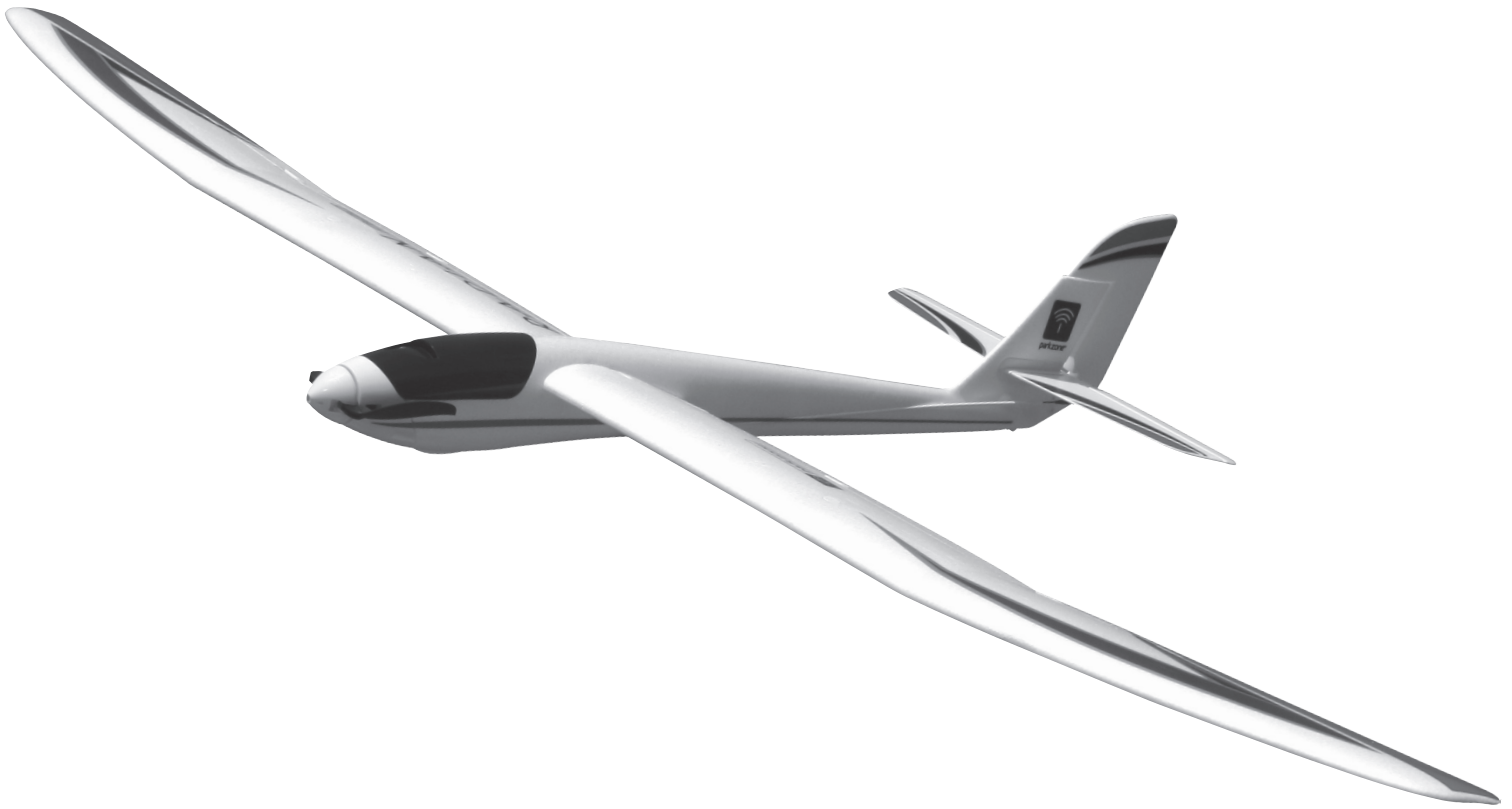




# RADIAN<sup>®</sup> PRO

Instruction Manual • Bedienungsanleitung • Manuel d'utilisation • Manuale di Istruzioni



BIND-N-FLY SPEKTRUM DSM TECHNOLOGY

PLUG-N-PLAY<sup>™</sup>



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

### Meaning of Special Language

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

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

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

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

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

This is a sophisticated hobby product. 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 attempt disassembly, use with incompatible components or augment product in any way without the approval of Horizon Hobby, Inc. 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.

## Additional Safety Precautions and Warnings

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

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

This model is controlled by a radio signal that is subject to interference from many sources outside your control. This interference can cause momentary loss of control so it is advisable to always keep a safe distance in all directions around your model, as this margin will help to avoid collisions or injury.

Never operate your model with low transmitter batteries.

Always operate your model in open spaces away from full-size vehicles, traffic and people.

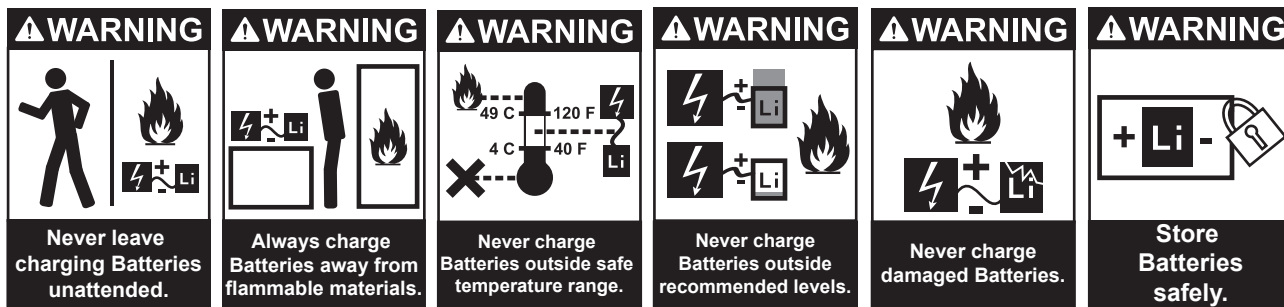
Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.).

Keep all chemicals, small parts and anything electrical out of the reach of children.

Moisture causes damage to electronics. Avoid water exposure to all equipment not specifically designed and protected for this purpose.

Never lick or place any portion of your model in your mouth as it could cause serious injury or even death.

## Battery Warnings



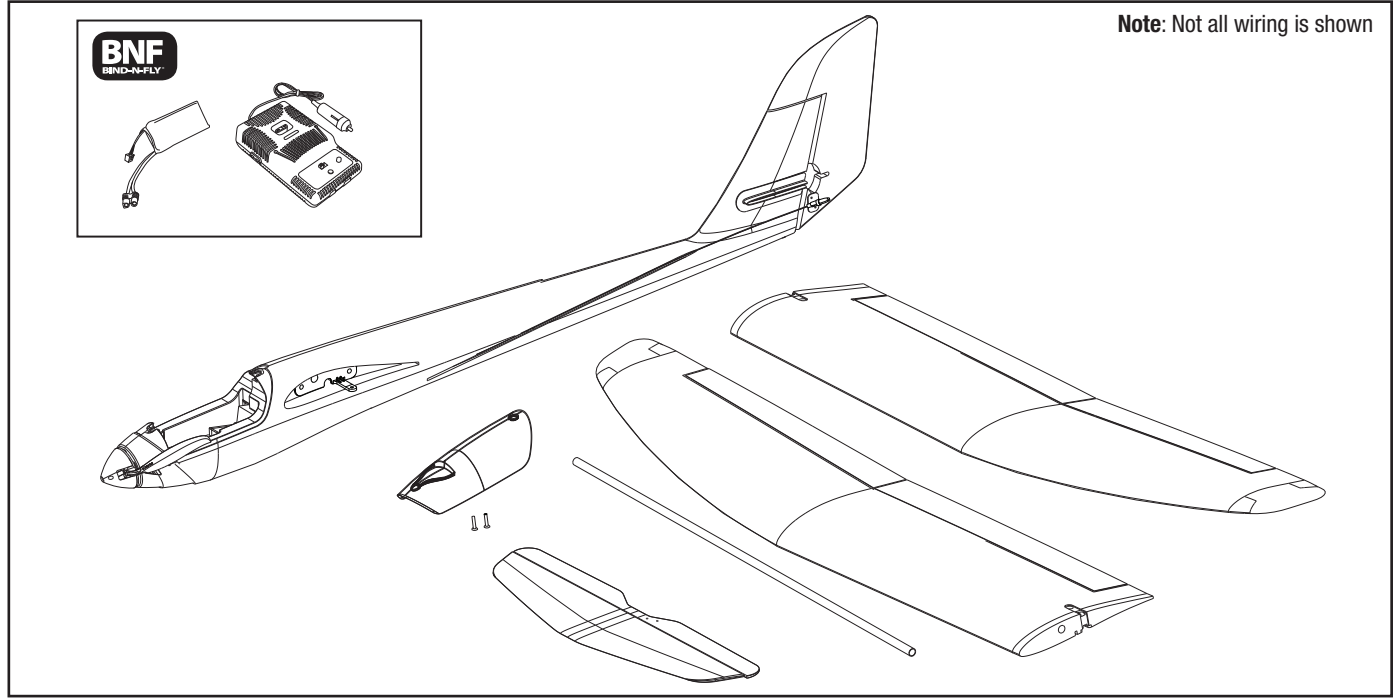
The Battery Charger included with the Radian Pro has been designed to safely charge the Li-Po battery. You must read the following safety instructions and warnings before handling, charging or using the Li-Po battery.

**CAUTION:** All instructions and warnings must be followed exactly. Mishandling of Li-Po batteries can result in a fire, personal injury, and/or property damage.

- By handling, charging or using the included Li-Po battery you assume all risks associated with lithium batteries. If you do not agree with these conditions, return your complete Radian Pro model in new, unused condition to that
- DO NOT USE A Ni-Cd OR Ni-MH CHARGER. Failure to charge the battery with a compatible charger may cause fire resulting in personal injury and/or property damage.
- If at any time the battery begins to balloon or swell, discontinue use immediately. If charging or discharging, discontinue and disconnect. Continuing to use, charge or discharge a battery that is ballooning or swelling can result in fire.
- Store the battery at room temperature in a dry area for best results.
- When transporting or temporarily storing the battery the temperature range should be from 40–120° F. Do not store battery or model in a car or direct sunlight. If stored in a hot car, the battery can be damaged or even catch fire.
- Li-Po cells should not be discharged to below 3V each under load.
- Do not cover warning labels with hook and loop strips.

# Radian® Pro BNF/PNP

The ParkZone Radian Pro is a follow-on to the Radian. Designed with the experienced sailplane pilot in mind, the Radian Pro is equipped with 5-channels out of the box, including ailerons for a more precise soaring experience and flaps for more glide path control. This aircraft delivers flight performance that you might expect from the traditional competition sailplane, without the construction work. Available in both Bind-N-Fly® and Plug-N-Play® completion levels, this plane can be ready to fly in as little time as it takes to charge the battery.



## First Flight Preparation

- Remove and inspect contents
- Read this instruction manual thoroughly
- Bind aircraft to your transmitter
- Install the flight battery in the aircraft (once it has been fully charged)
- Make sure connectors move freely
- Perform the Control Direction Test with the transmitter
- Adjust flight controls and transmitter
- Adjust battery for center of gravity (CG)
- Perform a radio system Range Check
- Find a safe and open area
- Plan flight for flying field conditions

## Maintenance After Flying

- Disconnect flight battery from ESC (Required for Safety)
- Turn off transmitter
- Remove flight battery from aircraft
- Recharge flight battery
- Repair or replace all damaged parts
- Store flight battery apart from aircraft and monitor the battery charge
- Make note of flight conditions and flight plan results, planning for future flights

Radian Pro Specifications	
<b>Wingspan</b>	78.5 in (2000mm)
<b>Length</b>	45.0 in (1145mm)
<b>Weight (RTF)</b>	34.6 oz (980 g)
<b>Center of Gravity</b>	70mm back from leading edge of the wing at the root

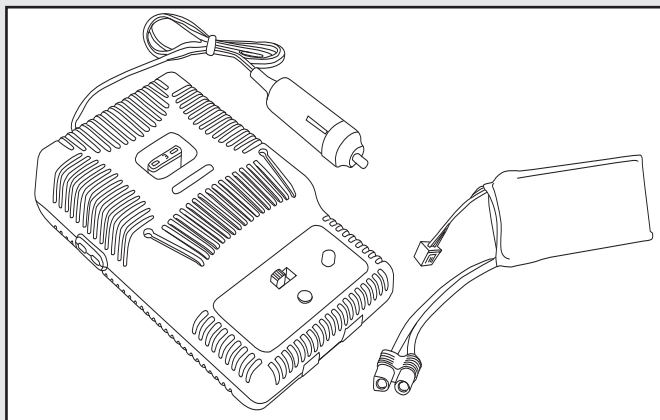
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## Charging the Flight Battery

Your Radian Pro comes with a DC balancing charger and 3S Li-Po battery. You must charge the included Li-Po battery pack with a Li-Po specific charger only (such as the included charger). Never leave the battery and charger unattended during the charge process. Failure to follow the instructions properly could result in a fire. When charging, make certain the battery is on a heat-resistant surface. Charge the flight battery while assembling the aircraft. Install the fully charged battery to perform control tests and binding.



### DC Li-Po Balancing Charger Features

- Charges 2- to 3-cell lithium polymer battery packs
- Variable charge rates from 300mAh to 2-amp
- Simple single push-button operation
- LED charge status indicator
- LED cell balance indicator
- Audible beeper indicates power and charge status
- 12V accessory outlet input cord

#### Specifications

- Input power: 12V DC, 3-amp
- Charges 2- to 3-cell Li-Po packs with minimum capacity of 300mAh

#### 3S 11.1V 1300mAh Li-Po Battery Pack

The ParkZone® 3S Li-Po battery pack features a balancing lead that allows you to safely charge your battery pack when used with the included ParkZone Li-Po balancing charger.

### The Battery Charging Process

1. Charge only batteries that are cool to the touch and are not damaged. Look at the battery to make sure it is not damaged e.g., swollen, bent, broken or punctured.
2. Attach the input cord of the charger to the appropriate power supply (12V accessory outlet).
3. When the Li-Po charger has been correctly powered up, there will be an approximate 3-second delay, then an audible “beep” and the green (ready) LED will flash.
4. Turn the control on the Amps selector so the arrow points to the charging rate required for the Battery (see chart, for example the Radian Pro 1300mAh Li-Po battery will charge at 1.3 amps). DO NOT change the charge rate once the battery begins charging.
5. Move the cell selector switch for your battery.
6. Connect the Balancing Lead of the Battery to the 2-cell (it has three (3) pins) or 3-cell (it has four (4) pins) Charger port.
7. The green and red LEDs may flash during the charging process, when the charger is balancing cells. Balancing prolongs the life of the battery.
8. When the battery is fully charged, there will be an audible beep for about 3 seconds, and the green LED will shine continuously.
9. Always unplug the battery from the charger immediately upon completion of charging.

**⚠ CAUTION:** Overcharging a battery can cause a fire.

**Note:** Attempting to charge an over-discharged battery will cause the charger to repeatedly flash and beep, indicating an error has occurred.

Battery Capacity	Maximum Charge Rate
300-400mAh	300mA
500-1000mAh	500mA
1000-1500mAh	1A
1500-2000mAh	1.5A
2000mAh +	2.0A



**WARNING:** Failure to use the proper charger for a Li-Po battery can result in serious damage, and if left charging long enough, will cause a fire. ALWAYS use **caution** when charging Li-Po batteries.



**WARNING:** Selecting a charge rate higher than 1X (one times) the battery capacity may cause a fire.



# Transmitter and Receiver Binding

Binding is the process of programming the receiver of the control unit to recognize the GUID (Globally Unique Identifier) code of a single specific transmitter. You need to 'bind' your chosen Spektrum™ DSM2™ technology equipped aircraft transmitter to the receiver for proper operation.

**Note:** Any JR® or Spektrum DSM2™ transmitter can bind to the Spektrum AR600 receiver. Please visit [www.bindnfly.com](http://www.bindnfly.com) for a complete list of compatible transmitters.



**Note:** When using a Futaba transmitter with a Spektrum DSM2 module, you must reverse the throttle channel.

✓	Binding Procedure Reference Table
1.	Read transmitter instructions for binding to a receiver (location of transmitter's Bind control).
2.	Make sure transmitter is powered off.
3.	Install a bind plug in the receiver bind port in the battery compartment.
4.	Connect the flight battery to the ESC. The receiver LED will begin to flash rapidly.
5.	Move the transmitter controls to neutral (flight controls: rudder, elevators and ailerons) or to low positions (throttle, throttle trim, and flight control trims).*
6.	Power on the transmitter while holding the transmitter bind button or switch. Refer to your transmitter's manual for binding button or switch instructions.
7.	When the receiver binds to the transmitter, the ESC signals with a series of sounds. The series of sounds is a long tone, then three (3) short tones (beeps) that confirm the LVC is set for the ESC.
8.	Remove the bind plug from the receiver in the battery compartment.
9.	Safely store the bind plug (some owners attach the bind plug to their transmitter using two-part loops and clips).
10.	The receiver should keep the binding to the transmitter until another binding is done.

\* The throttle will not arm if the transmitter's throttle control is not put at the lowest position.

If you encounter problems, obey binding instructions and refer to transmitter troubleshooting guide for other instructions. If needed, contact the appropriate Horizon Product Support office.

## Before Flight

① Lower throttle and throttle trim to lowest settings.

② Remove battery hatch from nose of aircraft.

Power on transmitter

③ Install flight battery in battery cavity. Secure flight battery with 2 hook and loop straps.

Wait 5 seconds

④

Series of tones  
Continuous LED

**Note:** Always disconnect the Li-Po from the receiver of the aircraft when not flying. Failure to do so will render the battery unusable.

**CAUTION:** When armed, the motor will turn the propeller in response to any throttle movement. When the aircraft does not respond, binding or rebinding may be required.



## Installing a Receiver

1. Install your park flyer or full range receiver in the fuselage using hook and loop tape or double-sided servo tape.
2. Attach the elevator, aileron, flap and rudder servo connectors to appropriate channels of the receiver.
3. Attach the ESC connector to the throttle channel of the receiver.

## Battery Selection and Installation

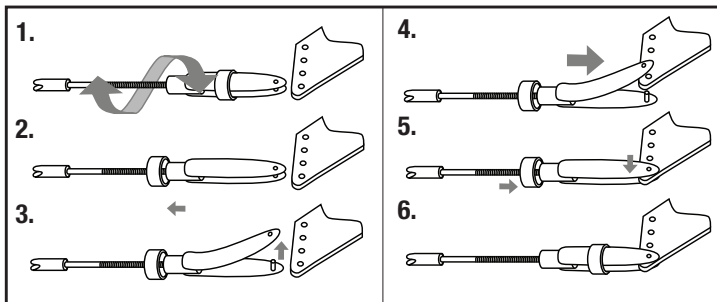
1. We recommend the ParkZone 1300mAh 11.1V Li-Po battery (PKZ1033).
2. If using another battery, the battery must be at least a 1300mAh battery.
3. Your battery should be approximately the same capacity, dimensions and weight as the ParkZone Li-Po battery to fit in the fuselage without changing the center of gravity a large amount.

## Low Voltage Cutoff (LVC)

When a Li-Po battery is discharged below 3V per cell, it will not hold a charge. The ESC protects the flight battery from over-discharge using Low Voltage Cutoff (LVC). Before the battery charge decreases too much, LVC removes power supply from the motor. Power to the motor pulses, showing that some battery power is reserved for flight control and safe landing. When the motor pulses, please land the aircraft immediately and recharge the flight battery.

Disconnect and remove the Li-Po battery from the aircraft after use to prevent trickle discharge. For short term storage keep batteries fully charged. For long term storage keep 1/2 charged. During storage make sure battery charge does not go below 3V per cell.

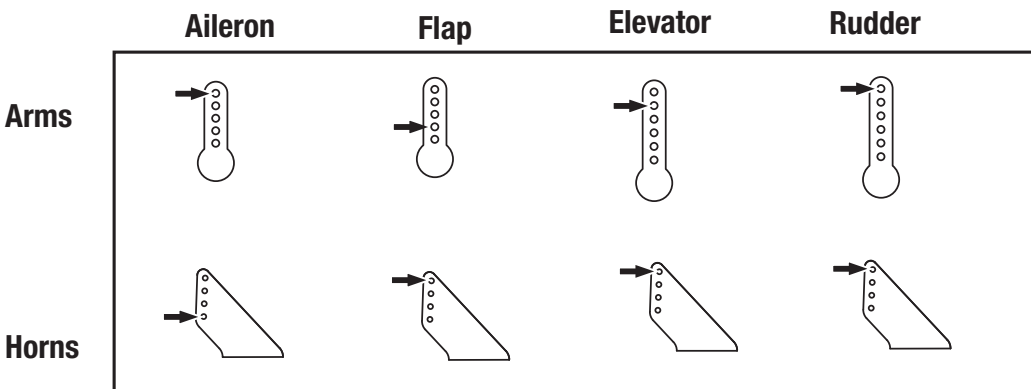
## Installing Connectors



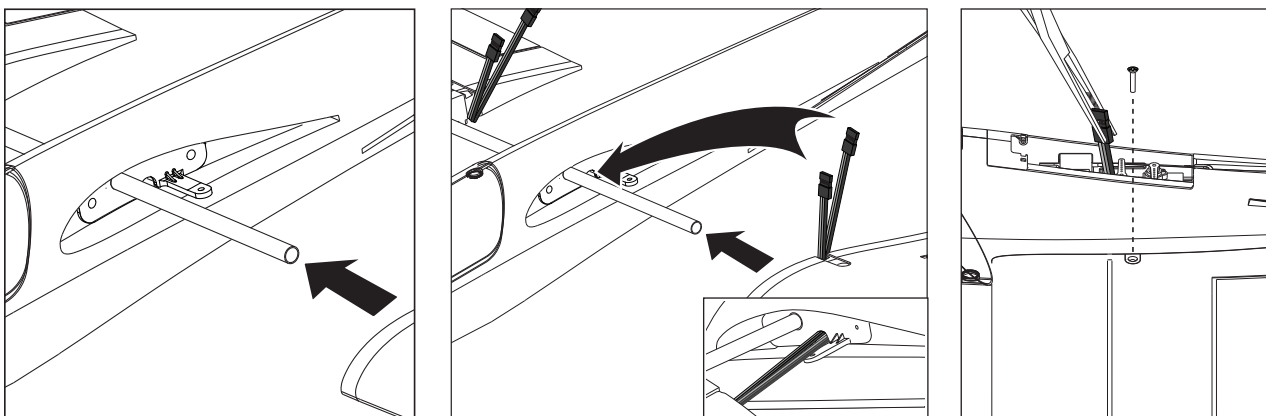
Turn the clevis clockwise or counterclockwise on the connector. Make sure transmitter trims are centered before making this adjustment.

- Pull the elastic band from the clevis to the connector.
- Carefully spread the clevis and put the clevis pin in a selected hole in the control horn.
- Move the elastic band to hold the clevis on the control horn.

## Factory Settings



**Note:** Not to scale

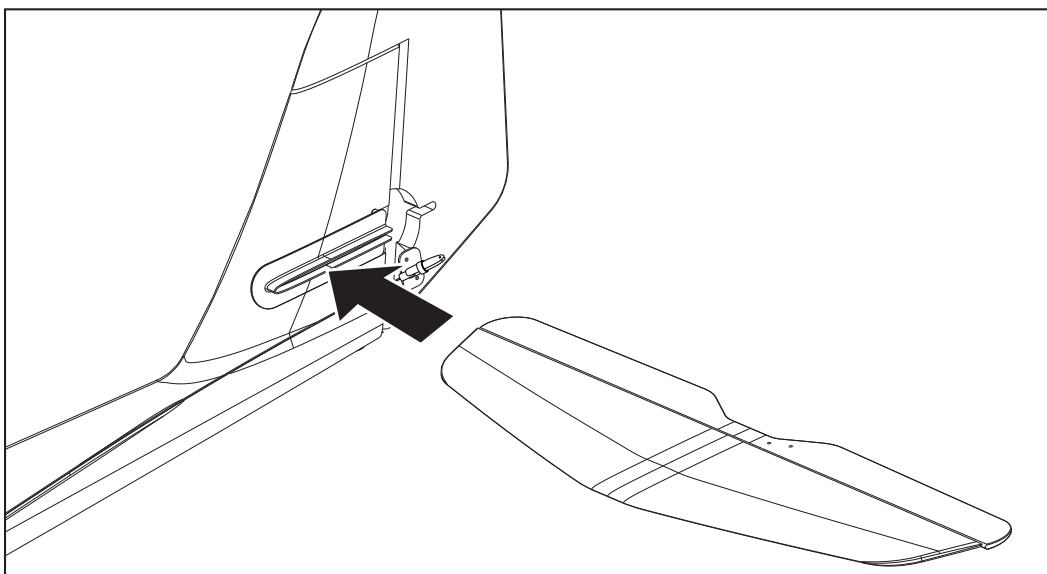


## Installing Wings

1. Put the wing tube in the round hole in the wing slot of the fuselage.
2. Put left wing on the wing tube.
3. Move the wing on the tube into the slot in the fuselage while putting the aileron and flap connectors in the fuselage.  
**Note:** Hemostats or needle-nose pliers may be required to put the connectors in the fuselage for connection to the receiver.
4. Fully install left wing in fuselage and secure wing with countersunk screw.
5. Install the right wing using the steps above.

6. Attach the 2 aileron connectors to the aileron Y-harness in the fuselage.  
**Note:** When using a transmitter capable of controlling separate ailerons, the aileron Y-harness is not required.
7. Attach the 2 flap connectors to the flap Y-harness.  
**Note:** To remove wings, follow steps in reverse order.

**Note:** Left and right servo connectors do not have to be connected to a particular side of a Y-harness.



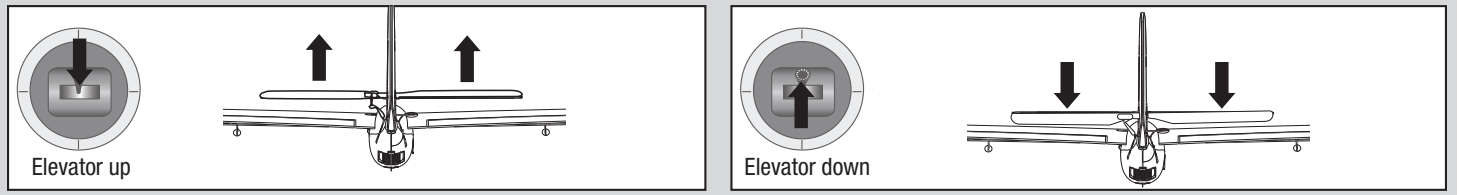
## Installing Horizontal Tail

1. Install horizontal tail from the left side of the fuselage through the hole in the rudder and fuselage. The black and red decal will be facing up with the black orientation stripes facing down. Make sure horizontal tail is centered on the fuselage.
2. Apply 4 pieces of tape to horizontal tail sections and top and bottom of fuselage.
3. Install elevator clevis in outermost hole of control horn (on horizontal tail, under left side). The elevator control horn is on the bottom of the left side of the horizontal tail.
4. Move silicone band over clevis to keep the clevis on the control horn.

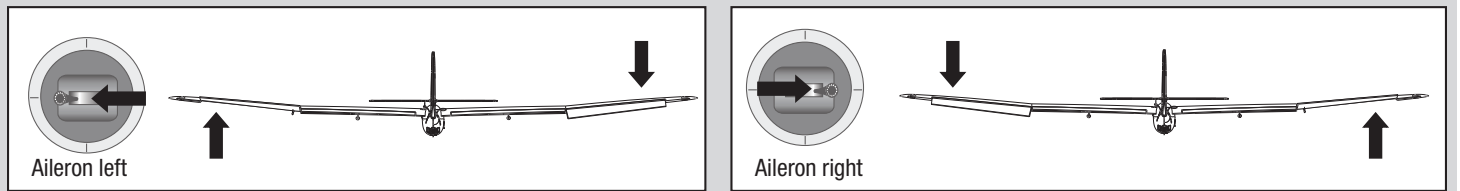
## Control Direction Test

Bind your aircraft and transmitter before doing these tests. Move the controls on the transmitter to make sure aircraft control surfaces move correctly.

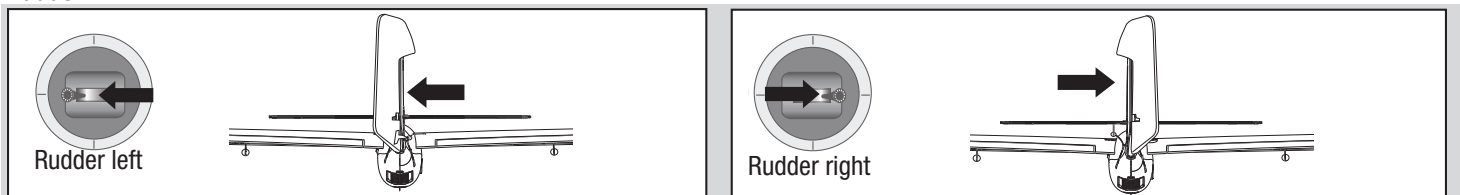
### Elevator



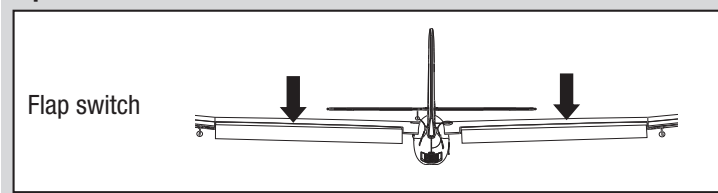
### Aileron



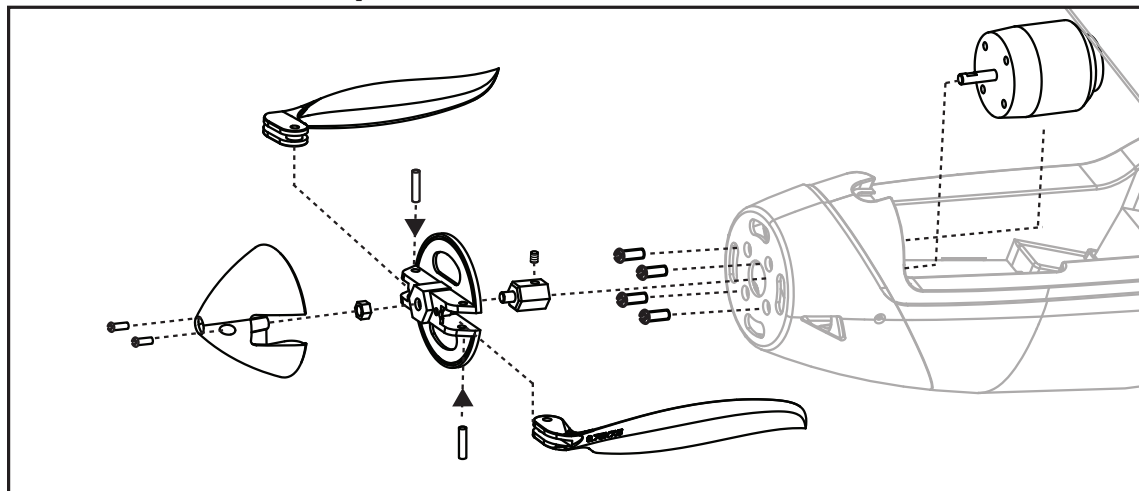
### Rudder



### Flaps



## Service of Power Components



**CAUTION:** DO NOT handle the motor or ESC while the flight battery is connected to the ESC. Personal injury could result.

### Disassembly

1. Remove and keep 2 screws from the spinner (using a #0 screwdriver).
2. Remove spinner from the backplate.  
**Note:** Removing the spinner may let blade pins fall out of the backplate.
3. Remove and keep 2 pins from the propeller blades and the backplate.
4. Remove 2 propeller blades from the backplate.
5. Remove hex nut from the backplate and spinner nut.
6. Loosen setscrew a small amount in spinner nut.
7. Remove spinner nut from motor shaft.
8. Remove and keep 4 screws from cowling and motor.
9. Disconnect motor wire connectors from ESC connectors.
10. Remove motor from inside fuselage.

### Assembly

1. Connect motor and ESC wire connectors so wire colors align.
2. Install motor in cowling using 4 screws.
3. Put spinner nut on motor shaft.
4. Align setscrew in spinner nut with flat on motor shaft and fully tighten setscrew.
5. Attach backplate to spinner nut using hex nut.
6. Attach propeller blades to backplate using pins so that propellers lie flat against the fuselage.  
**Note:** Fully install pins in the backplate. Pin ends should not show above the edge of the backplate holes.
7. Fully install the spinner on the backplate using 2 screws.



## Control Surfaces

Measure all control surfaces at the widest point of each control surface to check these suggested rates. Low rate is 70% of high rate travel.

	High Rate	Low Rate
Aileron	15mm up/12mm down	11mm up/8mm down
Elevator	11mm up/down	7mm up/down
Rudder	27mm left/right	20mm left/right

	1/2 Flap	Full Flap
Flap	17mm	35mm

*If using 3 position switch for flaps*

For information on advanced sailplane setups for the Radian Pro, please visit the product page for the Radian Pro on [www.horizonhobby.com](http://www.horizonhobby.com)

## Flying Tips and Repairs

### Range Check your Radio System

After final assembly, range check the radio system with the Radian Pro. Refer to your specific transmitter instruction manual for range test information.

### Before Each Flying Session

- Always make sure you have fully charged the transmitter batteries or make sure your transmitter has fresh batteries before you fly.
- Always make sure your Radian Pro is properly trimmed prior to each flight.
- Always make sure the receiver, ESC, and battery are secured in the fuselage.
- Turn on the transmitter before plugging in the flight battery. With the aircraft on the ground and motor running, you should walk away approximately 100 feet and still have full control of all functions while following the specific range test feature of your DSM2 transmitter. If this is not the case, do not fly. Contact the appropriate Horizon Product Support office.
- Always make sure all controls function per the transmitter input you give. This includes ailerons, rudder, elevator and throttle.
- Always make sure the servo reversing switches on the transmitter are set correctly.
- Always make sure the dual rates switch is at the rate setting where you plan to fly. We recommend LOW rates for your initial flying.

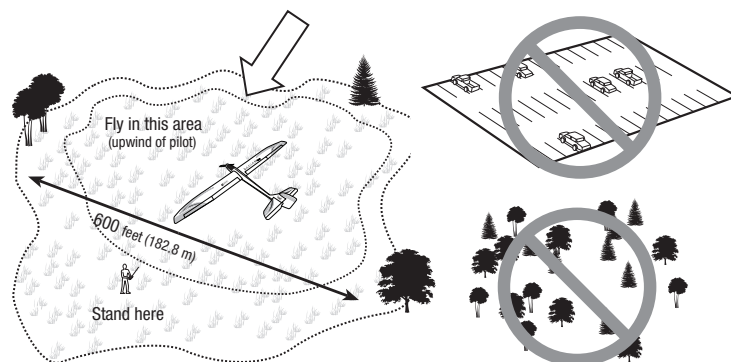
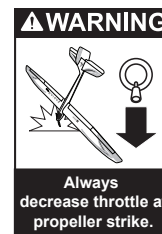
**CAUTION:** Always remove the flight battery from the aircraft when you are done flying, or when you are on the way to the flying field.

### Flying

Always choose a wide-open space for flying your ParkZone Radian Pro. It is ideal for you to fly at a sanctioned flying field. If you are not flying at an approved site, always avoid flying near houses, trees, wires and buildings. You should also avoid flying in areas where there are many people, such as busy parks, schoolyards, or soccer fields. Consult local laws and ordinances before choosing a location to fly your aircraft. For more information about sailplane flying, thermals and slope lift, refer to [www.horizonhobby.com](http://www.horizonhobby.com).

### Flaps

The flaps on the Radian Pro are primarily used for glide path control. The flaps allow for more drag and additional lift to allow the plane to fly slower and descend at a steeper rate. With the flaps lowered, the Radian Pro can land in much smaller areas than would be able otherwise. The flaps cause the Radian Pro to pitch up if deployed at higher speeds. If using a transmitter without elevator/flap mixing it is advisable to deploy the flaps at lower airspeeds to prevent the pitch up when the flaps are lowered. With the flaps deflected, aileron effectiveness is slightly reduced.



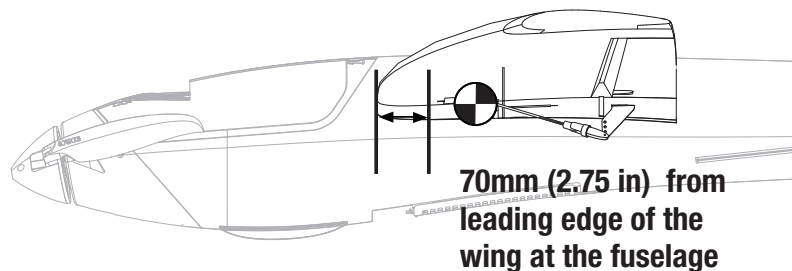
### Repairs

Thanks to the Z-foam™ construction of the Radian Pro, repairs to the foam can be made using virtually any adhesive (hot glue, regular CA, epoxy, etc). When parts are not repairable, see the Replacement Parts List for ordering by item number.

**Note:** Repair of the horizontal stabilizer requires use of foam-safe CA.

## Adjusting Center of Gravity (CG)

Adjustment of CG is not required when the flight battery is secured in the fuselage using the front-to-rear and side hook and look straps.



## Troubleshooting Guide

Problem	Possible Cause	Solution
Aircraft will not respond to throttle but responds to other controls	<ul style="list-style-type: none"> <li>• Throttle not at idle at control setup so throttle not armed</li> <li>• Throttle channel is reversed</li> </ul>	<ul style="list-style-type: none"> <li>• Bind with throttle stick and throttle trim at lowest setting</li> <li>• Reverse throttle channel on transmitter</li> </ul>
Extra propeller noise or extra vibration	<ul style="list-style-type: none"> <li>• Damaged propeller, motor or motor mount</li> <li>• Loose propeller and spinner</li> <li>• Propeller blades installed backwards</li> </ul>	<ul style="list-style-type: none"> <li>• Replace damaged parts</li> <li>• Tighten parts for propeller and spinner</li> <li>• Remove and install propeller blades correctly</li> </ul>
Reduced flight time or aircraft underpowered	<ul style="list-style-type: none"> <li>• Flight battery charge is low</li> <li>• Propeller blades installed backwards</li> <li>• Flight battery damaged</li> </ul>	<ul style="list-style-type: none"> <li>• Completely recharge flight battery</li> <li>• Remove and install propeller blades correctly</li> <li>• Replace flight battery and obey flight battery instructions</li> </ul>
LED on receiver flashes rapidly with bind plug installed and aircraft will not link to transmitter	<ul style="list-style-type: none"> <li>• Transmitter too near aircraft during binding process</li> <li>• Aircraft not bound to transmitter</li> <li>• Aircraft bound to different model memory (ModelMatch radios only)</li> <li>• Low charge in transmitter batteries</li> </ul>	<ul style="list-style-type: none"> <li>• Disconnect then reconnect flight battery to aircraft</li> <li>• Move transmitter a few feet from aircraft, disconnect and reconnect flight battery to aircraft and re-bind</li> <li>• Bind transmitter to aircraft receiver</li> <li>• Select correct model memory on transmitter</li> <li>• Replace or charge transmitter batteries</li> </ul>
Control surface does not move, or is slow to respond to control inputs.	<ul style="list-style-type: none"> <li>• Control surface, control horn, linkage or servo damage</li> <li>• Wire damaged or connections loose</li> <li>• Parts not secured in fuselage</li> </ul>	<ul style="list-style-type: none"> <li>• Replace or repair damaged parts and adjust controls</li> <li>• Do a check of wires and connections for loose wiring, connect or replace as needed</li> <li>• Make hook and loop fastenings tight so no parts move in fuselage</li> </ul>
Controls reversed	<ul style="list-style-type: none"> <li>• Channels need to be reversed in receiver</li> </ul>	<ul style="list-style-type: none"> <li>• Do the Control Direction Test and adjust controls on transmitter appropriately</li> </ul>
Motor loses power	<ul style="list-style-type: none"> <li>• Damage to motor, or power components</li> </ul>	<ul style="list-style-type: none"> <li>• Do a check of batteries, transmitter, receiver, ESC, motor and wiring for damage (replace as needed)</li> </ul>
Motor power pulses then motor loses power	<ul style="list-style-type: none"> <li>• ESC uses default soft Low Voltage Cutoff (LVC)</li> </ul>	<ul style="list-style-type: none"> <li>• Recharge or replace flight battery</li> </ul>

## Replacement Parts and Optional Parts

Number	Description
EFLA1030	30-Amp Pro Switch-Mode BEC Brushless ESC
PKZ5401	Optional Flap Set: Radian Pro
PKZ5467	Bare Fuselage without Canopy: Radian Pro
PKZ1017	Propeller 9.75 x 7.5_1: Radian
PKZ1018	Prop Adapter & Spinner Set: Radian
PKZ1033	11.1V 1300mAh LiPo Bat with EC3 Connector
PKZ1040	2-3 DC LiPo Balancing Charger
PKZ4713	Canopy: Radian
PKZ4714	Firewall w/Screws: Radian
PKZ4716	480B Outrunner BL Motor: Radian
PKZ4725	Horizontal Tail: Radian
PKZ5402	Decal sheet: Radian Pro
PKZ5403	Aileron servo extension: Radian Pro
PKZ5404	Flap servo extension (305mm)
PKZ5420	Main wing: Radian Pro
PKZ5422	Pushrod set: Radian Pro
PKZ1081	SV80 long lead 3-wire servo
PKZ1090	DSV130 3 wire digital servo metal gear
PKZ1060	Mini servo (3W) with arms, short lead

Number	Description
EFLA110	Power Meter <i>(optional)</i>
EFLA253	Hex Driver, 1.5mm <i>(optional)</i>
EFLA257	Screwdriver, #0 Phillips <i>(optional)</i>
EFLA258	Screwdriver, #1 Phillips <i>(optional)</i>
EFLAEC301	EC3 Device Connector, Male (2) <i>(optional)</i>
EFLAEC302	EC3 Device Connector, Female (2) <i>(optional)</i>
EFLAEC303	EC3 Device/Battery Connector, Male/Female <i>(optional)</i>
EFLC505	1- to 5-Cell Li-Po Battery Charger with Balancer <i>(optional)</i>
SPMAR600	DSM2 5-Channel Sport Receiver <i>(optional)</i>
SPMAR6200	DSM2 6-Channel Sport Receiver <i>(optional)</i>
SPMR5500	DX5e 5-Channel Transmitter Only <i>(optional)</i>
SPMR6600	DX6i 6-Channel Transmitter Only <i>(optional)</i>
SPMR7700	DX7 7-Channel Transmitter Only <i>(optional)</i>

To purchase directly from Horizon Hobby, please visit [www.horizonhobby.com](http://www.horizonhobby.com) or call Horizon's Consumer Sales Division: (800) 338-4639

# AMA National Model Aircraft Safety Code

Effective January 1, 2010

## GENERAL

A model aircraft shall be defined as a non-human-carrying aircraft capable of sustained flight in the atmosphere. It may not exceed limitations established in this code and is intended to be used exclusively for sport, recreation, and/or competition.

1. I will not willfully fly my model aircraft in a careless or reckless manner, and will abide by this Safety Code and any additional rules specific to flying sites.
2. I will yield the right-of-way to man-carrying aircraft and will see and avoid all aircraft, utilizing a spotter when appropriate. (See AMA Document #540-D on See and Avoid Guidance.)
3. I will not fly my model aircraft higher than approximately 400 feet above ground level, when within three (3) miles of an airport without notifying the airport operator.
4. The maximum takeoff weight of a model aircraft, including fuel, is 55 pounds, except for those flown under the AMA Experimental Aircraft Rules.
5. I will not fly my model aircraft in sanctioned events, air shows, or model demonstrations unless I have previously proven that my aircraft, control system, and piloting skills are adequate by successfully executing all maneuvers intended or anticipated in the specific event. If I am not a proficient pilot, I will not fly in these events unless assisted by an experienced pilot.

6. I will not fly my model aircraft unless it is identified with my name and address, or AMA number, inside or affixed to the outside of the model aircraft. This does not apply to model aircraft flown indoors.
7. I will not operate model aircraft with metal-blade propellers.
8. I will not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device, which propels a projectile of any kind. Exceptions include Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight. Rocket motors up to a G-series size may be used, provided they remain firmly attached to the model aircraft during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code; however, they may not be launched from model aircraft. Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document.
9. I will not operate my model aircraft while under the influence of alcohol or while using any drug which could adversely affect my ability to safely control the model.
10. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

Please see your local or regional modeling association's guidelines for proper, safe operation of your model aircraft.

## Warranty and Repair Policy

### Warranty Period

Exclusive Warranty- Horizon Hobby, Inc., (Horizon) warranties 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

Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

(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 all warranty claims.

(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 Product 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 principles).

### Warranty Services

#### 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 [productsupport@horizonhobby.com](mailto:productsupport@horizonhobby.com), or call 877.504.0233 toll free to speak to a Product Support representative. You may also find information on our website at [www.horizonhobby.com](http://www.horizonhobby.com).

#### Inspection or Repairs

If this Product needs to be inspected or repaired, please use the Horizon Online Repair 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 Repair Request is available at [www.horizonhobby.com](http://www.horizonhobby.com) <http://www.horizonhobby.com> under the Repairs tab. 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 repair. 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 batteries to Horizon. If you have any issue with a battery, please contact the appropriate Horizon Product Support office.**

#### 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.

#### 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. Horizon accepts money orders and cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for inspection or repair, you are agreeing to Horizon's Terms and Conditions found on our website under the Repairs tab.

## Contact Information

Country of Purchase	Horizon Hobby	Address	Phone Number / Email Address
United States of America	Horizon Service Center (Electronics and engines)	4105 Fieldstone Rd Champaign, Illinois 61822 USA	877-504-0233 productsupport@horizonhobby.com
	Horizon Product Support (All other products)	4105 Fieldstone Rd Champaign, Illinois 61822 USA	877-504-0233 productsupport@horizonhobby.com
United Kingdom	Horizon Hobby Limited	Units 1-4 Ployters Rd Staple Tye Harlow, Essex CM18 7NS United Kingdom	+44 (0) 1279 641 097 sales@horizonhobby.co.uk
Germany	Horizon Technischer Service	Hamburger Str. 10 25335 Elmshorn Germany	+49 4121 46199 66 service@horizonhobby.de
France	Horizon Hobby SAS	14 Rue Gustave Eiffel Zone d'Activité du Réveil Matin 91230 Montgeron	+33 (0) 1 60 47 44 70

## Compliance Information for the European Union

### Declaration of Conformity

(in accordance with ISO/IEC 17050-1)

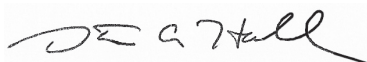
No. HH2010081602

**CE** Product(s): PKZ Radian Pro BNF & PNP  
Item Number(s): PKZ5480, PKZ5475  
Equipment class: 1

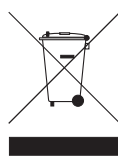
The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC:

**EN 301 489** General EMC requirements

Signed for and on behalf of:  
Horizon Hobby, Inc.  
Champaign, IL USA  
August 16, 2010



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



### 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 collections 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.

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