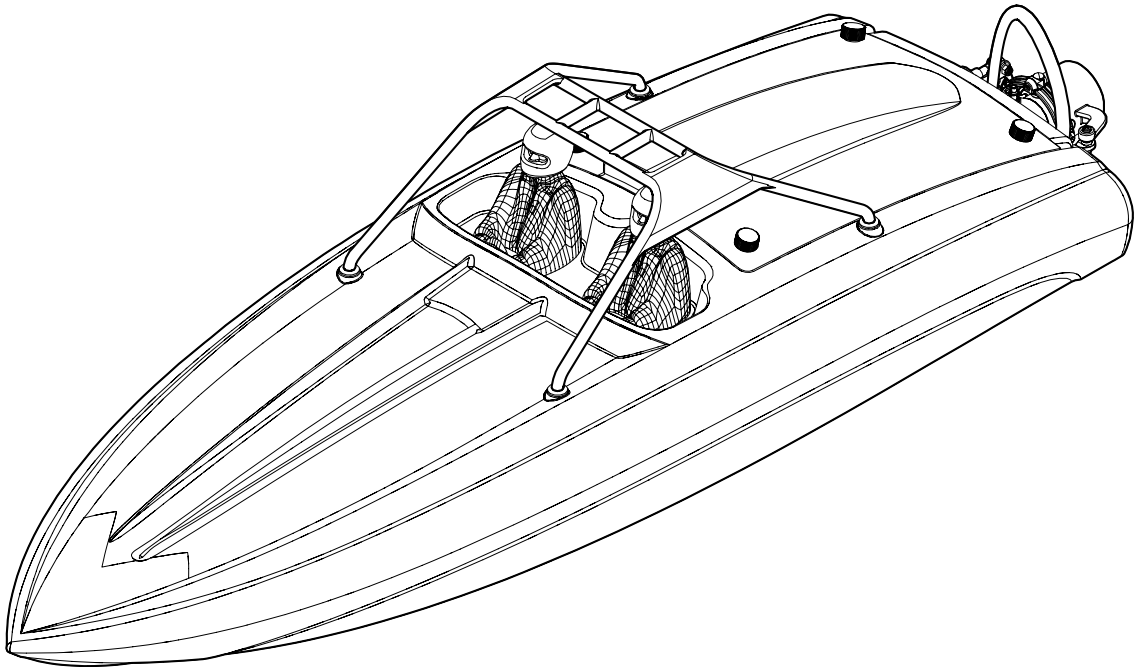


River Jet™ Boat

PRB08025

23-INCH RTR

**Owners Manual • Bedienungsanleitung
Manuel de l'utilisateur • Manuale dell'utente**



NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, LLC. For up-to-date product literature, visit <http://www.horizonhobby.com> and click on the support tab for this product.

MEANING OF SPECIAL LANGUAGE

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND little or no possibility of injury.

CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

WARNING: Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.



WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product and NOT a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

Age Recommendation: Not for children under 14 years. This is not a toy.

Safety Precautions and Warnings

As the user of this product, you are solely responsible for operating in a manner that does not endanger yourself and others or result in damage to the product or the property of others.

- When handling and/or transporting your boat, always pick up the boat from the front, keeping all moving parts pointed away from you.
- Always keep a safe distance in all directions around your model to avoid collisions or injury. This model is controlled by a radio signal subject to interference from many sources outside your control. Interference can cause momentary loss of control.
- Always operate your model in open spaces away from full-size vehicles, traffic and people.
- Always carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.).
- Always keep all chemicals, small parts and anything electrical out of the reach of children.
- Always avoid water exposure to all equipment not specifically designed and protected for this purpose. Moisture causes damage to unprotected electronics.
- Never place any portion of the model in your mouth as it could cause serious injury or even death.
- Never operate your model with low transmitter batteries.

Water-Resistant Boat with Waterproof Electronics

Your new Horizon Hobby boat has been designed and built with a combination of waterproof and water-resistant components to allow you to operate the product in calm, fresh water conditions.

While the entire boat is highly water-resistant, it is not completely waterproof and your boat should NOT be treated like a submarine. The various electronic components used in the boat, such as the servo(s) and receiver are waterproof, however, most of the mechanical components are water-resistant and require additional maintenance after use.

Metal parts, including the bearings, pins, screws and nuts, propeller, rudder, rudder mounts, prop struts, as well as the contacts in the electrical cables, will be susceptible to corrosion if additional maintenance is not performed after running in wet conditions. To maximize the long-term performance of your boat and to keep the warranty intact, the procedures described in the "Wet Conditions Maintenance" section must be performed regularly.



CAUTION: Failure to exercise caution while using this product and complying with the following precautions could result in product malfunction and/or void the warranty.

General Precautions

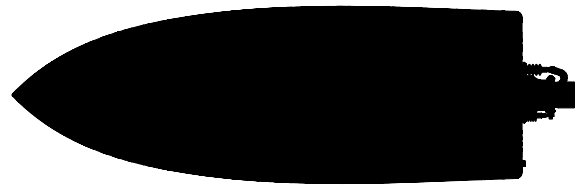
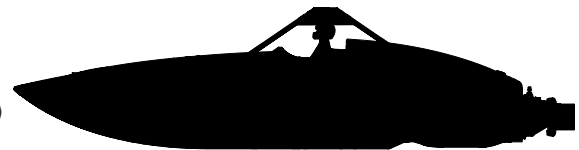
- Read the **WET CONDITIONS MAINTENANCE** procedures and make sure that you have all the tools you will need to properly maintain your boat.
- Not all batteries can be used in wet conditions. Consult the battery manufacturer before use. Caution should be taken when using Li-Po batteries in wet conditions.
- Most transmitters are not water-resistant. Consult your transmitter's manual or the manufacturer before operation.
- Never operate your transmitter or boat when lightning is present.
- Salt water is very conductive and highly corrosive. If you choose to run your boat in salt water, immediately rinse the boat in fresh water after each use. Operating your boat in salt water is at the sole discretion of the modeler.

Specifications

Length	23 in (584mm)
Height	6.5 in (165mm)
Transmitter	STX2™ 2CH (SPMSTX200)
Receiver	SRX200 2CH (SPMSRX200)
Hull Material	ABS
Motor	2300Kv 14-Pole Brushless Outrunner Marine Motor, 33mm x 42mm (DYNM3952)
ESC	90A Brushless Marine ESC 2-4S (DYNM3870)
Servo	3KG, Plastic Gear Servo, WP, 23T (SPMS603)

Tip: 4 AA batteries (sold separately) are required to operate the boat and transmitter.

6.5 in
(165mm)



23 in (584mm)

Wet Conditions Maintenance

- Drain any water that has collected in the hull by removing the drain plug or canopy and tilting the boat in the appropriate direction to drain the water.



CAUTION: Always keep hands, fingers, tools and any loose or hanging objects away from rotating parts.

- Remove the battery pack(s) and dry the contacts. If you have an air compressor or a can of compressed air, blow out any water that may be inside the recessed connector housings.
- Remove all moving parts. Dry and lubricate parts after every 30 minutes of operation or if the boat becomes submerged.

NOTICE: Never use a pressure washer to clean your boat.

- Use an air compressor or a can of compressed air to dry the boat and help remove any water that may have gotten into small crevices or corners.
- Spray the bearings, fasteners and other metal parts with a water-displacing light oil or lubricant.
- Let the boat air dry before you store it. Water (and oil) may continue to drip for a few hours.

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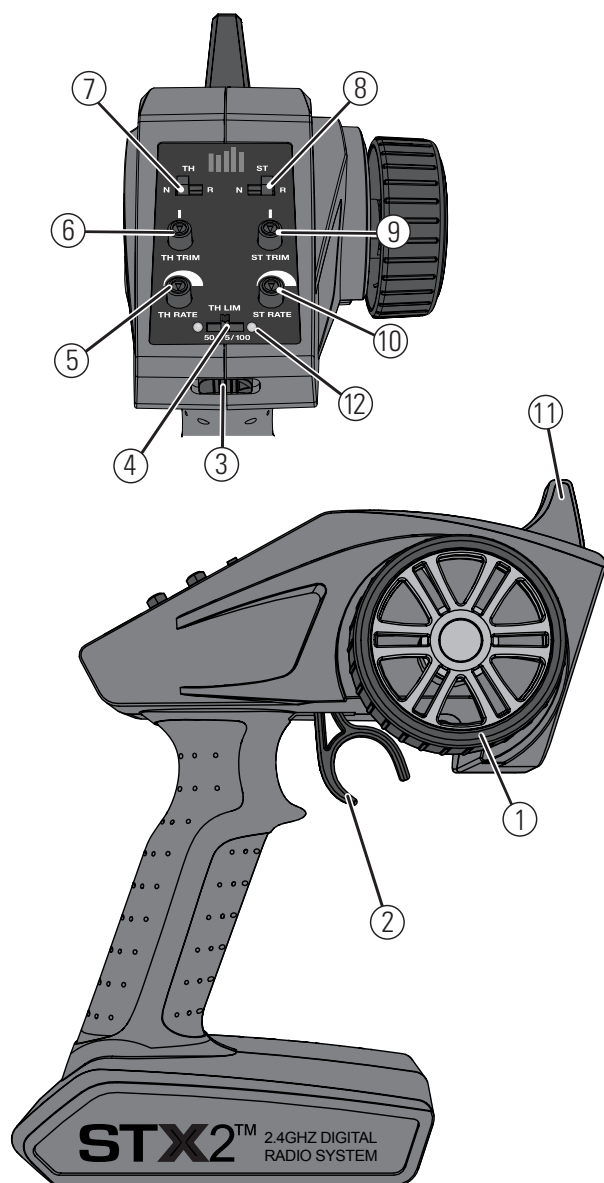
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Product Inspection

Carefully remove the boat and radio transmitter from the box. Inspect the boat for damage. If your product is damaged, please contact the hobby shop where you purchased your boat, or contact Product Support. Refer to the Warranty and Service Contact Information section for more info.

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Transmitter Controls



1. **Steering Wheel** Controls direction (left/right) of the model
2. **Throttle Trigger** Controls speed and direction (forward/brake/reverse) of the model
3. **ON/OFF Switch** Turns the power ON/OFF
4. **Throttle Limiting Switch** Adjusts the throttle limit from 50%, 75%, and 100%
5. **TH Rate** Adjusts the end point of the throttle
6. **TH Trim** Adjusts the throttle neutral point
7. **TH REV** Reverses the function of the speed control when pulled back or pushed forward
8. **ST REV** Reverses the function of the steering when the wheel is turned left or right
9. **ST Trim** Adjusts the steering center point
10. **ST Rate** Adjusts the end point of the steering
11. **Antenna** Transmits the signal to the model
12. **Indicator Lights**
 - **Solid red lights**—indicates radio connectivity and adequate battery power
 - **Flashing red lights**—indicates the battery voltage is critically low. Replace batteries

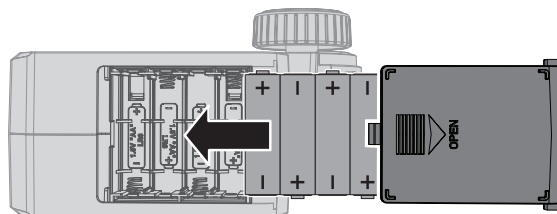
Installing Transmitter Batteries

This transmitter requires 4 AA batteries.

1. Remove the battery cover from the transmitter.
2. Install the batteries as shown.
3. Install the battery cover.

CAUTION: If using rechargeable batteries, charge only rechargeable batteries. Charging non-rechargeable batteries may cause the batteries to burst, resulting in injury to persons and/or damage to property.

CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to national regulations.

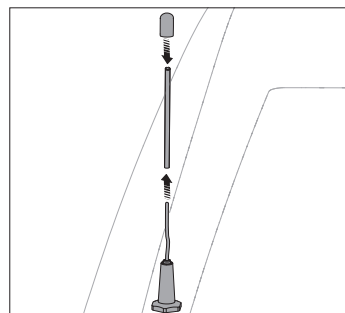


Antenna Tube Installation

Install the receiver antenna in the tube as shown. Do not bend the end of antenna over the antenna tube and place the cap over it or damage may result. The antenna does not have to be outside of the tube to operate properly.

Keep the end of the antenna above the boat's waterline to get the best transmitter reception. Apply clear tape (DYNM0102), if desired.

NOTICE: Do not cut or kink the receiver antenna or damage may result.



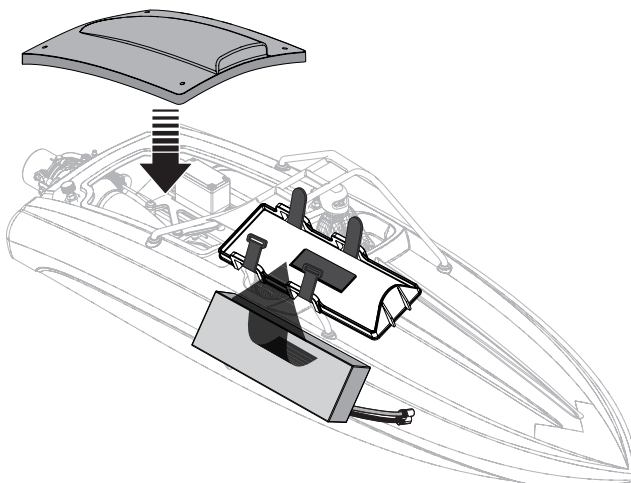
Battery Pack Installation

1. Loosen the 4 screws located at each corner of the canopy.

2. Remove the canopy from the hull starting with the 2 rear screws. Ensure that the 4 screws have disengaged from their bases before lifting the canopy carefully.

To secure the battery, use either the included self adhesive foam pad or hook and loop tape (DYNK0300). We recommend hook and loop tape when running your boat in rough water.

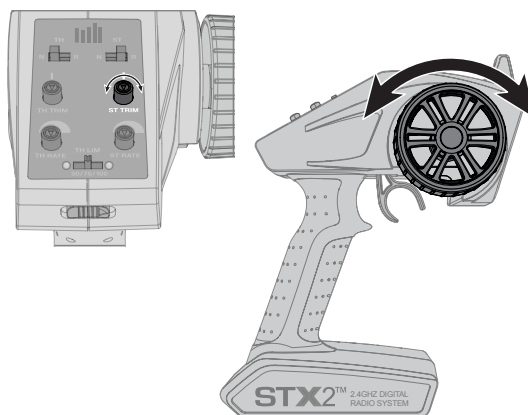
3. Install the battery in the battery tray using the hook and loop straps.
4. Connect the battery pack to the EC3™ connector on the ESC.



Control Check

IMPORTANT: Perform a control check at the beginning of each boating session, after repair or after installing new batteries.

1. Power ON the transmitter and the boat. **Do not install the boat canopy.**
2. Place the boat securely on the boat stand.
3. Test the steering: Turn the transmitter steering wheel to the left and to the right to check for proper control movement of the steering nozzle in response to your transmitter input.
4. Test the throttle: Apply minimal throttle and check that the motor and flywheel are rotating counterclockwise.
5. If everything appears to be operating correctly, prepare to operate the boat in the water.



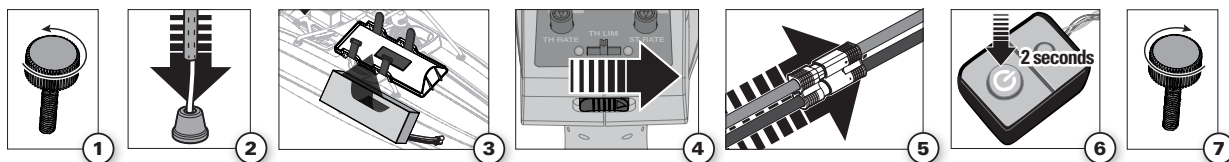
Getting Started

1. Remove the canopy from the hull.
2. Install the receiver antenna in the antenna tube.
3. Install the fully charged battery in the compartment and secure it with the hook and loop straps.
4. Power on the transmitter. Ensure the throttle is not reversed and the throttle trim is neutral.
5. Connect the battery to the ESC.
6. Keep the throttle at neutral and power on the ESC by pushing and holding the power switch for 2 seconds.

- Once armed, the ESC will beep and the LED will flash, indicating the number of battery cells it has detected.
- 1 short beep will sound and the LED will turn solid when the ESC is ready to run.

NOTICE: Pressing and holding the ESC **SET** button for 3 seconds allows you to change the battery chemistry from LiPo to NiMH. Refer to **Electronic Speed Control (ESC) Programing** for more information.

7. Install the canopy on the hull.



Self-Righting

If the boat turns over, release the throttle until the boat comes to a stop. Return the boat to upright by applying a short throttle burst.

The boat sitting in the water normally leans to the battery side. Apply throttle to level the boat. No weight adjustment is necessary.

NOTICE: The included weighted motor coupler aids self-righting after the boat has flipped and full throttle is applied. This coupler is intended for use with the included battery or other batteries with a 4000mAh maximum capacity.

To self-right the boat in calm water:

1. Apply a burst of reverse.
2. Apply a burst of full throttle.
The boat should rock and right itself.

To self-right the boat in rough water:

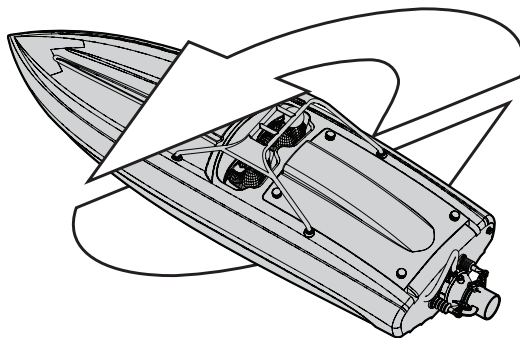
1. Release the throttle.
2. Apply a burst of forward, reverse and forward throttle. The boat should rock and right itself.

NOTICE: The boat may not self right in extremely rough water. Proceed to calmer water and follow the self-righting steps.

Tip: The boat will be easier to self-right when powered by a 14.8V battery.

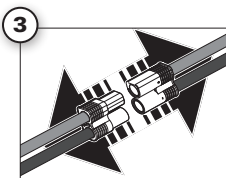
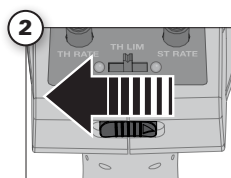
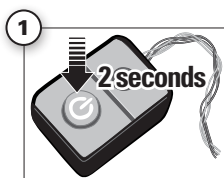


CAUTION: Repeated failed attempts to self-right may cause the electronics to overheat.



When You Are Finished

1. Power off the receiver by pressing the power button for 2 seconds.
2. Power off the transmitter.
3. Disconnect and remove the battery from the boat.

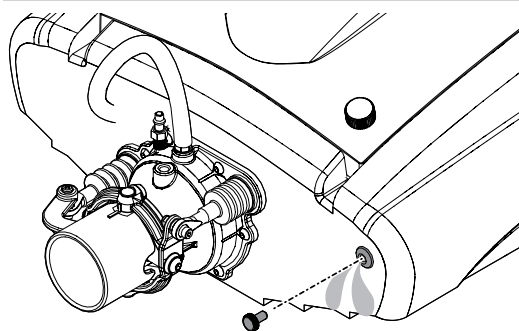


Tip: Always remove the canopy before storage or moisture may allow mold and mildew to grow in the boat. Drain water from inside the hull using the drain plug.

- Fully dry the inside and outside of the boat, including the water cooling lines and jacket around the motor
- Remove the hatch before storing your boat
- Repair any damage or wear to the boat
- Lubricate the drive shaft using Pro Boat® Marine Grease (DYNE4200 or DYNE4201) (see, **Drivetrain Lubrication**)
- Make note of lessons learned from the trimming of your boat, including water and wind conditions

Tip: The hook and loop strips in the boat retain water. To dry them, press on them with a dry cloth.

NOTICE: When you are finished boating, never leave the boat in direct sunlight or in a hot, enclosed area such as a car. Doing so can damage the boat.



Boating Tips

When running your boat for the first time, we recommend calm wind and water conditions so that you can learn how the boat responds to your control.

Maximum speeds are only achieved when the water conditions are smooth and there is little wind. A sharp turn, wind or waves can turn over a boat when it is moving quickly. Always pilot your boat for the wind and water conditions so that the boat does not turn over.

Consult local laws and ordinances before choosing a location to pilot your boat.

Avoid boating near:

- watercraft
- people (swimming areas, fishing areas)
- stationary objects
- waves, wakes
- rapidly moving water
- wildlife
- floating debris
- overhanging trees
- vegetation

Unlike rudder steerable boats, jet boats must have power applied to the motors in order for the boat to turn. When making turns, decrease the throttle to reduce the probability of flipping the boat over. The boat will not steer when coasting off power.

Never operate your boat in less than 3 inches (7.6 cm) of water.

CAUTION: Running your boat in shallow water increases the chance of debris entering the jet pump. Verify that the jet pumps are free of debris, as operating the boat with a blocked jet drive for a prolonged period will damage the motor and ESC.

If you need to retrieve your boat from the water, use fishing equipment or another boat.



CAUTION: Never operate your boat in extreme temperatures or turbulent water.



CAUTION: Never attempt to retrieve a downed boat by swimming to retrieve it.

Optional Trim Adjustment Servo

You can install a servo that allows you to adjust the boat's trim via a 3-channel radio.

IMPORTANT: This option is not available with the included radio system.

The servo tray fits a 1/18-scale or 1/16-scale servo (SPMS401). To install a trim servo in the servo tray:

1. Use a 1.5mm hex driver to loosen:
 - the set screw holding the steering link push rods to the servo arm, and
 - the set screw holding the trim link push rod to the servo tray
2. Disconnect the steering servo wire from the receiver.
3. Use a 2mm hex driver to remove the 4 screws holding the servo tray to the jet pump.
4. Insert a 1.5mm hex driver into the servo link end nut and use it as a handle to loosen the link end nut from the radio tray.
5. Install the servo in the radio tray.

Tip: Servo hold down screws are not included. We recommend M3 stainless steel button head screws with a 2mm hex head.

6. Attach the servo link end nut to the trim servo control arm.

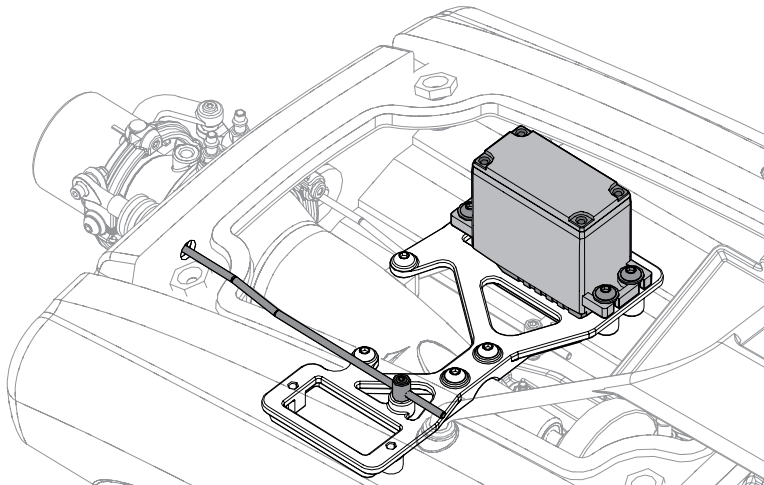
Tip: Over tightening the servo link end nut can cause your servo to burn out prematurely. Test the

servo arm movement by hand to ensure there is no drag or excessive friction.

7. Use a 2mm hex driver to install the servo tray on the jet pump using the 4 M3 screws removed in Step 3.
8. Power ON the ESC, allowing both the steering servo and the newly installed trim servo to center.
9. Center out the steering nozzle and tighten the set screw using a 1.5mm hex driver.
10. With the trim servo powered and centered, install the servo arm perpendicular to the servo.
11. Slide the trim link push rod through the rubber bellow and into the servo link end nut.
12. Set the steering nozzle trim to its desired position. Using a 1.5mm hex driver, tighten the set screw. This is now the default trim setting until you make adjustments with the new trim servo.
13. Using your transmitter, actuate the servo up and down to find the maximum travel. Ensure the servo end points are properly set.

NOTICE: If you do not properly set the servo end points damage to the servo and/or the jet pump will result.

14. Test the servo trim function in calm water and adjust the settings accordingly.



Maintenance

Drivetrain Lubrication

Always replace the drivetrain parts when they are damaged or show visible wear or injury and damage may result.

Servicing the Drive Shaft

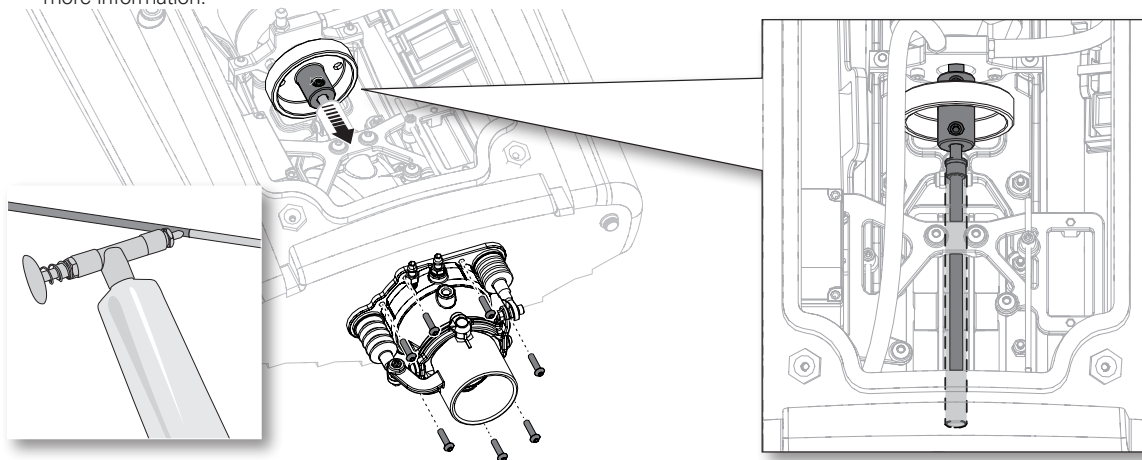
1. Remove the silicone cooling line from the brass fitting on the jet pump housing.
2. Use a 1.5mm hex driver to remove the bolts holding the steering and trim links from the steering and trim assemblies on the pump.
Use needle nose pliers to hold the nut that holds the bolt to the lever.
3. Use a 1.5mm hex driver to loosen:
 - the set screw holding the steering link to the steering servo arm
 - the set screw holding the trim adjustment link in place
4. Remove the trim adjustment link from the boat.
Inspect the links for damage and set them aside, taking care not to mix up the steering and trim adjustment links.
5. Use a 2mm hex driver to remove the 7 screws surrounding the main jet pump nozzle.
These screws are held to the hull by 2 plates that hold the nuts. If the plates and nuts loosen inside the hull, carefully remove them.
6. Gently pull the housing away from the hull by grabbing it at the base.
It is normal for the rubber bellows to come off the hull along with the nozzle.
7. Use a 2mm hex driver to remove the set screw that holds the drive shaft to the weighted motor coupler.
8. Remove the drive shaft from the boat.
Use pliers to grab the shaft by the nut if removal by hand is difficult. Do not use pliers on the drive shaft threads or damage will result.
9. Inspect the impeller and drive shaft for excessive wear or damage and replace them when necessary.
A discolored drive shaft indicates a lack of lubrication. Increase the amount of marine grease you are using. If you replace the drive shaft, you must also replace the stuffing tube. See **Replacing the Stuffing Tube** for more information.

Lubricating the driveshaft is vital to the life of the drivetrain. The lubricant also acts as a water seal, keeping water from entering the hull through the stuffing tube.

10. Use the Dynamite® Grease Gun with Marine Grease (DYNE4200) to apply 3–5 pumps of grease directly into the brass stuffing tube.

Before installing the drive shaft into the brass tube, place a paper towel between the motor coupler and the brass stuffing tube to catch excess grease.

11. Install the drive shaft into the brass tube.
Insert the drive shaft into the brass tube using a plunging and spinning motion thereby coating the drive shaft with grease.
12. Using the paper towel placed in between the stuffing tube and the motor coupler, push the drive shaft out of the brass stuffing tube.
Ensure you have used enough marine grease. If there is not excess grease, remove the drive shaft and apply additional grease. Repeat Step 10.
13. Push the drive shaft into the motor coupler.
14. Apply a small amount of blue Thread Lock on the set screw. Use a 2mm hex driver to install the set screw into the motor coupler and tighten the set screw by hand.
Tip: Apply marine grease to the tip of your 2mm driver. The grease will keep the set screw in place.
15. Ensure the impeller does not touch the jet pump housing by spinning the motor or flywheel by hand.
If the drive shaft and impeller housing are touching, loosen the set screw and pull the drive shaft out just enough to provide the appropriate amount of clearance.
16. Install the jet pump nozzle on the hull.
Once all the screws are loosely in place, tighten the screws down in a crisscross pattern. Do not over tighten the screws or you will damage the flange on the jet pump nozzle.
17. Install the rubber bellows from inside the hull outward.
Apply a small amount of marine grease to the bellows to ease their movement through the hull. Remove excess grease after installation.



18. Apply a small amount of marine grease along the steering and trim links. This allows them to slide into the rubber bellows. After installation, remove any excess grease.
19. Attach the ball ends of the steering and trim links to the nozzle mechanics. Set the jet nozzle trim to the stock setting.

Tip: Power on your boat so that the steering servo centers before tightening the steering link set screw found on the steering servo arm.

20. Reattach the silicone cooling line to the brass fitting on the jet pump housing.

NOTICE: Running the boat in saltwater could cause some parts to corrode. If you run the boat in saltwater, rinse it thoroughly in freshwater after each use and lubricate the drive system. You can also use water displacement spray to help prevent the parts from corroding.

NOTICE: Because of its corrosive effects, running RC boats in saltwater is at the discretion of the modeler. Corrosion is not covered under warranty.

Replacing the Stuffing Tube

We recommend replacing the brass stuffing tube if you replace the drive shaft or if you notice wear or vibration in the drive line.

1. Follow **Servicing the Drive Shaft** Steps 1–9.
2. Use a 2.5mm hex driver to remove both screws from the motor mount.
3. Disconnect the motor wires and remove the motor from the hull, placing the motor aside.
4. Using a 2mm L-shaped hex driver, loosen the jet pump housing bolt until it is even with the nut holding it in place. **Do not remove the bolt completely.**
5. Insert the drive shaft into the brass stuffing tube, applying minimal lateral force while simultaneously pushing away from yourself.

NOTICE: Applying too much force prevents the drive shaft from entering the brass tube correctly.

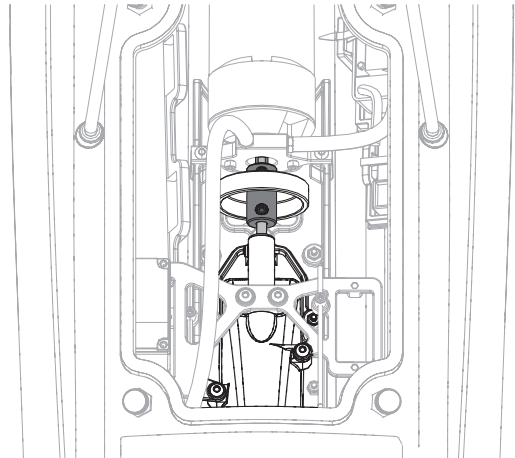


WARNING: Do not allow the drive shaft to push the brass tube out the back of the pump. Doing so could damage the pump webbing.

6. Install the new brass stuffing tube (from inside the boat) pushing it toward the back of the boat. Verify the brass tube sits inside the jet pump housing support webbing.

NOTICE: Do not push the brass tube flush with the pump or you will damage the support webbing.

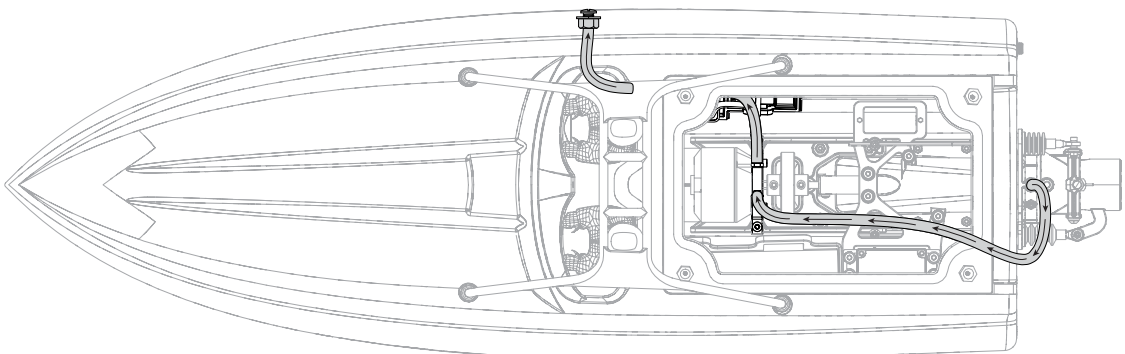
7. Follow **Servicing the Drive Shaft** Steps 10–20 to reassemble the jet pump.



Water Cooling System

If water does not stream out of the water outlets while the boat is moving forward, immediately stop the boat and inspect the water cooling system.

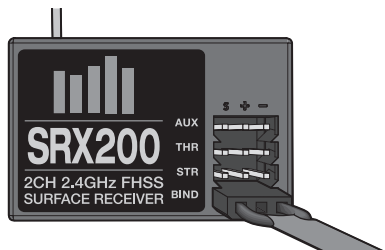
1. Disassemble and clean the water cooling system to remove blockage and prevent overheating.
2. Replace any damaged parts.
3. Inspect the system for loose connections, kinks or tears in the line.



General Information

Binding

Binding is the process of programming the receiver to recognize the GUID (Globally Unique Identifier) code of a single specific transmitter. The STX2™ transmitter and SPMSRX200 receiver are bound at the factory. If you need to rebind, follow the instructions below:



1. Insert the Bind Plug in the BIND port of the ESC.
2. Connect a fully charged battery to the ESC.
3. Power on the ESC. The red receiver LED flashes, indicating the receiver is in bind mode.
4. Center the ST TRIM and TH TRIM dials on the transmitter.

5. Turn the Steering Wheel to Full Right. Power ON the transmitter while holding the Steering Wheel to the Right.
6. Release the Steering Wheel when the receiver LED goes solid.
7. Remove the Bind Plug and store it in a convenient place.
8. Power OFF the ESC to save the settings.
9. Power OFF the transmitter.

You must rebind when:

- When you want different failsafe positions (e.g. when throttle or steering reverse has been changed).
- Binding the receiver to a different transmitter.

NOTICE: Do not attempt to bind the transmitter and receiver if there are other compatible transmitters in bind mode within 400 feet. Doing so may result in unexpected binding.

Throttle Range Calibration

1. Power on the transmitter and set the **TH TRIM** dial to the center position and the **TH RATE** to full clockwise position.
2. Install the battery in the boat and connect it to the ESC.
3. With the ESC powered OFF, pull the throttle trigger to FULL throttle and press the power button on the

ESC simultaneously. The ESC will beep twice. The green light will flash with each beep.

4. Return the throttle to neutral. The ESC will beep once and the green light will flash once.

The calibration process is now complete. The ESC will arm with beeps and flashes to announce the number of battery cells it has detected. Reverse calibration is unnecessary.

Failsafe

In the unlikely event that the radio connection is lost during use, the receiver will drive the servo and ESC to their pre-programmed failsafe positions (normally no throttle and straight steering).

If the receiver is powered on before powering on the transmitter, the receiver will enter this failsafe mode. When the transmitter is powered on, normal control is resumed.

Low Voltage Cutoff (LVC)

IMPORTANT: The ESC must be in LiPo mode to safely operate the boat under LiPo power. Please refer to the ESC manual for more information.

Discharging a LiPo battery below 3V per cell may damage your battery. The included ESC protects the boat battery from over-discharge using Low Voltage Cutoff (LVC). Before the battery charge decreases too much, LVC removes power supplied to the motor. Power to the motor decreases, showing some power is reserved for the boat to return safely to shore.

Disconnect and remove the LiPo battery from the boat after use to prevent trickle discharge. Charge your LiPo battery to about half capacity before storage. During storage, make sure the battery charge does not fall below 3V per cell. LVC does not prevent the battery from over-discharge during storage.

NOTICE: Repeated operation after LVC is activated will damage the battery.

Tip: Monitor your boat battery's voltage before and after boating by using a LiPo Cell Voltage Checker (DYN4071, sold separately).

Changing the Battery Chemistry

1. Power on the ESC. By default, the ESC is programmed for LiPo battery chemistry.
The ESC status light flashes green and emits a tone, indicating LiPo mode, when you power on the ESC.
 2. Press and hold the SET button for 3–5 seconds, then release it. The ESC status LED flashes.
 3. Press and hold the SET button again for 5–7 seconds, then release it. The ESC status LED changes color and flashes red for 7–10 seconds.
 4. The ESC status light goes solid and the ESC emits a tone indicating NiMH mode.
- The ESC is now armed and ready to use.

5. Repeat these steps to change the battery chemistry back to LiPo mode.

Green ESC status
indicator light

LiPo battery chemistry

Red ESC status
indicator light

NiMH battery chemistry



WARNING: Operating the ESC with LiPo chemistry in NiMH mode will permanently damage the LiPo battery.

Electronic Speed Control (ESC) Programming

Step 1: Enter Program Mode

1. Power on the transmitter and set the throttle to full.
2. Connect the battery pack to the ESC. After 2 seconds, the ESC beeps twice.
3. Wait 5 seconds and the ESC emits a musical tone.

Step 2: Select Programmable Item

The ESC emits four groups of beeps in a loop.

Move the throttle to neutral within 3 seconds of the tone matching the item you want to select.

Beep	Running Mode
Beep Beep	LiPo Cells
Beep Beep Beep	LVC Threshold
Beep Beep Beep Beep	Timing

Step 3: Set Item Value

After selecting a programmable item, you will hear several tones in a loop.

4. Move the throttle to full to select the value matching the tone. The ESC emits an alternating tone to indicate selection.
5. Keep the throttle in full to return to Step 2 and continue item selection. Move the throttle to the neutral within 2 seconds to exit the Program Mode.

STEP 4: Exit Program Mode

1. In Step 3, after hearing the alternating tone, move the throttle to neutral within 2 seconds. –or–
2. Disconnect the battery pack from the ESC.

ESC Programming Procedure

Programming can be accomplished using the Dynamite[®] LED Program Card (DYNS3005, sold separately) or via the transmitter. Please refer to your DYNM3870 manual for transmitter programming instructions.

	B	BB	BBB	BBBB	Beep—	Beep—B	Beep—BB	Beep—BBB
Programmable Items	1 short beep	2 short beeps	3 short beeps	4 short beeps	1 long beep	1 long 1 short	1 long 2 short	1 long 3 short
1 Running Mode	Forward Only	Forward/Reverse						
2 LiPo Cells	Auto-Calculate	2S	3S	4S				
3 LVC Threshold	No-protection	2.8V/Cell	3.0V/Cell	3.2V/Cell	3.4V/Cell			
4 Timing	0.00°	3.75°	7.50°	11.25°	15.00°	18.75°	22.50°	26.25°

 = default



Troubleshooting Guide

Problem	Possible Cause	Solution
Boat will not respond to throttle but responds to other controls	Throttle channel is reversed	Reverse throttle channel on transmitter
Extra noise or extra vibration	Damaged propeller, shaft or motor	Replace damaged parts
	Propeller is out of balance	Balance or replace propeller
Reduced runtime or boat underpowered	Boat battery charge is low	Completely recharge battery
	Boat battery is damaged	Replace boat battery and follow battery instructions
	Blocking or friction on shaft or propeller	Disassemble, lubricate and correctly align parts
	Boat conditions may be too cold	Make sure the battery is warm (above 10° C [50° F]) before use
	Battery capacity may be too low for conditions	Replace battery or use a larger capacity battery
	Too little lubrication on driveshaft	Fully lubricate driveshaft
	Vegetation or other obstacles block the propeller	Remove vegetation or obstacles from propeller
Boat will not Bind (during binding) to transmitter	Transmitter is too near boat during binding process	Move powered transmitter a few feet from boat, disconnect and reconnect battery to boat
	Boat or transmitter is too close to large metal object, wireless source or another transmitter	Move the boat and transmitter to another location and attempt binding again
	Another compatible transmitter is powered on within range of the receiver	Power off all compatible transmitters except the one you are trying to bind
	Boat battery/transmitter battery charge is too low	Replace/recharge batteries
	ESC switch is off	Power on ESC switch
Boat will not connect (after binding) to transmitter	Transmitter is too near boat during connecting process	Move powered transmitter a few feet from boat, disconnect and reconnect battery to boat
	Boat or transmitter is too close to large metal object, wireless source or another transmitter	Move boat or transmitter to another location and attempt to connect again
	Boat battery/transmitter battery charge is too low	Replace/recharge batteries
	ESC switch is off	Power on ESC switch
Boat tends to dive in the water or takes on water	The boat hull is not completely closed	Dry out the boat and ensure the hatch is fully closed on the hull before returning the boat to the water
	Center of gravity is too far forward	Move batteries back in the hull
Boat tends to turn one direction	Debris is blocking a jet pump	Remove the debris from the jet pump
Controls reversed	Transmitter settings are reversed	Do the Control Direction Test and adjust controls on transmitter appropriately
Motor overheats	Blocked water cooler tubes	Clean or replace water tubes
Motor power pulses then motor loses power	ESC uses default soft Low Voltage Cutoff (LVC)	Recharge boat battery or replace battery that is no longer performing
	Weather conditions might be too cold	Postpone until weather is warmer
	Battery is old, worn out or damaged	Replace battery
Boat moves forward or backward without input from user	Throttle trim on transmitter not centered	Adjust throttle trim to set neutral point
Boat does not drive straight	Steering trim on transmitter not centered	Adjust steering trim so vehicle drives straight
No steering or lack of steering	Steering dual-rate (D/R) not adjusted correctly	Adjusts steering dual-rate (D/R) knob on transmitter to desired steering throw
	Servo failed	Contact Horizon Product Support
No throttle or lack of throttle	Throttle dual-rate (D/R) not adjusted correctly	Adjust the throttle dual-rate (D/R) knob on transmitter to desired steering throw
	ESC failed	Contact Horizon Product Support
	Motor failed	Contact Horizon Product Support

Limited Warranty

What this Warranty Covers

Horizon Hobby, LLC, (Horizon) warrants to the original purchaser that the product purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase.

What is Not Covered

This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) attempted service by anyone other than a Horizon Hobby authorized service center, (v) Product not purchased from an authorized Horizon dealer, or (vi) Product not compliant with applicable technical regulations or (vii) use that violates any applicable laws, rules, or regulations.

OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

Purchaser's Remedy

Horizon's sole obligation and purchaser's sole and exclusive remedy shall be that Horizon will, at its option, either (i) service, or (ii) replace, any Product determined by Horizon to be defective. Horizon reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of Horizon. Proof of purchase is required for all warranty claims. SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY.

Limitation of Liability

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF HORIZON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability. If you as the purchaser or user are not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

Law

These terms are governed by Illinois law (without regard to conflict of law principals). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Horizon reserves the right to change or modify this warranty at any time without notice.

WARRANTY SERVICES

Questions, Assistance, and Services

Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local

distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please visit our website at www.horizonhobby.com, submit a Product Support Inquiry, or call the toll free telephone number referenced in the Warranty and Service Contact Information section to speak with a Product Support representative.

Inspection or Services

If this Product needs to be inspected or serviced and is compliant in the country you live and use the Product in, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service Request is available at http://www.horizonhobby.com/content/service-center_render-service-center. If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

NOTICE: Do not ship Li-Po batteries to Horizon. If you have any issue with a Li-Po battery, please contact the appropriate Horizon Product Support office.

Warranty Requirements

For Warranty consideration, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be serviced or replaced free of charge. Service or replacement decisions are at the sole discretion of Horizon.

Non-Warranty Service

Should your service not be covered by warranty, service will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for service you are agreeing to payment of the service without notification. Service estimates are available upon request. You must include this request with your item submitted for service. Non-warranty service estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashier's checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for service, you are agreeing to Horizon's Terms and Conditions found on our website http://www.horizonhobby.com/content/service-center_render-service-center.

ATTENTION: Horizon service is limited to Product compliant in the country of use and ownership. If received, a non-compliant Product will not be serviced. Further, the sender will be responsible for arranging return shipment of the un-serviced Product, through a carrier of the sender's choice and at the sender's expense. Horizon will hold non-compliant Product for a period of 60 days from notification, after which it will be discarded.

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Warranty and Service Contact Information

Country of Purchase	Horizon Hobby	Contact Information	Address
United States of America	Horizon Service Center (Repairs and Repair Requests)	servicecenter.horizonhobby.com/RequestForm/	4105 Fieldstone Rd Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com 877-504-0233	
	Sales	websales@horizonhobby.com 800-338-4639	
United Kingdom	Service/Parts/Sales: Horizon Hobby Limited	sales@horizonhobby.co.uk	Units 1–4, Ployters Rd, Staple Tye Harlow, Essex, CM18 7NS, United Kingdom
		+44 (0) 1279 641 097	
Germany	Horizon Technischer Service	service@horizonhobby.de	Christian-Junge-Straße 1 25337 Elmshorn, Germany
	Sales: Horizon Hobby GmbH	+49 (0) 4121 2655 100	
France	Service/Parts/Sales: Horizon Hobby SAS	infofrance@horizonhobby.com	11 Rue Georges Charpak 77127 Lieusaint, France
		+33 (0) 1 60 18 34 90	

FCC Information

FCC ID: 2A13D-SS0001 This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

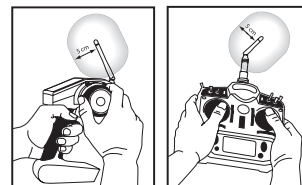
This product contains a radio transmitter with wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400GHz to 2.4835GHz frequency range.

IC Information

IC ID: 21682-SSTC9202 This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Antenna Separation Distance

When operating your Spektrum transmitter, please be sure to maintain a separation distance of at least 5 cm between your body (excluding fingers, hands, wrists, ankles and feet) and the antenna to meet RF exposure safety requirements as determined by FCC regulations.



The following illustrations show the approximate 5 cm RF exposure area and typical hand placement when operating your Spektrum transmitter.

CE EU Compliance Statement: Horizon Hobby, LLC hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the R&TTE, EMC, and LVD Directives.

A copy of the EU Declaration of Conformity is available online at: <http://www.horizonhobby.com/content/support-render-compliance>.



Instructions for Disposal of WEEE by Users in the European Union

This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

Replacement Parts / Ersatzteile / Pièces de rechange / Pezzi di ricambio

Part #	English	Deutsch	Français	Italiano
DYNAM3870	90A BL Marine ESC 2-4S	90 A BL Marine ESC 2-4S	Contrôleur Brushless 90A marin 2-4S	ESC BL Marine 90A 2-4S
DYNAM3952	2300Kv 14-Pole Brushless Outrunner Marine Motor	2300 kv 14-poliger Brushless Outrunner Marine Motor	Moteur Brushless 14 pôles 2300Kv marin à cage tournante	Motore marino outrunner brushless 14 poli 2300 Kv
PRB281046	Hull and Decal: 23" River Jet Boat: RTR	Rumpf und Aufkleber: 23" River Jetboot: RTR	23" River Jet Boat RTR - Coque et autocollants	Scafo e decalcomanie: 23" River Jet Boat: RTR
PRB281047	Canopy and Decal: 23" River Jet Boat: RTR	Bootsverdeck und Aufkleber: 23" River Jetboot: RTR	23" River Jet Boat RTR - Cockpit et autocollants	Capottina e decalcomanie: 23" River Jet Boat: RTR
PRB282037	Jet Pump Housing: 23" River Jet Boat: RTR	Jetpumpengehäuse: 23" River Jetboot: RTR	23" River Jet Boat RTR - Carter de pompe jet	Alloggiamento pompa a getto: 23" River Jet Boat: RTR
PRB282038	Jet Pump Steering Nozzle: 23" River Jet Boat: RTR	Jetpumpen-Steuerdüse: 23" River Jetboot: RTR	23" River Jet Boat RTR - Tuyère de direction de la pompe jet	Ugello sterzante pompa a getto: 23" River Jet Boat: RTR
PRB282039	Jet Pump Impeller: 23" River Jet Boat: RTR	Jetpumpen-Antriebsrad: 23" River Jetboot: RTR	23" River Jet Boat RTR - Turbine de la pompe jet	Girante pompa a getto: 23" River Jet Boat: RTR
PRB282040	Driveshaft & Stuffing Tube: 23" River Jet Boat: RTR	Antriebswelle & Stopfleitung: 23" River Jetboot: RTR	23" River Jet Boat RTR - Arbre de transmission avec tube d'étambot	Albero di trasmissione e premistoppa: 23" River Jet Boat: RTR
PRB282041	Jet Pump Intake Grate: 23" River Jet Boat: RTR	Jetpumpen-Einlassgitter: 23" River Jetboot: RTR	23" River Jet Boat RTR - Grille d'aspiration de la pompe jet	Griglia di aspirazione pompa: 23" River Jet Boat: RTR
PRB282042	Motor Mount: 23" River Jet Boat: RTR	Motorhalterung: 23" River Jetboot: RTR	23" River Jet Boat RTR - Support moteur	Supporto motore: 23" River Jet Boat: RTR
PRB286031	Motor Coupler, 5mm Mtr x 3.7mm Flx Shift	Motorkupplung, 5 mm Mtr x 3,7 mm Flx Shift	Accouplement moteur, 5mm (moteur) x 3,7mm (Flexible)	Accoppiatore motore, 5 mm motore x 3,7 mm albero flessibile
PRB286033	Motor Tray: 23" River Jet Boat: RTR	Motorhalterung: 23" River Jetboot: RTR	23" River Jet Boat RTR - Plateau moteur	Supporto motore: 23" River Jet Boat: RTR
SPMS605	9KG Servo, WP, Metal, 23T	9KG Servo, WP, Metall, 23T	Servo 9Kg à pignons métalliques, étanche, tête 23T	Servo 9 kg, waterproof, metallo, 23T
SPMSTX200	STX2 2Ch 2.4GHz FHSS Radio System	STX2 2 Kanal 2,4 GHz FHSS-Funksystem	Émetteur STX2 2 voies 2.4GHz FHSS	Radiocomando STX2 2Ch 2,4 GHz FHSS

Recommended Parts / Empfohlene Teile / Pièces recommandées / Pezzi consigliati

Part #	English	Deutsch	Français	Italiano
DYN4071	Li-Po Cell Voltage Checker	Li-Po-Zelle Spannungsprüfer	Testeur de tension d'élément Li-Po	Strumento controllo voltaggio batterie LiPo
DYNC2015	Prophet Precept 80W LCD ACDC Battery Charger	Prophet Precept 80 W LCD-ACDC-Akkuladegerät	Chargeur Prophet Precept 80W LCD AC/DC - EU	Caricabatteria AC/DC Prophet Precept 80 W LCD
DYNE4200	Grease Gun with Marine Grease 5 oz	Fettpresse mit Marine Grease 142 g (5 oz)	Pistolet avec graisse marine 140g	Pistola sparagraso con grasso marino 5 oz
DYNNK0300	Hook and Loop Tape Set, Waterproof 75x25mm 4pcs	Klettbandsatz, Wasserfest 75 x 25 mm, 4 Stück	Adhésif auto-agrippant 75x25mm (4pcs)	Nastro a strappo, waterproof, 75 x 25 mm 4 pz.
DYNNM0102	Clear Flexible Marine Tape (18M)	Transparentes, flexibles Marine Tape (18 m)	Adhésif Marin transparent flexible (18M)	Nastro marino flessibile trasparente (18 m.)
DYNT0502	Start Up Tool Set: Proboat	Anfänger-Werkzeugsatz: Proboat	Proboat - Set d'outils de démarrage	Set attrezzi: Proboat
EFLAEC312	EC3 Device Charge Lead with 12" Wire & Jacks, 16AWG	EC3 Geräteladekabel mit 30-cm-Kabel (12 Zoll) und Anschlüssen, 16AWG	Cordon de charge avec cable de 30cm Câbles & Bananes, 16AWG	Cavo EC3 per caricabatteria con filo da 12" e jack, 16AWG
EFLB32003530	3200mAh 3S 11.1V 30C LiPo, 13AWG EC3	3200 mAh 3S 11,1 V 30C LiPo, 13AWG EC3	Batterie Li-Po 3S 11,1V 3200mA 30C, 13AWG EC3	Batteria LiPo 30C 11,1 V 3S 3200 mAh, EC3 13AWG

Optional Parts / Diverse Teile / Pièces optionnelles / Pezzi opzionali

Part #	English	Deutsch	Français	Italiano
EFLB40004S30	4000mAh 4S 14.8V 30C LiPo, 12AWG EC3	4000 mAh 4S 14,8 V 30C LiPo, 12AWG EC3	Batterie Li-Po 4S 14,8V 4000mA 30C, 12AWG EC3	Batteria LiPo 30C 14,8 V 4S 4000 mAh, EC 312AWG
DYN2801	Nut Driver: 4mm	Mutterndreher: 4 mm	Tournevis pour écrou: 4mm	Chiave a brugola: 4 mm
DYN2803	Nut Driver: 5.5mm	Mutterndreher: 5,5 mm	Tournevis pour écrou: 5,5mm	Chiave a brugola: 5,5 mm
DYN2819	5 pc Metric Hex Driver Assortment	5-teiliger metrischer Sechskantschlüsselsatz	Assortiment de 5 tournevis hexagonaux métriques (5pcs)	Assortimento 5 pz. chiavi esagonali metriche
DYN4401	GPS Speed Meter	GPS-Tachometer	Tachymètre GPS	Tachimetro GPS
DYNE4201	Marine Grease 5 oz	Marine Grease 142 g (5 oz)	Graisse marine 140g	Grasso marino 5 oz
EFLB33004S50	3300mAh 4S 14.8V 50C LiPo, 12AWG EC3	3300 mAh 4S 14,8 V 50C LiPo, 12AWG EC3	Batterie Li-Po 4S 14,8V 3300mA 50C, 12AWG EC3	Batteria LiPo 50C 14,8 V 3300 mAh, EC3 12AWG
SPM4200W	DX4C DSMR 4CH Tx w/SR410	DX4C DSMR 4CHTx w/SR410	Émetteur DX4C DSMR 4 voies avec SR410	Trasmittente DX4C DSMR 4CH con SR410
SPMMR4000	MR4000 DSMR 4 Ch Marine Receiver	MR4000 DSMR 4-Kanal Marine-Empfänger	Récepteur MR4000 DSMR 4 voies	Ricevente marina MR4000 DSMR 4 Ch
DYNNM0102	Waterproof Tape	Wasserfestes Befestigungsband	Adhésif étanche	Nastro waterproof
DYNT0502	Start Up Tool Set: Pro Boat	Anfänger-Werkzeugsatz: Pro Boat	Proboat - Set d'outils de démarrage	Set attrezzi: Pro Boat
SPMS605	9KG Servo, WP, Metal, 23T	9KG Servo, WP, Metallf, 23T	Servo 9Kg à pignons métalliques, étanche, tête 23T	Servo 9 kg., waterproof, metallo, 23T

*not compatible with included transmitter or receiver. See www.spektrumrc.com for more details.

*nicht mit mitgeliefertem Sender oder Empfänger kompatibel. Einzelheiten finden Sie unter www.spektrumrc.com.

*non compatible avec l'émetteur ou le récepteur inclus. Consultez www.spektrumrc.com pour plus de détails.

*non compatibile con la trasmittente o ricevente inclusa. Per maggiori informazioni, visitare il sito www.spektrumrc.com.

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Patents pending.