

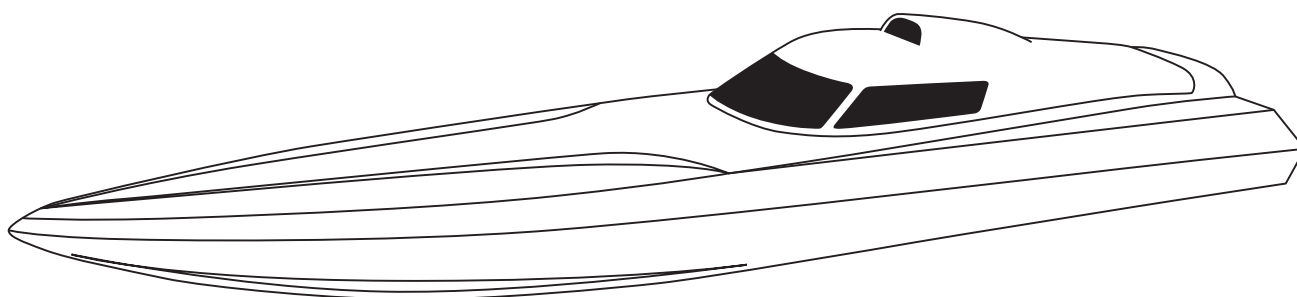


INSTRUCTION MANUAL

THIS MODEL IS NOT A TOY!

'95H' SERIES RTR BRUSHLESS EP RACING BOAT

THESE INSTRUCTIONS SHOULD BE READ BY A SUPERVISING ADULT, IN CONJUNCTION WITH THE SEPARATELY INCLUDED RADIO CONTROL INSTRUCTIONS

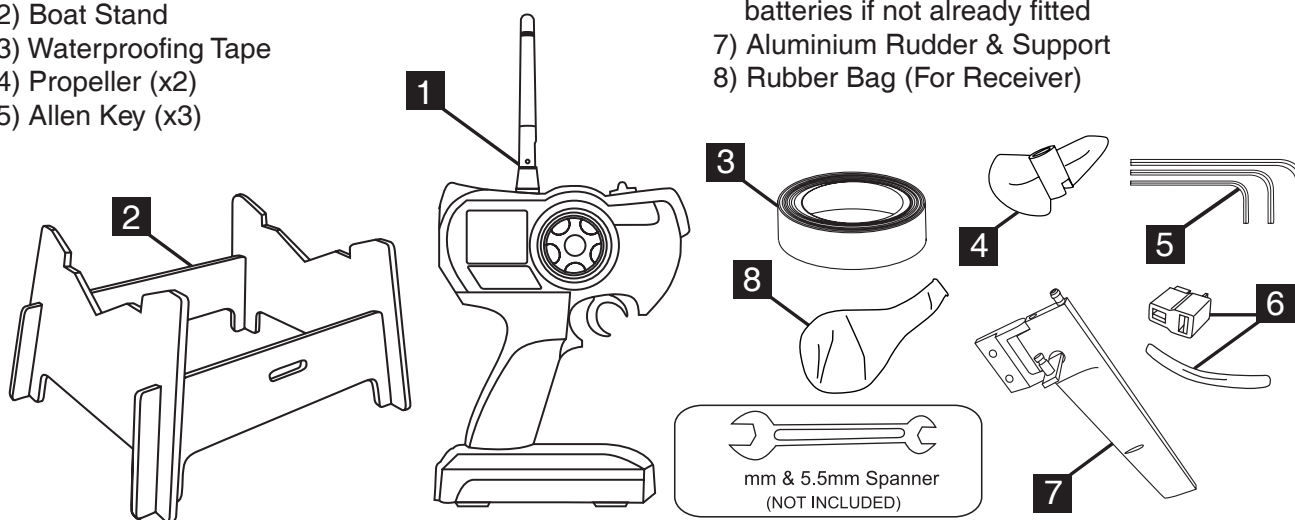


Invincible Razor RTR
B-JS-9501H/2-4G

CONTENTS OF SET

- 1) Transmitter
- 2) Boat Stand
- 3) Waterproofing Tape
- 4) Propeller (x2)
- 5) Allen Key (x3)

- 6) Deans Connectors w/Heatshrink - Fit to Li-Po batteries if not already fitted
- 7) Aluminium Rudder & Support
- 8) Rubber Bag (For Receiver)



REQUIRED FOR (NOT INCLUDED)

- 1) 2x 7.4V, 4000mAh (or greater) 20C Li-Po battery pack
- 2) Li-Po Battery Charger
- 3) 5.5 and 7mm Nut Drivers
- 4) 8x AA Batteries (for Transmitter)

Note: Li-Po batteries should have Deans-type connectors fitted. If not supplied with Li-Po batteries, solder included Dean connectors to Li-Po battery wires noting correct polarity (+/-).

IMPORTANT

Before using this '95H' series model and its radio control system, and to ensure the safety of yourself and others, it is very important that you read these instructions thoroughly and understand them.

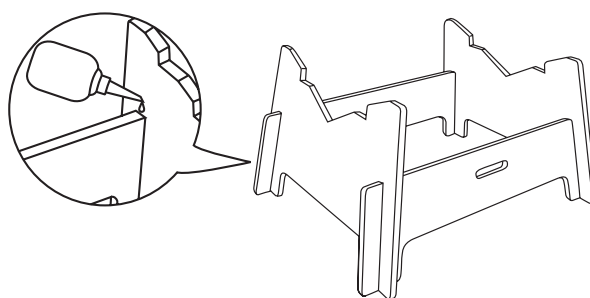
'95H' series model is capable of speeds in excess of 70+km/h! Care should be taken to avoid the possibility of injury and/or property damage.

'95H' series model is designed for use in fresh water only. They are not designed for use in salt water!

'95H' series model is not intended for persons under 14 years of age, unless closely supervised by an adult.

ASSEMBLING THE BOAT STAND

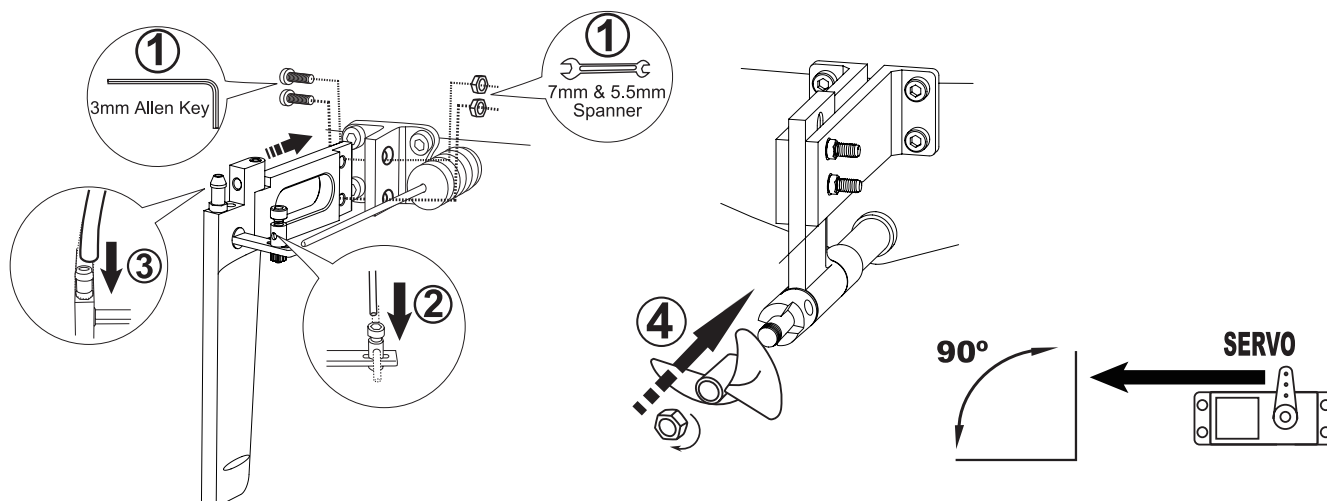
Assemble the included boat stand by slotting the pieces together as shown (X-Blaze stand shown for reference). Apply cyanoacrylate glue or 2-part epoxy to secure the joints and allow the glue to completely set before placing your '95H' series model on it.



INSTALLING THE RUDDER AND PROPELLER

- 1) Slide the rudder assembly into its mount and secure with the cap screws and nuts provided using the included 3mm Allen key and a 5.5/7mm spanner. See 'ADJUSTING THE REAR SHAFT STRUT' section overleaf for details of position.
- 2) Slide the rudder connecting rod through the mount in the rudder arm and secure it using the 3mm Allen Key.
- 3) Take the silicone cooling tube that exits the right rear side of the hull and push it onto the water inlet nipple on top of the rudder.
- 4) Finally, fit a propeller to the propeller shaft and secure with the intended nyloc nut. Do not overtighten as the nylon insert will prevent the nut from accidentally working loose!

Note: When securing the rudder connecting rod, all radio equipment should be switched 'ON' and the steering servo horn should be vertical (neutral).



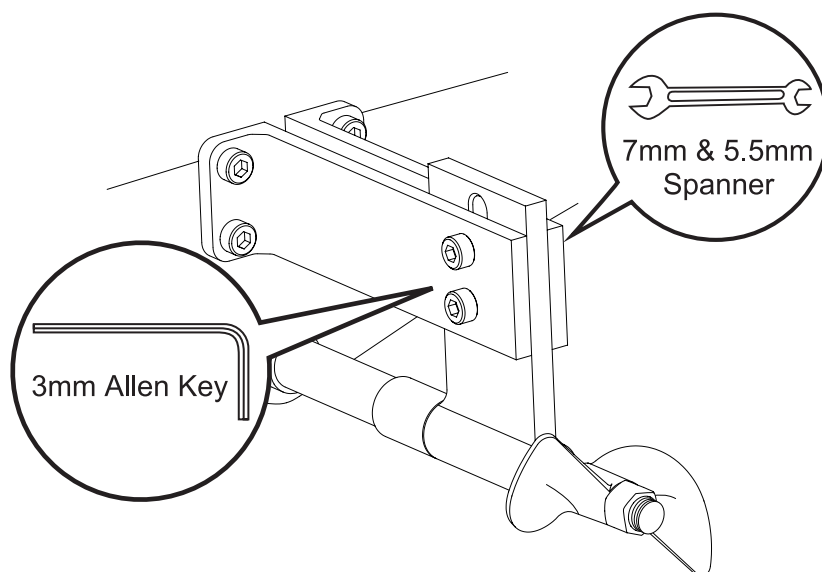
ADJUSTING THE REAR SHAFT STRUT

The position of the rear shaft strut to the hull will have an effect on the way your boat performs. The illustrations below show standard factory settings that are good for most applications.

Adjusting the rear strut to a higher position will increase top-end speed, but reduce steering response and could cause cavitation (unwanted vibration) if excessively adjusted, which can cause harm to the motor and ESC. It will also result in a decrease of top-end speed.

Adjusting the rear shaft down will increase steering response, but could cause the model to oversteer and reduce overall speed. This adjustment can be beneficial when running on rougher water however.

Generally, it is better to make small adjustments either way and see what effect this has on the operation of the model.

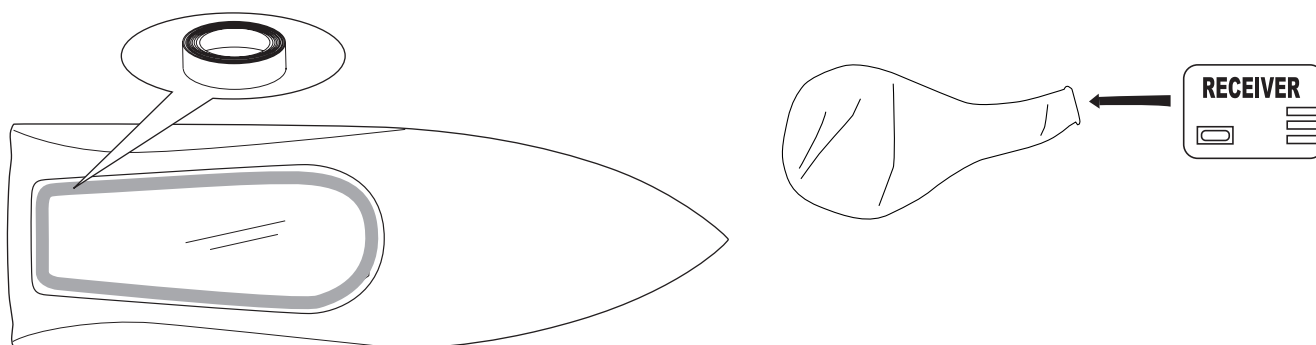


WATERPROOFING TIPS

You should take steps to ensure that your '95H' series model and its radio control equipment are adequately protected against the possibility of water damage. Place your model's receiver inside the included rubber bag (balloon) and tie the end off with a cable tie or similar.

Use the waterproofing tape provided to seal the hull as shown after you have connected the battery packs, before placing your '95H' series model on the water.

Ensure the propeller's flexible shaft is properly lubricated (see below) as this too will reduce the possibility of water entering the hull during operation.



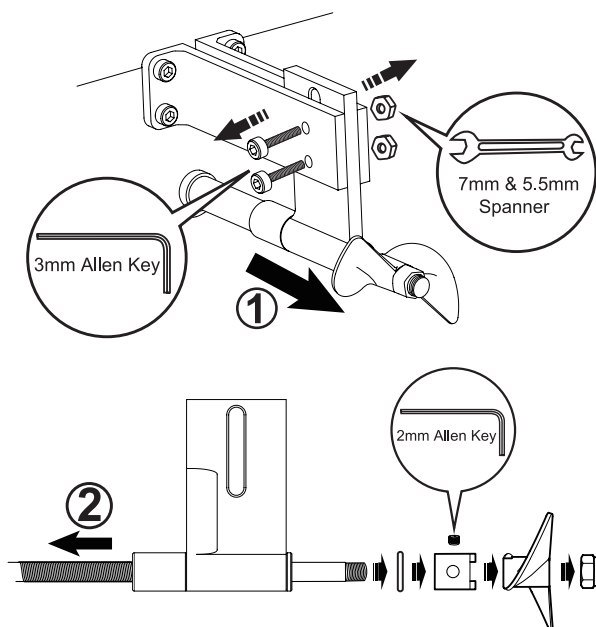
LUBRICATING THE PROPELLER SHAFT

Lubricating the '95H' series model's flexible propeller shaft is vital to its smooth operation and lifespan. The lubricant also acts as a water seal, helping to prevent water from entering the hull via the propeller tube.

It is recommended that you lubricate the propeller shaft and tube every 2~3 hours of operation.

- 1) Use the 3mm Allen key provided and spanner to remove the screws and nuts that secure the propeller shaft support.
- 2) Next, remove the propeller nut, propeller and nylon washer. The propeller shaft support and flexible shaft shroud can now be pulled off the end of the flexible shaft.
- 3) Lubricate the flexible shaft and shroud with waterproof marine grease and re-install. Re-installation is the reverse of the disassembly procedure.

Note: Never apply grease to the '95H' series model's brushless motor.



INSTALLING BATTERY PACKS IN '95H' SERIES MODELS

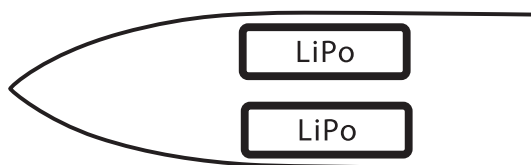
(Model should be placed on its supplied boat stand with the transmitter switched 'ON', having previously read and understood the separately supplied radio control instructions)

- 1) Remove the '95H' series model's upper deck by unscrewing the knurled knob at its rear section.
- 2) Insert battery packs into the hull as shown below and secure with the hook and loop strap inside the hull.
- 3) Attach the battery pack's connectors to the matching connectors in the model. Do not force them together - they only attach one way!
- 4) Re-position the upper deck, securing with the knurled knob. Finally, seal the upper deck with the waterproof tape provided.

Attention: Before replacing the '95H' series model's upper deck, check to ensure that the water-cooling tubing that connects to the motor is not obstructed or kinked, as this can cause the motor and speed controller to overheat and potentially burn out.

Note 1: '95H' Series models will typically run for around 7~8 minutes on fully charged Li-Po battery backs, although this will vary depending on the type and capacity of Li-Po packs you choose. As soon as you notice a drop off in speed you should bring the model back to shore or control may be lost.

Note 2: If you want to run your '95H' series model for extended periods, you can purchase additional Li-Po battery packs. However, continuous running of the model will generate high heat levels which will lead to premature wear of the brushless motor. Once your Li-Po battery packs are exhausted, we recommend that you let the model cool down for 5~10 minutes before installing fresh ones.



Invincible Razor battery location

HOW TO CONTROL/OPERATE YOUR '95H' SERIES BOAT

1) Forward Throttle Trigger

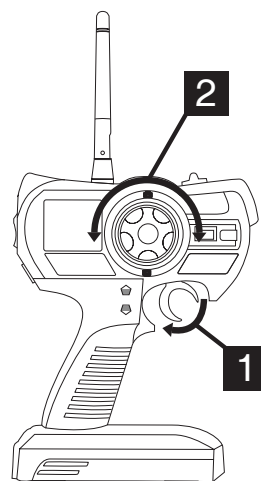
Your '95H' series model can be driven forward by pulling the throttle trigger. Release the trigger and the model will stop.

2) Left/Right Steering Wheel

The steering wheel controls the '95H' series model's left and right movement. Turn the wheel to the left to steer to the left. Turn the wheel to the right to steer right. Release the wheel to go straight.

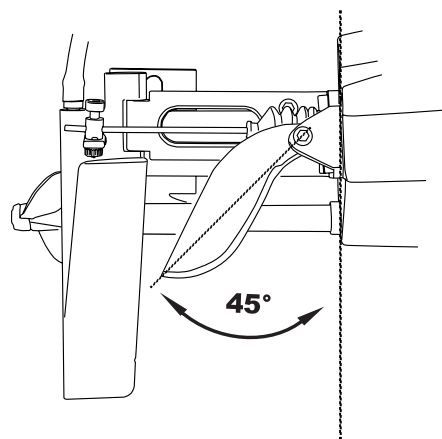
Racing Tip: '95H' series model is designed for racing, and will be less responsive to steering inputs at high speed. Decrease your speed to allow tighter turning.

Note: For full details of the operation of your transmitter, refer to the separately included radio control instruction manual.



TURN FINS

Your '95H' series model features adjustable turn fins to aid in turning. They are fitted and adjusted using the included Allen key. The optimum angle of adjustment is 45 degrees to the hull.

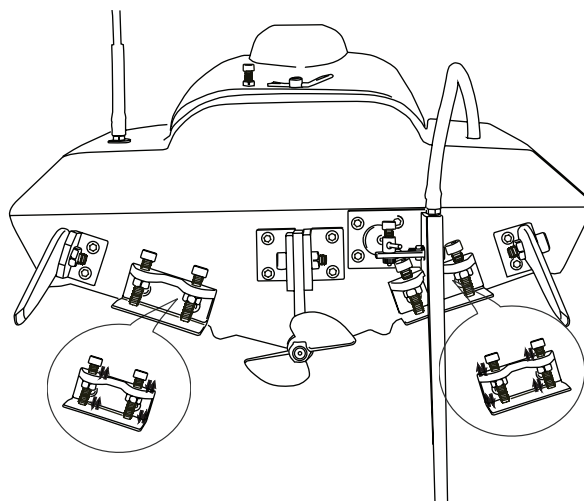


TRIM TABS

Your '95H series' model features an adjustable trim tab. Trim tabs allow the boat to operate at its optimum hull-to-water configuration and enable you to adjust the hull for best operation in differing conditions from flat calm to choppy water. It can also be used to adjust when the boat leans (lists) to one side when moving and act like an adjustable wing which allows the boat to get up on plane at slower speeds, which is more efficient.

To adjust the trim tab, you only need to turn in or turn out the adjusting screw (using the included Allen key) and lock off the setting by tightening the included nut. The more you screw in and extend the trim tab, the more the boat's bow (nose) will be pushed towards the water.

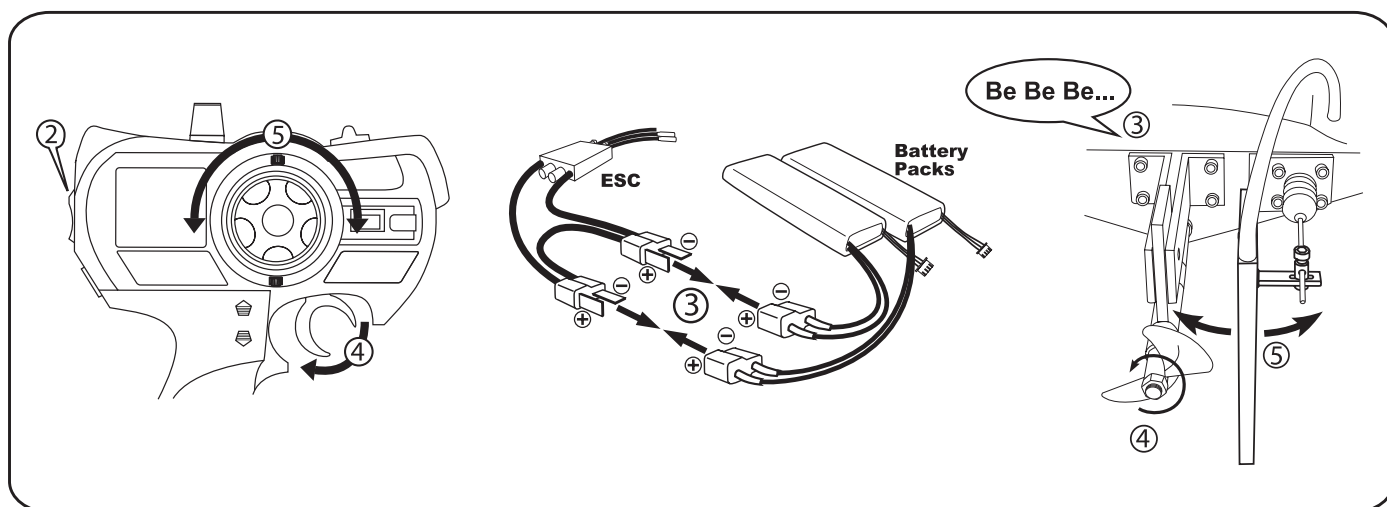
Note: Trim tabs are factory-set level with the bottom of the hull, or zero degrees. Adjustments should not be made no more than 3 degrees, or performance/control will be adversely affected. Make small adjustments at a time and see what effect this has on performance.



GETTING READY TO USE YOUR '95H' SERIES MODEL

(Model should be placed on its supplied boat stand)

- 1) Check that the turn fins are adjusted correctly.
- 2) Switch 'ON' the transmitter. Check that the transmitter's power LED glows.
- 3) Plug the Li-Po batteries into the ESC - you will hear three continuous audible beeps.
- 4) Pull the throttle trigger on the transmitter - the boats propeller should turn anticlockwise.
- 5) Check that the rudder responds correctly to transmitter inputs.
- 6) Fit the upper deck and secure with the included fixing knob, taking care to ensure the water-cooling tubing is not kinked.
- 7) Seal the upper deck with the included waterproof tape.



AFTER USE

- 1) When you have finished using your '95H' series model, you should first switch 'OFF' the model (disconnect the Li-Po battery packs), then switch 'OFF' your transmitter.
- 2) Remove all batteries from the transmitter and model.
- 3) Leave the '95H' series model's upper deck off to allow moisture to evaporate. Also, temporarily remove the receiver from its rubber bag. Ideally, place the model in this way in a warm and dry place, like an airing cupboard, until you are sure it is dry and then store it away.
- 4) Periodically grease the '95H' series model's propeller shaft and tube as this will reduce wear and also help prevent water from entering the hull.

Note: These adjustments should be carried out in conjunction with the separately included radio control instructions.

IF THE '95H' SERIES MODEL DOES NOT RUN IN A STRAIGHT LINE

If your '95H' series model does not run in a straight line when not being steered, you can adjust it by using the steering trim located on the transmitter.

- 1) Run your '95H' series model on calm water when adjusting the steering. If your model runs to the right when not being steered, adjust the trim control a little to the left, re-centre the model and see if this has corrected the problem. Keep making small adjustments in this way until the model runs straight.

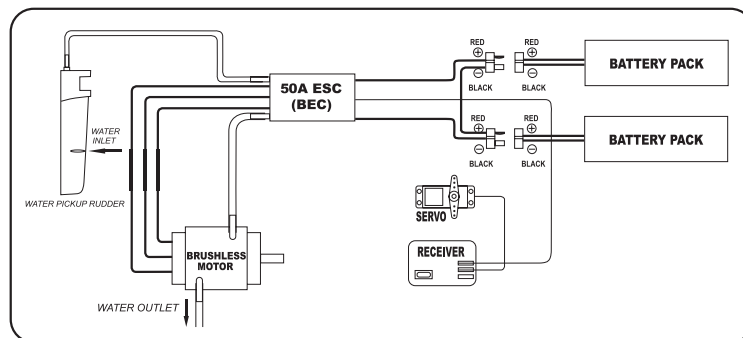
Adjust the trim control to the right to correct if your model steers to the left without being steered in the same way as detailed above.

- 2) You can also adjust the '95H' series model's throttle response using the Throttle Trim, located on the transmitter.

If, when you connect the Li-Po battery packs, the '95H' series model's propeller starts turning without transmitter input, you can adjust it back to neutral (stopped) by moving the Throttle Trim control to the left. You should adjust this trim so that the propeller starts to turn as soon as you depress the transmitter's trigger, but the propeller stops turning immediately the trigger is released.

CIRCUIT & COOLING SYSTEM DIAGRAM FOR '95H' SERIES BOATS

Each '95H' series model is supplied from the factory with radio and cooling systems already set up. However, if you have cause to maintain, repair or replace parts in your model in the future, this chart can be of help when it comes time to re-installing/re-connecting everything.



ESC (ELECTRONIC SPEED CONTROLLER) CALIBRATION & SPECIFICATION

It can be useful to have a friend help you with this procedure.

Calibration:

- 1) First, ensure the brushless motor and receiver are properly connected to the ESC.
- 2) Next, connect one of the fully charged Li-Po batteries to the ESC.
- 3) Then, pull and hold the transmitter's throttle trigger at maximum, whilst switching 'ON' the transmitter.
- 4) Continue to hold the throttle trigger at maximum, and connect the second fully charged Li-Po battery to the ESC. You will hear 4 high pitched tones.
- 5) Now, wait a few seconds and push the throttle trigger fully forward and hold it there - you will hear 3 repeat monotones.
- 6) Release the transmitter's trigger and disconnect the Li-Po battery packs from the ESC.

Note: You only need follow this procedure if your speed controller is not responding correctly to throttle inputs or if you are re-installing an existing or new ESC, as it is already factory set.

Specification:

Max Continuous Current: 50A

Peak Current: 60A for 15 Seconds

Li-Po: 2~4 Cells (7.4~14.8V)

BEC Output: Continuous 2A/Peak 2.5A

Thermal Protection: Activated at 120 degrees C

Low Voltage Protection: Engaged when Li-Po battery pack (per cell) drops to 3V.

CAUTION!

Please observe the following warnings

DURING OPERATION

- Ensure that all batteries are correctly installed and that the Li-Po battery packs are fully charged.
- Do not operate your '95H' series model in areas with strong currents, in salt water or areas of water with large waves.
- Do not touch moving parts during operation, especially the propeller.
- The metal hardware (rudder, turn fins, etc.) on the boat can be sharp, so take care to avoid injuring yourself on them.
- The brushless motor can get hot in use. Be careful not to touch it before it has cooled.
- Do not let your '95H' series model run aground, as this can cause damage.
- If you lose control of your '95H' series model, never wade into deep water or water with strong currents to retrieve it. First, hold the transmitter as high as you can to try to re-establish control. If this does not work, find another way to move closer to the model, but do not endanger yourself in the process!

STORING YOUR '95H' SERIES MODEL SAFELY

- Always remove all batteries before storing your '95H' series model and its transmitter.
- Never store your '95H' series model near naked flames, in high temperatures (including radiators) or in direct sunlight.
- Never store your '95H' series model near water, outdoors, or in the rain.
- Ideally, store your '95H' series model and transmitter in the box in which they were supplied.

CARE WITH RECHARGEABLE BATTERIES (THE LI-PO BATTERY PACKS)

Care must be taken when handling rechargeable batteries (the Li-Po battery packs) to avoid the possibility of injury and/or damage to property. Do not short circuit, disassemble or incinerate rechargeable batteries. It is very dangerous to disregard these warnings.

GENERAL INFORMATION FOR THE SAFE OPERATION OF YOUR '95H' SERIES MODEL

Please follow these simple rules to ensure safe operation and gain the maximum enjoyment from your model.

- This model is not a toy and should not be treated as such. Children under 14 years of age should not use this product unless closely supervised by an adult.
- Because this model is operated by radio control, it is important to ensure you always use fresh and/or fully charged batteries. Never allow the batteries to run low or you could lose control of the model!
- Avoid overloading your model. Never run it in areas where its movement will be restricted, e.g. areas where there is pond weed, etc., as this can over stress the motor.
- Ensure nothing prevents the smooth running of moving parts.
- Do not run your model in confined spaces.
- Never run your model in a public space where it might upset or endanger people or wildlife.
- Immediately switch 'OFF' your model and transmitter if you see lightning or hear thunder. Never use your model in the rain.

Do not dismantle or tamper in any way with this R/C vehicle and its transmitter. The manufacturer and distributor will accept no responsibility, expressed or implied, for accidents or injuries caused as a result of disassembly, modification and/or usage against the Instructions for this product.


Tampering or modification will also invalidate the guarantee.

TROUBLE SHOOTING

Check using the chart below before returning your '95H' series model for repair as many problems can be easily solved.

PROBLEM	CAUSE	REMEDY
Model will not move	No batteries in transmitter/model Battery installation is incorrect Weak batteries in transmitter Weak batteries in model	Install batteries Install batteries correctly, checking polarity (+/-) Replace/recharge batteries Recharge Li-Po battery packs
No control of model	Weak batteries in transmitter	Replace/recharge batteries
Limited radio range	Weak batteries in transmitter	Replace/recharge batteries

ITEM NO.	ITEM NAME	PHOTO
95101	9501H Hull and Deck	
95001	B4074 Water Cooled 4 Pole BL Motor	
95002	Water Cooling Jacket for 4074 Motor	
95003	Invincible Razor Turn Fins and Fin Stand	
92H03	90A Water Cooling Brushless ESC w/o BEC	
92H04	Water Cooling Plate for 90A ESC	
92007	Flex Shaft Set with Coupler	
92H10	Super X-Blaze/Invincible Razor Trim Tabs and Stands	
92013	Rear Shaft Strut Support Set (Long)	

ITEM NO.	ITEM NAME	PHOTO
92042	P1.4x44mm Two Blade Copper Propeller	
92047	Rudder and Support Set	