 5 nuts; once done the installation or battery change then secure the cover back before you place the boat in the water.



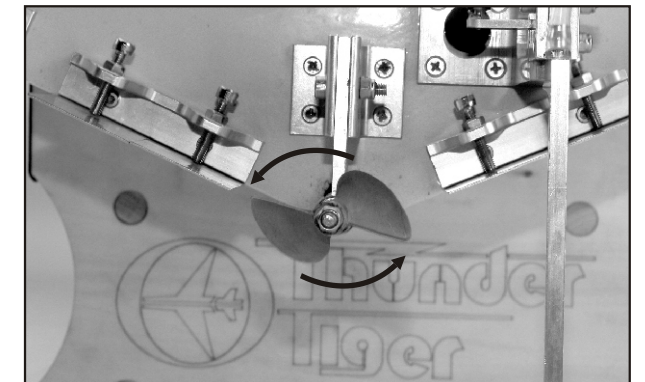
4. Install the servo in the servo tray, next thread the Z-bend end to the servo horn as shown. Adjust the ball end and make sure the servo and water rudder are in neutral position.



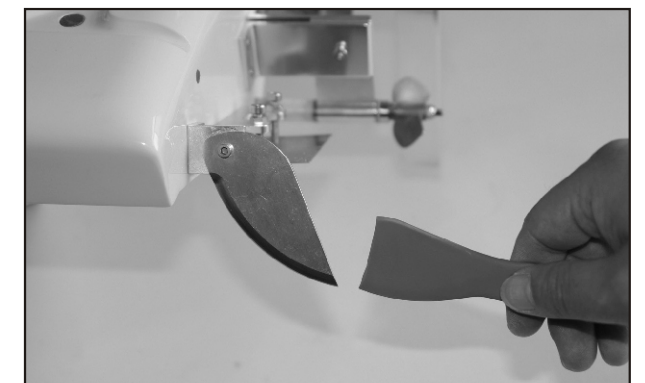
5. With transmitter on, install the suggested 4S 4500mAh Lipo Battery in place and connect the wires properly.

Note: Motor will burn if using 5S Lipo Battery as current drain is too high unless user change a smaller propeller.

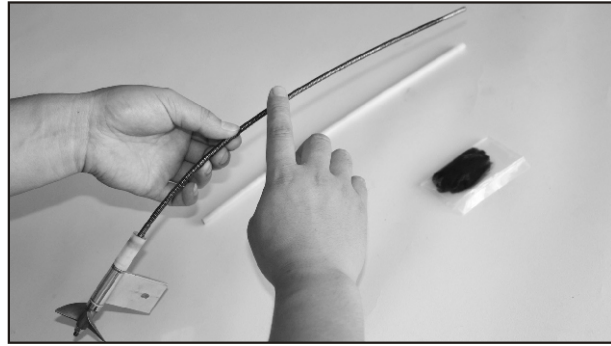
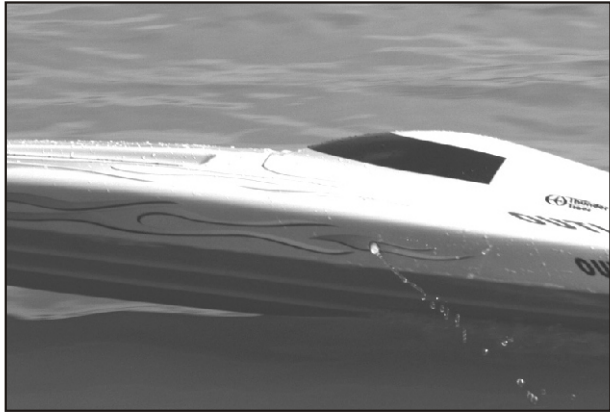
Always use care and away from the propeller when you connect the battery wires. Remember always transmitter on first then connect the battery; disconnect the battery first and turn off the Transmitter at last. Refer to your radio manual, sometime you will need to reverse the motor control as it must start from the very low end. This is a safety setup from the controller.



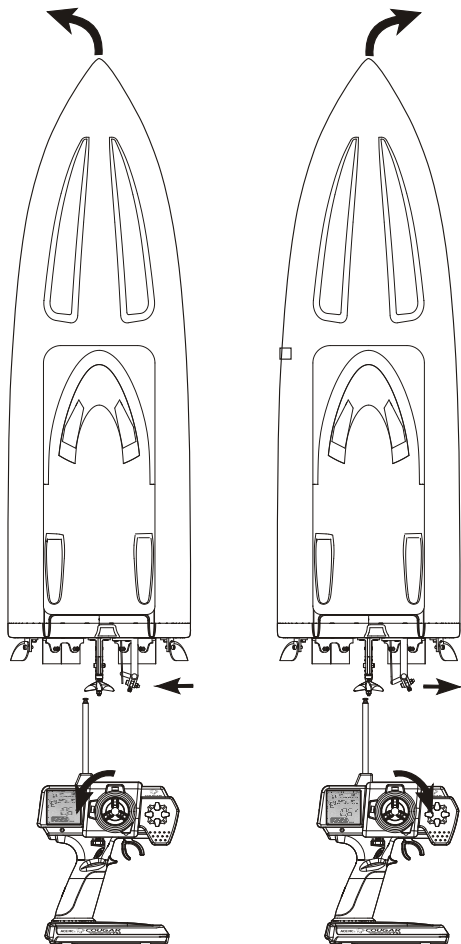
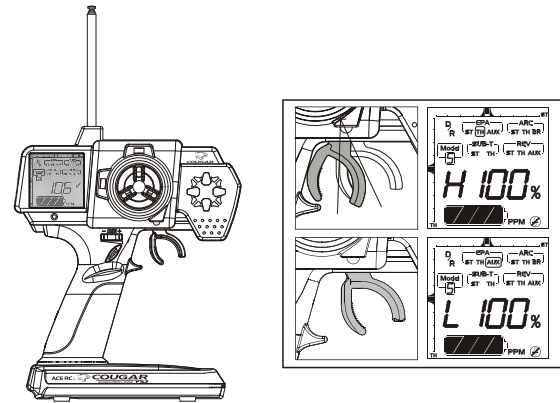
6. Make sure motor rotates counter-clockwise, if not then switch any two of the wires of the brushless motor to the sockets.



7. Remove the sleeve of water fin before placing the boat in water. Always put the sleeve on when boat is off water or use care when in operation as it is sharp and may hurt your body.



11. Lubricate the drive shaft is important. Remove the shaft by unscrewing the strut from the mount and the adaptor. Suggest to exam the shaft every 5 runs, clean and apply new grease is required. Replace new tube and shaft if they are worn out.



8. Place the boat in water gently to test run the boat. Suggest to run the boat at about 20 miles and check if there is water flow out from the port. If not then back to the pier or shore to exam the water line. This is very important that motor will overheat and burn if water cooling is not enough. Trim the boat and make sure the boat runs straightly.



9. The Outlaw OBL can run at full power speed for about 4 minutes and top speed may reach 32 mile/hr if using the suggested 4500mAh Lipo Battery (No.2819). Always watch the running time and do not run too far at the last as battery may out of power any time.



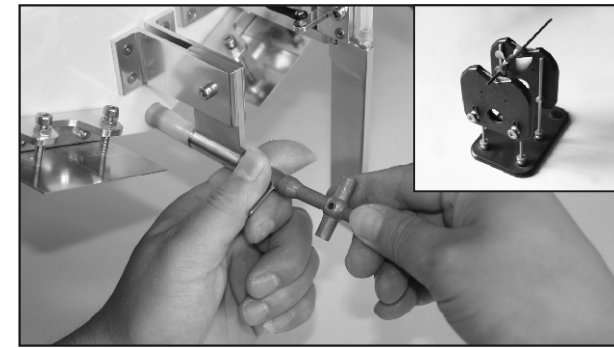
10. Always get back to the pier with the power as it is not good to run out of power then retrieve the boat from the pond or lake. Once out of power, do not be nervous and decide the shortest distance to the shore, the battery still has some power in it, you may stop the motor for couple seconds then run the boat again, it can move a short distance. You may repeat this for several times until the boat reach the shore.

RADIO CHECK

Check the radio manual to familiar with the adjustment of the throttle and steering. In the above figures, squeeze the trigger on the transmitter to get the high speed. Setup 100% for activity. For low speed, we set up around 100%. Normally motor is stop and the trigger is at neutral position. If not, you can adjust the activity percentage or trim lever to reach this. It is not necessary to set up motor backward when the trigger is forward as off-shore racer is always forward.

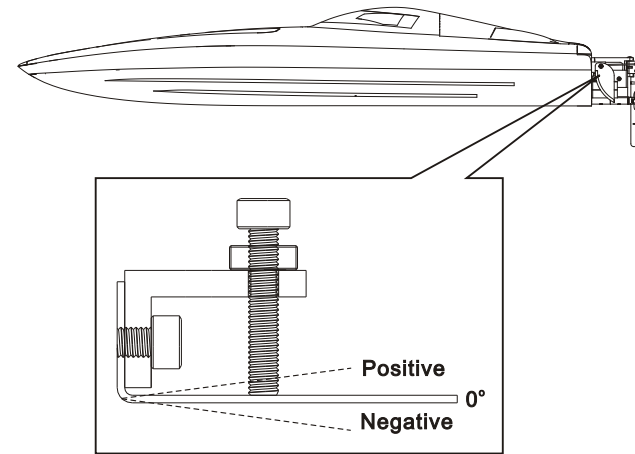
However the BLC-60M has the backward function, user may refer the controller manual to set up this function.

Make sure the steering is correct when rotate the wheel on the transmitter. Later on when running the boat you may trim the steering by adjusting the trim lever on your transmitter until it runs straight when the steering wheel is at neutral position.



BALANCING THE PROPELLER

To improve performance, balancing the metal propeller is highly recommend. First remove any flashing on the propeller then use quality propeller balancer to do the balancing. Sharpen the leading edge of propeller will have better performance and get less prop work to the right.



PROPELLER THRUST ANGLE

Adjust the thrust angle might be necessary. The default setting of the thrust angle is in the neutral position where strut is level with the mount. However, it might be necessary to adjust upon the following situation.

Bow Up-Adjust the thrust angle to negative so it will Downward the bow.
Bow Down-Adjust the thrust angle to positive so it will Upward the bow.

TRIM TAB

The Outlaw OBL has two trim tabs at the transom. Suggest to do the all adjustment in calm water. Basically the Outlaw is capable of running on wild water yet it need to adjust the trim tab downward or it might jump too high and have a loop in air. The thrust angle and trim tab are related to each other, use patient and adjust your outlaw for its peak performance.

Bow Up-Adjust the trim tab to negative so it will Downward the bow.
Bow Down-Adjust the trim tab to positive so it will Upward the bow.

Each trim tab has two tabs, try the inner one or outer one respectively may get different result in the water.

Congratulations!

Now you are ready to test run your boat!

RUNNING THE OUTLAW

LAUNCH PROCEDURE

1. Refer to radio manual and always transmitter on first receiver last.
2. Always stay clear of spinning propeller.
3. Gently place the boat in at least 12"(30cm) deep water and free of obstacles (rocks, weeds, sticks, muskrats, ducks, etc...).
4. Watch out the spinning prop and water fins during the launch.
5. When finished running, then turn off Receiver first Transmitter off last.

MORE RUNNING TIPS!

Besides the "Safety Precautions" at the beginning of this manual we recommend you read through the following valuable tips that help you enjoy boating the Outlaw successfully and safely.

- Make sure the water cooling system is working properly or it will cause Motor overheated.
- Refer to Motor manual to lubricate your Motor periodically.
- Choose a windless day to run your Outlaw as wind can cause rough water that will affect the performance.
- The running time of Outlaw OBL about 4 minutes. Always notice the running time and have it back to the shore before out of power.
- Check the lake and wind direction then choose a good location for boating. The wind can carry it back to the shore if battery is out of power. The following is a good way to get your back. Retrieve the stalled or capsized model boat with a fishing rod that equips reel. Tie a tennis ball on at least 12 lb. String.