



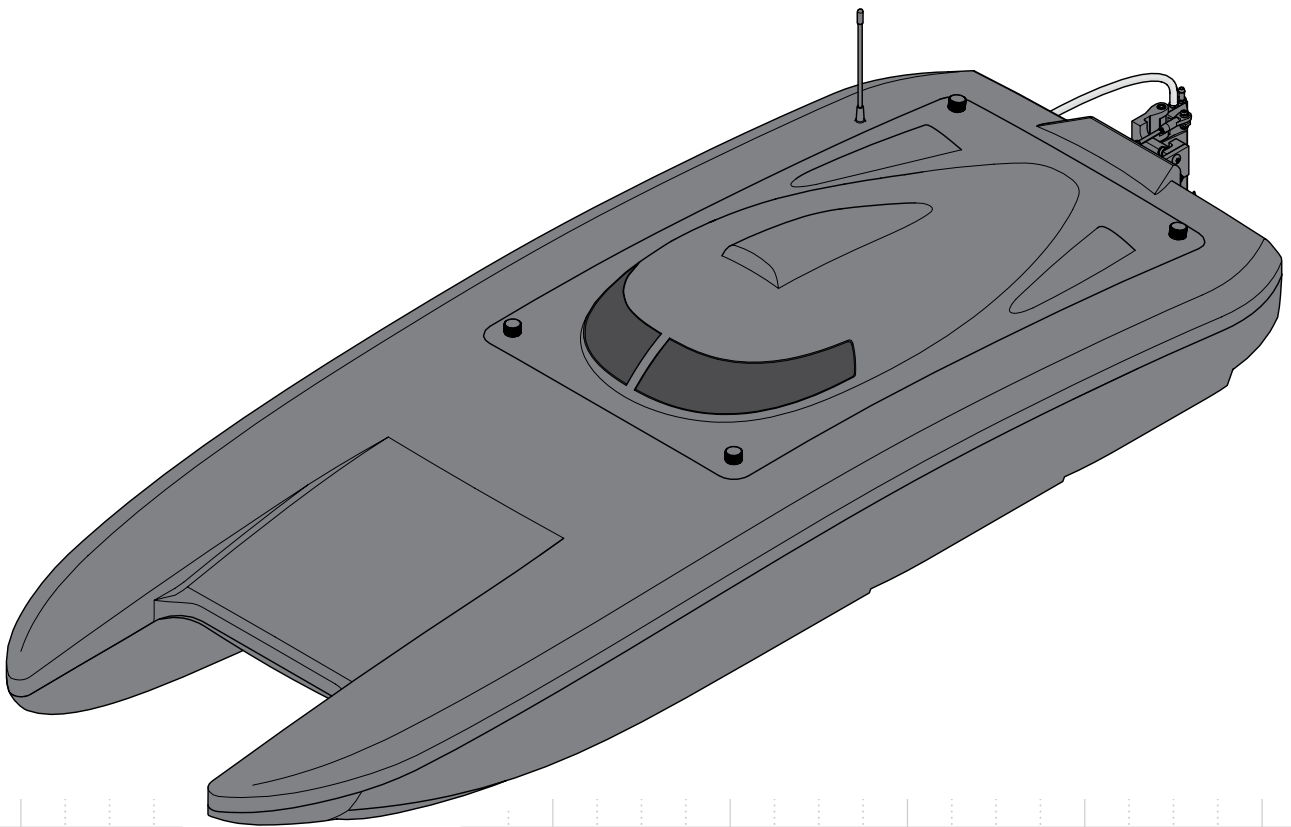
**PROBOAT™**  
ProBoatModels.com

# BLACKJACK™

42-INCH BRUSHLESS 8S CATAMARAN

*PRB08043*

Instruction Manual • Bedienungsanleitung • Manuel de l'utilisateur • Manuale dell'utente



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H O B B Y

## 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 [horizonhobby.com](http://horizonhobby.com) or [towerhobbies.com](http://towerhobbies.com) and click on the support or resources 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 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 sides, 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.

## 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.

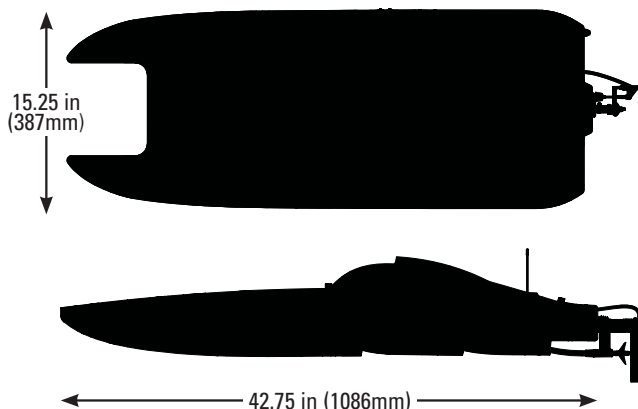
- Remove the battery pack(s) and dry the contacts. If you have an air compressor or a can of compressed air, blow out any water that may be inside the recessed connector housings.
- Dry and lubricate parts after every 30 minutes of operation or if the boat becomes submerged.

**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.

## Specifications

<b>Length</b>	42.75 in (1086mm)
<b>Beam</b>	15.25 in (387mm)
<b>Transmitter</b>	DX3 SMART DSMR 3 CH (SPMR2340)
<b>Receiver</b>	SR6110AT 6CH AVC/Telemetry (SPMSR6110AT)
<b>Hull Material</b>	Polycarbonate
<b>Motor</b>	Spektrum 4685 4 pole BK Marine Motor 1350Kv (PRB282088)
<b>ESC</b>	Firma 160A SMART Brushless Marine ESC (SPMXSE1160M)
<b>Servo</b>	18KG WP 1/5th Scale (SPMS904)
<b>Batteries</b>	Transmitter: 4 AA batteries Boat: (2) 14.8V 5000mAh 4S 100C SMART LiPo, Hardcase, IC5 (SPMX50004S100H5) <b>(sold separately)</b>



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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.

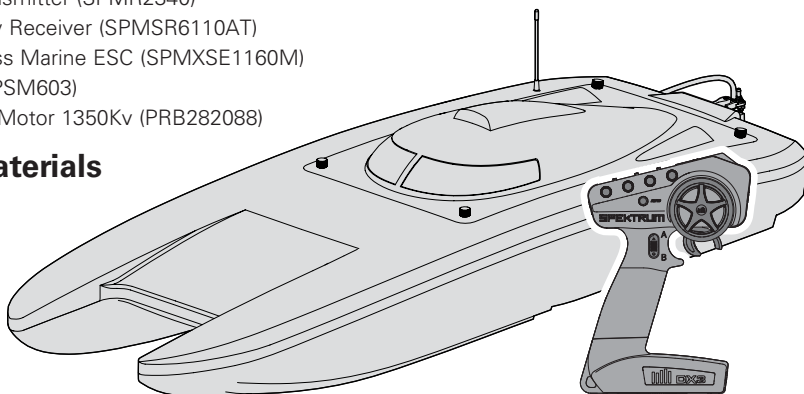
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## Box Contents

- Pro Boat® Blackjack™ 42 inch Brushless RTR Catamaran
- Spektrum DX3 SMART DSMR® 3CH Transmitter (SPMR2340)
- Spektrum SR6110AT 6CH AVC/Telemetry Receiver (SPMSR6110AT)
- Spektrum Firma™ 160A SMART Brushless Marine ESC (SPMXSE1160M)
- Spektrum 18kg WP 1/5th Scale Servo (SPSM603)
- Spektrum 4685 4-Pole Brushless Marine Motor 1350Kv (PRB282088)

## Recommended Tools and Materials

- Adjustable wrench
- Needle nose pliers
- Paper towel
- Rubbing alcohol
- Phillips screwdriver: #1, #2
- Hex drivers: 1.5mm and 2mm
- Clear tape (DYNM0102)
- Pro Boat® Marine Grease and Gun (DYNE4200)



## Battery and Charger

Choose a charger designed to charge the recommended Spektrum™ 14.8V 5000mAh 100C SMART LiPo batteries with IC5® Connectors (**SPMX50004S100H5**).

We recommend the Spektrum SMART S2100 AC Charger with 2X 100W outputs (**SPMXC1010**).

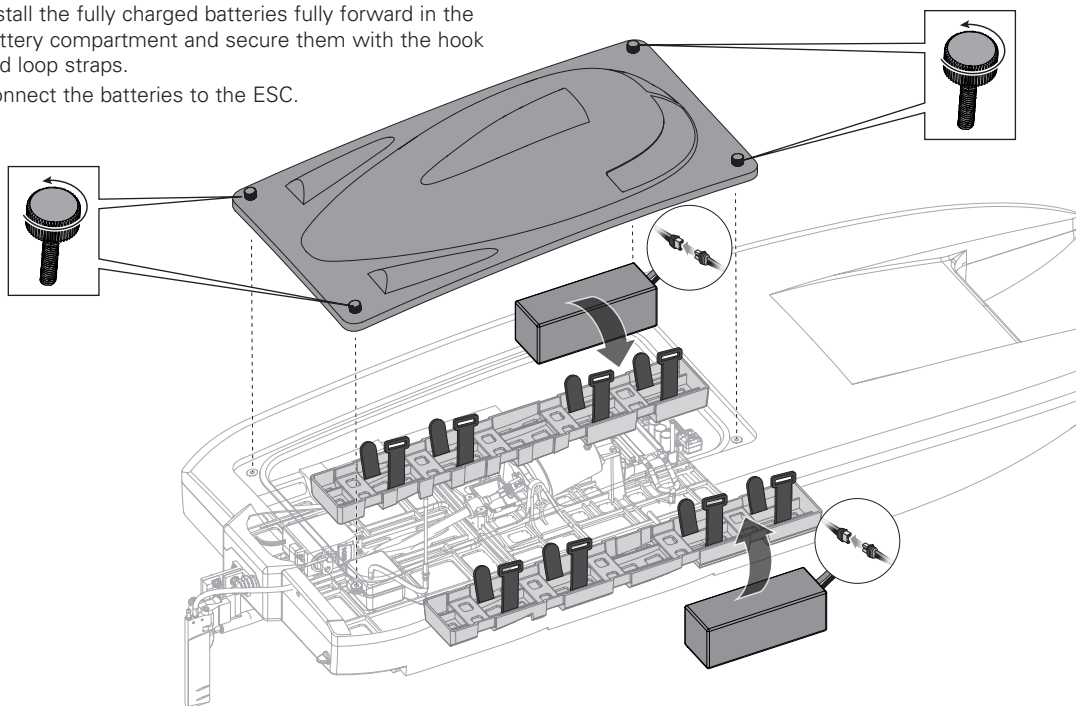
Refer to your charger manual for charging instructions and safety information.

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

## Installing the Battery Pack

1. Loosen the four thumbscrews on the battery hatch and remove it from the hull.
2. Apply one side of the included hook and loop tape to battery tray. Apply the other side of the hook and loop tape to the back of the battery.
3. Install the fully charged batteries fully forward in the battery compartment and secure them with the hook and loop straps.
4. Connect the batteries to the ESC.

**WARNING:** When using two batteries, always make sure the batteries are of similar type (voltage and capacity). Connecting batteries of mismatched capacity may result in battery over discharge, which could result in fire causing property damage or personal injury.



## 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.

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



## Transmitter Functions

### A/B. Channel 3 Button

### C. Throttle/Brake

### D. Steering Wheel

### E. AVC/ST Rate

Adjusts the end point of the steering

### F. Brake Rate

Adjusts the braking end point.

### G. ST Trim

Adjusts the steering center point. Normally, the steering trim is adjusted until the vehicle tracks straight.

### H. TH Trim

Adjusts the throttle neutral point

### I. SMART Battery Level Indicator

### J. Servo Reversing

To reverse the Throttle (TH) or Steering (ST) channel, switch the position of the correlating switch—"N" is for normal, "R" is for reverse.

### K. Throttle Limit

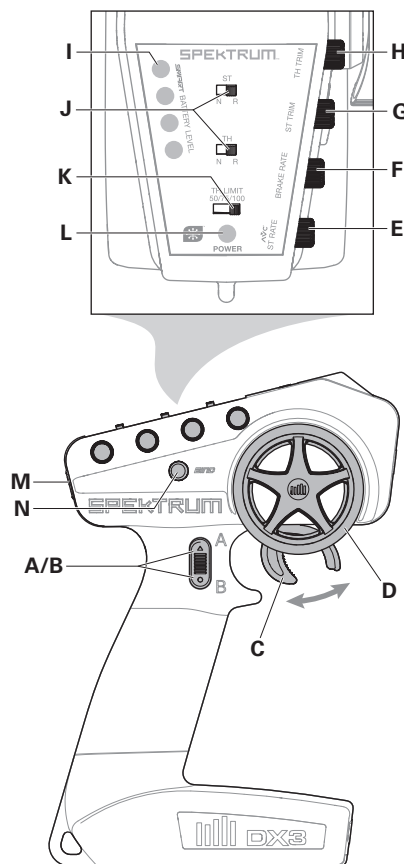
Limits throttle output to 50/75/100%  
Select 50% or 75% for less experienced drivers or when you are driving the vehicle in a small area.

### L. Power LED

- **Solid red lights:** Indicates radio connectivity and adequate battery power
- **Flashing red lights:** Indicates the battery voltage is critically low. Replace batteries

### M. Power Button

### N. Bind Button



## Transmitter Battery Installation

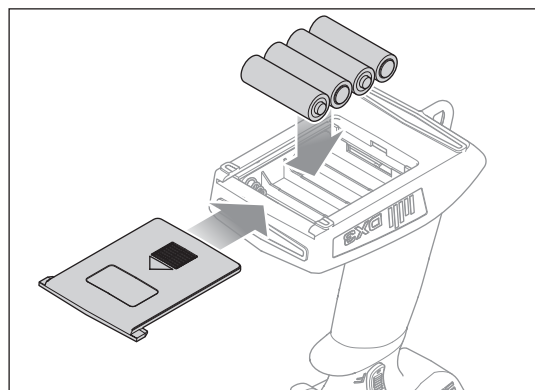
This transmitter requires 4 AA batteries.

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

**CAUTION:** Never remove the transmitter batteries while the model is powered ON. Loss of model control, damage, or injury may occur.

**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.



## Low Voltage Cutoff (LVC)

The factory default setting for the LVC in the ESC included with your boat is set at 3.2V per cell. 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.

The boat drastically slows or stops completely once LVC is activated. Releasing the throttle and reapplying it will provide a limited amount of power to safely return the boat to shore. Repeated use after LVC is activated will damage the batteries.

Once LVC has been activated, the ESC status light will flash red continuously, indicating that the ESC is in LVC mode.

**NOTICE:** The LVC reserves battery capacity to allow you to safely return your boat to shore. Continued use after LVC has activated will damage your battery.

LVC can activate prematurely if you use (1) low C-rated batteries or (2) old, worn, and/or weak batteries.

The average run time—using the recommended batteries (**SPMX50004S100H5**)—is between 7–10 minutes at non-stop, open throttle. Limited run time may indicate worn or weak batteries.

**Tip:** If you've installed freshly charged batteries, and LVC activates within the first minute of operation, replace your worn or weak batteries with the recommended batteries.

**Tip:** Monitor your boat battery's voltage before and after boating by using an XBC100 Smart Battery Checker and Servo Driver (SPMXBC100), sold separately.

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

## Getting Started

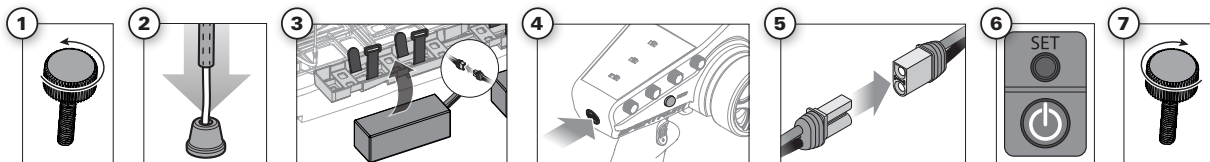
1. Remove the canopy from the hull.
2. Install the receiver antenna in the antenna tube.
3. Install fully charged batteries fully forward in the compartment and secure them with the hook and loop straps.
4. Power on the transmitter. Ensure the throttle is not reversed and the throttle trim is neutral.
5. Connect the batteries to the ESC.
6. Press the ESC power button until the ESC beeps and lights up.



**WARNING:** Never use a LiPo battery in NiMH mode. Using a LiPo in NiMH mode may result in a fire causing property damage and personal injury.

7. Install the canopy on the hull.

**IMPORTANT:** To rebind the Blackjack 42, refer to your receiver manual.

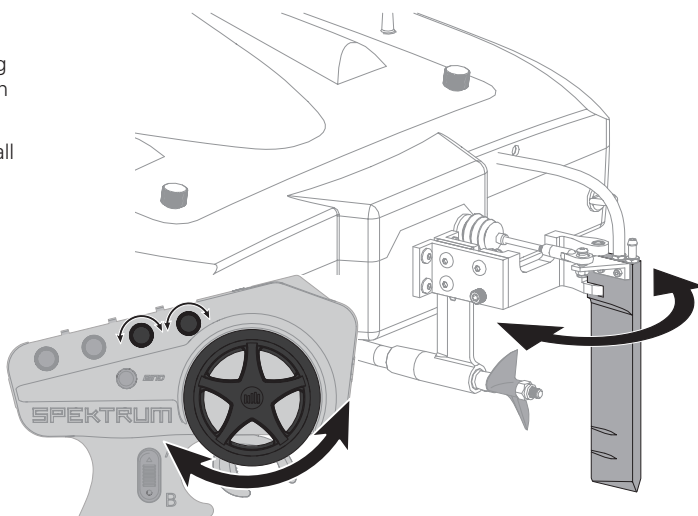


## Control Check

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

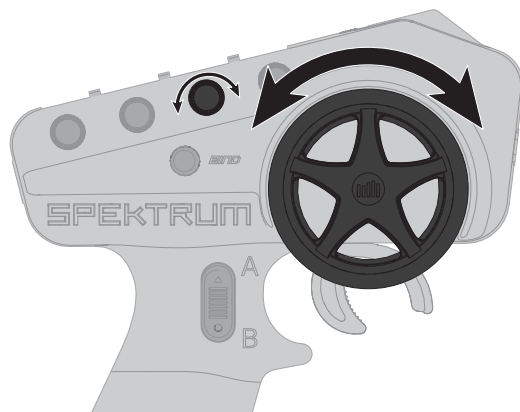
Ensure the receiver antenna is extended properly and all batteries are fully charged.

1. Power ON the transmitter and the boat.  
**Do not install the battery compartment.**
2. Place the boat on a steady surface.
3. Check the AVC/ST Position, ST Trim, and TH Trim on the transmitter.



## Testing Your Boat in the Water

1. Carefully place the boat in the water.
2. If the boat does not go straight, adjust the ST Trim dial on the transmitter.
3. Return the boat to shore when it begins to slow or when LVC activates.
4. Power off the ESC and disconnect the battery.
5. Turn off the transmitter.



**NOTICE:** Always power OFF the receiver before powering OFF the transmitter. If the transmitter is powered OFF before the boat, the receiver will enter failsafe mode.

**WARNING:** Do not to increase steering throw beyond the factory setting or servo failure may occur.

## Boating Tips

We recommend running the boat in 0–7 MPH winds and calm water conditions.

Maximum speeds are only achieved when water conditions are smooth and wind is minimal. A sharp turn in wind (stronger than 8–10 MPH) or waves can capsize the boat when it is moving at high speeds. A capsized boat can float away on windy days. Always pilot your boat in favorable wind and water conditions so that the boat does not capsize.

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

### When boating in water, avoid boating near:

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

Practice driving the boat at low throttle by switching the transmitter preset throttle limiter to the medium setting. Advance the throttle setting as you become proficient with driving.

When using 4S power, do not attempt to skim sideways while turning or the boat will capsize.

Turning at speeds above 10 mph will cause the boat abruptly stop and possibly capsize. Practice turning the boat in no less than a 15 foot radius.

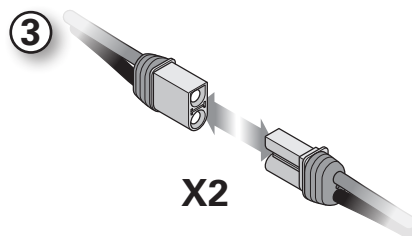
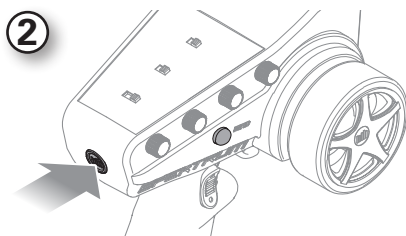
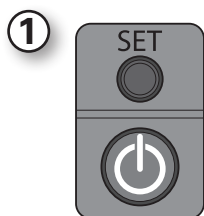
If you need to retrieve your boat from the water, use fishing equipment or another boat.

**CAUTION:** Never operate the boat in extreme temperatures, windy conditions or turbulent water.

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

## 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.

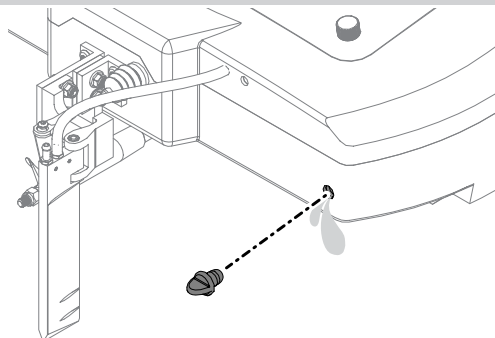




## After Boating and Maintenance

- After each use, remove the drain plug and hold the boat upright to drain all water from inside the hull.
- Reinstall 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. We recommend placing the boat upside down to allow the water to continue to drain.
- Repair any damage or wear to the boat.
- Make note of lessons learned from the trimming of your boat, including water and wind conditions.

**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.



## Binding

Binding is the process of programming the receiver to recognize the GUID (Globally Unique Identifier) code of a single specific transmitter. The DX3™ transmitter and SR6110AT receiver are bound at the factory. If you need to rebind, follow the instructions below. You must rebind when:

- Different failsafe positions are desired e.g., when throttle or steering reversing has been changed.
- Binding the receiver to a different transmitter.
- Binding the transmitter to a different receiver.

Failsafe position is set during binding. In the unlikely event that the radio link is lost during use, the receiver will drive all channels to its programmed failsafe position. The included SR6110AT receiver may be bound in either of two failsafe modes, Standard Mode or Preset (Gas) Mode.

### Standard Mode (default)

If loss of signal occurs, SmartSafe™ technology moves the *throttle channel* to its designated failsafe position (low throttle, neutral trigger) that was set during binding. All other channels hold their last position. When the receiver detects signal from the transmitter, normal operation resumes.

#### To bind in Standard Mode:

1	Center the throttle trim knob on the transmitter and ensure the throttle trigger is at the neutral position.
2	Push and hold the receiver bind button.
3	Power on the receiver. The receiver LED will flash rapidly.
4	Release the receiver bind button.
5	Push and hold the transmitter bind button.
6	Power on the transmitter. The transmitter power LED will flash and glow solid when binding is complete.
7	Release the transmitter bind button.

### Preset (Gas) Mode

Preset failsafe is ideal for most nitro/gas vehicles. With preset failsafe, *all channels* go to their preset failsafe positions if the signal is lost, preventing an out of control situation. When the receiver detects signal from the transmitter, normal operation resumes.

#### To bind in Preset Mode:

1	Center the throttle trim knob on the transmitter and ensure the throttle trigger is at the neutral position.
2	Push and hold the receiver bind button.
3	Power on the receiver. The receiver LED will flash rapidly. Keep the receiver bind button depressed until the bind process is complete.
4	Push and hold the transmitter bind button.
5	Power on the transmitter. The transmitter power LED will flash and glow solid when binding is complete.
6	Power off the receiver.
7	Release the receiver bind button.

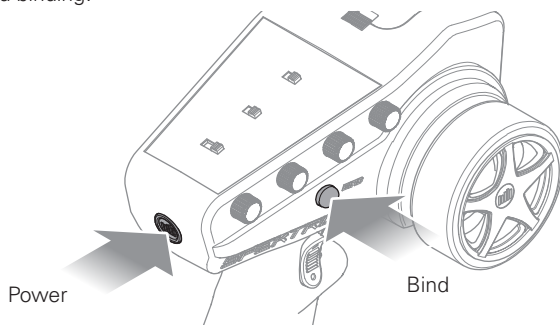
## Failsafe

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.



If using a SMART ESC and SMART battery, the transmitter SMART Battery Level indicator will show the vehicle battery level within 10 seconds of powering on and binding.



### Using An AVC<sup>®</sup> (Active Vehicle Control) Receiver With the DX3 Transmitter

If using an AVC receiver, such as the SR6100AT, follow bind and calibration instructions as indicated in the receiver manual. To use the DX3's CH3 functions with AVC activated, plug into the AUX3 port on the receiver. Use the CH3 **A** and **B** buttons as usual.

## ESC and Transmitter Calibration

1. Begin with the transmitter and receiver binding complete.
2. Set your transmitter's throttle channel to 100% travel and trim to neutral.
3. Turn on your transmitter and connect a battery to the ESC but don't power it on.
4. Press and hold the Set button while turning on the ESC. When the red LED begins to flash, release the Set button. The ESC will enter programming mode if the button is pressed for more than three seconds.
5. Leave the throttle trigger at the neutral position, then press and release the Set button. The red LED will stop flashing, the green LED will flash one time and the motor will make a tone to indicate the neutral position has been accepted.
6. Hold the throttle trigger at the full throttle position then press and release the Set button. The green LED will flash twice and the motor will make two tones to indicate the full throttle position has been accepted.
7. Hold the throttle trigger at the full brake position then press and release the Set button. The green LED will flash three times and the motor will make three tones to indicate the full brake position has been accepted.

**TIP:** The red LED should be flashing when the ESC enters calibration mode. If the green LED is flashing the ESC is in programming mode.

The motor will operate normally after calibration is completed.

## Programming with the SMART Programmer Box

1. Unplug the fan and connect the programming lead to the fan port.
2. Connect a battery to the ESC.
3. Power on the box and select the parameter with the SELECT button.
4. Change the values of the selected parameter with the EDIT button
5. Press the SAVE button to save the changes. The ESC requires a power cycle to implement the saved changes.

### 160A Programmable Options

Programmable Items	Parameter Options								
	1	2	3	4	5	6	7	8	9
Running Mode	Forward Only	Forward/Reverse							
LiPo Cells	Auto Calc.	3S	4S	5S	6S	7S	8S		
Cutoff Voltage	Disabled	2.8V/Cell	3.0V/Cell	3.2V/Cell	3.4V/Cell				
Timing (degree)	0.0	3.75	7.5	11.25	15.0	18.75	22.5	26.25	
Motor Rotation	Clockwise	Counterclockwise							

\*The blacked out cells with white text are the default settings.

## Motor Care

- Prolong motor life by preventing overheating conditions. Undue motor wear results from frequent turns, stops and starts, pushing objects, boating in rough water or vegetation and boating continuously at high speed.
- Over-temperature protection is installed on the ESC to prevent circuit damage, but cannot protect the motor from pushing against heavy resistance.
- Lubrication is important to prevent motor damage. If your motor gets wet, lubricate the busings supporting the motor shaft with light duty machine oil. Failure to do so can cause the motor shaft to seize against the motor bushings.

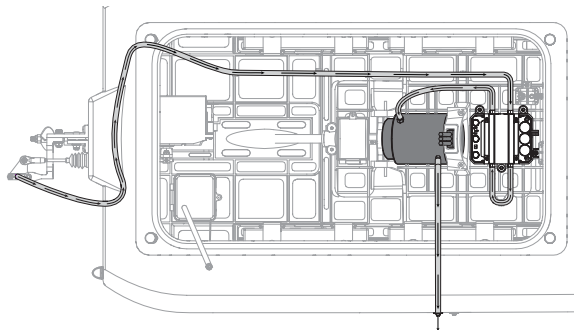


**CAUTION:** Do not touch the motor until it has had time to cool. It can become extremely hot when in use.

## Water Cooling System

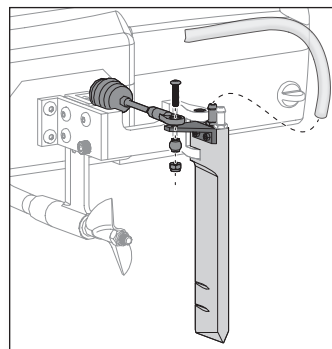
If water does not stream out of the water outlets while the boat is moving forward, immediately stop the boat and clean the obstruction from the water cooling system.

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



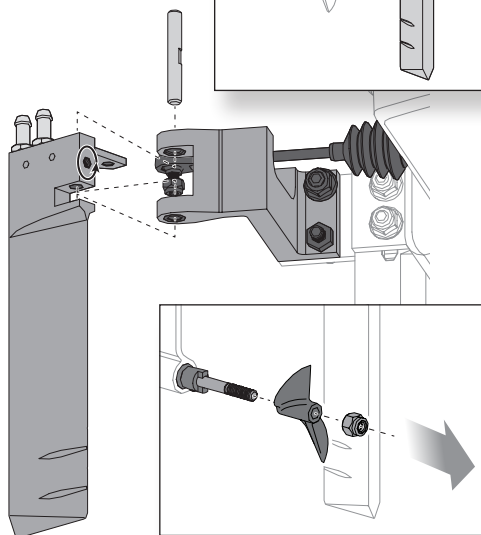
## Rudder Service

1. Disconnect the water tube from the rudder.
2. Remove the nut, screw and linkage from the rudder arm.
3. Turn the rudder and loosen the set screw from the rudder pin.
4. Turn over the boat and lightly tap the rudder to remove the pin.
5. Assemble in reverse order.



## Propeller Service

1. Use an 8mm nut driver (DYN2805) to loosen the nut from the driveshaft.
2. Remove the nut and propeller from the driveshaft.
3. Assemble in reverse order. Correctly align the propeller with the drive dog on the driveshaft.



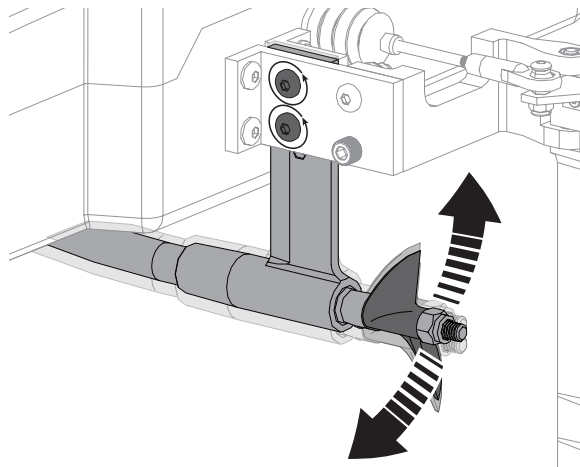
## Prop Angle Adjustment

Raising the prop strut increases speed, but also decreases steering response and increases cavitation.

Lowering the drive strut increases steering response, but also increases steering sensitivity and decreases speed.

1. Loosen 2 bolts and 2 nuts from the drive strut on the rear of the boat.
2. Slide the strut up or down to change the angle of the propeller in relation to the hull.
3. Adjust as desired and tighten the nuts and bolts.

**Tip:** Finding the proper prop angle will reduce the chance of a blow over and/or porpoising.



## Drivetrain Lubrication

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

Lubricating the flex 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 flex shaft and all moving parts after every 30 minutes of operation. Remove, clean, and lubricate the flex shaft after every boating session.

1. In the hull, use 2 12mm open-end wrenches to loosen the collet nut from the flex shaft.
2. Slide the flex shaft out from the stuffing tube and drive strut at the rear of the boat.

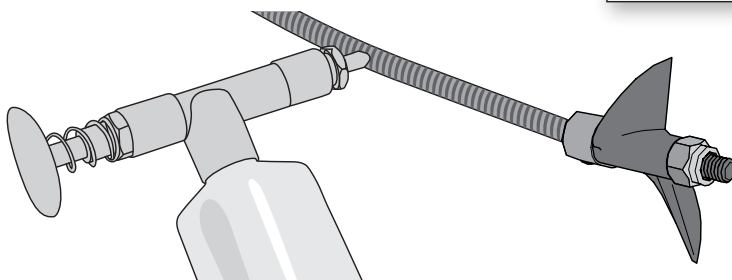
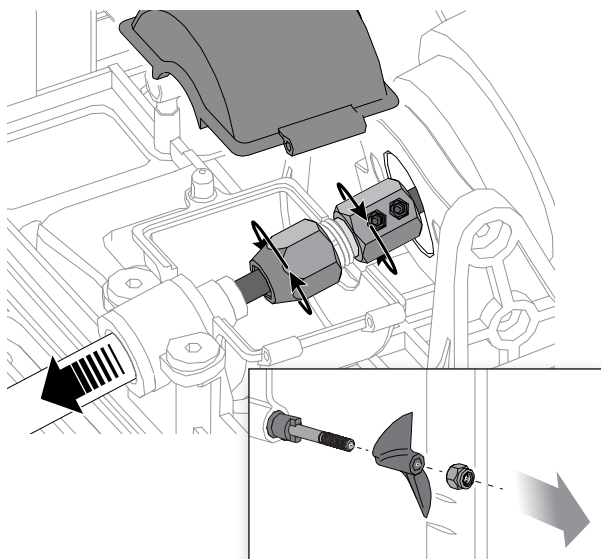
**Tip:** Use paper or cloth for cleaning and lubricating the flex shaft and other drivetrain parts.

3. Wipe the old lubricant and material from the flex shaft.
4. Lubricate the full length of the flex shaft assembly up to the drive dog using marine grease (PRB0101 or PRB0100). Also apply grease to the collet threads.
5. Carefully reinstall the flex shaft in the drive strut, stuffing tube and collet. If the flex shaft is difficult to remove or install in the collet, use a flat screwdriver to spread the grips of the collet.

Ensure there is a 1–2mm gap between the drive strut and drive dog to allow for flex shaft shrinkage under load.

**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.

**NOTICE:** Because of its corrosive effects, running RC boats in saltwater is at the discretion of the modeler.



## 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
	Drive dog is too near the prop strut	Loosen motor coupling on flex shaft and move flex shaft a small amount
	Too little lubrication on flex shaft	Fully lubricate flex shaft
Boat will not Bind (during binding) to transmitter	Vegetation or other obstacles block the rudder or propeller	Remove vegetation or obstacles from rudder or propeller
	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
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	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 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

## 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 for a period of 2 years from 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](http://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](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](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.

## 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/	2904 Research Rd. Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com 877-504-0233	
	Sales	websales@horizonhobby.com 800-338-4639	
EU	Horizon Technischer Service	service@horizonhobby.de	Hanskampring 9 D 22885 Barsbüttel, Germany
	Sales: Horizon Hobby GmbH	+49 (0) 4121 2655 100	

\*For the most up-to-date customer service contact information, please visit: [www.horizonhobby.com/content/service-center-render-service-center](http://www.horizonhobby.com/content/service-center-render-service-center)

## FCC and Canada Compliance Information

**FC** CONTAINS FCC ID: **BRWKATY1T**  
CONTAINS FCCID: **BRWSR6100AT**

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and/or antenna and your body (excluding fingers, hands, wrists, ankles and feet). This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### Supplier's Declaration of Conformity

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.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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 into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Horizon Hobby, LLC  
2904 Research Rd., Champaign, IL 61822  
Email: [compliance@horizonhobby.com](mailto:compliance@horizonhobby.com)  
Web: [HorizonHobby.com](http://HorizonHobby.com)

## IC Information

**CAN ICES-3 (B)/NMB-3(B)**  
**CONTAINS IC: 6157A-KATY1T**  
**CONTAINS IC: 6157A-SR6100AT**

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science, and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following 2 conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

## Compliance Information for the European Union



### EU Compliance Statement:

Hereby, Horizon Hobby, LLC declares that the device is in compliance with the following: EU RED 2014/53/EU; RoHS 2 Directive 2011/65/EU; RoHS 3

Directive - Amending 2011/65/EU Annex II 2015/863.

The full text of the EU declaration of conformity is available at the following internet address: <https://www.horizonhobby.com/content/support-render-compliance>.

**NOTE:** This product contains batteries that are covered under the 2006/66/EC European Directive, which cannot be disposed of with normal household waste. Please follow local regulations.

### Wireless Frequency Range and Wireless Output Power:

#### Transmitter:

2402.0 - 2478.0MHz

17.7 dBm

#### Receiver:

2405 - 2478 MHz

19.39dBm

### EU Manufacturer of Record:

Horizon Hobby, LLC  
2904 Research Road  
Champaign, IL 61822 USA

### EU Importer of Record:

Horizon Hobby, GmbH  
Hanskampring 9  
22885 Barsbüttel Germany

### WEEE NOTICE:



This appliance is labeled in accordance with European Directive 2012/19/EU concerning waste of electrical and electronic equipment (WEEE). This label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

Australia/  
New Zealand



E328



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

Part #	English	Deutsch	Français	Italiano
PRB281116	Canopy	Kabinendach	Verrière	Capottina
PRB281117	Hull with Inserts	Rumpf mit Einsätzen	Coque avec inserts	Scafo con inserti
PRB281118	Pro Boat Waterproof Receiver Box	Pro Boat wasserdichte Empfängerbox	Boîtier de récepteur étanche Pro Boat	Scatola ricevitore a prova d'acqua Pro Boat
PRB281119	Grease Catch	Schmiermittel-Auffangschale	Collecteur de graisse	Raccogli grasso
PRB282089	Propeller	Propeller	Hélice	Elica
PRB282090	Stuffing Tube Set	Füllrohrsatz	Ensemble de tube de remplissage	Kit tubo ingrassatore
PRB282091	Flex Shaft Set	Flexwellensatz	Ensemble d'arbre flexible	Kit albero flessibile
PRB285002	Break Away Bolt	Abreißschraube	Boulon à rupture	Bullone frangibile
PRB286084	Canopy Thumb Screw Set	Daumenschraubensatz für Kabinendach	Ensemble de vis de serrage de la verrière	Kit viti zigrinate capottina
PRB286085	Rudder Set	Rudersatz	Kit de gouvernail	Kit timone
PRB286086	Prop Strut Adjustable	Propellerstange anpassbar	Support de prop. réglable	Supporto elica regolabile
PRB286087	Rudder Pushrod Set	Rudergestängesatz	Ensemble tige de gouvernail	Kit asta di comando timone
PRB286088	Rubber Seal Set	Gummidichtungssatz	Lot de joints en caoutchouc	Set guarnizioni in gomma
PRB286089	Motor Coupler	Motorkupplung	Coupleur du moteur	Accoppiamento motore
PRB286090	Motor Mount Set	Motorhalterungssatz	Ensemble de support moteur	Set supporto motore
PRB286091	Water Cooling Lines	Wasserkühlleitungen	Unités de refroidissement par eau	Linee raffreddamento acqua
PRB286092	Battery Straps	Akku-Klemmen	Sangles de batterie	Fascette batterie
SPMS904	S904 18KG 1/5 Scale Waterproof Servo	S904 Servo 18 kg WP Maßstab 1:5	Servo à l'échelle 1/5e 18 kg étanche	Scala 1:5 18kg a prova d'acqua
SPMSR6110AT	SR6110AT 6 CH AVC/Tele Surface Receiver	SR6110AT 6 Kanäle AVC/ Telemetrie-Oberflächenempfänger	Récepteur de surface de télémétrie/AVC 6 canaux SR6110AT	RX di superficie SR6110AT 6 CH AVC/Telemetria
SPMXMM1000	Spektrum 4685 4 pole BL Marine Motor 1350kV	Spektrum 4685 4-poliger BL Marine-Motor 1350 kV	Moteur marin Spektrum 4685 4 pôles BL 1 350 kV	Motore marino Spektrum 4685 4 poli Brushless 1350 Kv
SPMXSE1160M	Spektrum 160A SMART Marine ESC 3-8S	Spektrum 160 A SMART-Marine-Geschwindigkeitsregler 3-8S	Variateur ESC marin Spektrum 160 A SMART 3-8S	ESC SMART marino Spektrum 160 A 3-8S

## Recommended Parts / Empfohlene Teile / Pièces recommandées / Pezzi consigliate

Part #	English	Deutsch	Français	Italiano
DYNE4200	Grease Gun w/ Marine Grease, 5oz	Fettpresse mit Marine Grease, 142 g	Pistolet graisseur avec graisse marine, 142 g	Pistola lubrificatrice con grasso marino, 147 ml
DYNE50001	Absolute Force® Spray Cleaner, 32oz	Absolute Force Sprühreiniger, 946 ml	Vaporisateur nettoyant Absolute Force, 946 ml	Spray detergente Absolute Force, 946 ml
DYNT0502	Start Up Tool Set: Pro Boat	Anfänger-Werkzeugsatz: Pro Boat	Set d'outils de démarrage : Pro Boat	Kit attrezzi per avvio: Pro Boat
SPMX50004S100H5	5000mAh 4S 14.8V SMART 100C, IC5	5000mAh 4S 14,8 V SMART 100C, IC5	5 000 mAh 4S 14,8 V SMART 100C, IC5	5000 mAh 4S 14,8 V SMART 100C, IC5
SPMXC1010	SMART S2100 AC Charger, 2X100W	SMART S2100 Wechselstrom-Ladegerät, 2x100 W	Chargeur CA SMART S2100, 2 x 100 W	Caricabatterie SMART S2100 CA, 2x100 W

## Optional Parts / Diverse Teile / Pièces optionnelles / Pezzi opzionali

Part #	English	Deutsch	Français	Italiano
DYNM0102	Clear Flex Marine Tape (18M)	Transparentes, flexibles Bootsband ( 18M)	Ruban adhésif marin flexible (18 m)	Nastro adesivo marino trasparente (18 m)
SPM6410	DX6R 6CH SMART Radio w WIFI/BT	DX6R 6 Kanal SMART-Funkgerät mit WIFI/BT	DX6R 6 Kanal Smart-Funkgerät mit WIFI/BT	Radiocomando Smart DX6R 6 canali con Wi-Fi/Bluetooth
SPMR52000	DX5 Rugged DSMR Transmitter Only, Orange	Nur DX5 Rugged DSMR-Sender, Orange	Nur DX5 Rugged DSMR-Sender, Orange	DX5 Rugged DSMR solo trasmettente, arancione
SPMX50004S100H5	5000mAh 4S 14.8V SMART 100C, IC5	5000mAh 4S 14,8 V SMART 100C, IC5	5 000 mAh 4S 14,8 V SMART 100C, IC5	5000 mAh 4S 14,8 V SMART 100C, IC5
SPMXBC100	SMART Battery and Servo Tester	SMART-Akku und Servotester	Batterie SMART et testeur de servo	Batteria SMART e tester servo
SPMXCA509	Adapter: IC5 Battery/ Parallel Y 6	Adapter: IC5 Akku/Parallel Y 6	Adaptateur : Cordon en Y batterie IC5/parallèle 6	Adattatore: Batteria IC5/Y parallelo 6
TLR0540	TLR Pit Towel	TLR-Pit Tuch	Chiffon TLR	Telo box TLR

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US 9,320,977. US 10,528,060. US 9,930,567. US 10,419,970. US 10,849,013.