



# WIDOW *MAKER*

**WidowMaker 22 Brushless Electric Powered Deep-V**

## **Owners Manual**



### **Specifications**

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Hull Length.....	22 in (558mm)
Beam.....	6.5 in (165mm)
Motor.....	Water-cooled Hi-performance 2900Kv
Radio System.....	Pro Boat AM 27MHz Pistol-grip
Drive System.....	Direct Drive with Adjustable Propeller Strut
Steering System.....	Offset Rudder with Built-in Water Pickup
Speed Control.....	Water-cooled 30-Amp Brushless ESC with Reverse

## Introduction

Thank you for purchasing the Pro Boat® WidowMaker 22 Brushless EP Ready-To-Run boat. Please read these instructions carefully before attempting to operate your boat.

The WidowMaker 22 Brushless EP comes Ready-To-Run with the Pro Boat 27MHz AM radio system and electronic speed controller already installed. All assembly and building is done at the factory, allowing you to quickly get your boat running.

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## Inspection

Carefully remove the boat and radio transmitter from the box. Inspect the boat to make sure no damage is present. If you notice damage is present, please contact the hobby shop where you purchased it.

## General Guidelines

It is important that you read and follow this instruction manual, along with the radio system manual before you run this exciting boat. Failure to read and understand the manual could result in personal injury, property damage or permanent damage to your boat. It is also important to run your boat responsibly. With proper care and maintenance, you will be able to proudly enjoy your WidowMaker 22 Brushless Deep-V for many years to come.

When operating the boat, stay clear of people, full-scale boats, stationary objects and wildlife. It is preferable to operate the WidowMaker 22 Brushless Deep-V in low wake, low wind conditions and in areas free of people, wildlife and objects.

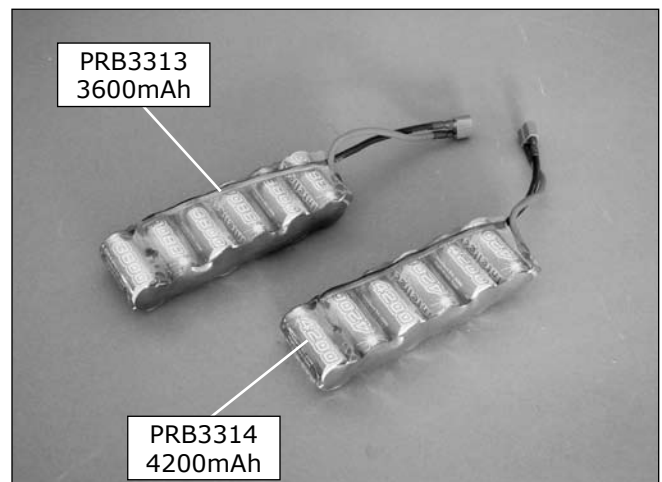
Before you operate your model, make sure that your frequency is clear. If someone is operating on the same frequency, both models could go out of control, possibly causing damage to the models or to others. Check all of the hardware, and the propeller for damage and loose screws before and after each run.

If at any time while operating your model you sense any abnormal function, end your operation immediately. Do not operate your boat again until you are certain the problem has been corrected. ***Always stay clear of the propeller.***

## Additional Required Items

You will need to purchase the following to get your boat on the water:

- 8 AA alkaline batteries for the radio transmitter
- 1-7.2V Ni-MH Battery Pack with Deans Connector (PRB3313 or PRB3314) or 1-7.4V Li-Po 25C Battery (DYN5360D)
- Prophet Plus AC/DC Charger (DYN4036) or for Li-Po batteries, the AC/DC LiPo Charger (DYN4060)
- Tamiya/Deans adapter (PRB3312)



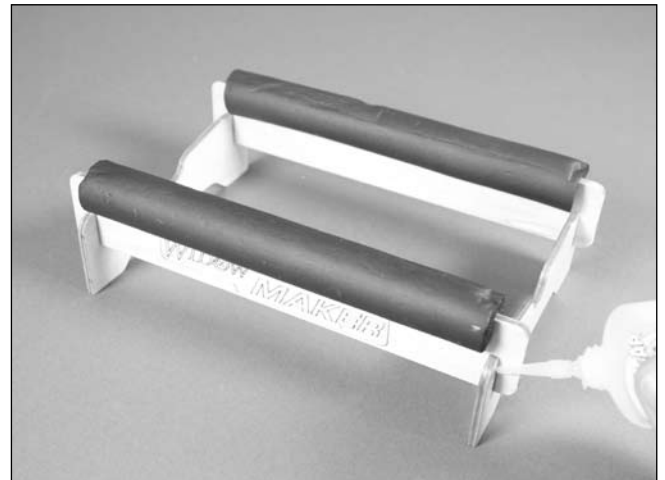
## Contents



- Assembled WidowMaker 22 Brushless EP RTR
- Pro Boat radio transmitter
- Boat stand

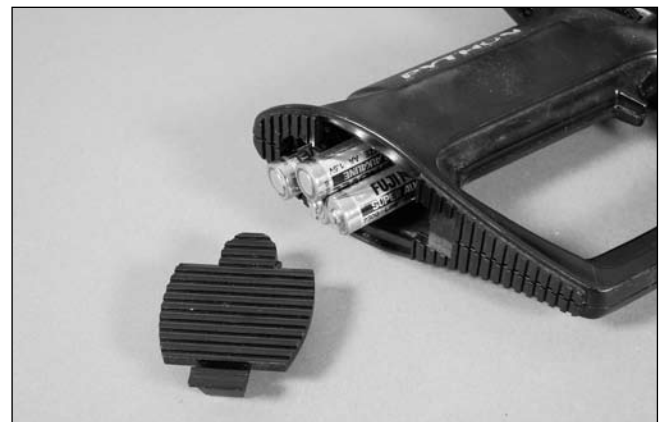
### Section 1: Assembling the Boat Stand

Attach the side stand pieces by interlocking them into the end pieces as shown. Secure the interlocking pieces with medium CA or epoxy. Make certain you allow the adhesive to fully cure before placing your boat on the stand.



### Section 2: Installing the Transmitter Batteries

Install 8 AA alkaline batteries into the transmitter, following the instructions provided for your radio system.



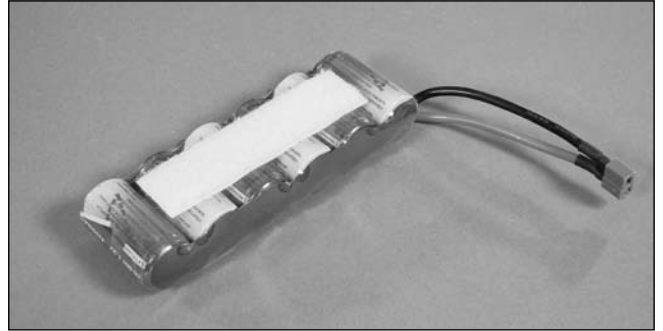
## Section 3: Installing the Battery Pack

Carefully remove the hatch from the hull.



Follow the instructions included with your fast charger to ensure a safe charge.

Attach the hook and loop material to the batteries and the battery boxes.



The Pro Boat water-cooled ESC comes pre-wired with a Deans connector. Use a 6-cell battery pack listed below for optimum performance.

- PRB3313 7.2V 3600mAh  
w/Deans Connector
- PRB3314 7.2V 4200mAh  
w/Deans Connectors
- DYN5360D 7.4V 5300mAh 25C Li-Po  
w/Deans connector

Due to the high current demands of a brushless powered boat, Pro Boat recommends only the batteries listed above or equivalent.

Pro Boat offers a charge adapter (PRB3312) to allow you to charge the PRB3313 and PRB3314 batteries with Deans connectors with conventional chargers that use Tamiya-style connectors.

Install a fully charged battery pack into the hull.



## Section 4: Adjusting the Transmitter

**Note:** Refer to the radio instructions for specific information on transmitter setup.

Adjust both the Throttle and Steering trims to the center position.

Turn on the transmitter, then connect the battery to the ESC. It may be necessary to adjust the throttle trim knob to stop the propeller from turning while the throttle trigger is in the neutral position.

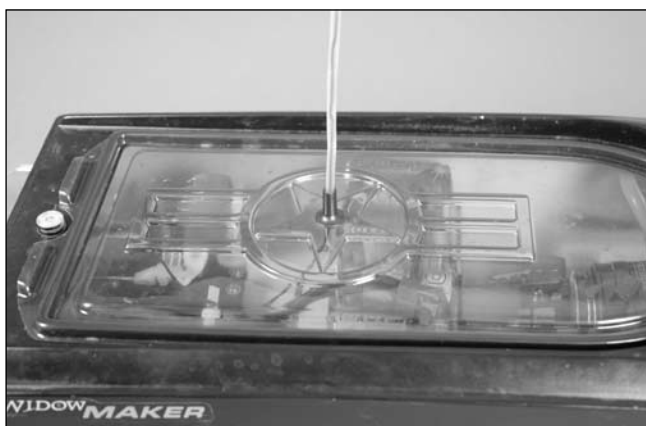


Adjust the rudder trim knob so that the rudder is centered prior to operation. You may adjust this control to make the boat run straight during operation.



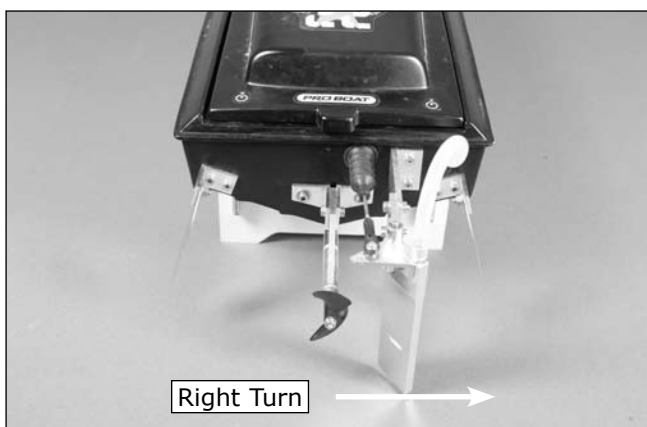
## Section 5: Checking the Radio System

Ensure the antenna is properly placed through the antenna tube. It may be necessary to slightly pull the antenna tube out to make certain the radio range is sufficient.



## Section 5: Checking the Radio System

The control arm should move toward the back of the boat when right input is given. Conversely, when left input is given, the control arm should move toward the front of the boat.



The ESC will beep until you give full throttle input. The auto sensing circuitry will select full throttle position when you hold full throttle during initial setup. Release the throttle trigger. With the propeller free from any objects, give some throttle input to ensure that the motor is working. If everything appears to be functioning correctly, you are ready to run your boat.

**Note:** The auto sensing voltage cutoff will also cut off power to the motor when the ESC senses that the batteries are nearing full discharge. To reset, return the throttle trigger to neutral.

**Note:** If you are transporting your boat, make sure you disconnect the battery from the speed controller and then turn your radio off until you are ready to run the boat. Once ready, simply turn the radio on and plug the battery into the speed controller, again making sure that the boat is in neutral.

## Section 6: Testing Your Boat in the Water

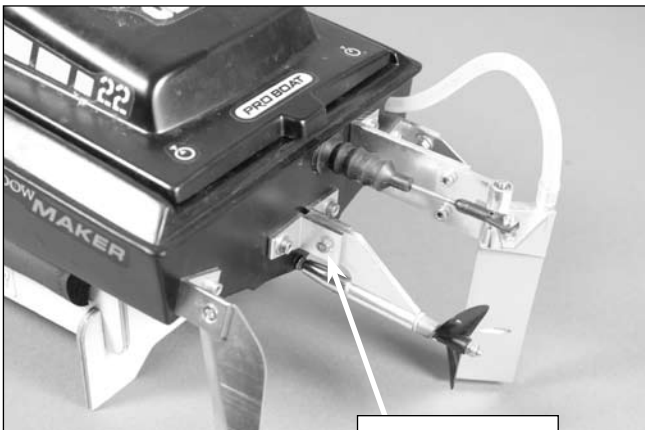
Make sure the radio is "ON" and the batteries are plugged into the speed controller. Test the radio system for proper operation and then carefully place the boat in the water. Pilot the boat at slow speeds, staying close to the shoreline to ensure you have good control and that the boat is functioning correctly. Be certain to avoid all objects in the water at all times.

Once you feel comfortable with the control of your boat, it is safe to go further away from the shoreline and at faster speeds. When you notice the boat beginning to lose speed, bring the boat back to shore. It will be necessary to allow the electronic components to cool down and to replace or recharge the battery before heading out again.

## Section 7: Handling Adjustment

Operate your WidowMaker 22 Brushless EP in low to medium wake conditions to avoid having problems with the boat overturning. If the conditions are questionable, adjust the prop strut down a bit to reduce the likelihood of having the boat overturn. The motor mount is slotted to allow you to move the motor slightly when adjusting the propeller strut. Loosen the motor mounting screws when adjusting the propeller strut angle and retighten after adjustment is complete.

You may also turn the dual rate dial down to reduce rudder travel in rough water conditions.



Loosen to  
Adjust  
Propeller Strut



Steering Dual  
Rate



## Section 8: Maintenance

Before and at the end of each run, make sure all screws are tight and the propeller is free from any entanglement.

## Section 9: Speed Control Programming

The electronic speed control (esc) features a Ni-MH/Li-Po switch to easily change the cutoff voltage for each battery type.

**Caution:** It is imperative that you do not attempt to use Li-Po batteries in the WidowMaker 22 Brushless unless the cutoff switch is in the Li-Po position or serious damage to the batteries and electronics may occur.

**Note:** Do not turn off the transmitter first or the receiver may pick up stray signals and run out of control.



## Section 10: Lubricating the Drive Shaft

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 box.

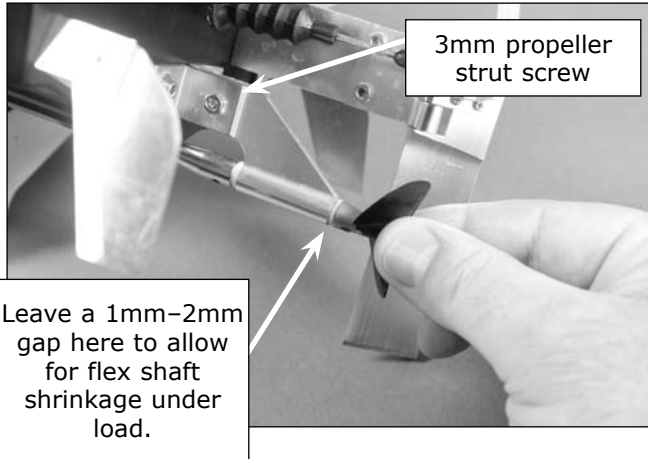
Lubricate the flex shaft, propeller shaft and all moving parts after every 2–3 hours of operation.

1. Use either two crescent wrenches, two 10mm wrenches, or a combination of either to loosen the collet nut.



## Section 10: Lubricating the Drive Shaft

- 2. Remove the 3mm propeller strut screw and remove the drive system by sliding the flex shaft out of the stuffing box.



- 3. Clean any debris and dirt from the flex shaft with a degreasing cleaner. Lubricate the drive shaft with PRB0100 Waterproof Marine Grease (see your local hobby shop). Reinstall the drive shaft in reverse order. Be sure to reinstall the nylon washer between the universal and the stuffing box.



**Note:** Running the WidowMaker 22 Brushless EP RTR in salt water could cause some parts to corrode. If you run the boat in salt water, rinse it thoroughly in fresh water after each use and lubricate the drive system.

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

## Section 11: Warranty Information

### ***Age Recommendation***

Age Recommendation: 14 years or over. This is not a toy. This product is not intended for use by children without direct adult supervision.

### ***Warranty Period***

Exclusive Warranty- Horizon Hobby, Inc., (Horizon) warrants that the Products purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase by the Purchaser.

### ***Limited Warranty***

(a) This warranty is limited to the original Purchaser ("Purchaser") and is not transferable. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. This warranty covers only those Products purchased from an authorized Horizon dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for warranty claims. Further, Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

(b) Limitations- HORIZON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCT. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

(c) Purchaser Remedy- Horizon's sole obligation hereunder shall be that Horizon will, at its option, (i) repair or (ii) replace, any Product determined by Horizon to be defective. In the event of a defect, these are the Purchaser's exclusive remedies.

Horizon reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Horizon. This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than Horizon. Return of any goods by Purchaser must be approved in writing by Horizon before shipment.

### ***Damage Limits***

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCT, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY. 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 this Product, you are advised to return this 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).

### ***Safety Precautions***

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. The Product 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 injury.

### ***Questions, Assistance, and Repairs***

Your local hobby store and/or place of purchase cannot provide warranty support or repair. Once assembly, setup or use of the Product has been started, you must contact 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 direct your email to [feedback@teamlosi.com](mailto:feedback@teamlosi.com), or call 888.899.LOSI (5674) toll free to speak to a service technician.

## Section 11: Warranty Information

### ***Inspection or Repairs***

If this Product needs to be inspected or repaired, please call for a Return Merchandise Authorization (RMA). 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.**

A Service Repair Request is available at [www.horizonhobby.com](http://www.horizonhobby.com) on the "Support" tab. If you do not have internet access, please include a letter with your complete name, street address, email address and phone number where you can be reached during business days, your RMA number, a list of the included items, method of payment for any non-warranty expenses and a brief summary of the problem. Your original sales receipt must also be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

### ***Warranty Inspection and Repairs***

**To receive warranty service, you must include your original sales receipt** verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be repaired or replaced free of charge. Repair or replacement decisions are at the sole discretion of Horizon Hobby.

### ***Non-Warranty Repairs***

**Should your repair not be covered by warranty the repair 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 repair you are agreeing to payment of the repair without notification. Repair estimates are available upon request. You must include this request with your repair. Non-warranty repair estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Please advise us of your preferred method of payment. Horizon accepts money orders and cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. If you choose to pay by credit card, please include your credit card number and expiration date. Any repair left unpaid or unclaimed after 90 days will be considered abandoned and will be disposed of accordingly. **Please note: non-warranty repair is only available on electronics and model engines.**

### ***United States:***

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Service Center  
4105 Fieldstone Road  
Champaign, Illinois 61822

All other Products requiring warranty inspection or repair should be shipped to the following address:

Horizon Product Support  
4105 Fieldstone Road  
Champaign, Illinois 61822

Please call 877-504-0233 or e-mail us at [productsupport@horizonhobby.com](mailto:productsupport@horizonhobby.com) with any questions or concerns regarding this product or warranty.

### ***United Kingdom:***

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Hobby UK  
Units 1-4 Ployters Rd  
Staple Tye  
Harlow, Essex  
CM18 7NS  
United Kingdom

Please call +44 (0) 1279 641 097 or e-mail us at [sales@horizonhobby.co.uk](mailto:sales@horizonhobby.co.uk) with any questions or concerns regarding this product or warranty.

### ***Germany:***

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Technischer Service  
Hamburger Strasse 10  
25335 Elmshorn  
Germany

Please call +49 4121 46199 66 or e-mail us at [service@horizonhobby.de](mailto:service@horizonhobby.de) with any questions or concerns regarding this product or warranty.

## Section 11: Warranty Information

### **FCC Information**

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

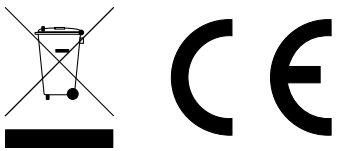
- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

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

### **CE Compliance Information for the European Union**

#### **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.



### **Declaration of Conformity**

(in accordance with ISO/IEC 17050-1)

No. HH20090606

Product(s): Widowmaker 22 BL RTR  
Item Number(s): PRB3900

Equipment class: 1

The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC:

EN 300-220	Technical requirements for Radio equipment.
EN 301 489-1, 301 489-3	General EMC requirements for Radio equipment
EN 60950	Safety

Signed for and on behalf of:  
Horizon Hobby, Inc.  
Champaign, IL USA  
June 06, 2009

Steven A. Hall

A handwritten signature in black ink that reads "S A Hall".

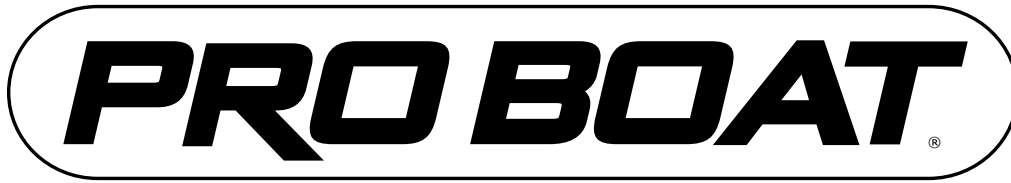
Vice President  
International Operations and Risk Management  
Horizon Hobby, Inc.

## Section 12: Replacement Parts

If you have any questions concerning the setup or running of your WidowMaker 22 Brushless EP boat, please call the Horizon Service Center toll-free at (877) 504-0233.

PRB0150	1.34" x 2.06" Composite Propeller	PRB3902	Hatch
PRB2068	Water Outlet	PRB3903	Radio Box Cover
PRB2218	Prop Nut	PRB3904	Stand
PRB2219	Nylon Washer	PRB3905	Propeller Strut Set
PRB2223	Pushrod Connector	PRB3906	Rudder Set
PRB2224	Silicone Tubing	PRB3907	Turn Fin
PRB2226	Antenna Tube	PRB3908	Stuffing Box
PRB2228	Rubber Boot	PRB3909	Flex Shaft
PRB2811	Stuffing Box Liner	PRB3910	Rudder Pushrod Set
PRB2813	Propeller Shaft	PRB3911	2900Kv Brushless motor
PRB3307	Motor Mount	PRB3912	30-Amp 5.6-12.5V Brushless ESC w/Reverse
PRB3308	Cable Collet	PRB3913	Radio Box
PRB3312	Tamiya/Deans Charge Adapter	PRB0100	Grease Gun w/Marine Grease, 5 oz
PRB3313	7.2V 3600mAh Battery w/Deans	PRB0101	Marine Grease, 5 oz
PRB3314	7.2V 4200mAh Battery w/Deans		
PRB3901	Hull and Hatch		





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