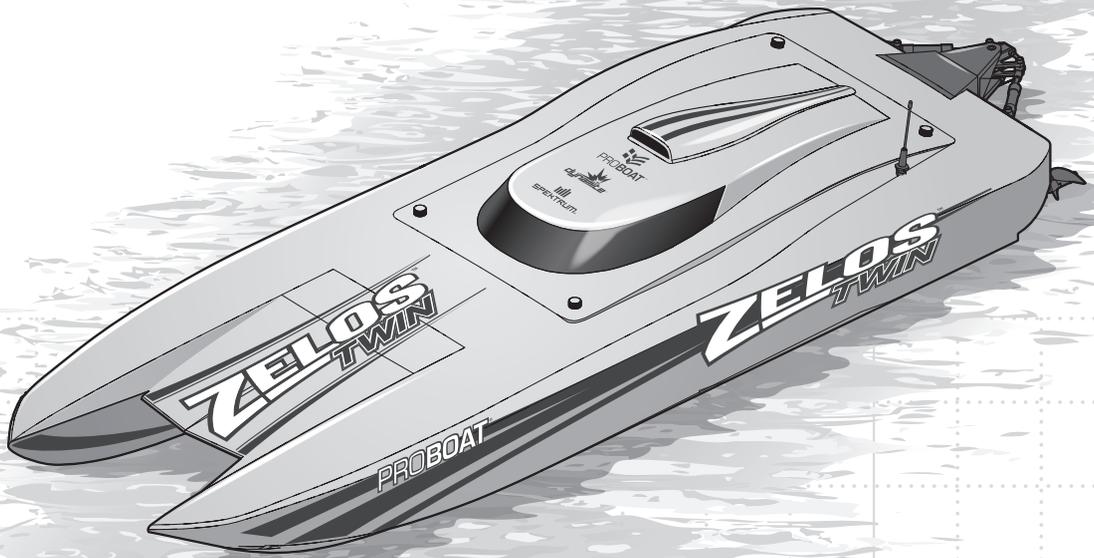


ZELOS TWIN®

36-INCH TWIN BRUSHLESS RTR BOAT
PRB08021

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



Batteries sold separately

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:

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.

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

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

WARNING AGAINST COUNTERFEIT PRODUCTS: Always purchase from a Horizon Hobby, LLC authorized dealer to ensure authentic high-quality Spektrum product. Horizon Hobby, LLC disclaims all support and warranty with regards, but not limited to, compatibility and performance of counterfeit products or products claiming compatibility with DSM or Spektrum technology.

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.

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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 Electronic Speed Control (ESC), 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 below 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 through 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 where lightning may be 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 every use. Operating your boat in salt water is at the sole discretion of the modeler.
- Even minimal water contact can reduce the life of your motor if it has not been certified as water-resistant or waterproof. If the motor becomes excessively wet, apply very light throttle until the water is mostly removed from the motor. Running a wet motor at high speeds may rapidly damage the motor.
- Driving in wet conditions can reduce the life of the motor. The additional resistance of operating in water causes excess strain.

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 disconnect the ESC and motor. 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 the flex shaft and all moving parts. Dry and lubricate parts after every 30 minutes of operation or if the boat becomes submerged.

If the boat becomes submerged in water, immediately service the motor bearings by spraying them with water displacement fluid. Then lubricate the bearings with medium oil (DYNE0100) and allow it to penetrate the bearings before running the boat again.



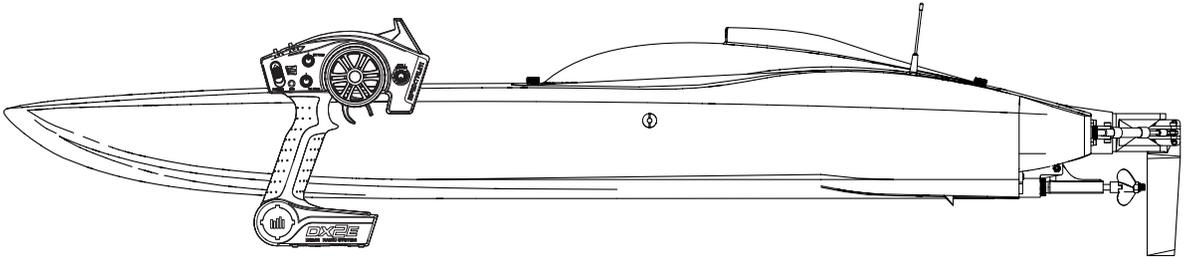
NOTICE: Never use a pressure washer to clean your boat.

- 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. Do not spray the motor.
- Let the boat air dry before you store it. Water (and oil) may continue to drip for a few hours.

Box Contents

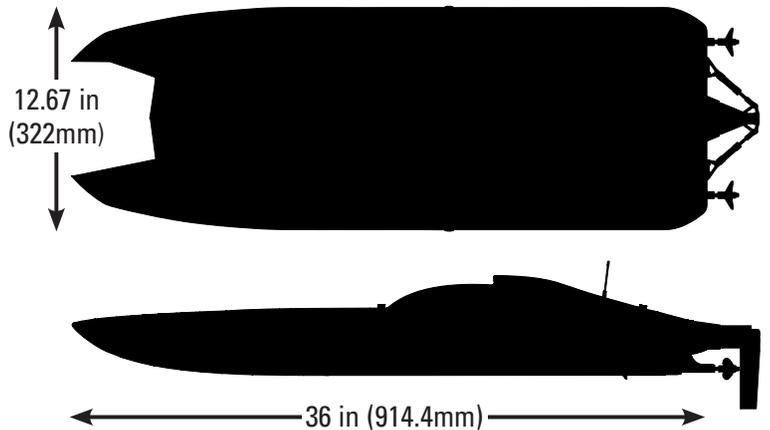
- Pro Boat® Zelos® 36-Inch Brushless Catamaran
- Spektrum™ DX2E 2CH DSMR® Transmitter with SR310
- Spektrum™ SR310 DSMR 3CH Sport Receiver (SPMSR310)
- Dynamite® 120A Brushless 2–6S Marine ESC (DYNAM3876)
- Spektrum™ 9KG Servo, Waterproof, Metal, 23T (SPMS605)
- Dynamite® 2000Kv 6-Pole Brushless Marine Motor (DYNAM3910)

A battery (**sold separately**) is required to operate the boat.



Product Inspection

Carefully remove the boat and radio transmitter from the box. Inspect the boat for damage. If you find damage is present, please contact the retailer where you purchased your boat.



Recommended Tools and Materials

- Needle nose pliers
- Paper towel
- Rubbing alcohol
- Open-end wrench: 10mm (2)
- Nut driver: 4mm, 5.5mm, 8mm (DYNT0502)
- Phillips screwdriver: #1
- Hex wrench: 1.5mm, 2mm, 2.5mm, 3mm (DYNT0502)
- Clear tape (DYNAM0102)
- Pro Boat® Marine Grease and Gun (DYNE4200)
- Hook and Loop Tape Set, WP 4pcs (DYNK0300)
- Clean towels
- CA or Epoxy Glue (DYNK0030)
- Ball driver: 2.5mm

Battery and Battery Charger

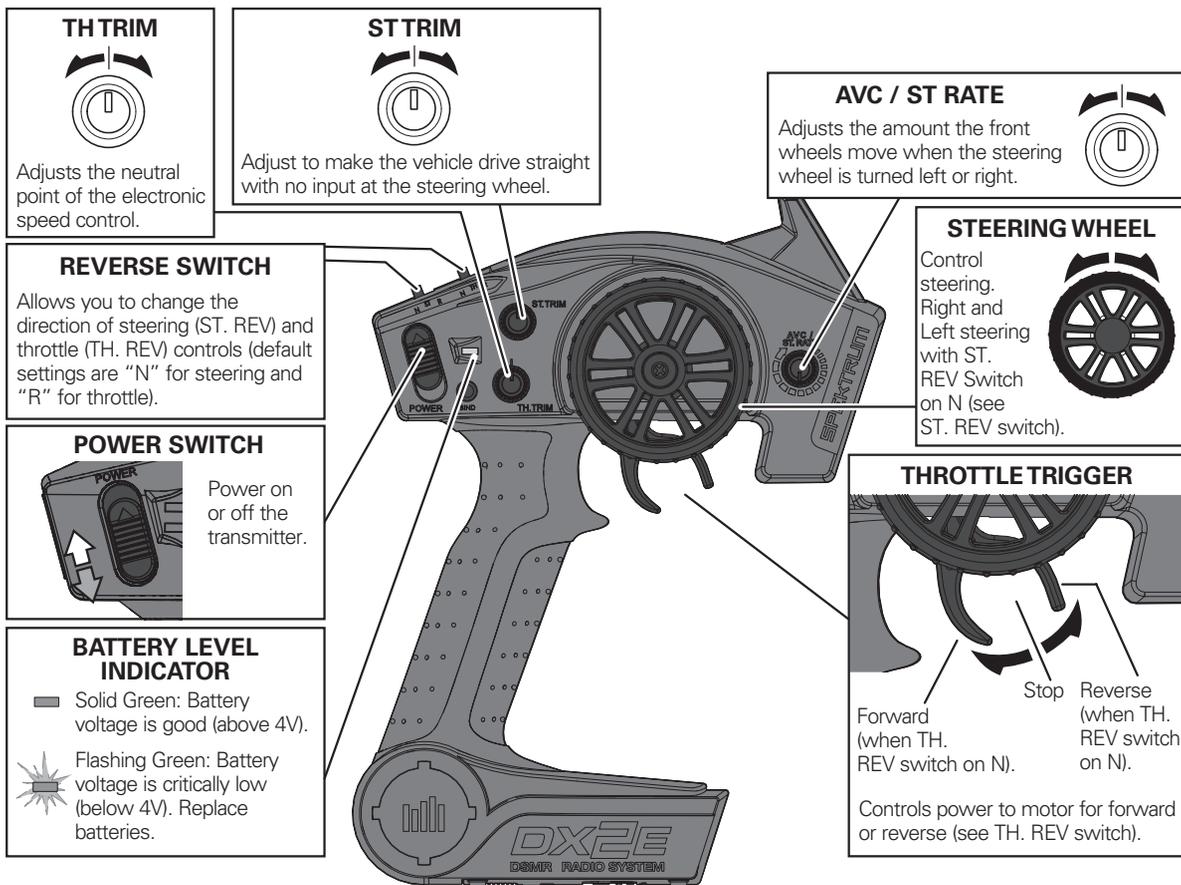
This product does not come with a battery. We recommend two (2) Dynamite® Reaction® 7.4V 5000mAh 50C 2S LiPo Hardcase batteries with EC5™ connectors (DYNB3810EC) or two (2) Dynamite Reaction 11.1V 5000mAh 50C 3S LiPo Hardcase batteries with EC5 connectors (DYNB3811EC).

This product does not come with a charger. Choose a charger designed to charge the recommended battery. We

recommend either the Dynamite® Prophet™ Sport Duo 50W AC Charger, **US Only** (DYNC2025) or **(in Canada)** the Dynamite Prophet Sport Plus 50W AC/DC Charger (DYNC2010CA). Refer to your charger manual for charging instructions and safety information.

NOTICE: Never charge a battery in the boat or damage may result.

Transmitter Controls



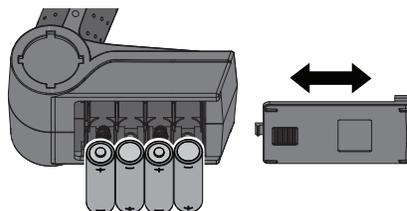
Transmitter Battery Installation

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.

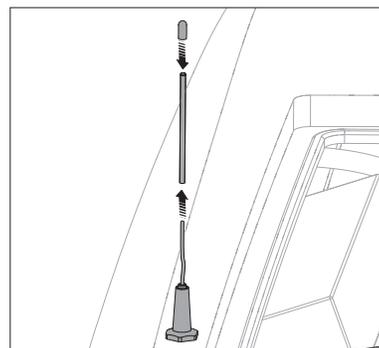


Antenna Tube Installation

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. 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 (DYNAM0102), if desired.

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



Battery Pack Installation

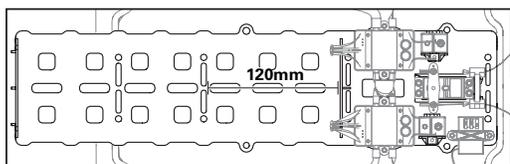
Batteries can be installed in this boat using either a 2-battery or 4-battery configuration. 2S 7.4V or 3S 11.1V LiPo batteries can be used, but all batteries used in a configuration must be of the same voltage and in roughly the same condition. If you are using a 2-battery configuration, use the included battery adapter to connect two (2) batteries in series, then connect the battery series to the both ESCs in parallel. If you are using a 4-battery configuration, **DO NOT USE THE INCLUDED ADAPTER**. Instead, use two (2) 10 AWG EC5™ Battery Series Harnesses (**DYNC0028 – NOT INCLUDED**) to create two (2) sets of two (2) batteries connected in series, then connect each series directly into the ESCs.

Do not supply more than 6S to either ESC.

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.
3. Install the batteries in the battery trays.

Tip: To prevent the batteries from sliding forward or back in the tray, we recommend installing either the included padding or hook and loop tape (DYNK0300) to secure the batteries to the trays.

4. Connect the battery packs to each of the adapters, or to each ESC's EC5™ connector.

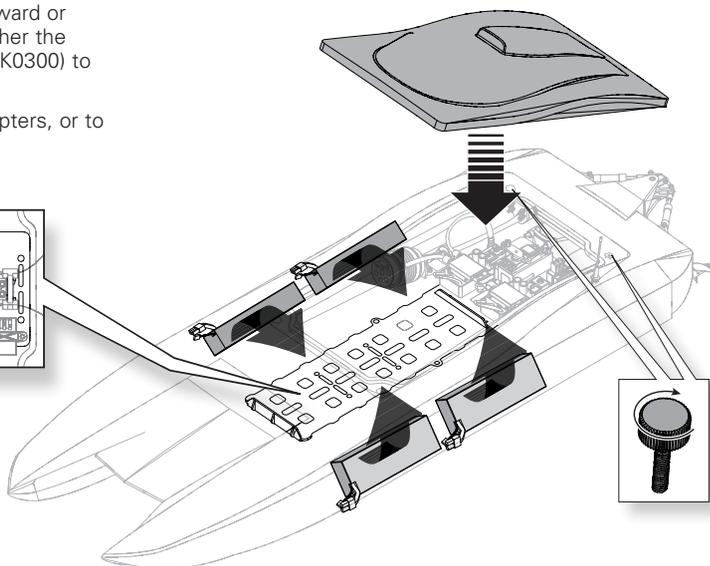


Tip: Move the pack forward or back to adjust the center of gravity for your boat. Move the pack toward the bow so the bow rides lower in the water. Move the pack away from the bow so that the bow rides higher in the water.

WARNING: The included adapter should **ONLY** be used for 2-battery configurations. Using the included adapter in a 4-battery configuration will damage the ESCs and may result in fire or personal injury.

Positioning the Battery Packs

- **Toward the Bow:** In rough water or strong wind conditions, place the battery packs at the front of the battery trays to ensure the greatest stability.
- **Centered:** Smooth water and calm winds may allow you to move the battery packs rear-ward in the hull to allow the bow to ride higher and increase speed. Be aware that positioning the batteries farther aft increases the likelihood of the boat blowing over at speed or becoming unstable.
- **Toward the Stern:** Positioning the batteries all the way back in their trays may provide higher top speeds but can cause instability. Experiment with this position only in very calm conditions while closely monitoring the hull's attitude as you increase speed.



Control Check

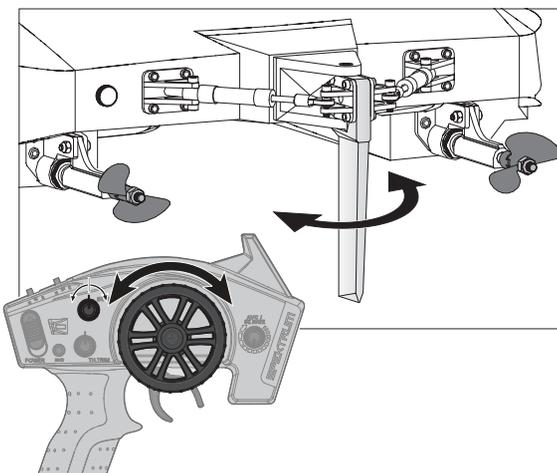
IMPORTANT: Perform a control check at the beginning of each boating session, after repair or after installation of new batteries.

Ensure the receiver antenna is extended properly and all batteries are fully charged.

1. Power ON the transmitter and the boat. **Do not install the boat canopy.**
2. Place the boat securely on the boat stand.

NOTICE: Do not operate the motor without water cooling circulation or damage may result.

3. Check steering and throttle on the transmitter.



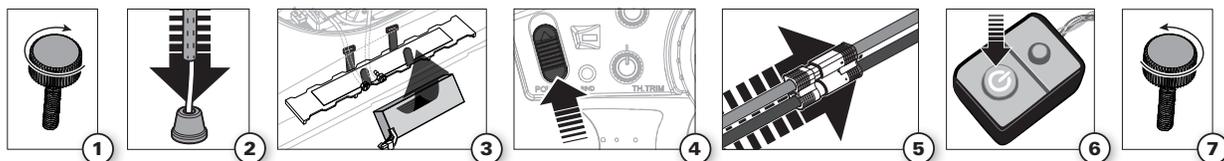
Getting Started

1. Remove the canopy from the hull.
2. Install the receiver antenna in the antenna tube.
3. Install the fully charged batteries in the compartment and secure them 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 both ESCs simultaneously 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.

The ESCs are joined with a Y harness, ensuring that only one ESC powers the receiver. If the ESCs are powered on one at a time, the receiver may not power up. The secondary ESC will beep and the LED will flash every 3 seconds until the primary ESC is armed. The LED will turn solid when the ESC is armed.

7. Install the canopy on the hull.



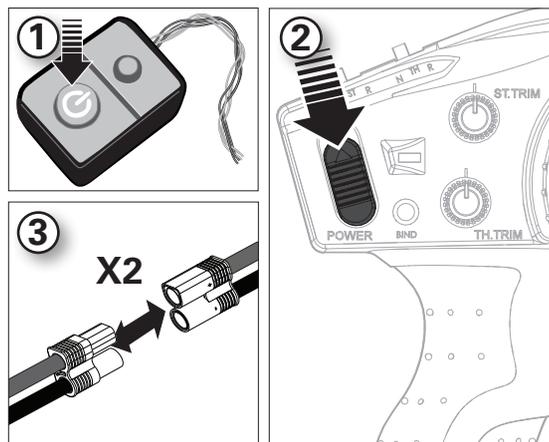
When You Are Finished

1. Power off the ESCs by holding the power buttons for 2 seconds and then releasing them.
2. Power off the transmitter.
3. Disconnect and remove the battery from the boat.
4. Drain water from inside the hull using the drain plug.
5. Fully dry the inside and outside of the boat, including the water cooling lines and jacket around the motor.
6. Remove the canopy before storage or moisture may allow mold and mildew to grow in the boat.
7. Repair any damage or wear to the boat.
8. Lubricate the flex shaft using Pro Boat® Marine Grease (DYNE4200 or DYNE4201) (see, **Drivetrain Lubrication**).

NOTICE: Never store the boat without greasing the flex shafts or they may rust.

9. Make note of lessons learned from the trimming of your boat, including water and wind conditions.

NOTICE: 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

During the first run, we recommend calm wind and water conditions to ensure that the boat is properly set up. Maximum speeds of 60 MPH/+ can be achieved once you have set up the boat for your specific conditions.

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

1. Carefully place the boat in the water.
2. Operate the boat at slow speeds near the shoreline. Avoid objects in the water at all times. When the boat is moving forward, ensure water flows out of the coolant outlet.

3. Once you are comfortable operating the boat at slow speeds, it is safe to operate the boat farther from the shore at higher speeds.
4. When making turns, decrease the throttle to reduce the probability of flipping the boat over.
5. Bring the boat back to shore when the motor starts to pulse.

NOTICE: Never operate your boat in less than 12 inches (30.5 cm) of water.

CAUTION: Never attempt to retrieve a downed boat by swimming. If you need to retrieve your boat from the water, use fishing equipment or another boat.

NOTICE: When running at full speed in choppy water, the propeller may exit and re-enter the water repeatedly and very quickly, subjecting the propeller and drive shaft to some stress. Frequent stress may damage the propeller and drive shaft.

In rough water and windy conditions, consider:

- mounting the batteries further forward for added stability
- adjusting the struts downward to prevent the boat from overturning

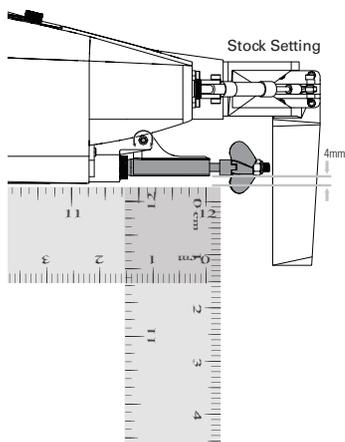
Strut Angle Adjustment

Your boat's propeller struts have been factory adjusted for a neutral ride attitude. This setup works well with the recommended battery packs, in calm to light chop, with wind blowing at less than 5–7 mph. The struts are adjusted at a neutral position, 0 degree angle, measured with a ruler, which places the struts parallel to the bottom of the hull. This adjustment allows for the best use of the boat at maximum speed.

Use two metric rulers to adjust the struts; one must be at least 304.8mm.

WARNING: Never attempt to adjust the propeller struts with the propellers installed or while the boat is powered on. Severe bodily harm can occur.

1. Remove the batteries and ensure the boat is powered off.
2. Use a 2.5mm hex wrench and a 5.5mm nut driver or open-end wrench to loosen the stainless steel bolt that holds the strut's angle.
3. Remove the propeller for the strut that needs adjustment.
4. Place one ruler across the bottom of both of the rear ride pads. Ensure that the ruler extends from the middle ride pad to the end of the strut propeller that needs adjustment.
5. Place the second ruler across the first ruler, forming a 90 degree angle against the propeller strut.
6. Measure the distance between the bottom ruler and the propeller strut, at the propeller strut's farthest point.



Avoid boating near:

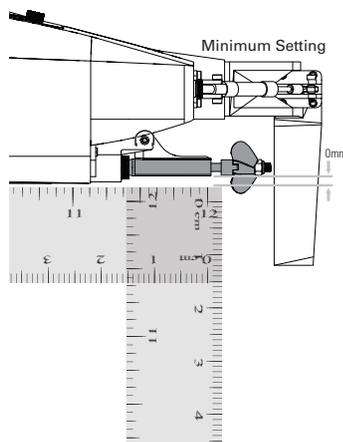
- watercraft
- people (swimming areas, fishing areas)
- stationary objects
- waves and wakes
- rapidly moving water
- wildlife
- floating debris
- overhanging trees
- vegetation

7. Make strut adjustments in intervals of 0.5mm to 1mm. Record the first strut adjustment and repeat the process on the second strut. The boat is sensitive to strut angle adjustment.

NOTICE: Do not adjust strut angles greater than 4 degrees positively (up) or negatively (down). If the boat requires more than 4 degrees of adjustment to run well, check the battery placement and ensure that both struts are even.

8. Once the first strut is adjusted, carefully tighten the 2.5mm screw and 3mm nut that hold the strut's angle. Double check the measurement to verify the strut has not moved. If the measurement has not changed, tighten the screw completely.
9. Repeat this process on the second strut. Once both struts are adjusted, repeat processes 4-6 on both struts to ensure that the struts are even.
10. Once you have made adjustments, your boat is in the water and you are ready to test your adjustments, get your boat on plane and ease in to full throttle slowly, watching for erratic behavior. Your boat should run mostly on the last 2 ride pads, bouncing slightly as it passes over its own wake or cuts through chop. It should not be lifting the nose and slapping the water while running at full speed.

Tip: Keep a log of the strut adjustments, water conditions, and battery weight/sizes that may have required strut adjustment.



Maintenance

Drivetrain Lubrication

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

Lubricating the drive shaft 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.

Lubricate the drive shaft and all moving parts after every 20 minutes of operation.

Remove one flex shaft at a time, or mark the shafts as right or left. The shafts are directional and if installed improperly, severe damage to the shaft assembly and housing will result.

1. In the hull, use two 10 mm open-end wrenches to loosen the motor coupler (C).
2. Slide the drive shaft out from the stuffing tube and drive strut at the rear of the boat.
3. Wipe the old lubricant and material from the drive shaft.

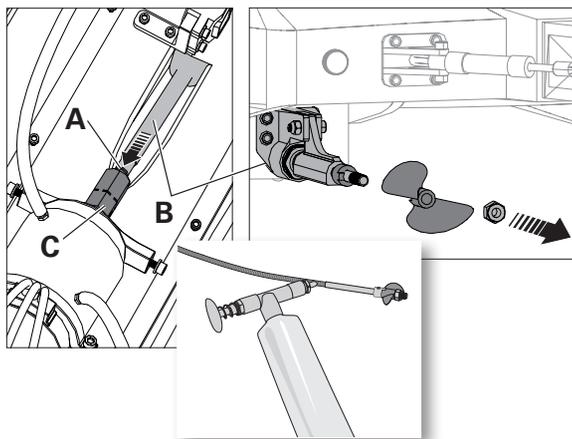
NOTICE: When lubricating the flex shaft, do not lubricate the first 20mm of the flex shaft. If grease gets into the motor coupler, it may cause the flex shaft to slip inside of the coupler, thereby damaging it and requiring replacement.

4. Carefully reinstall the drive shaft, ensuring that there is a 1–2mm gap between the propeller strut and the drive dog. This will allow space for the shaft as it shrinks under load. Without space, the drive dog could damage the aluminum propeller strut.

NOTICE: Ensure the flex shaft is installed correctly. Installing the flex shaft incorrectly may result in irreparable damage to the boat.

5. Carefully push the flex shaft into the motor coupler, making sure the grease does not carry into the coupler.
6. Tighten the coupler using two 10mm open-end wrenches.

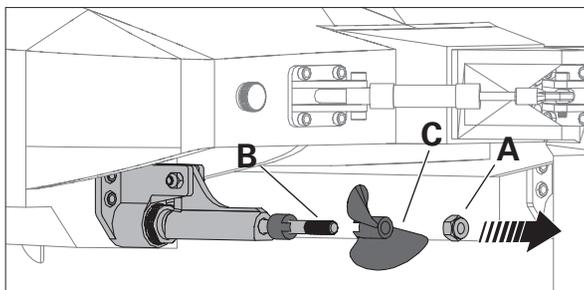
NOTICE: Running the boat in saltwater could cause some parts to corrode. If you run the boat in saltwater, rinse it thoroughly in freshwater after each use, lubricate the drive system, and flush the coolant system.



Propeller Service

1. Use an 8mm nut driver to loosen the nut (A) from the driveshaft (B).
2. Remove the nut and propeller (C) from the driveshaft.
3. Inspect the propeller for any damage or wear and replace as necessary.
4. Assemble in reverse order. Correctly align the propeller with the drive dog on the driveshaft.

NOTICE: The counter-rotating propellers must rotate inward. The clockwise propeller goes on the left and the counterclockwise propeller goes on the right.



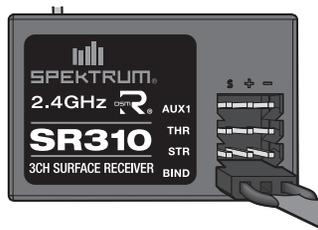
General Information

Binding

The included transmitter and receiver are bound at the factory. To rebind:

1. Power off the transmitter and ESC.
2. Insert the bind plug into the BIND port on the receiver.
3. Connect a fully charged battery to the ESC, then power on the ESC. The LED in the receiver flashes continuously, indicating that the receiver is in bind mode.
4. With the throttle in neutral, power on the transmitter by pressing the bind button. The LED in the receiver turns solid and the ESC will beep and arm when binding is complete. The ESC is ready for use.
5. Always remove the bind plug from the receiver after binding is complete.

You must rebind when 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 throttle TRIM dial to the center position.
2. Install the batteries in the boat and connect the batteries to the ESCs.
3. With the ESCs powered off, pull the throttle trigger to full throttle and press the power buttons on both ESCs

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

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

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

Failsafe

Failsafe positions are also set during binding. In the unlikely event that the radio link is lost during use, the receiver will drive the servos to their preprogrammed failsafe positions. If the receiver is turned on prior to turning on the

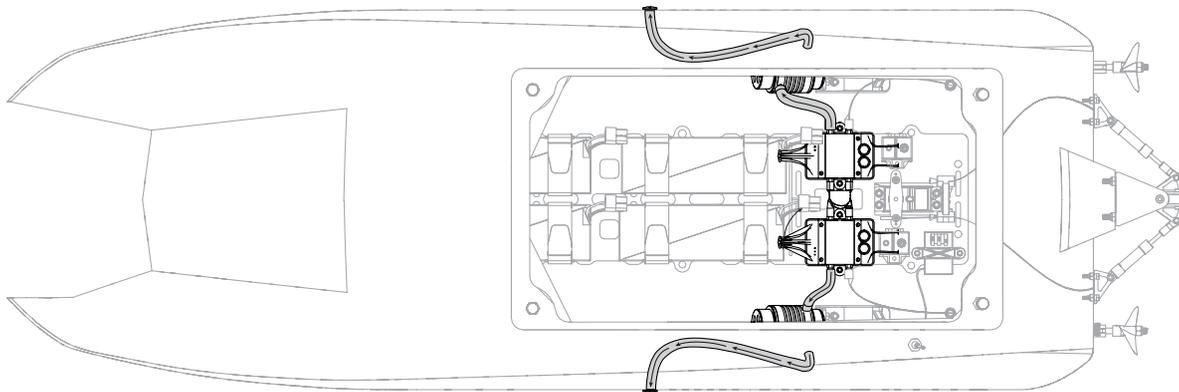
transmitter, the receiver will enter failsafe mode. When the transmitter is turned on, normal control is resumed. For more information on setting the failsafe, refer to the Binding section above.

Water Cooling System

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

1. Disassemble and clean the water cooling system to remove blockage and prevent overheating.
2. Replace any damaged parts.

NOTICE: The boat must run at least 30mph in order to force water through the cooling system. Running the boat below 30mph will prevent water from circulating through the electronics, causing them to overheat and possibly become damaged.



Low Voltage Cutoff (LVC)

Discharging a Li-Po 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 pulses, showing that some battery power is reserved for boat control and safe landing.

Disconnect and remove the Li-Po battery from the boat after use to prevent trickle discharge. Charge your Li-Po 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 to LVC will damage the battery.

Tip: Monitor your boat battery's voltage before and after boating by using a Li-Po Cell Voltage Checker (EFLA111, sold separately).

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 will beep twice.
3. Wait 5 seconds and the ESC will emit a musical tone.

STEP 2: Select Programmable Item

The ESC will emit 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.

1. Move the throttle to full to select the value matching the tone. The ESC will emit an alternating tone to indicate selection.
2. 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 DYNAM3875 manual for transmitter programming instructions.

Programmable Items	B	BB	BBB	BBBB	Beep—	Beep—B	Beep—BB	Beep—BBB
	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 Li-Po Cells	Auto-Calculate	2S	3S	4S	5S	6S		
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°

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
	Boat squeals or makes a high pitch sound when applying power to motors	Lubricate flex shafts



Troubleshooting Guide

Problem	Possible Cause	Solution
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
	Drive dog is too near the stuffing tube	Loosen drive shaft side of the motor coupling and move drive shaft small amount back
	Too little lubrication on drive shaft	Fully lubricate drive shaft
	Vegetation or other obstacles block rudder or propeller	Remove vegetation or obstacles from rudder or propeller
Boat will not bind (during binding) to transmitter	Motor couplers are loose	Tighten motor couplers and ensure the coupler is free of lubrication
	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 too low	Replace/recharge batteries
Boat will not connect (after binding) to transmitter	ESC switch is off	Power on ESC switch
	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
Boat tends to dive in the water or takes on water	ESC switch is off	Power on ESC switch
	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
Boat tends to turn one direction	Center of gravity is too far forward	Move batteries back in the hull
	Rudder or rudder trim is not centered	Repair rudder or adjust rudder and rudder trim for straight running when control is at neutral
Rudder does not move	ESC may require full throttle range calibration	Calibrate the ESC
	Rudder, linkage or servo damage	Replace or repair damaged parts and adjust controls
	Steering servo wire is damaged or connections are loose	Do a check of steering servo wires and connections, connect or replace as needed
	Transmitter is not bound correctly	Re-bind
	BEC (Battery Elimination Circuit) of the ESC is damaged	Replace ESC
Controls reversed	ESC switch is off	Power on ESC switch
Motor overheats	Transmitter settings are reversed	Do the Control Direction Test and adjust controls on transmitter appropriately
Motor power pulses then motor loses power	Blocked water cooler tubes	Clean or replace water tubes
	ESC uses default soft Low Voltage Cutoff (LVC)	Recharge or replace boat battery
	Weather conditions might be too cold	Postpone until weather is warmer
Boat blows over upon acceleration	Battery is old, worn out or damaged	Replace battery
	Batteries are too far back in the battery tray	Move the batteries forward to adjust the boat's center of gravity
	Struts have too much positive angle, causing the nose of the boat to lift and blow over	Adjust a more neutral or negative strut angle
	Water conditions are too choppy or windy	Adjust the struts downward to drive the bow of the boat down or move the batteries further forward for better weight distribution

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.

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 888-338-4639	
European Union	Horizon Technischer Service Sales: Horizon Hobby GmbH	service@horizonhobby.eu +49 (0) 4121 2655 100	Hanskampring 9 D 22885 Barsbüttel, Germany

FCC Information

FCC ID: BRWDSTX1 | BRWDASRX18 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.

This equipment has been tested and found to comply with the limits for Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

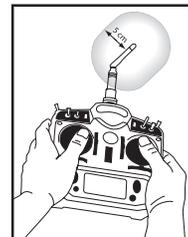
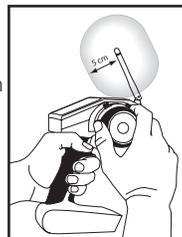
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

IC Information

IC: 6157A-STX1 | 6157A-ASRX18 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 20 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 20 cm RF exposure area and typical hand placement when operating your Spektrum transmitter.



EU Compliance Statement: Horizon Hobby, LLC hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the RED and EMC 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
DYNAM3830	A3630-1800Kv, 6-pole, Water Cooled, Marine Motor	A3630-1800 kV, 6-poliger, wassergekühlter Motor	Moteur marin, à 6 pôles, refroidi à l'eau, A3630, 1800 kV	Motore A3630-1800Kv, a 6 poli, marino, raffreddato ad acqua
PRB18015	Battery Adpater	Regler Akkuadapter	Adaptateur batterie	Adattatore batteria
PRB18016	ESC Y Harness	Regler Y Kabel Rumpf u. Aufkleber	Cordon Y pour contrôleur	Cavetto a Y ESC
PRB281040	Hull and Decal	Rumpf u. Aufkleber	Coque et planche de décoration	Scafo con decalcomanie
PRB281041	Canopy	Haube	Cockpit	Capottina
PRB281042	Rudder Mount Set	Steuerruder u. Halterungsset	Support de gouvernail	Set montanti timone
PRB286021	Prop Strut	Schiffsschraubenstrebe	Chaise d'hélice	Montante dell'elica
PRB286022	Rudder Pushrod Set	Seitenrudergestänge	Tringlerie de gouvernail	Set aste di comando timone
PRB282026	Motor Mounts	Motorhalterung	Supports moteur	Supporti motore
PRB282027	Left Side Propeller, CW Rotation, 1.4x1.65, 3/16 Shaft	Linksseitiger Propeller, Drehung im Uhrzeigersinn, 1,4x1,65, 3/16 Welle	Hélice gauche, rotation CW, 1,4 x 1,65, arbre 3/16	Elica lato sinistro, rotazione in senso orario, 1,4x1,65, Albero 3/16
PRB282028	Right Side Propeller, CCW Rotation, 1.4x1.65, 3/16 Shaft	Rechtsseitiger Propeller, Drehung gegen den Uhrzeigersinn, 1,4x1,65, 3/16 Welle	Hélice droite, rotation CCW, 1,4 x 1,65, arbre 3/16	Elica lato destro, rotazione in senso antiorario, 1,4x1,65, Albero 3/16
PRB282029	Left Flex Shaft, Liner	Flexwelle links	Flexible gauche avec gaine	Albero flessibile sinistro, guaina
PRB282030	Right Flex Shaft, Liner	Flexwelle rechts	Flexible droit avec gaine	Albero flessibile destro, guaina
PRB286024	Electronics Tray	Elektronikträger	Platine pour électronique	Supporto elettronica
DYNAM3876	120A BL Marine ESC 2-6S Single Connector	Dynamite 120A 2-6S Brushless-Marine-Regler m. Einzelstecker	Contrôleur Brushless 120A 2-6S pour bateau	ESC marino BL 120A 2-6S connettore singolo
PRB286023	Silicone Cooling Lines	Silikon-Kühlleitungen	Durite de refroidissement en silicone	Tubi di raffreddamento in silicone
PRB281045	Rudder	Ruder	Gouvernail	Timone
PRB285000	Break Away Bolt	Break Away Bolt	Boulot de sécurité	Break Away Bolt
PRB286031	Canopy Thumb Screws	Pro Boat Daumenschrauben	Vis de fixation du cockpit	Vite ad aletta capottina
SPMS605	9KG Servo, WP, Metal, 23T	Spektrum S605 9KG WP-Metall-Servo 23T	Servo 9Kg à pignons métal, étanche, tête 23T	Servocomando 9kg, WP, ingranaggio in metallo, 23T
SPMSR310	SR310 DSMR 3CH Sport Rec	Spektrum SR310 3-Kanal DSMR-Sportempfänger	Récepteur SR310 3 voies DSMR	Ricevente sport SR310 DSMR 3 canali

Optional Parts / Diverse Teile / Pièces optionnelles / Pezzi opzionali

Part #	English	Deutsch	Français	Italiano
DYN2801	Nut Driver: 4mm	Dynamite Steckschlüssel:4mm	Clé à écrou 4mm	Chiave per dadi: 4mm
DYN2803	Nut Driver: 5.5mm	Dynamite Steckschlüssel:5.5mm	Clé à écrou 5,5mm	Chiave per dadi: 5,5mm
DYN2805	Nut Driver: 8mm	Dynamite Steckschlüssel:8mm	Clé à écrou 8mm	Chiave per dadi: 8mm
DYN2819	5 pc Metric Hex Driver Assortment	Dynamite metrischer Inbusschlüsselsatz 1,5-4 mm (5 Stk)	Assortiment de 5 clé hexagonales métriques	Set chiavi esagonali metrici (5 pz)
DYN4401	GPS Speed Meter	Dynamite GPS-Geschwindigkeitsmesser	Tachymètre GPS	GPS Speed Meter
DYNB3810EC	Reaction HD 7.4V 5000mAh 2S 50C LiPo,Hardcase: EC5	Dynamite Reaction 2S 7,4V 5000mAh 50C LiPo-Akku im Hard Case m. EC5-Anschluss	Batterie Reaction Li-Po 2S 7,4V 5000mA 50C, boîtier rigide, prise EC5	Reaction HD 7,4V 5000mAh 2S 50C LiPo,Hardcase: EC5
DYNB3811EC	Reaction HD 11.1V 5000mAh 3S 50C LiPo,Hardcase: EC5	Dynamite Reaction 3S 11,1V 5000mAh 50C LiPo-Akku im Hard Case m. EC5-Anschluss	Batterie Reaction Li-Po 3S 11,1V 5000mA 50C, boîtier rigide, prise EC5	Reaction HD 11,1V 5000mAh 3S 50C LiPo,Hardcase: EC5
DYNC0028	EC5 Battery Series Harness	EC5 Akku-Serie Kabelbaum	Harnais pour batteries EC5	Cablaggio per collegamento in serie delle batterie EC5
DYNC0031	EC5 Device Charge Lead, 12AWG	EC5 Gerät Ladeleitung, 12 AWG	Câble du chargeur de l'appareil EC5, 12 AWG	Cavo di carica dispositivo EC5, 12AWG
DYNC3005	Passport 400W Dual ACDC Touch	Passport 4000 W Dual Wechsel-/Gleichstrom Touch	Passport 400 W Dual CA/CC Touch	Caricabatterie con touch-screen doppia alimentazione CA/CC Passport 400W
DYNE4200	Grease Gun with Marine Grease 5 oz	Dynamite Fettpresse m. Marinefett 141 g	Pistolet avec graisse marine 140g	Grasso marino con pistola 5 oz
DYNE4201	Marine Grease 5 oz	Dynamite Marinefett 141 g	Graisse marine 140g	Grasso marino 5 oz
DYNF1055	Infrared Temp Gun w/ Laser	Infrarotmesspistole mit Laser	Détecteur infrarouge de température avec laser	Misuratore temperatura a infrarossi a pistola con puntamento laser
DYNK0300	Hook and Loop Tape Set, Waterproof 75x25mm 4pcs	Dynamite Klettbandset 75 x 25 (4 Stk)	Adhésif auto-agrippant 75x25mm (4pcs)	Set nastro a strappo, WP 75x25mm 4pz

Optional Parts / Diverse Teile / Pièces optionnelles / Pezzi opzionali

Part #	English	Deutsch	Français	Italiano
DYNM0102	Clear Flexible Marine Tape (18M)	Dynamite transparentes Marineklebeband 18 m	Adhésif Marin transparent flexible (18M)	Nastro marino trasparente flessibile (18M)
DYNS3005	Dynamite LED Program Card	Dynamite LED Programmierkarte: Marine	Carte de programmation à DELs pour bateau	Dynamite scheda programmazione LED
DYNT0502	Start Up Tool Set: Proboat	Dynamite Startup Werkzeugset: Pro Boat	Proboat - Set d'outils de démarrage	Start Up Tool Set: Proboat
EFLA111	Li-Po Cell Voltage Checker	Dynamite LiPo-Zellenspannungsmessgerät	Testeur de tension d'élément Li-Po	Li-Po Cell Voltage Checker
EFLAEC512	EC5 Device Charge Lead with 6" Wire & Jacks, 12AWG	E-flite EC5 Ladekabel 12AWG	Câble de charge EC5, longueur 150mm, diam 3,3	EC5 cavetto di carica dispositivo 6" con connettori, 12 AWG
KXSC1004	KX50D Duo 2 x 50W AC/DC Charger	KX50D Duo 2 x 50W Wechsel-/Gleichstrom-Ladegerät	KX50D Duo 2 x Chargeur CA/CC 50W	Caricabatterie KX50D Duo 2 x 50W CA/CC
SPM2335	DX2E Active 2CH DSMR Radio w/ SR310	DX2E Aktives 2-Kanal DSMR Funkgerät mit SR310	Radio DX2E Active 2 canaux DSMR avec SR310	Radiocomando DX2E Active 2 canali DSMR con SR310
SPM5000	DX5R 5CH DSMR Tx w/SR6000T	DX5R 5 Kanal DSMR Tx mit SR6000T	DX5R 5CH DSMR Tx avec SR6000T	Radiocomando DX5R 5 canali DSMR con SR6000T
SPM6410	DX6R 6CH Smart Radio w WIFI/BT	DX6R 6 Kanal Smart-Funkgerät mit WIFI/BT	Radio intelligente DX6R 6 canaux avec WI-FI/BLUETOOTH	Radiocomando Smart DX6R 6 canali con WI-FI/Bluetooth
SPMMR4000	MR4000 DSMR 4CH Marine Receiver	MR4000 DSMR 4 Kanal Bootsempfänger	Récepteur marin MR4000 DSMR 4 canaux	Ricevitore marino MR4000 4 canali DSMR
SPMSS6170	S6170 Std Digital Surface Sx	S6170 Digitaler Standard-Oberflächenservo	Surface Sx numérique standard S6170	S6170 Servocomando digitale standard Sx
SPMSS6250	S6250 High Torque, HV Dig Servo	S6250 Digitaler HV-Servo mit hohem Drehmoment	Couple élevé S6250, servo numérique HV	S6250 Servocomando digitale a coppia elevata HV

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