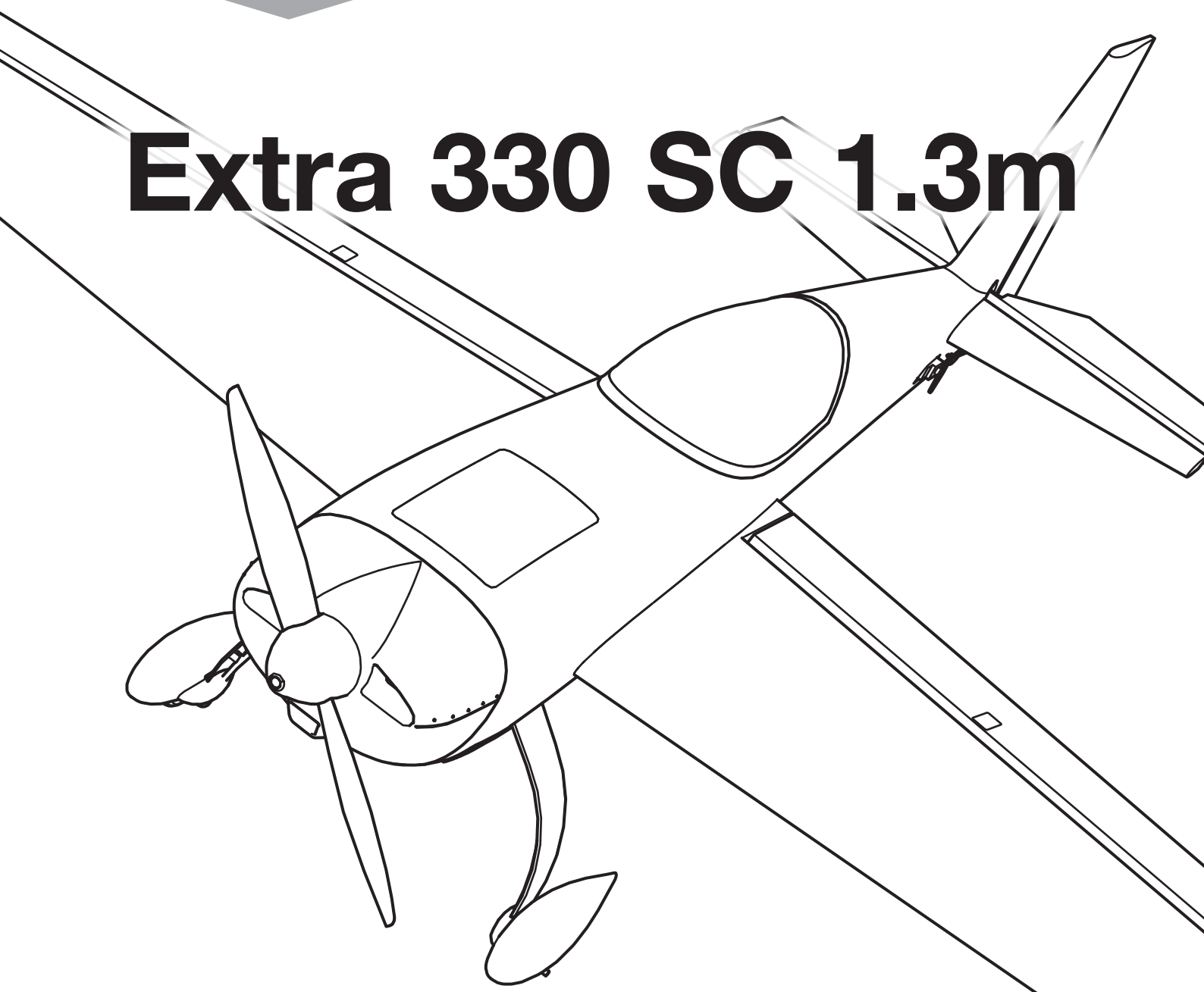
E-flite
ADVANCING ELECTRIC FLIGHT

Extra 330 SC 1.3m



Instruction Manual
Bedienungsanleitung
Manuel d'utilisation
Manuale di Istruzioni

Scan the QR code and select the Manuals and Support quick links from the product page for the most up-to-date manual information.
Scannen Sie den QR-Code und wählen Sie auf der Produktseite die Quicklinks Handbücher und Unterstützung, um die aktuellsten Informationen zu Handbücher.
Scannez le code QR et sélectionnez les liens rapides Manuals and Support sur la page du produit pour obtenir les informations les plus récentes sur le manuel.
Scannerizzare il codice QR e selezionare i Link veloci Manuali e Supporto dalla pagina del prodotto per le informazioni manuali più aggiornate.

BNF BASIC — **EFL05050**

PNP PLUG-N-PLAY — **EFL05075**

760800.1
Created 5/24

HORIZON HOBBY

NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, LLC. For up-to-date product literature, visit horizonhobby.com or towerhobbies.com and click on the support or resources tab for this product.

MEANING OF SPECIAL LANGUAGE

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:
WARNING: Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.
CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.
NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND little or no possibility of injury.

⚠ **WARNING:** Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.
This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

AGE RECOMMENDATION: Not for children under 14 years. This is not a toy.

Safety Precautions and Warnings

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

- Always keep a safe distance in all directions around your model to avoid collisions or injury. This model is controlled by a radio signal subject to interference from many sources outside your control. Interference can cause momentary loss of control.
- Always operate your model in open spaces away from full-size vehicles, traffic and people.
- Always carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.).
- Always keep all chemicals, small parts and anything electrical out of the reach of children.
- Always avoid water exposure to all equipment not specifically designed and protected for this purpose. Moisture causes damage to electronics.
- Never place any portion of the model in your mouth as it could cause serious injury or even death.
- Never operate your model with low transmitter batteries.
- Always keep aircraft in sight and under control.
- Always use fully charged batteries.
- Always keep transmitter powered on while aircraft is powered.
- Always remove batteries before disassembly.
- Always keep moving parts clean.
- Always keep parts dry.
- Always let parts cool after use before touching.
- Always remove batteries after use.
- Always ensure failsafe is properly set before flying.
- Never operate aircraft with damaged wiring.
- Never touch moving parts.

⚠ **WARNING AGAINST COUNTERFEIT PRODUCTS:** If you ever need to replace your Spektrum receiver found in a Horizon Hobby product, always purchase from Horizon Hobby, LLC or a Horizon Hobby authorized dealer to ensure authentic high-quality Spektrum product. Horizon Hobby, LLC disclaims all support and warranty with regards, but not limited to, compatibility and performance of counterfeit products or products claiming compatibility with DSM or Spektrum technology.

Registration

Register your product today to join our mailing list and keep up to date with product updates, offers and E-flite® news.

Table of Contents

Safety Precautions and Warnings 2
Required Tools 3
SAFE® Select Technology (BNF Basic) 4
Transmitter Setup (BNF Basic) 4
Model Assembly 5
Control Surface Centering 7
PNP Receiver Selection and Installation 7
General Binding Tips and Failsafe 8
Transmitter and Receiver Binding / Enable or Disable SAFE Select 8
SAFE® Select Switch Designation 9
Battery Installation and ESC Arming 9
Center of Gravity (CG) 9
Control Horn and Servo Arm Settings 10
AS3X Control Response Test (BNF Basic) 10
In Flight Trimming (BNF Basic) 12
Flying Tips and Repairs 12
Post Flight 12
Motor Service 13
Replacement Parts List 13
Recommended Parts List 13
Optional Parts List 13
Troubleshooting Guide AS3X 14
Troubleshooting Guide 14
Important Federal Aviation Administration (FAA) Information 15
AMA National Model Aircraft Safety Code 15
Limited Warranty 15
Contact Information 16
FCC Information 16
IC Information 16
Compliance Information for the European Union 17

Specifications	
Wingspan	51.5" (1308mm)
Length	49.6" (1260mm)
Weight	Without Battery: 63.6oz (1804g) With Recommended 4S 3200mAh Flight Battery: 75oz (2131g)

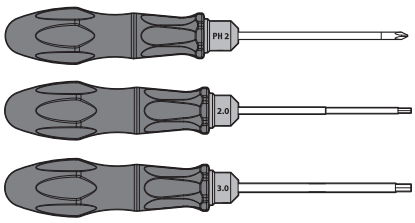
Included Equipment	
Receiver*	Spektrum™ AR631 6CH AS3X®/SAFE® Receiver (SPMAR631)
ESC	Avian 85-Amp Smart® Lite Brushless ESC, 3S-6S IC3 (SPMXAE85B)
Motor	Brushless Outrunner Motor; 4346-910Kv 14-pole (SPM-1006)
Propeller	13x6 Wood Prop (EFL11592)
Servos	(4) 23g Metal-Geared Digital Servo (EFL11598)

*These components are not included with the Plug and Play (PNP) version of this product.

Recommended Equipment	
Transmitter	NX8 8 Channel DSMX Transmitter Only (SPMR8200)
Flight Battery	3200mAh 4S 14.8V Smart LiPo Battery 30C; IC3 (SPMX32004S30), 3200mAh 4S 14.8V Smart G2 LiPo 50C; IC3 (SPMX324S50)
Battery Charger	Smart S1400 G2 AC Charger, 1x400W (SPMXC2040)

Optional Accessories	
SPMR7100	NX7e 7 Channel Transmitter Only
SPMXC2020	Smart S1200 G2 AC Charger; 1x200W
SPMX40004S30	4000mAh 4S 14.8V Smart LiPo Battery 30C; IC3
SPMXBC100	XBC100 SMART Battery Checker & Servo Driver
SPM6730	Smart Charger Case
SPMXCA300	Smart Lipo Bag, 16 x7.5 x 6.5 cm
ONXT1000	Ultimate Air/Surface Startup Tool Set
SPMX324S100	3200mAh 4S 14.8V Smart G2 LiPo 100C; IC3
SPMX50004S30	5000mAh 4S 14.8V Smart LiPo 30C; IC5
SPMX43S30	4000mAh 3S 11.1V Smart G2 LiPo Battery 30C; IC3
SPMX53S30	5000mAh 3S 11.1V Smart G2 LiPo 30C; IC5

Required Tools



- Phillips Screwdriver (PH#2)
- Hex Drivers (2mm and 3mm)

- Medium CA Adhesive

SAFE® Select Technology (BNF Basic)

The evolutionary SAFE® Select technology can offer an extra level of protection so you can perform the first flight with confidence. No complex transmitter programming is required. Just follow the simple bind process to make the SAFE Select system active. When activated, bank and pitch limitations keep you from over-controlling and automatic self-leveling makes recovery from risky or confusing attitudes as simple as releasing the sticks. In fact, with the aileron, elevator and rudder sticks in the neutral position, SAFE Select will automatically keep the airplane in a straight and level attitude.

Expand the advantage of what SAFE® Select technology offers by assigning it to a switch. No transmitter programming is required and you'll be able to turn the system ON and OFF with the flip of a switch. For example, turn SAFE select ON for takeoffs to counter the torque of the propeller. Turn it OFF in flight for unrestricted aerobatic performance, and turn it back ON when a buddy wants to try out your cool aircraft. Turn SAFE Select ON for landings. As you drop the flaps, SAFE Select reduces your workload by compensating for pitch changes automatically, regardless of throttle position. It will help keep the correct pitch attitude and wings level during the final approach. Whether you're a beginner or an expert, SAFE Select can make your flights a great experience.

When the normal bind process is followed, the SAFE Select system is disabled, leaving specially tuned AS3X® technology in place to deliver a pure, unrestricted flight experience.

Transmitter Setup (BNF Basic)

IMPORTANT: After you set up your model, always rebind the transmitter and receiver to set the desired failsafe positions.

Dual Rates

Take first flights in Low Rate. For landings, use high rate elevator.

IMPORTANT: To ensure AS3X® technology functions properly, do not lower rate values below 50%. If lower rates are desired, manually adjust the position of the pushrods on the servo arm.

If oscillation occurs at high speed, refer to the Troubleshooting Guide for more information.

Exponential

If your radio is equipped with Exponential, the values listed in the chart below are a good starting point. After first flights, you may adjust expo in your transmitter.

NX Series Transmitter Setup
1. Power ON your transmitter, click on scroll wheel, roll to **System Setup** and click the scroll wheel. Select ***YES***.
2. Go to **Model Select** and choose ***Add New Model*** near the bottom of the list. Select ***Airplane Model Type*** by choosing airplane image, select ***Create***.
3. Set **Model Name:** Input a name for your model file.
4. Go to **Aircraft Type** and scroll to the wing selection, choose **Wing:** ***Normal;*** **Tail:** ***Normal***
5. Select **Main Screen**, Click the scroll wheel to enter the **Function List**.
6. Go to the **Rates and Expo** menu to set **D/R** and **Expo**.
7. Set **Rates and Expo:** ***Aileron*** Set **Switch:** ***Switch F*** Set **High Rates:** ***100%*****, Expo** ***10%*** **—** **Low Rates:** ***70%*****, Expo** ***5%***
8. Set **Rates and Expo:** ***Elevator*** Set **Switch:** ***Switch C*** Set **High Rates:** ***100%,*** **Expo** ***10%*** **—** **Low Rates** ***70%,*** **Expo** ***5%***
9. Set **Rates and Expo:** ***Rudder*** Set **Switch:** ***Switch G*** Set **High Rates:** ***100%,*** **Expo** ***10%*** **—** **Low Rates** ***70%,*** **Expo** ***5%***
10. Set **Throttle Cut**; **Switch:** ***Switch H,*** **Position:** ***-100%***

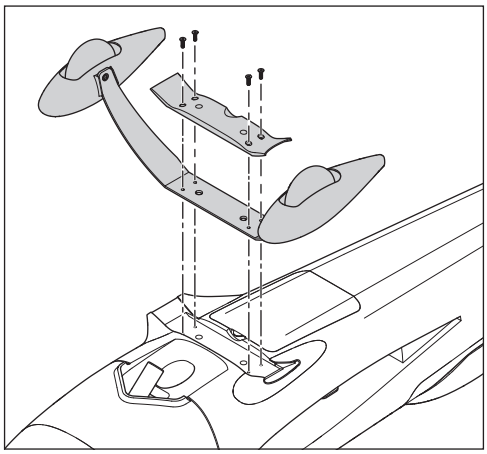
DX Series Transmitter Setup
1. Power ON your transmitter, click on scroll wheel, roll to **System Setup** and click the scroll wheel. Select ***YES***.
2. Go to **Model Select** and choose ***Add New Model*** at the bottom of the list. The system asks if you want to create a new model, select ***Create***.
3. Set **Model Type:** Select ***Airplane Model Type*** by choosing the airplane. The system asks you to confirm model type, data will be reset. Select ***YES***.
4. Set **Model Name:** Input a name for your model file.
5. Go to **Aircraft Type** and scroll to the wing selection, choose **Wing:** ***Normal;*** **Tail:** ***Normal***
6. Select **Main Screen**, Click the scroll wheel to enter the **Function List**.
7. Set **D/R (Dual Rate) and Expo:** ***Aileron*** Set **Switch:** ***Switch F*** Set **High Rates:** ***100%*****, Expo** ***10%*** **—** **Low Rates:** ***70%*****, Expo** ***5%***
8. Set **D/R (Dual Rate) and Expo:** ***Elevator*** Set **Switch**: ***Switch C*** Set **High Rates:** ***100%,*** **Expo** ***10%*** **—** **Low Rates** ***70%,*** **Expo** ***5%***
9. Set **D/R (Dual Rate) and Expo:** ***Rudder*** Set **Switch:** ***Switch G*** Set **High Rates:** ***100%,*** **Expo** ***10%*** **—** **Low Rates** ***70%,*** **Expo** ***5%***
10. Set **Throttle Cut**; **Switch:** ***Switch H,*** **Position:** ***-100%***

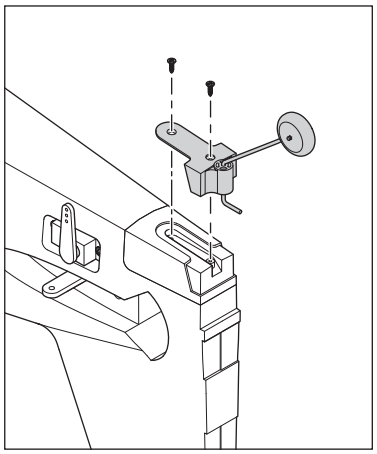
iX Series Transmitter Setup
1. Power ON your transmitter and begin once the Spektrtum AirWare app is open. Select the orange pen icon in the screen's upper left corner, the system asks for permission to **Turn Off RF**, select ***PROCEED***.
2. Select the three dots in the upper right corner of the screen, select ***Add a New Model***.
3. Select **Model Option**, choose ***DEFAULT***, select ***Airplane***. The system asks if you want to create a new acro model, select ***Create***.
4. Select the last model on the list, named **Acro**. Tap on the word Acro and rename the file to a name of your choice.
5. Press and hold the back arrow icon in the upper left corner of the screen to return to the main screen.
6. Go to the **Model Setup** menu. Select **Aircraft Type**. The system asks for permission to **Turn Off RF**, select ***PROCEED***. Touch the screen to select **Wing/Tail Type.** Select **Wing:** ***Normal;*** **Tail:** ***Normal***.
7. Press and hold the back arrow icon in the upper left corner of the screen to return to the main screen.
8. Go to the **Model Adjust** menu.
9. Set **Dual Rates and Expo:** Select ***Aileron*** Set **Switch:** ***Switch F*** Set **High Rates:** ***100%*****, Expo** ***10%*** **—** **Low Rates:** ***70%*****, Expo** ***5%***
10. Set **Dual Rates and Expo:** Select ***Elevator*** Set **Switch:** ***Switch C*** Set **High Rates:** ***100%,*** **Expo** ***10%*** **—** **Low Rates** ***70%,*** **Expo** ***5%***
11. Set **D/R (Dual Rate) and Expo:** ***Rudder*** Set **Switch:** ***Switch G*** Set **High Rates:** ***100%,*** **Expo** ***10%*** **—** **Low Rates** ***70%,*** **Expo** ***5%***
12. Set **Throttle Cut**; **Switch:** ***Switch H,*** **Position:** ***-100%***

Model Assembly

Landing Gear Installation

1. Fit the landing gear into the slot.
2. Install the landing gear cover and secure using four 3 x 15mm screws.
3. Install the tailwheel mount and tailwheel in the bottom of the fuselage using two 2.6 x 12mm flat head screws.

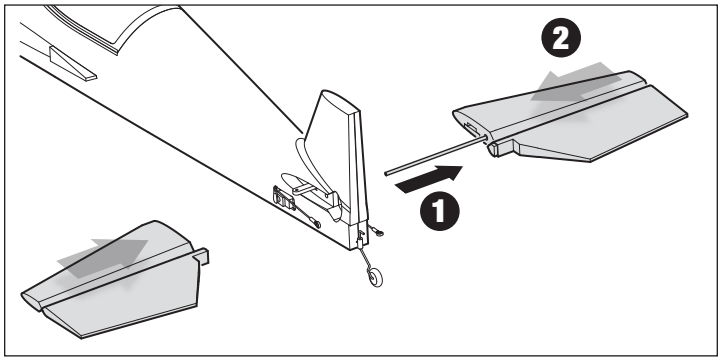


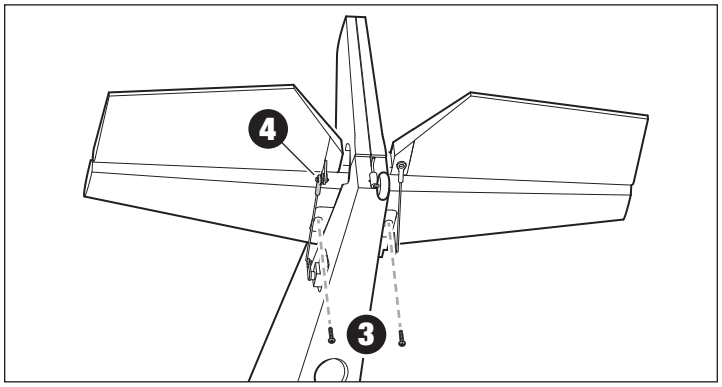


Tail Installation

Horizontal Stabilizer

1. Insert the horizontal stabilizer tube into one of the stab halves.
2. Slide the halves together into the fuselage. Key the mating elevator parts together snugly.
3. Install two 3 x 15mm screws to secure the stab halves.
4. Insert the Z-Bend of the pushrod one place in from the outermost hole of the elevator servo arm, and press the elevator pushrod end onto the elevator control horn ball.

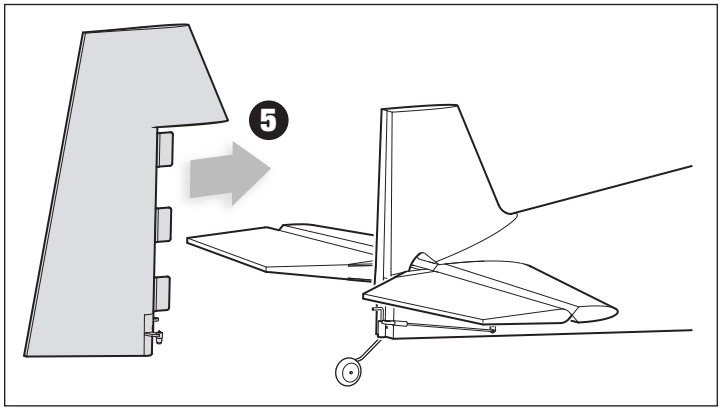


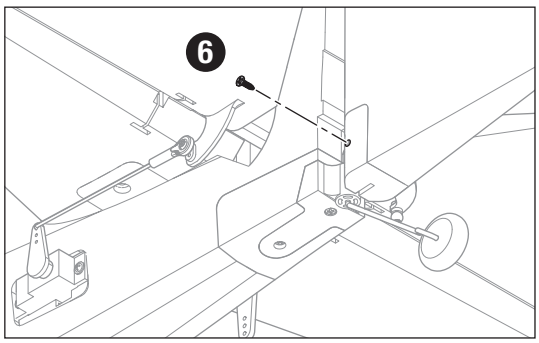


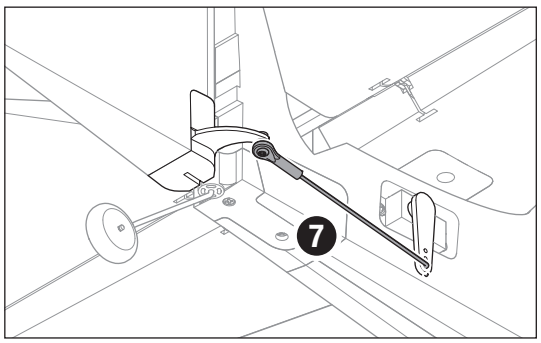
Rudder

5. Apply medium CA glue to the rudder hinge tabs. Slide the hinges into the hinge slot while guiding the tail wheel wire into the bracket.

   IMPORTANT: Do not get glue near the hinge pins. Allow the glue to fully set before continuing.
6. Install the 2 x 8mm flat head screw into the tail wire bracket on the rudder.
7. Insert the Z-Bend into the outermost hole of the rudder servo arm, and press the rudder pushrod end onto the rudder control horn ball.

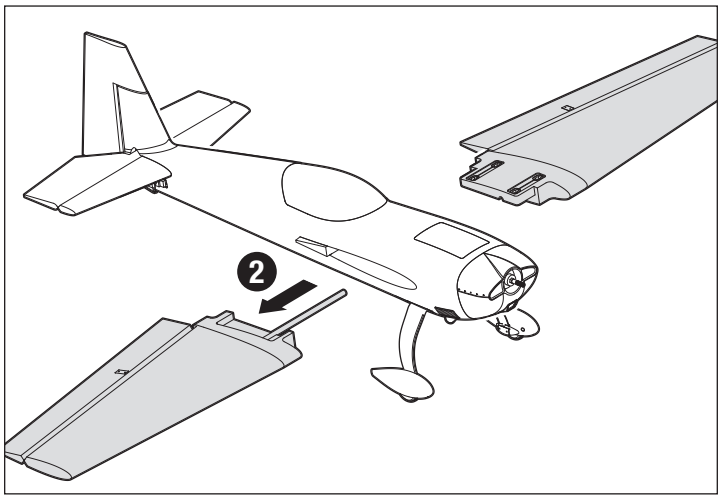


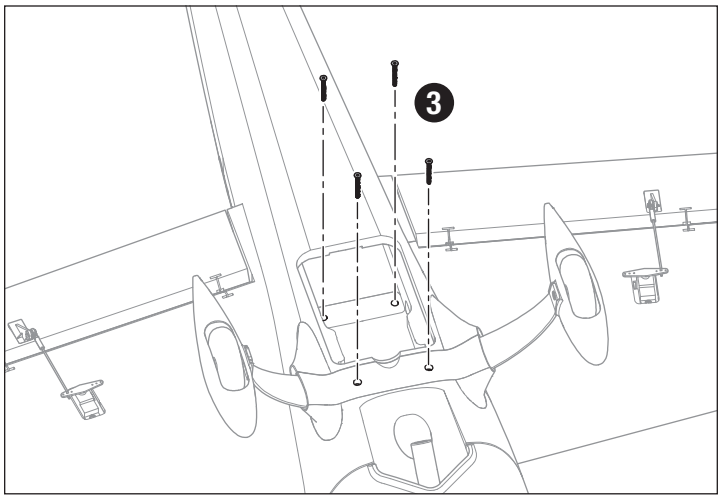




Wing Installation

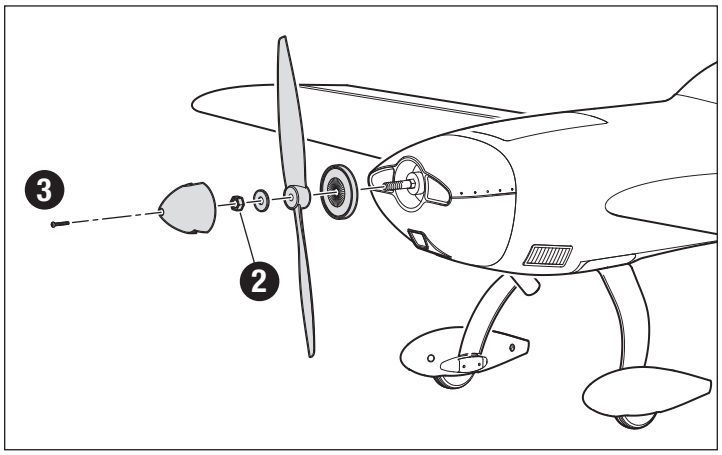
1. Remove the magnetic bottom hatch cover.
2. Slide the wing joiner into one of the wing panels. Insert that panel into the wing opening in the fuselage and install the other wing panel onto the wing joiner. Make sure the aileron servo leads from each wing are routed inside the wing saddle and out the bottom hatch.
3. Secure the wing panels to the fuselage using four 3 x 32mm screws.





Propeller Installation

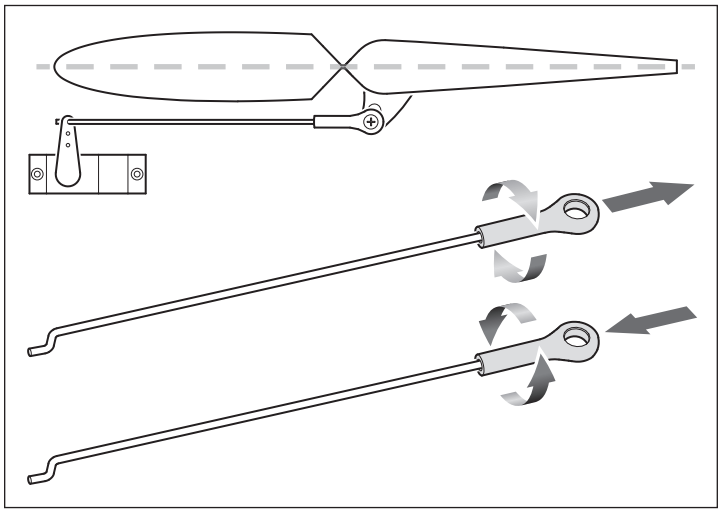
1. Install the spinner back plate, propeller, prop washer, and prop nut.
2. Tighten the prop nut until the propeller is installed on the motor shaft securely.
3. Secure the spinner with the 3 x 26mm screw.



Control Surface Centering

After assembly and transmitter setup, bind a transmitter to the aircraft receiver and set the trims and sub-trims to 0.
If the control surfaces are not centered, adjust the linkages by turning the pushrod end on the linkage to change its length.

- Turn the pushrod end clockwise or counterclockwise until the control surface is centered.
- Attach the linkage to the servo arm or control horn after adjustment.



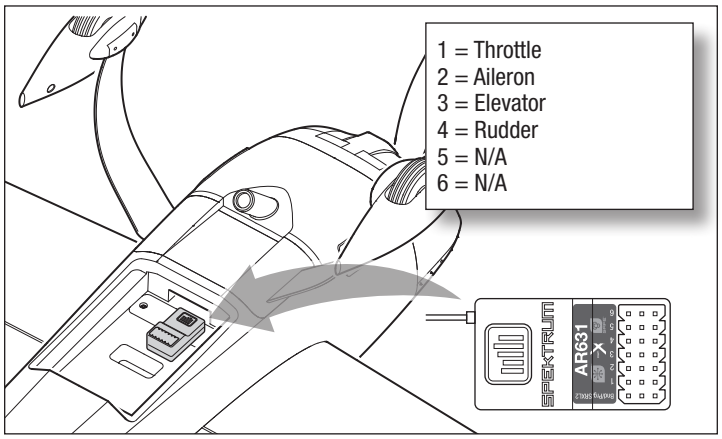
PNP Receiver Selection and Installation

NOTICE: Incorrect installation of the receiver could cause a crash.

The Spektrum™ AR631 receiver is recommended for this airplane.
If you choose to install another receiver, ensure that it is at least a 4-channel full range receiver. Refer to your receiver manual for correct installation and operation instructions.

Installation (AR631 shown)

1. Remove the magnetic bottom hatch cover.
2. Mount the receiver parallel to the length of the fuselage as shown, using double-sided tape and medium CA.
3. Attach the appropriate ESC and servo leads to their respective ports on the receiver using the chart in the illustration.
4. Use the included Y-Harness to connect the two aileron servos.



General Binding Tips and Failsafe

- The included receiver has been specifically programmed for operation of this aircraft. Refer to the receiver manual for correct setup if the receiver is replaced.
- Keep away from large metal objects while binding.
- Do not point the transmitter's antenna directly at the receiver while binding.
- The red LED on the receiver will flash rapidly when the receiver enters bind mode.
- Once bound, the receiver will retain its bind settings for that transmitter until you re-bind.
- If the receiver loses transmitter communication, the failsafe will activate. Failsafe moves the throttle channel to low throttle. Pitch and roll channels move to actively stabilize the aircraft in a descending turn.
- If problems occur, refer to the troubleshooting guide or if needed, contact the appropriate Horizon Product Support office.

Transmitter and Receiver Binding / Enable or Disable SAFE Select

The BNF Basic version of this airplane includes SAFE Select technology, enabling you to choose the level of flight protection. SAFE mode includes angle limits and automatic self leveling. AS3X mode provides the pilot with a direct response to the control sticks. SAFE Select is enabled or disabled during the bind process. With SAFE Select disabled the aircraft is always in AS3X mode. With SAFE Select enabled the aircraft will be in SAFE Select mode all the time, or you can assign a switch to toggle between SAFE Select and AS3X modes.
Thanks to SAFE Select technology, this aircraft can be configured for full-time SAFE mode, full-time AS3X mode, or mode selection can be assigned to a switch.

IMPORTANT: Before binding, read the transmitter setup section in this manual and complete the transmitter setup table to ensure your transmitter is properly programmed for this aircraft.

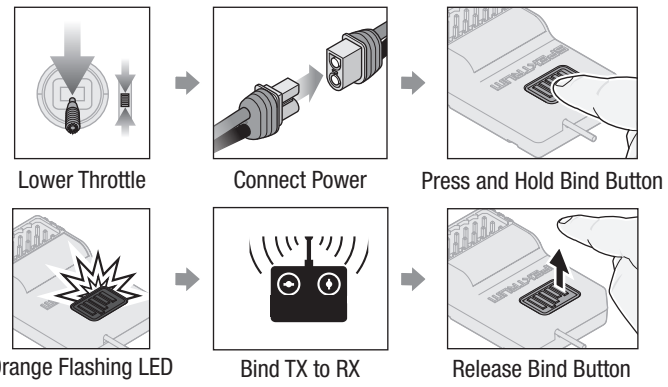
IMPORTANT: Move the transmitter flight controls (rudder, elevators, and ailerons) and the throttle trim to neutral. Move the throttle to low before and during binding. This process defines the failsafe settings.

You can use either the **bind button** on the receiver case **OR** a conventional **bind plug** to complete the binding and SAFE Select process.

SAFE can also be enabled via Forward Programming.

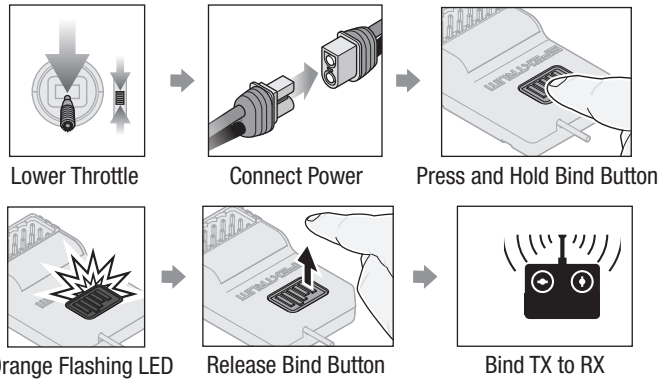
Using The Bind Button...

To Enable SAFE Select



SAFE SELECT ENABLED: The control surfaces cycle back and forth **twice** with a slight pause at neutral position every time the receiver is powered on.

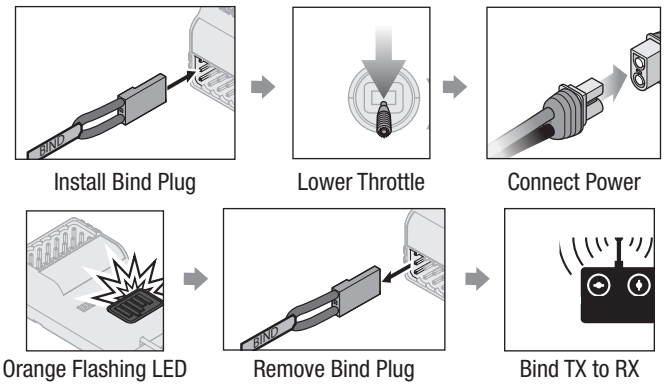
To Disable SAFE Select



SAFE SELECT DISABLED: The control surfaces cycle back and forth **once** every time the receiver is powered on.

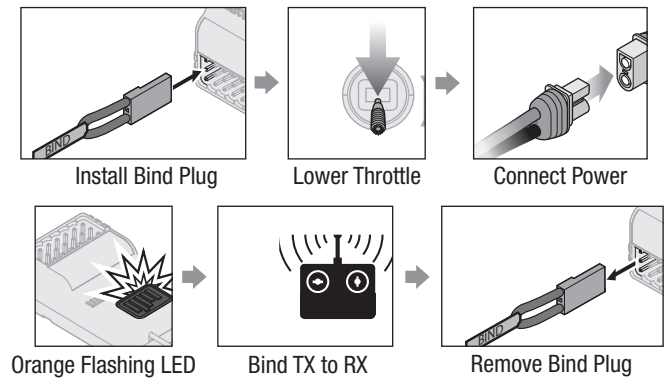
Using The Bind Plug...

To Enable SAFE Select



SAFE SELECT ENABLED: The control surfaces cycle back and forth **twice** with a slight pause at neutral position every time the receiver is powered on.

To Disable SAFE Select



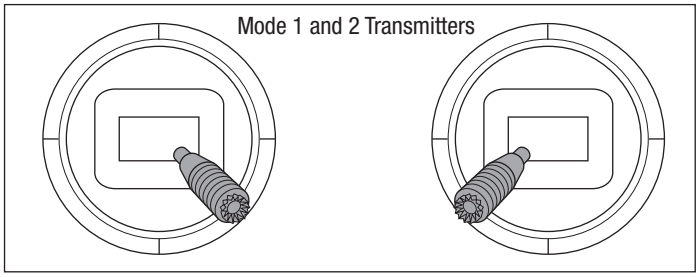
SAFE SELECT DISABLED: The control surfaces cycle back and forth **once** every time the receiver is powered on.

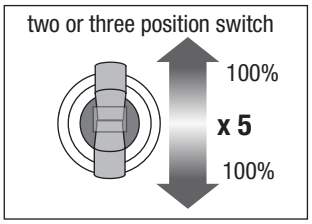
SAFE® Select Switch Designation

SAFE® Select technology can be easily assigned to any open switch (2 or 3 position) on your transmitter. With this feature, you have the flexibility to enable or disable the technology while in flight.

IMPORTANT: Before assigning your desired switch, ensure that the travel for that channel is set at 100% in both directions and the aileron, elevator, rudder and throttle are all on high rate with the travel at 100%. Turn throttle hold OFF if it is programmed in the transmitter.

CAUTION: Keep all body parts well clear of the rotor, intakes and exhaust tube and keep the aircraft securely restrained in case of accidental throttle activation.





Assigning a switch

1. Bind the aircraft correctly to activate SAFE Select. This will allow the system to be assigned to a switch.
2. Hold both transmitter sticks to the inside bottom corners and toggle the desired switch 5 times (1 toggle = full up and down) to assign that switch. The control surfaces of the aircraft will move, indicating the switch has been selected.

Repeat the process to assign a different switch or to deactivate the current switch if desired.

TIP: SAFE Select is assignable on any unused Channels 5–9.

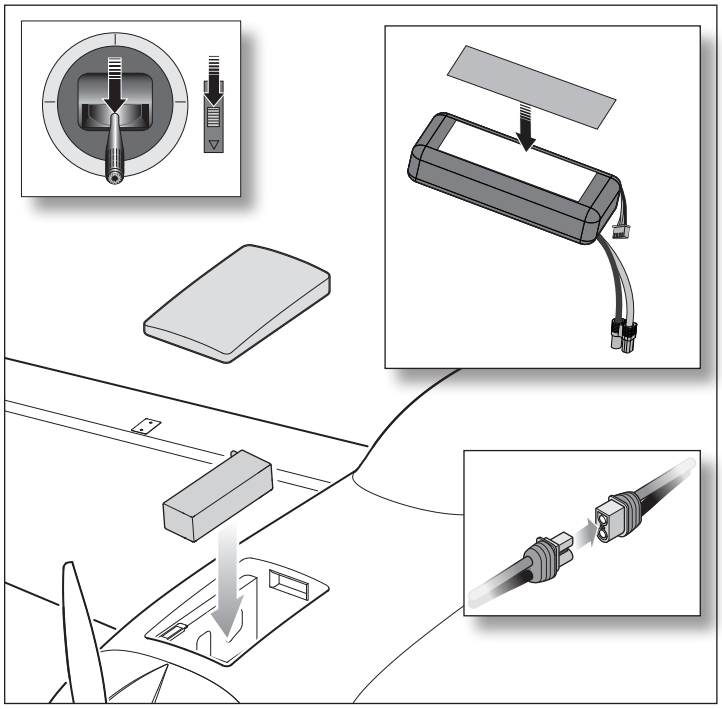
Battery Installation and ESC Arming

Battery Selection

The Spektrum™ 3200mAh 4S 14.8V Smart 30C Li-Po battery (SPMX32004S30) is recommended. Refer to the Optional Parts List for other recommended batteries. If using a battery other than those listed, the battery should be within the range of capacity, dimensions and weight of the Spektrum Li-Po battery packs to fit in the fuselage. Be sure the model balances at the recommended CG before flying.

CAUTION: Always keep hands away from the propeller. When armed, the motor will turn the propeller in response to any throttle movement.

1. Lower the throttle and throttle trim to the lowest settings.
2. Power on the transmitter, then wait 5 seconds.
3. Lift the hatch by the tab, to remove.
4. Apply the loop side (soft side) of the hook and loop tape to the bottom of your battery and the hook side to the battery tray.
5. Install the fully charged battery in the middle of the battery compartment, as shown. Secure using the hook and loop straps.
6. Connect the battery to the ESC (the ESC is now armed).
7. Keep the aircraft immobile and away from wind, upright and on flat surface or the system will not initialize.
   - The ESC will produce a series of sounds. A single tone followed immediately by three or four tones, which indicates cell count.
   - An LED will light on the receiver.
8. Reinstall the battery hatch.

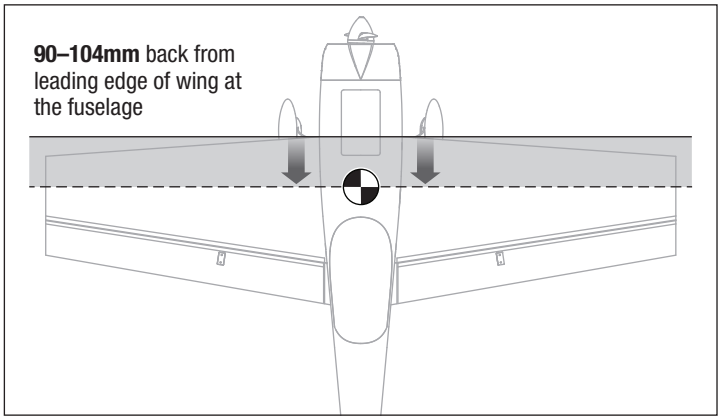


Center of Gravity (CG)

CAUTION: Install the battery but do not connect the ESC while checking the CG. Personal injury may result.

The CG location is measured from the leading edge of the wing at the root. This CG location has been determined with the recommended Li-Po battery (SPMX32004S30).

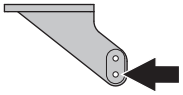
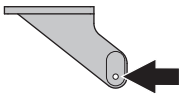
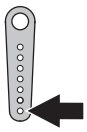
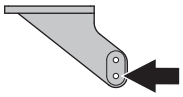
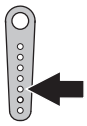
TIP: Measure the CG with the aircraft inverted.

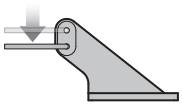
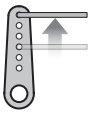
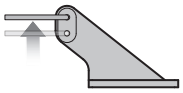
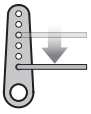


Control Horn and Servo Arm Settings

NOTICE: If control throws are changed from the factory settings, the AR631 gain values may need to be adjusted. Refer to the Spektrum AR631 manual for adjustment of gain values.

The table to the right shows the factory settings for the control horns and servo arms. Fly the aircraft at factory settings before making changes.
After flying, you may choose to adjust the linkage positions for the desired control response.

Factory Settings	Control Horns	Servo Arms
Elevator		
Rudder		
Aileron		

Control Throw Tuning	Control Horns	Servo Arms
More control throw		
Less control throw		

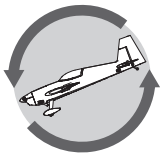
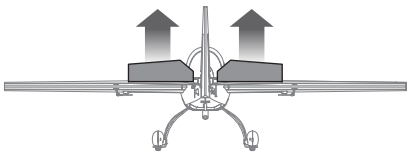
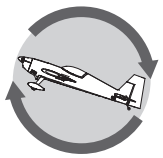
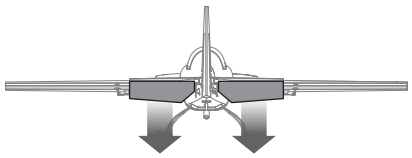
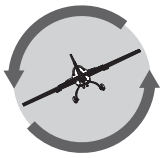
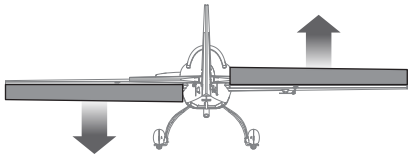
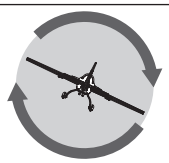
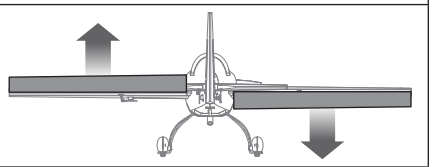
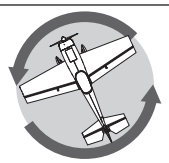
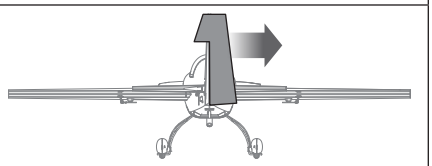
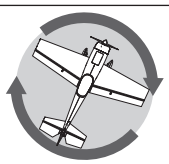
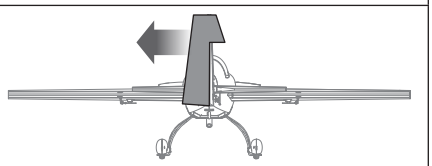
AS3X Control Response Test (BNF Basic)

CAUTION: Keep all body parts, hair and loose clothing away from a moving propeller, as these items could become entangled.

This test ensures that the AS3X® control system is functioning properly. Assemble the aircraft and bind your transmitter to the receiver before performing this test.

1. Raise the throttle just above 25%, then lower the throttle to activate AS3X technology.
2. Move the entire aircraft as shown and ensure the control surfaces move in the direction indicated in the graphic. If the control surfaces do not respond as shown, do not fly the aircraft. Refer to the receiver manual for more information.

Once the AS3X system is active, control surfaces may move rapidly. This is normal. AS3X remains active until the battery is disconnected.

	Aircraft movement	AS3X Reaction
Elevator		
		
Aileron		
		
Rudder		
		

Control Surface Direction Test

Switch on the transmitter and connect the battery. Use the transmitter to operate the aileron, elevator, rudder and flap controls. View the aircraft from the rear when checking the control directions.

Elevator

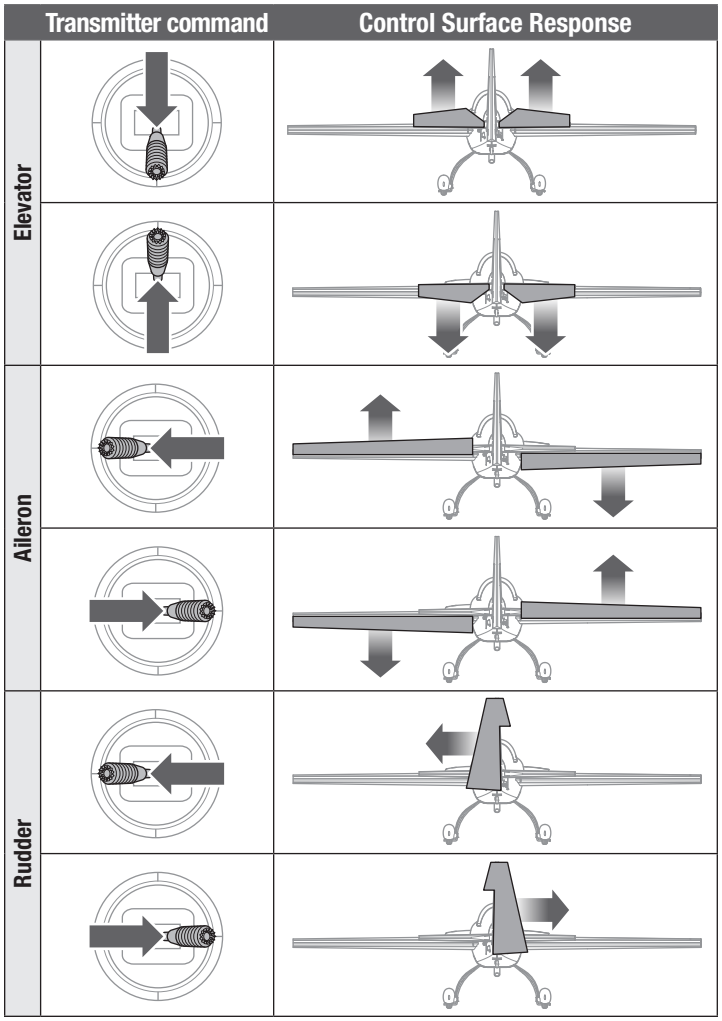
1. Pull the elevator stick back. The elevators should move up, which will cause the aircraft to pitch up.
2. Push the elevator stick forward. The elevators should move down, which will cause the aircraft to pitch down.

Ailerons

1. Move the aileron stick to the left. The left aileron should move up and the right aileron down, which will cause the aircraft to bank left.
2. Move the aileron stick to the right. The right aileron should move up and the left aileron down, which will cause the aircraft to bank right.

Rudder

1. Move the rudder stick to the left. The rudder should move to the left, which will cause the aircraft to yaw left.
2. Move the rudder stick to the right. The rudder should move to the right, which will cause the aircraft to yaw right.



Control Surface Throws

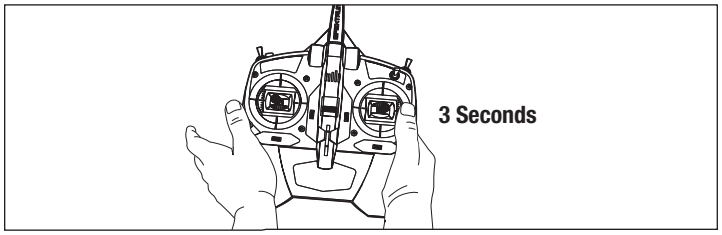
With the suggested rate values programmed in your transmitter, the high and low rate control surface throws, measured at the widest part of the control surface, should measure as follows:

	Control Throws (mm)			
	High	Low	High	Low
Aileron	38	38	30	30
Elevator	45	45	30	30
Rudder	85	85	60	60

We suggest using the above throws for the first few flights. If more or less control response is desired, either repostion the control horn/servo arm locations or adjust the travel values in the transmitter programming.

In Flight Trimming (BNF Basic)

During your first flight, trim the aircraft for level flight at 3/4 throttle. Make small trim adjustments with your transmitter's trim switches to straighten the aircraft's flight path.
After adjusting the trim, do not touch the control sticks for 3 seconds. This allows the receiver to learn the correct settings to optimize AS3X performance. Failure to do so could affect flight performance.



Flying Tips and Repairs

Consult local laws and ordinances before choosing a flying location.

Range Check your Radio System

Before you fly, range check the radio system. Refer to your specific transmitter instruction manual for range test information.

Oscillation

Once the AS3X system is active (after advancing the throttle for the first time), you will normally see the control surfaces react to aircraft movement. In some flight conditions you may see oscillation (the aircraft rocks back and forth on one axis due to overcontrol). If oscillation occurs, refer to the Troubleshooting Guide for more information.

Takeoff

Remember to take off into the wind. When you're ready, set your rudder control rates to high and point the model straight down the runway, hold a bit of up elevator to keep the tail on the ground to maintain tail wheel steering, then gradually advance the throttle. As the model gains speed, decrease up elevator allowing the tail to come off the ground. One of the most important things to remember with a tail dragger is to always be ready to apply right rudder to counteract engine torque. Gain as much speed as your runway and flying site will practically allow before gently applying up elevator, lifting the model into the air.

Flying

For your first flights with the recommended battery pack (SPMX32004S30), set your transmitter timer or a stopwatch to 3 minutes. After 3 minutes, land the aircraft. Adjust your timer for longer or shorter flights once you have flown the model. If at any time the motor power reduces, land the aircraft immediately to recharge the flight battery. See the Low Voltage Cutoff (LVC) section for more details on maximizing battery health and run time.

Landing

To initiate a landing approach, lower the throttle while on the downwind leg. Continue to lose altitude, but maintain airspeed by keeping the nose down as you turn onto the crosswind leg. Make your final turn toward the runway (into the wind) keeping the nose down to maintain airspeed and control. Level the attitude when the model reaches the runway threshold, modulating the throttle as necessary to maintain your glide path and airspeed. If you are going to overshoot, smoothly advance the throttle (always ready on the right rudder to counteract torque). Climb out to make another attempt. When the model is a foot or so off the runway, smoothly increase up elevator until it gently touches down. Once the model is on the runway and has lost flying speed, hold up elevator to place the tail on the ground, regaining tail wheel control.

NOTICE: If a crash is imminent, reduce the throttle and trim fully. Failure to do so could result in extra damage to the airframe, as well as damage to the ESC and motor.

NOTICE: After any impact, always ensure the receiver is secure in the fuselage. If you replace the receiver, install the new receiver in the same orientation as the original receiver or damage may result.

NOTICE: Crash damage is not covered under warranty.

NOTICE: When you are finished flying, never leave the aircraft in direct sunlight or in a hot, enclosed area such as a car. Doing so can damage the aircraft.

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 supplied to the motor. Power to the motor reduces, showing that some battery power is reserved for flight control and safe landing.
Disconnect and remove the Li-Po battery from the aircraft after use to prevent trickle discharge. Charge your Li-Po battery to about half capacity before storage. During storage, make sure the battery charge does not fall below 3V per cell. LVC does not prevent the battery from over-discharge during storage.

NOTICE: Repeated flying to LVC will damage the battery.

TIP: Monitor your aircraft battery's voltage before and after flying by using a Li-Po Cell Voltage Checker (SPMXBC100, sold separately).

Repairs

Thanks to the EPO foam material in this aircraft, 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. For a listing of all replacement and optional parts, refer to the list at the end of this manual.

NOTICE: Use of CA accelerant on your aircraft can damage paint. DO NOT handle the aircraft until accelerant fully dries.

Post Flight

1. Disconnect the flight battery from the ESC.
2. Power OFF the transmitter.
3. Remove the flight battery from the aircraft.
4. Recharge the flight battery.
5. Repair or replace all damaged parts.
6. Store the flight battery apart from the aircraft and monitor the battery charge.
7. Make note of the flight conditions and flight plan results, planning for future flights.

Motor Service

CAUTION: Always disconnect the flight battery before performing motor service.

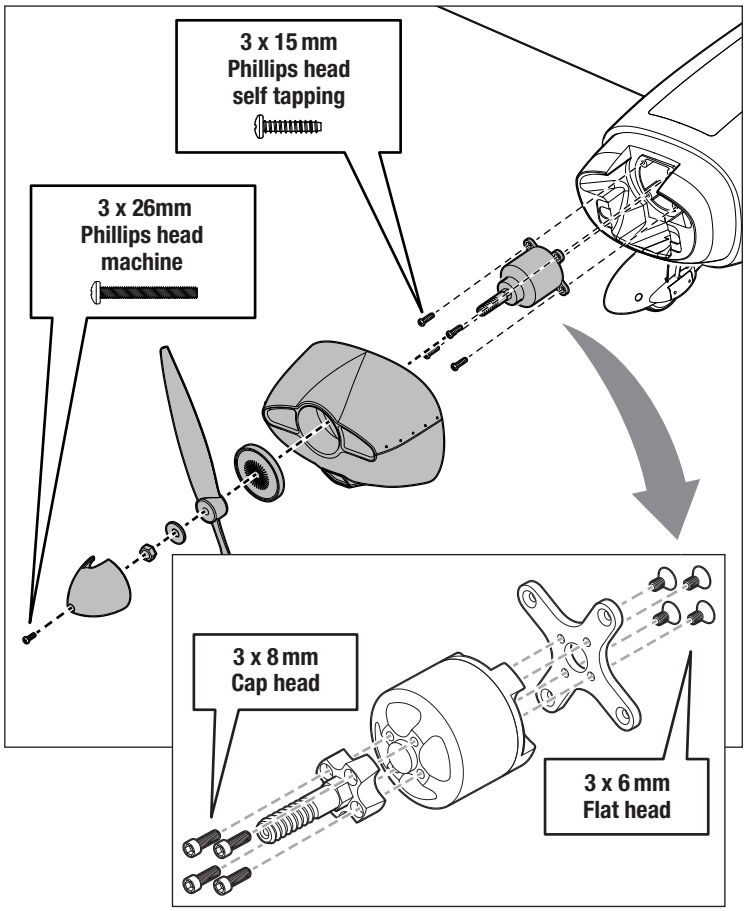
Disassembly

1. Remove the spinner screw and spinner.
2. Use a tool to remove the propeller nut and then the prop washer and prop.
3. Pull off the magnetically held cowl.
4. Remove the four 3 x 15mm self tapping screws and the motor with the X-mount from the fuselage.
5. Disconnect the motor wires from the ESC wires.

Assembly

Assemble in reverse order.

- Correctly align and connect the motor wire colors with the ESC wires.
- Install the propeller with the numbers facing forward.
- Tighten the spinner screw to secure the propeller into place.



Replacement Parts List

Part #	Description
EFL05050	Extra 330 SC 1.3m BNF Basic
EFL05075	Extra 330 SC 1.3m PNP
EFL11588	Wing Tube: Extra 300 1.3m
EFL11592	Wood Prop 13x6 : Extra 300 1.3m
EFL11598	23g MG Digital Servo: Extra 300 1.3m
EFL-1220	Fuselage w/pilot and canopy; Extra 330 SC 1.3m
EFL-1221	Rudder w/hinges; Extra 330 SC 1.3m
EFL-1222	Right Wing; Extra 330 SC 1.3m
EFL-1223	Left Wing; Extra 330 SC 1.3m
EFL-1224	Aileron Control Horns w/mounting screws; Extra 330 SC 1.3m
EFL-1225	Horizontal Stab and Elevator Set; Extra 330 SC 1.3m
EFL-1226	Cowl; Extra 330 SC 1.3m
EFL-1227	Clear Canopy with Pilot; Extra 330 SC 1.3m
EFL-1228	Landing Gear; Extra 330 SC 1.3m
EFL-1229	Landing Gear Mounting Plate; Extra 330 SC 1.3m
EFL-1230	Wheel Pant Set; Extra 330 SC 1.3m
EFL-1231	Main wheels 65mm; Extra 330 SC 1.3m
EFL-1232	Wheel Axles 4mm; Extra 330 SC 1.3m
EFL-1233	Tailwheel Assembly; Extra 330 SC 1.3m
EFL-1234	Spinner Set; Extra 330 SC 1.3m
EFL-1235	Battery Hatch Cover; Extra 330 SC 1.3m
EFL-1236	Receiver Hatch Cover; Extra 330 SC 1.3m
EFL-1237	Control Linkages; Extra 330 SC 1.3m
EFL-1238	Wing & Stab Screw Set; Extra 330 SC 1.3m
EFL-1239	Decal Sheet; Extra 330 SC 1.3m
EFL-1240	Motor Shaft w/Prop Nut, Washer & Screws; Extra 330 SC 1.3m
EFL-1241	Motor Board: Extra 330 SC 1.3m
EFL-1242	X Motor Mount; Extra 330 SC 1.3m
SPM-1006	Brushless Outrunner Motor 4346-910Kv 14-pole
SPMXAE85B	Avian 85-Amp Smart Lite Brushless ESC; 3S-6S IC3
SPMAR631	AR631 6 Channel AS3X & SAFE Receiver

Recommended Parts List

Part #	Description
SPMX32004S30	3200mAh 4S 14.8V Smart LiPo Battery 30C; IC3
SPMX324S50	3200mAh 4S 14.8V Smart G2 LiPo 50C; IC3
SPMXC2040	Smart S1400 G2 AC Charger, 1x400W
SPMR8200	NX8 8 Channel DSMX Transmitter Only

Optional Parts List

Part #	Description
SPMR7100	NX7e 7 Channel Transmitter Only
SPMXC2020	Smart S1200 G2 AC Charger; 1x200W
SPMX40004S30	4000mAh 4S 14.8V Smart LiPo Battery 30C; IC3
SPMXBC100	XBC100 SMART Battery Checker & Servo Driver
SPM6730	Smart Charger Case
SPMXCA300	Smart Lipo Bag, 16 x7.5 x 6.5 cm
ONXT1000	Ultimate Air/Surface Startup Tool Set
SPMX324S100	3200mAh 4S 14.8V Smart G2 LiPo 100C; IC3
SPMX50004S30	5000mAh 4S 14.8V Smart LiPo 30C; IC5
SPMX43S30	4000mAh 3S 11.1V Smart G2 LiPo Battery 30C; IC3
SPMX53S30	5000mAh 3S 11.1V Smart G2 LiPo 30C; IC5

Troubleshooting Guide AS3X

Problem	Possible Cause	Solution
Oscillation	Damaged propeller or spinner	Replace propeller or spinner
	Imbalanced propeller	Balance the propeller
	Motor vibration	Replace parts or correctly align all parts and tighten fasteners as needed
	Loose receiver	Align and secure receiver in fuselage
	Loose aircraft controls	Tighten or otherwise secure parts (servo, arm, linkage, horn and control surface)
	Worn parts	Replace worn parts (especially propeller, spinner or servo)
	Irregular servo movement	Replace servo
Inconsistent flight performance	Trim is not at neutral	If you adjust trim more than 8 clicks, adjust the clevis to remove trim
	Sub-Trim is not at neutral	No Sub-Trim is allowed. Adjust the servo linkage
	Aircraft was not kept immobile for 5 seconds after battery connection	With the throttle stick in lowest position. Disconnect battery, then reconnect battery and keep the aircraft still for 5 seconds
Incorrect response to the AS3X Control Direction Test	Incorrect direction settings in the receiver, which can cause a crash	DO NOT fly. Correct the direction settings (refer to the receiver manual), then fly

Troubleshooting Guide

Problem	Possible Cause	Solution
Aircraft will not respond to throttle but responds to other controls	Throttle not at idle and/or throttle trim too high	Reset controls with throttle stick and throttle trim at lowest setting
	Throttle servo travel is lower than 100%	Make sure throttle servo travel is 100% or greater
	Throttle channel is reversed	Reverse throttle channel on transmitter
	Motor disconnected from ESC	Make sure motor is connected to the ESC
Extra propeller noise or extra vibration	Damaged propeller and spinner, collet or motor	Replace damaged parts
	Propeller is out of balance	Balance or replace propeller
	Prop nut is too loose	Tighten the prop nut
Reduced flight time or aircraft underpowered	Flight battery charge is low	Completely recharge flight battery
	Propeller installed backwards	Install propeller with numbers facing forward
	Flight battery damaged	Replace flight battery and follow flight battery instructions
	Flight conditions may be too cold	Make sure battery is warm before use
	Battery capacity too low for flight conditions	Replace battery or use a larger capacity battery
Aircraft will not Bind (during binding) to transmitter	Transmitter too near aircraft during binding process	Move powered transmitter a few feet from aircraft, disconnect and reconnect flight battery to aircraft
	Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Move aircraft and transmitter to another location and attempt binding again
	The bind plug is not installed correctly in the bind port	Install bind plug in bind port and bind the aircraft to the transmitter
	Flight battery/transmitter battery charge is too low	Replace/recharge batteries
	Bind switch or button not held long enough during bind process	Power off transmitter and repeat bind process. Hold transmitter bind button or switch until receiver is bound
Aircraft will not connect (after binding) to transmitter	Transmitter too near aircraft during connecting process	Move powered transmitter a few feet from aircraft, disconnect and reconnect flight battery to aircraft
	Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Move aircraft and transmitter to another location and attempt connecting again
	Bind plug left installed in bind port	Rebind transmitter to the aircraft and remove the bind plug before cycling power
	Aircraft bound to different model memory (ModelMatch™ radios only)	Select correct model memory on transmitter
	Flight battery/Transmitter battery charge is too low	Replace/recharge batteries
	Transmitter may have been bound to a different aircraft using different DSM protocol	Bind aircraft to transmitter
Control surface does not move	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and adjust controls
	Wire damaged or connections loose	Do a check of wires and connections, connect or replace as needed
	Transmitter is not bound correctly or the incorrect airplanes was selected	Re-bind or select correct airplanes in transmitter
	Flight battery charge is low	Fully recharge flight battery
	BEC (Battery Elimination Circuit) of the ESC is damaged	Replace ESC
Controls reversed	Transmitter settings are reversed	Perform the Control Direction Test and adjust the controls on transmitter appropriately
Motor power pulses then motor loses power	ESC uses default soft Low Voltage Cutoff (LVC)	Recharge flight battery or replace battery that is no longer performing
	Weather conditions might be too cold	Postpone flight until weather is warmer
	Battery is old, worn out, or damaged	Replace battery
	Battery C rating might be too small	Use recommended battery

Important Federal Aviation Administration (FAA) Information

Use the QR code below to learn more about the **Recreational UAS Safety Test (TRUST),** as was introduced by the 2018 FAA Reauthorization Bill. This free test is required by the FAA for all recreational flyers in the United States. The completed certificate must be presented upon request by any FAA or law enforcement official.

If your model aircraft weighs more than .55lbs or 250 grams, you are required by the FAA to register as a recreational flyer and apply your registration number to the outside of your aircraft. Use the QR code to learn more about registering with the FAA.

According to FAA regulation, all unmanned aircraft flying in United States airspace are required to either fly within an FAA-Recognized Identification Area (FRIA) or continually transmit an FAA-registered remote identification from a Remote ID broadcast module, such as the Spektrum™ Sky™ Remote ID module (SPMA9500). Use the QR code to learn more about the FAA Remote ID regulations.

AMA National Model Aircraft Safety Code

Effective January 1, 2018

A model aircraft is a non-human-carrying device capable of sustained flight within visual line of sight of the pilot or spotter(s). It may not exceed limitations of this code and is intended exclusively for sport, recreation, education and/or competition. All model flights must be conducted in accordance with this safety code and related AMA guidelines, any additional rules specific to the flying site, as well as all applicable laws and regulations.

As an AMA member I agree:

- I will not fly a model aircraft in a careless or reckless manner.
- I will not interfere with and will yield the right of way to all human-carrying aircraftusing AMA's See and Avoid Guidance and a spotter when appropriate.
- I will not operate any model aircraft while I am under the influence of alcohol or any drug that could adversely affect my ability to safely control the model.
- I will avoid flying directly over unprotected people, moving vehicles, and occupied structures.
- I will fly Free Flight (FF) and Control Line (CL) models in compliance with AMA's safety programming.
- I will maintain visual contact of an RC model aircraft without enhancement other than corrective lenses prescribed to me. When using an advanced flight system, such as an autopilot, or flying First-Person View (FPV), I will comply with AMA's Advanced Flight System programming.
-
- I will only fly models weighing more than 55 pounds, including fuel, if certified through AMA's Large Model Airplane Program.
- I will only fly a turbine-powered model aircraft in compliance with AMA's Gas Turbine Program.
- I will not fly a powered model outdoors closer than 25 feet to any individual, except for myself or my helper(s) located at the flightline, unless I am taking off and landing, or as otherwise provided in AMA's Competition Regulation.
- I will use an established safety line to separate all model aircraft operations from spectators and bystanders.

Limited Warranty

What this Warranty Covers

Horizon Hobby, LLC, (Horizon) warrants to the original purchaser that the product purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase.

What is Not Covered

This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) attempted service by anyone other than a Horizon Hobby authorized service center, (v) Product not purchased from an authorized Horizon dealer, or (vi) Product not compliant with applicable technical regulations, or (vii) use that violates any applicable laws, rules, or regulations. OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

Purchaser's Remedy

Horizon's sole obligation and purchaser's sole and exclusive remedy shall be that Horizon will, at its option, either (i) service, or (ii) replace, any Product determined by Horizon to be defective. Horizon reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of Horizon. Proof of purchase is required for all warranty claims. SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY.

Limitation of Liability

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF HORIZON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability. If you as the purchaser or user are not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

Law

These terms are governed by Illinois law (without regard to conflict of law principals). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Horizon reserves the right to change or modify this warranty at any time without notice.

WARRANTY SERVICES

Questions, Assistance, and Services

Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please visit our website at www.horizonhobby.com, submit a Product Support Inquiry, or call the toll free telephone number referenced in the Warranty and Service Contact Information section to speak with a Product Support representative.

Inspection or Services

If this Product needs to be inspected or serviced and is compliant in the country you live and use the Product in, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not

designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service Request is available at http://www.horizonhobby.com/content/service-center_render-service-center. If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

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

Warranty Requirements

For Warranty consideration, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be serviced or replaced free of charge. Service or replacement decisions are at the sole discretion of Horizon.

Non-Warranty Service

Should your service not be covered by warranty, service will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for service you are agreeing to payment of the service without notification. Service estimates are available upon request. You must include this request with your item submitted for service. Non-warranty service estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashier's checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for service, you are agreeing to Horizon's Terms and Conditions found on our website http://www.horizonhobby.com/content/service-center_render-service-center.

ATTENTION: Horizon service is limited to Product compliant in the country of use and ownership. If received, a non-compliant Product will not be serviced. Further, the sender will be responsible for arranging return shipment of the un-serviced Product, through a carrier of the sender's choice and at the sender's expense. Horizon will hold non-compliant Product for a period of 60 days from notification, after which it will be discarded.

10/15

Contact Information

Country of Purchase	Horizon Hobby	Contact Information	Address
United States of America	Horizon Service Center (Repairs and Repair Requests)	servicecenter.horizonhobby.com/RequestForm/	2904 Research Rd Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com 877-504-0233	
	Sales	websales@horizonhobby.com 800-338-4639	
European Union	Horizon Technischer Service	service@horizonhobby.eu	Hanskampring 9 D 22885 Barsbüttel, Germany
	Sales: Horizon Hobby GmbH	+49 (0) 4121 2655 100	

FCC Information

FCC ID: BRWSPMSR6200A

Supplier's Declaration of Conformity

EFL Extra 330 1.3M BNF Basic and PNP (EFL05050, EFL05075); This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Horizon Hobby, LLC
2904 Research Rd., Champaign, IL 61822
Email: compliance@horizonhobby.com
Web: HorizonHobby.com

IC Information

IC: 6157A-SPMSR6200A
CAN ICES-3 (B)/NMB-3(B)

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

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

Compliance Information for the European Union

EU Compliance Statement:

EFL Extra 330 1.3M BNF Basic (EFL05050); Hereby, Horizon Hobby, LLC declares that the device is in compliance with the following: EU Radio Equipment Directive 2014/53/EU; RoHS 2 Directive 2011/65/EU; RoHS 3 Directive - Amending 2011/65/EU Annex II 2015/863.

EFL Extra 330 1.3M PNP (EFL05075); Hereby, Horizon Hobby, LLC declares that the device is in compliance with the following: EU EMC Directive 2014/30/EU; RoHS 2 Directive 2011/65/EU; RoHS 3 Directive - Amending 2011/65/EU Annex II 2015/863.

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

Wireless Frequency Range and Wireless Output Power:

2404 – 2476MHz
5.58dBm

E328

UK CA

EU Manufacturer of Record:

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

EU Importer of Record:

Horizon Hobby, GmbH
Hanskampring 9
22885 Barsbüttel Germany

WEEE NOTICE:

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

©2024 Horizon Hobby, LLC.
E-Flite, Plug-N-Play, Bind-N-Fly, BNF, the BNF logo, DSM, DSM2, DSMX, AirWare, IC3, AS3X, SAFE, the SAFE logo, ModelMatch, and the Horizon Hobby logo are trademarks or registered trademarks of Horizon Hobby, LLC. The Spektrum trademark is used with permission of Bachmann Industries, Inc. All other trademarks, service marks and logos are property of their respective owners. US 8,672,726 US 9,056,667
http://www.horizonhobby.com/