



Extra 300 PNP/BNF



Instruction Manual
Bedienungsanleitung
Manuel d'utilisation
Manuale di istruzioni



NOTICE

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 <http://www.horizonhobby.com> and click on the support tab for this product.

Meaning of Special Language:

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

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

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

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

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

This is a sophisticated hobby product and NOT a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not attempt disassemble, 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.

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.

This model is controlled by a radio signal 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 avoid collisions or injury.

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

- Never operate your model with low transmitter batteries.
- Always operate your model in an open area away from cars, traffic or people.
- Avoid operating your model in the street where injury or damage can occur.
- Never operate the model in the street or in populated areas for any reason.
- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) you use.
- 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 and Guidelines

The Battery Charger (PKZ3240) included with the Extra 300 BNF 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: Li-Po batteries are significantly more volatile than the alkaline, Ni-Cd or Ni-MH batteries used in RC applications. 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 Extra 300 model in new, unused condition to the place of purchase immediately.
- You must charge the included Li-Po battery in a safe area away from flammable materials.

Extra 300 PNP/BNF Instruction Manual

Congratulations on your selection of the high performance aerobatic ParkZone® Extra 300. The original aircraft was designed in 1987 by Walter Extra. The Extra 300 is one of the most recognized full-scale aerobatic aircraft in the world. Mike McConville designed this park-sized version to give you a scale aerobatic experience like no other. Rudder control is pure, so no pitch or roll coupling makes knife edge flight easier. The Extra 300 is capable of positive and negative G maneuvers, snap rolls and other precision aerobatics. The specially designed power system adds vertical performance too.

Since the Extra 300 can be ready for flight in as little as an hour, you can spend your time refining your flying skills, not your building skills.

Note: A full range 4-channel or greater transmitter (SPMR5500, SPMR6600 or SPMR7700) for the Extra 300 BNF. Transmitter, receiver, charger and battery required for Extra 300 PNP.

⚠WARNING: *Although your ParkZone® Extra 300 comes almost ready to fly, this aircraft is for experienced RC pilots only and is not a toy. Misuse of the plane can cause serious bodily harm and damage to property. Therefore, only an experienced RC pilot should fly it. Because of the high performance nature of the Extra, we recommend you only fly in very large open areas or RC club fields.*

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Extra 300 Features	Bind-N-Fly Version	Plug-N-Play Version
Motor ParkZone 15-size brushless outrunner	Installed	Installed
ESC E-flite® Pro 30A brushless with Switch-Mode BEC	Installed	Installed
Receiver Spektrum™ AR500 DSM2 5-channel sport receiver *	Installed	Sold Separately
Battery 3S 11.1V 2200mAh 25C Li-Po	Included	Sold Separately
Charger Variable rate 2- to 3-cell Li-Po balancing fast charger	Included	Sold Separately
Transmitter Full range DSM2 aircraft transmitter *	Sold Separately	Sold Separately

* Recommended for Plug-N-Play Version

Extra 300 Specifications	
Wingspan	40.6 in (1030mm)
Length	36.8 in (935mm)
Weight (RTF)	34.5 oz (980 g)

Low Voltage Cutoff (LVC)

The Extra 300 receiver features a soft low voltage cutoff (LVC) that occurs when the battery reaches 3V per cell under load. When the soft cutoff occurs, the electronic speed control (ESC) and receiver reduce power to the motor (regardless of the power level set with the throttle stick). This prevents the voltage of the battery from dropping below 3V per cell.

While it is possible to continue flying the aircraft after the soft LVC occurs, this is NOT recommended. Battery discharge after LVC will damage the Li-Po battery, resulting in less power and shorter flight duration during subsequent flights, or complete failure of the battery.

Discharging the battery after low voltage cutoff may result in loss of control. Battery power may drop below the receiver's

minimum operating voltage so flight controls do not respond to the transmitter.

Stay aware of the power level of the battery/aircraft throughout the flight, and when the aircraft requires more throttle than typical, immediately land the Extra 300.

Note: Battery performance is reduced in cooler temperatures. It is recommended the batteries are warm before flight.

⚠ CAUTION: ALWAYS disconnect the battery from the aircraft to prevent trickle discharge of the battery. These batteries require regular maintenance to keep them at a usable charge level.



Battery Warnings

- Never charge the battery unattended. When charging the battery you should always remain in constant observation to monitor the charging process and react to potential problems that may occur.
- After flight, the battery must be cooled to ambient temperature before charging.
- 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.
- When flight battery balloons or swells, immediately remove the battery from service.

If at any time during the charge process the battery begins to balloon or swell, discontinue charging or discharging immediately. Quickly and safely disconnect the battery, then place it in a safe area away from flammable materials to observe it for at least 15 minutes. Continuing to charge or discharge a battery that has begun to balloon or swell can result in a fire.

- A battery that has ballooned or swollen even a small amount must be removed from use immediately.
- 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.

- Do not over-discharge the Li-Po flight battery. Discharging the battery too low can cause damage to the battery resulting in reduced power, duration or failure of the battery. (See details below).

Li-Po cells should not be discharged to below 3V each under load.

In the case of the Li-Po battery used for the Extra 300, you will not want to allow the battery to fall below 3V per cell during flight.

BNF ONLY

BIND-N-FLY®

Charging the Flight Battery

Your Extra 300 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. It is recommended to charge the battery pack while you are assembling the aircraft. The flight battery will be required to confirm proper aircraft operation in future steps.



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 2200mAh 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 Extra 300's 2200mAh Li-Po battery will charge at 2.0 amps). DO NOT change the charge rate once the battery begins charging.
5. Move the cell selector switch to 2-cell or 3-cell 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.

Battery Capacity	Maximum Charge Rate
300-400mAh	300mAh
500-1000mAh	500mAh
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.

General Assembly and Maintenance Tips

Note: This checklist is not a replacement for the content included in this manual. Although it can be used as a quick start guide, we strongly suggest reading through this manual completely before proceeding.

First Flight Preparation

✓	Activity	PNP	BNF
	Remove and inspect contents	◆	◆
	Begin charging flight battery	◆	◆
	Assemble Extra 300	◆	◆
	Install receiver	◆	
	Connect servos to receiver or Y-harness	◆	◆
	Install fully charged battery	◆	◆
	Bind the receiver to a transmitter, if applicable	◆	◆
	Perform the Control Direction Test with the transmitter	◆	◆
	Adjust flight controls and transmitter	◆	◆
	Adjust battery for center of gravity (CG) <i>see page 9</i>	◆	◆
	Perform a radio system Range Check	◆	◆
	Find a safe and open flying field	◆	◆
	Plan flight for flying field conditions	◆	◆

Maintenance After Flying

✓	Activity	PNP	BNF
	Disconnect flight battery from ESC (<i>Required for Safety</i>)	◆	◆
	Turn off transmitter (<i>Required for Safety</i>)	◆	◆
	Remove flight battery from aircraft	◆	◆
	Recharge flight battery	◆	◆
	Clean aircraft (wipe off dirt, etc.)	◆	◆
	Repair or replace all damaged parts	◆	◆
	Carefully disassemble and store aircraft	◆	◆
	Store flight battery apart from aircraft and monitor the battery charge	◆	◆
	Make note of flight conditions and flight plan results, planning for future flights	◆	◆

Transmitter and Receiver Binding

Binding is connecting a transmitter to an aircraft receiver wirelessly or electronically so the aircraft receiver recognizes the transmitter GUID (Globally Unique Identifier) code. Binding is necessary for proper operation.

The Extra 300 requires a DSM2 full range (high power) transmitter. The list below is Spektrum™ or JR® DSM2-equipped full range transmitters and modules that can bind to the Extra 300's receiver:

•Spektrum DX5e •Spektrum DX6i •Spektrum DX7/DX7se •JR X9303/9503 2.4 •JR 11X •JR 12X 2.4 •All SPM Module systems

Note: When using a Futaba transmitter with an aircraft receiver, reversing the throttle channel may be required.

⚠ CAUTION: ALWAYS power on the transmitter before connecting the flight battery to the aircraft ESC. ALWAYS disconnect the flight battery from the aircraft ESC before powering off the transmitter.

Additional Binding Information

Before each flight, power on the transmitter and wait about five (5) seconds before connecting the flight battery to the aircraft ESC. The transmitter scans and secures two radio frequencies for aircraft control. When the flight battery is connected too quickly for the transmitter to make frequency selection, the transmitter and receiver may not connect. When there is no connection, leave the transmitter powered on, disconnect the flight battery then connect the flight battery to the receiver.



✓	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 Batt/Bind port.
	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. The receiver light will go from flashing rapidly to flashing slowly. After 5–10 seconds the light will become solid indicating the receiver is bound to the transmitter.
	8. Remove the bind plug from the receiver.
	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 a bind plug is put in the receiver Batt/Bind port.

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

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

Installing Landing Gear

Note: Fairings (PKZ5130) may be removed for flying the Extra 300 from a rough runway

1. Press together landing gear (PKZ5106) legs and put landing gear support in slot in bottom of fuselage (painted bare fuselage, PKZ5167).

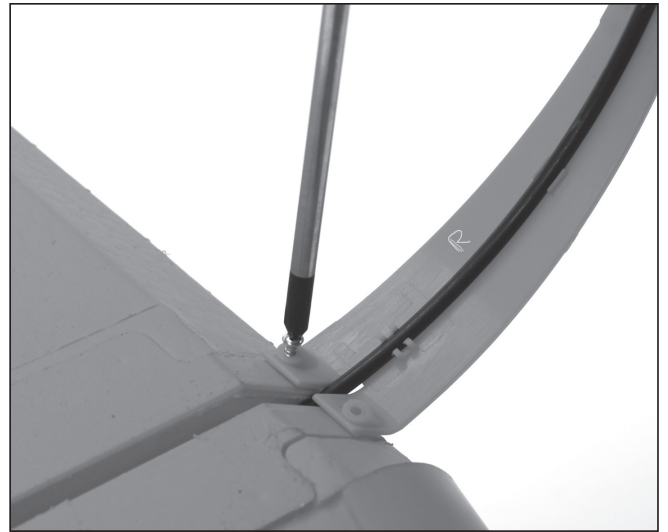


2. Release landing gear when support is fully installed in the fuselage slot.



3. Install left (marked "L") and right (marked "R") landing gear fairings on the landing gear supports and fuselage using four (4) small screws.

Note: Before flight, make sure wheel nut is tight. If it is not, use threadlock to secure wheel nut.



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 control connector in the fuselage.

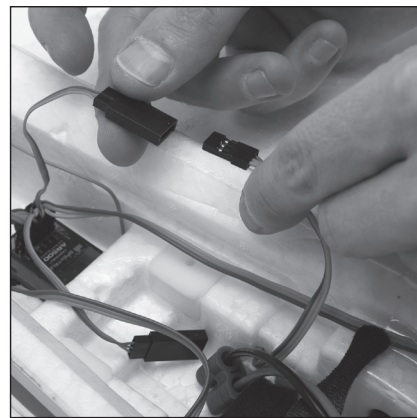
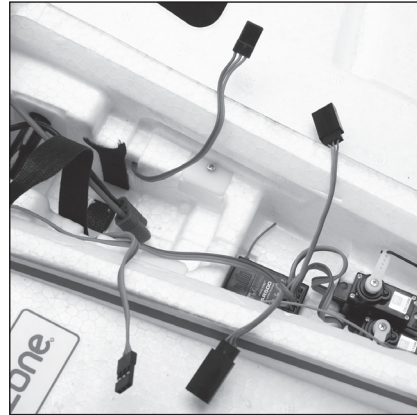


4. Fully install left wing in fuselage using screw.



5. Install the right wing using the steps above.

6. Attach the two (2) aileron connectors to the aileron Y-harness in the fuselage.



Note: There is no difference between the two connections on the Y-harness. Left and right servo lead connectors do not have to be connected to a particular side of the Y-harness.

Tip: Install aileron servo wires in the fuselage's molded channels using tape. Tape will keep the wires from blocking battery installation.

Note: Due to the Z-foam™ construction of the Extra 300, the wing can flex to absorb flight loads during hard positive or negative G forces. This is more noticeable during hard maneuvering, but is normal.

Installing Horizontal Tail and Pushrods on Control Horns

Installing the Horizontal Tail

1. Put the horizontal tail (PKZ5125) in the fuselage, making sure the control horn is on the right side of the fuselage. The control horn is the part on the elevator where the pushrod and clevis attach.

Note: Alignment marks are on the top and bottom of the horizontal tail.

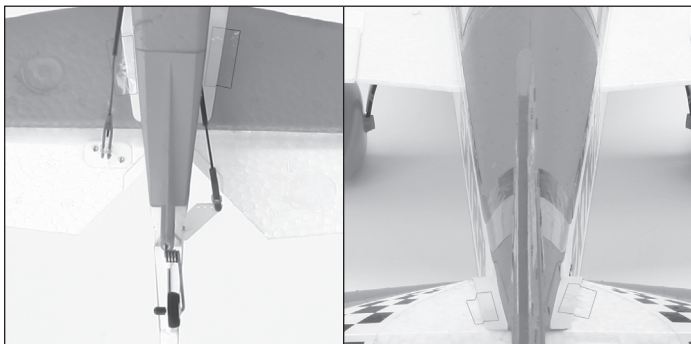


2. Make sure the center of the horizontal tail is aligned with the center of the fuselage.

3. Install clear tape on the top and bottom of the horizontal tail and the fuselage.



Tip: Removal of tape from painted parts can remove paint.



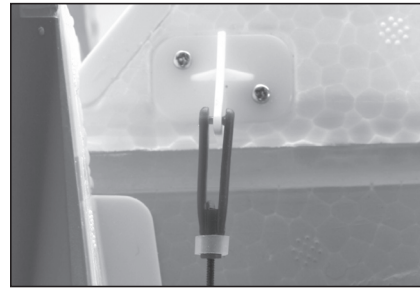
Bottom View

Top View

Installing Pushrods on Control Horns

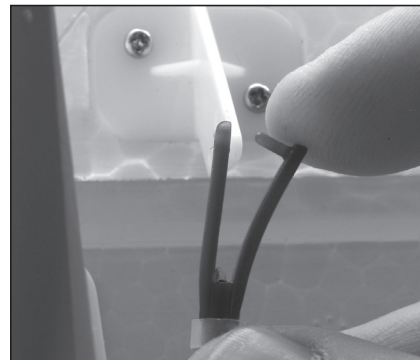
⚠ CAUTION: The installation positions of the pushrods and clevises directly affect aircraft response. When these are incorrectly connected for the pilot's skill level, unexpected aircraft response to controls can result in unintended crash damage to the aircraft.

1. Pull the elastic band from the clevis up to the pushrod.

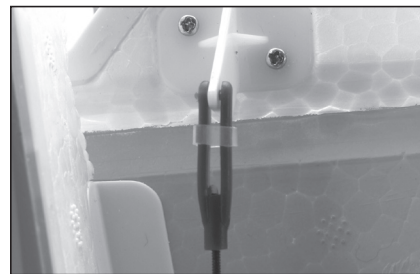


2. Carefully spread the clevis and put the clevis pin to the outermost hole in the control horn.

Tip: The clevis can be threaded in and out to shorten or lengthen the pushrod. Make sure transmitter trims are centered before making mechanical adjustments.



3. Pull the elastic band from the rod onto the clevis to hold the clevis on the control horn.



Please refer to Control Surface Travel Information for more information about adjustment of the flight control surfaces and the transmitter.

Installing Flight Battery and Adjusting Center of Gravity

Installing the Flight Battery

Note: Before flying and after the Control Direction Test has centered control surfaces, please re-bind the aircraft so the control surfaces are neutral when plugging in the flight battery.

⚠ CAUTION: Install receiver and connect the speed control into the throttle channel (for PNP) before installing the flight battery.

Note: Always power on transmitter before connecting battery.

1. Install the flight battery in the aircraft.



2. Connect the battery to the ESC.

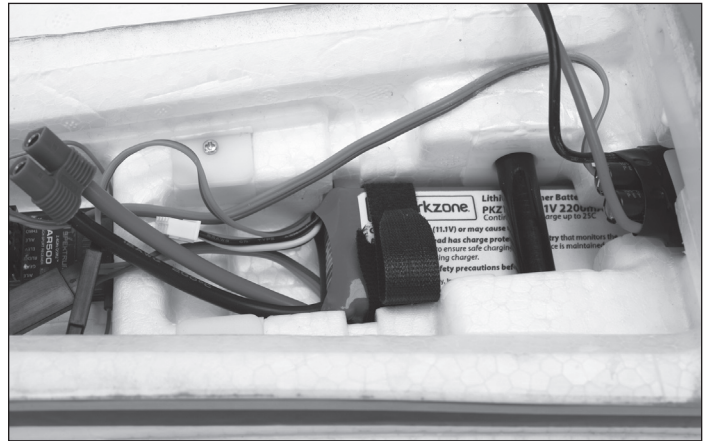


3. Move the battery in the fuselage, either forward or to the rear, to adjust the aircraft center of gravity for flight.



Rear placement of the battery

4. Secure the flight battery using the hook and loop straps.



5. Make sure wires in the fuselage do not block the canopy hatch when closing the hatch.

Adjusting Center of Gravity (CG) by Moving the Battery

The CG location is 2.75 inches (70mm) back from leading edge of the wing at the root +/- 1/4 inch (6.4mm). This CG location has been determined with the ParkZone 2200mAh 11.1V 25C Li-Po battery installed in the battery cavity.

Note: When a nose-heavy (forward) or tail-heavy (rear) condition is desired, move the battery forward or to the rear.

Control Direction Test and Reverse Controls

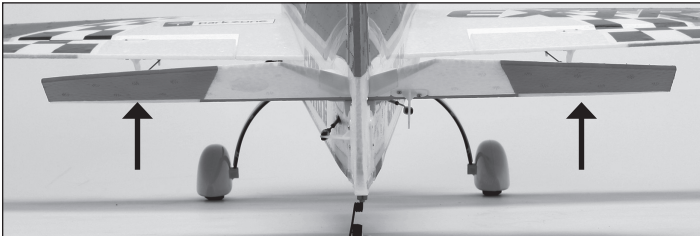
Note: This Control Direction Test does not describe Mode 1 or Mode 2 transmitter control assignment. Refer to transmitter instructions for information about Mode 1 and Mode 2 control assignment.

Aircraft and transmitter binding should be done before doing these tests. Move the controls on the transmitter to make sure aircraft control surfaces are moved correctly.

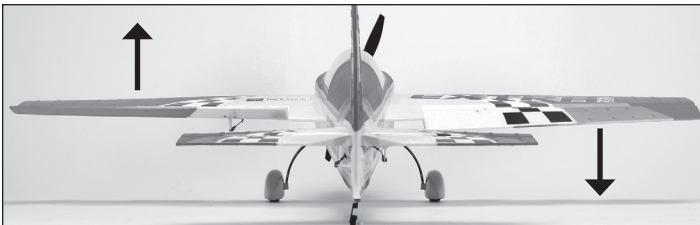
1. When the transmitter elevator stick is pushed forward, the elevator should move down.



2. When the transmitter elevator stick is pulled back the elevator should move up.



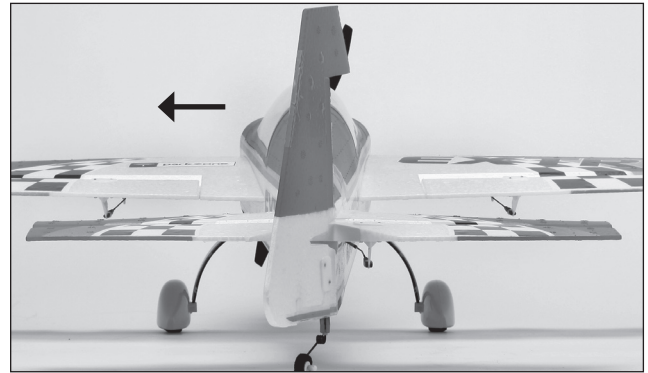
3. When the transmitter aileron stick is pushed to the left, the left aileron should move up and the right aileron should move down.



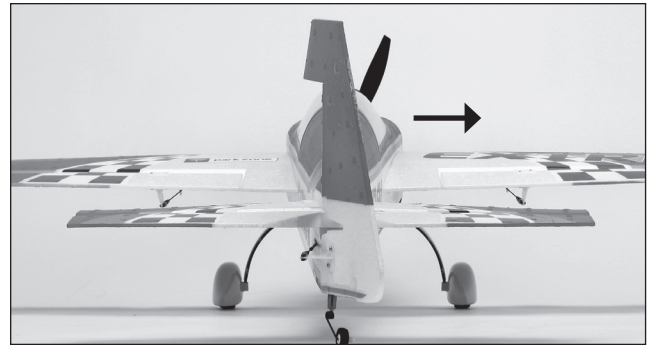
4. When the transmitter aileron stick is pushed right, the right aileron should move up and the left aileron should move down.



5. When the transmitter rudder stick is pushed to the left, the rudder should move to the left.



6. When the transmitter rudder stick is pushed to the right the rudder should move to the right (viewed from behind the aircraft).



Controls in Reverse in Control Direction Test

If controls respond in the opposite direction from the description in the Control Direction Test, you may reverse/change the direction for operation of flight controls. Refer to your transmitter's instructions for changing direction of transmitter flight controls.

Control Surface Travel Information

Note: Measurements are made at the widest point of each control surface from the neutral position for each control surface.

Note: These settings have a tolerance of plus or minus 1mm.

Control Surface Travel Measurement

Factory Setting for Control Surface Travel

Factory settings for the DX5e transmitter are Dual rates set at 100% on high rate and at 70% on low rate. These dual rates cannot be changed on the DX5e. All controls surfaces are set for 100% adjustable travel volume (ATV).

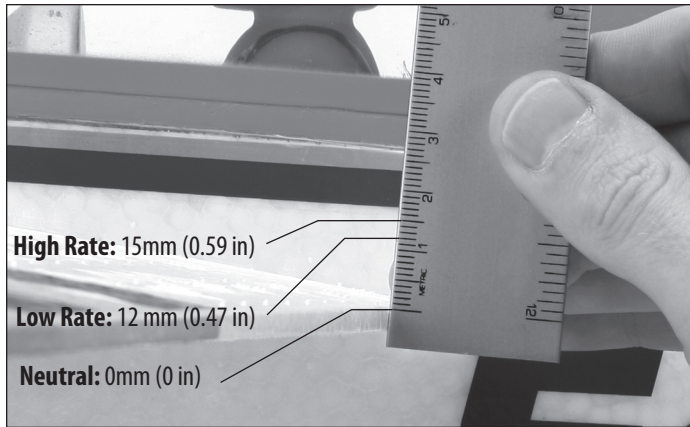
The factory settings provide a moderate amount of control surface movement. Clevises are installed in the outermost holes of the control horns (away from the control surface).

Note: The following rates are only recommended for use with a transmitter that has dual rates and exponential functions.

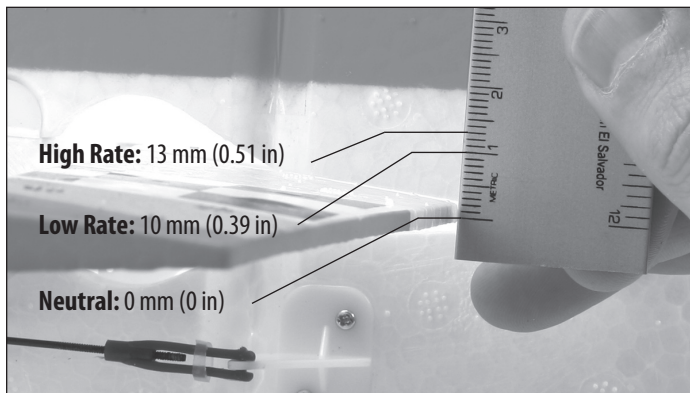
The DX5e transmitter is NOT recommended for aircraft control at these control surface settings. The DX5e transmitter does not have programmable dual rate nor exponential. Without a programmable dual rate or exponential, the aircraft can become over sensitive to control inputs.

The settings below provide extremes of control movement. The pushrods are installed in the outermost holes on the servo arms. Clevises are installed in the innermost holes of the control horns (near the control surfaces).

Aileron

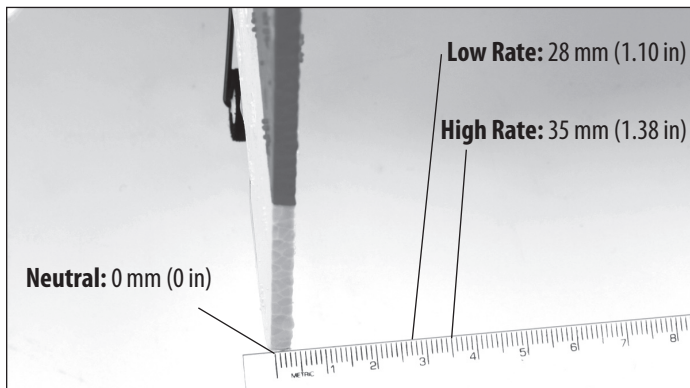


Elevator



Aerobatic Control Surface Travel

Rudder



Extreme Setting for Rudder and Elevator Servo Arms and Pushrods

CAUTION: The rudder and elevator servo arms must be removed from the servo to move the pushrods.

	Low Rate	High Rate
Aileron:	12mm (0.47 in)	30mm (1.18 in)
Elevator:	10mm (0.39 in)	37mm (1.46 in)
Rudder:	35mm (1.38 in)	55mm (2.17 in)

Exponential Settings

Mike McConville exponential settings for Extra 300
 40% on Low Rate for Ailerons, Elevator and Rudder
 55% on High Rate for Ailerons
 70% on High Rate for Elevator
 45% on High Rate for Rudder

Note: Even with extreme control settings, we recommend placing the flight battery all the way forward or at most slid back no more than one inch.

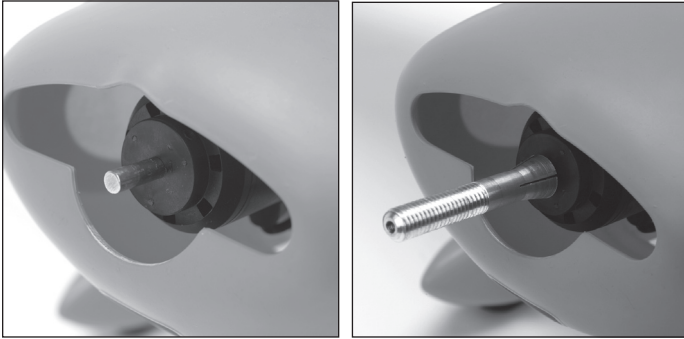
Installing Propeller Adapter, Propeller and Spinner

Note: The information on this page is for maintenance of the Extra 300. Spinner, propeller and propeller adapter damage can result from aircraft crashes.

⚠CAUTION: DO NOT handle propeller parts while the flight battery is connected to the ESC. Personal injury could result.

1. Put collet of propeller adapter (PKZ5102) on the motor shaft (PKZ5116).

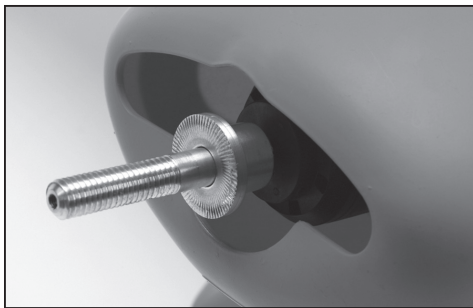
Tip: Some force may be required to fully install the collet on the motor shaft.



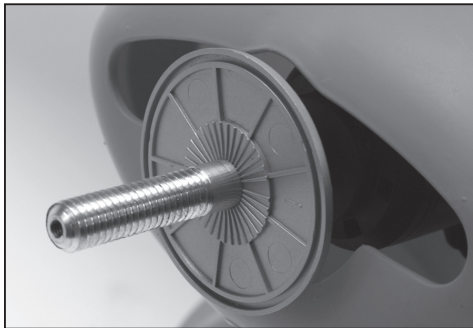
Note: The motor installed in the model may not look the same as the

motor in photographs.

2. Put the swage plate of the propeller adapter (PKZ5102) on the collet shaft.

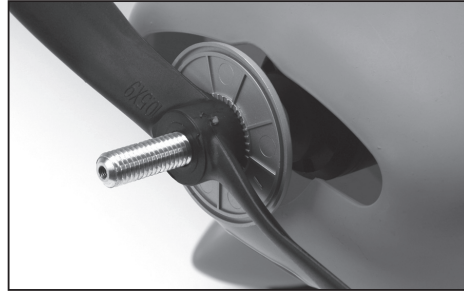


3. Put the spinner backplate (PKZ5107) on the swage plate of the propeller adapter.



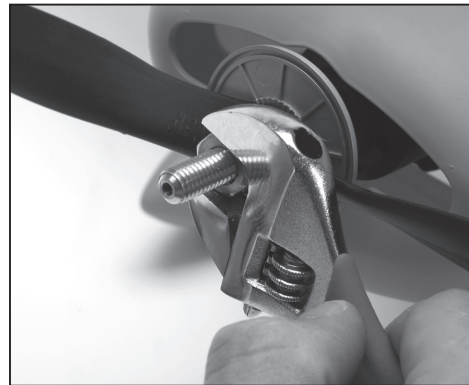
4. Put the propeller (PKZ5101) on the collet of the propeller adapter (PKZ5102).

Notice: The propeller (PKZ5101) side with the numbers for diameter and pitch (for example 10.5 x 9) should face out from the spinner backplate.

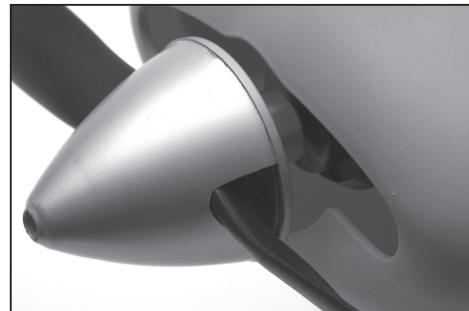


5. Put the hex nut of the propeller adapter (PKZ5102) on the collet shaft.

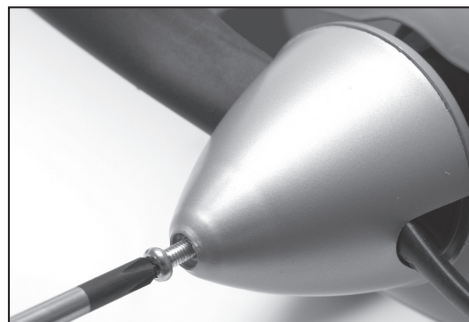
6. Tighten the hex nut on the collet to hold the propeller and propeller adapter on the motor (PKZ5116). A tool may be required to tighten the nut. (Tool is not included).



7. Make sure spinner (PKZ5107) is fully seated on the spinner backplate.



8. Install and tighten a screw in the spinner to hold the spinner on the collet shaft.



Motor and ESC Removal

Note: The information on this page is for maintenance of the Extra 300. Damage to these parts can result from aircraft crashes. Installation of the motor is in reverse order of the steps listed below. The propeller (PKZ5101) must be removed from the motor (PKZ5116) before the cowl (PKZ5126) and motor can be removed from the aircraft.

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

1. Remove five (5) screws from the cowl (PKZ5126).

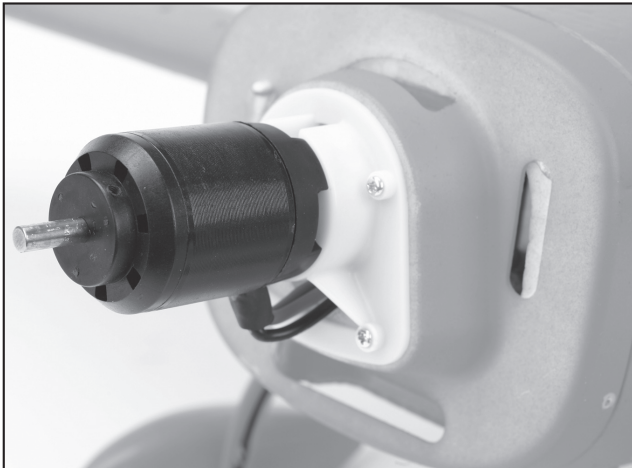


View of Cowl Screws

2. Carefully remove the cowl from the fuselage.

Note: The paint on the painted fuselage may keep the cowl on the fuselage after the screws are removed.

3. Remove four (4) screws from the motor mount (PKZ5128) and the fuselage.



View of the motor on the motor mount

Your motor may vary in appearance from the motor in these photos.



Front view of screws on motor mount

4. Remove the three (3) motor wire connectors from the ESC wire connectors (wire colors are aligned between the motor and the ESC).



5. Remove four (4) screws from the motor mount and motor (PKZ5116).



6. When wires for the ESC are disconnected in the fuselage, the ESC can be removed.



PNP Installation

Installing a Receiver

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

Battery Selection and Installation

- We recommend the ParkZone 2200mAh 11.1V 25C Li-Po battery (PKZ1029).
- If using another battery, the battery must be at least a 25C 2200mAh battery.
- 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.

Range Check and Pre-Flying Tips

Range Check your Radio System

After final assembly, range check the radio system with the Extra 300. Refer to your specific transmitter instruction manual for range test information.

Before Each Flying Session

- Always make sure your Extra 300 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. See page 20.
- Always make sure that all controls are functioning per the

transmitter input you are giving. This includes ailerons, rudder, elevator and throttle.

- Always make sure you have fully charged the transmitter batteries or make sure your transmitter has fresh batteries before you fly.
- 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. The Extra 300 is VERY maneuverable on high rates and requires a lot of experience to handle properly.

⚠ 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 Tips and Repairs

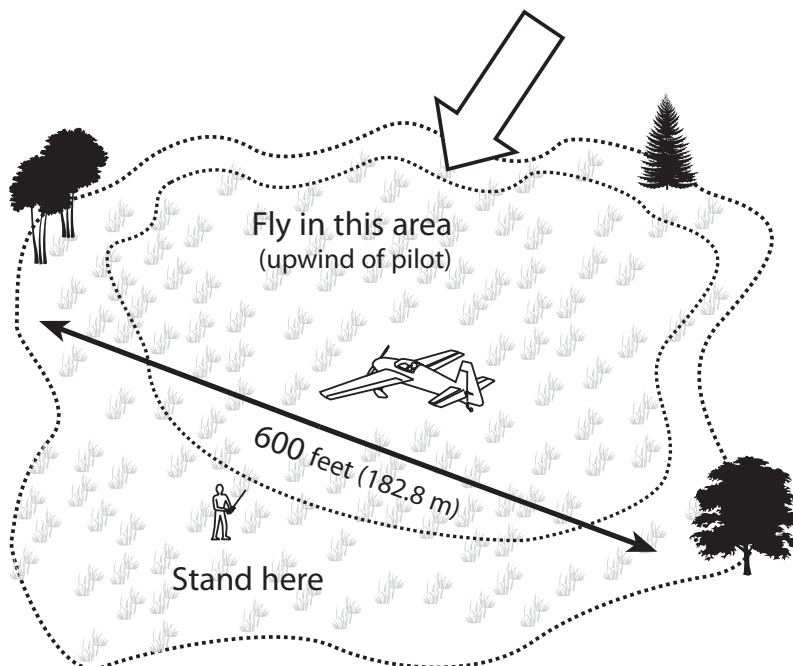
Flying

Always choose a wide-open space for flying your ParkZone Extra 300 BNF. 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 be careful to avoid flying in areas where there are many people, such as busy parks, schoolyards, or soccer fields. Always follow local ordinances. We recommend only flying your Extra 300 in light winds.

Note: The Parkzone Extra 300 is a high performance aircraft. Full power should only be used for vertical climbs. Avoid high power settings in dives or tight turns.

Takeoff

Choose a large open area with a smooth surface for takeoff. Face the nose of the aircraft into the wind. Slowly apply $\frac{1}{2}$ – $\frac{3}{4}$ throttle and let the aircraft get up to flying speed while steering with the rudder and tailwheel. Hold up the elevator at the start of the takeoff roll to keep the tailwheel in contact with the ground until enough airspeed has been reached that the rudder becomes effective. The tailwheel will lift off the ground. Move the elevator to neutral while speed increases to prevent the aircraft from becoming airborne too quickly. Gently apply a small amount of up elevator and let the aircraft climb to a desired altitude.



Landing

Start the landing approach by reducing throttle to $\frac{1}{4}$ or less to slow the aircraft. Fly the aircraft down to about 1-2 feet above the runway. Slowly reduce power until the throttle is in the off position. Apply up elevator as the aircraft settles to the runway. The Extra can do a main landing gear landing, or two-point landing, where the aircraft touches down on the main wheels first and the tailwheel is off the ground. The Extra 300 can also land in three-point attitude when all three wheels touch the runway at the same time.

Repairs

Thanks to the Extra 300's Z-foam™ construction, 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: Due to the Z-foam™ construction of the Extra 300, the wing can flex to absorb flight loads during hard positive or negative G forces. This is more noticeable during hard maneuvering, but is normal.



Troubleshooting Guide

Problem	Possible Cause	Solution
<ul style="list-style-type: none"> • Aircraft will not respond to throttle but responds to other controls 	<ul style="list-style-type: none"> • Throttle not at idle at control setup so throttle not armed • Throttle channel is reversed 	<ul style="list-style-type: none"> • Reset controls with throttle stick and throttle trim at lowest setting. • Reverse throttle channel on transmitter
<ul style="list-style-type: none"> • Extra propeller noise or extra vibration 	<ul style="list-style-type: none"> • Damaged spinner, propeller, motor or motor mount • Loose propeller and spinner parts • Propeller installed backwards 	<ul style="list-style-type: none"> • Replace damaged parts • Tighten parts for propeller adapter, propeller and spinner • Remove and install propeller correctly
<ul style="list-style-type: none"> • Reduced flight time or aircraft underpowered 	<ul style="list-style-type: none"> • Flight battery charge is low • Propeller installed backwards • Flight battery damaged 	<ul style="list-style-type: none"> • Completely recharge flight battery • Remove and install propeller correctly • Replace flight battery and obey flight battery instructions
<ul style="list-style-type: none"> • LED on receiver flashes and aircraft cannot be controlled by transmitter 	<ul style="list-style-type: none"> • Less than a five (5) second wait after powering transmitter and before connecting flight battery to aircraft • Transmitter too close to aircraft • Transmitter bound to another aircraft • Batteries in transmitter low 	<ul style="list-style-type: none"> • Disconnect then connect flight battery to aircraft • Move powered transmitter a few feet from aircraft, disconnect and connect flight battery to aircraft • Bind transmitter to aircraft receiver • Replace transmitter batteries
<ul style="list-style-type: none"> • Control surface does not move, or is slow to respond to control inputs. 	<ul style="list-style-type: none"> • Control surface, control horn, linkage or servo damage • Wire damaged or connections loose • Parts not secured in fuselage 	<ul style="list-style-type: none"> • Replace or repair damaged parts and adjust controls • Do a check of wires and connections, connect or replace as needed • Make hook and loop fastenings tight so no parts move in fuselage
<ul style="list-style-type: none"> • Controls reversed 	<ul style="list-style-type: none"> • Transmitter not set up before binding to aircraft 	<ul style="list-style-type: none"> • Do the Control Direction Test and adjust controls for aircraft and transmitter
<ul style="list-style-type: none"> • Motor loses power • Motor power pulses then motor loses power 	<ul style="list-style-type: none"> • Damage to motor, or power supply • Loss of power to aircraft. • ESC uses default soft Low Voltage Cutoff (LVC) 	<ul style="list-style-type: none"> • Do a check of batteries, transmitter, receiver, ESC, motor and wiring for damage (replace as needed) • Recharge flight battery

Replacement Parts and Optional Parts

Here is a list of replacement parts to repair or keep your Extra 300 flying. These parts are available at your local hobby shop or from Horizon Hobby (www.horizonhobby.com). Please try your local hobby shop first. By supporting them, they will be there when you need them.

Number	Description	Notes
EFLA1030	30-Amp Pro Switch-Mode BEC Brushless ESC	<i>This is the ESC for the Extra 300</i>
EFLA110	Power Meter	<i>Optional, for monitoring power in Li-Po flight batteries</i>
EFLA253	Hex Driver, 1.5mm	<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 and Battery Connector, Male/Female	<i>Optional</i>
EFLC505	1- to 5-cell Li-Po Battery Charger with Balancer	<i>Optional</i>
PKZ1029	ParkZone 2200mAh 11.1V 25C Li-Po battery	<i>Recommended for size, weight and power in Extra 300</i>
PKZ1059	SV80 Aileron Servo, 200mm: Extra 300	<i>Recommended aileron servo</i>
PKZ1090	DSV130 digital metal gear servo	<i>Recommended elevator and rudder servo</i>
PKZ5107	Spinner: Extra 300	<i>Includes spinner, spinner backplate, and screw</i>
PKZ5101	Propeller 10.5 X 9: Extra 300	
PKZ5102	Propeller adapter: Extra 300	<i>Includes collet, swage plate and hex nut</i>
PKZ5103	Decal sheet: Extra 300	<i>Decals are not included with the Painted Bare Fuselage</i>
PKZ5104	Motor Shaft:15 BL 950Kv: Extra 300	<i>Recommended motor for weight, power and shaft size</i>
PKZ5105	Painted Pilot	
PKZ5106	Main Landing Gear: Extra 300	<i>This part number includes PKZ5129 and PKZ5130</i>
PKZ5113	Complete Hatch with Pilot: Extra 300	
PKZ5116	15BL Outrunner 950Kv: Extra 300	<i>This is the motor for the Extra 300</i>
PKZ5120	Painted Wing: Extra 300	<i>Includes left and right wing panels, tape for covering servo wires, and aileron control horn installations (Does not include servos or wing tube)</i>
PKZ5121	Wing Tube: Extra 300	<i>This is separate from the wing panels</i>
PKZ5122	Pushrods with Clevis: Extra 300	<i>This is a set of four (4) pushrods and clevises for rudder, elevator and ailerons on the Extra 300</i>
PKZ5123	Landing Gear Plates: Extra 300	
PKZ5124	Tail Wheel Set: Extra 300	<i>This includes the parts needed to replace the tail wheel</i>
PKZ5125	Horizontal Tail with Access: Extra 300	<i>This includes the Horizontal Tail, Control Horns and Tape</i>
PKZ5126	Painted Cowl: Extra 300	<i>This includes the cowl and screws</i>
PKZ5128	Motor Mount: Extra 300	<i>This includes the motor mount and screws</i>
PKZ5129	Painted Wheel Pants: Extra 300	<i>These are left and right pairs</i>
PKZ5130	Main Landing Gear Fairing: Extra 300	<i>These are left and right pairs with four screws</i>
PKZ5167	Painted Bare Fuselage: Extra 300	<i>This does not include pushrods, decals or electronics</i>
SPMAR500	AR500 DSM2 5-Channel Sport Receiver	<i>Optional</i>
SPMAR6200	AR6200 DSM2 6-Channel Sport Receiver	<i>Optional</i>
SPMR5500	DX5e 5-Channel Full Range Transmitter Only	<i>Optional</i>
SPMR6600	DX6i 6-Channel Full Range Transmitter Only	<i>Optional</i>
SPMR7700	DX7 7-Channel Full Range Transmitter Only	<i>Optional</i>
TAM81511	Tamiya America TAM81511, Acrylic Mini X11	<i>(Chrome Silver) Touch-Up Paint</i>
TAM81506	Tamiya America TAM81506, Acrylic Mini X6	<i>(Orange) Touch-Up Paint</i>

Warranty and Repair Policy

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

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 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 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).

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, or call 877.504.0233 toll free to speak to a Product Support representative.

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 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.

Notice: Do not ship batteries to Horizon Hobby. 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 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.

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


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

Declaration of Conformity

(in accordance with ISO/IEC 17050-1)

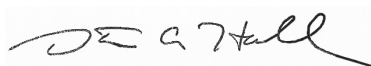
No. HH2010042201

 Product(s): Extra 300 BNF, Extra 300 PNP
 Item Number(s): PKZ5180, PKZ5175
 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 301 489-1, 301 489-17 General EMC requirements

Signed for and on behalf of:
Horizon Hobby, Inc.
Champaign, IL USA
Apr 22, 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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