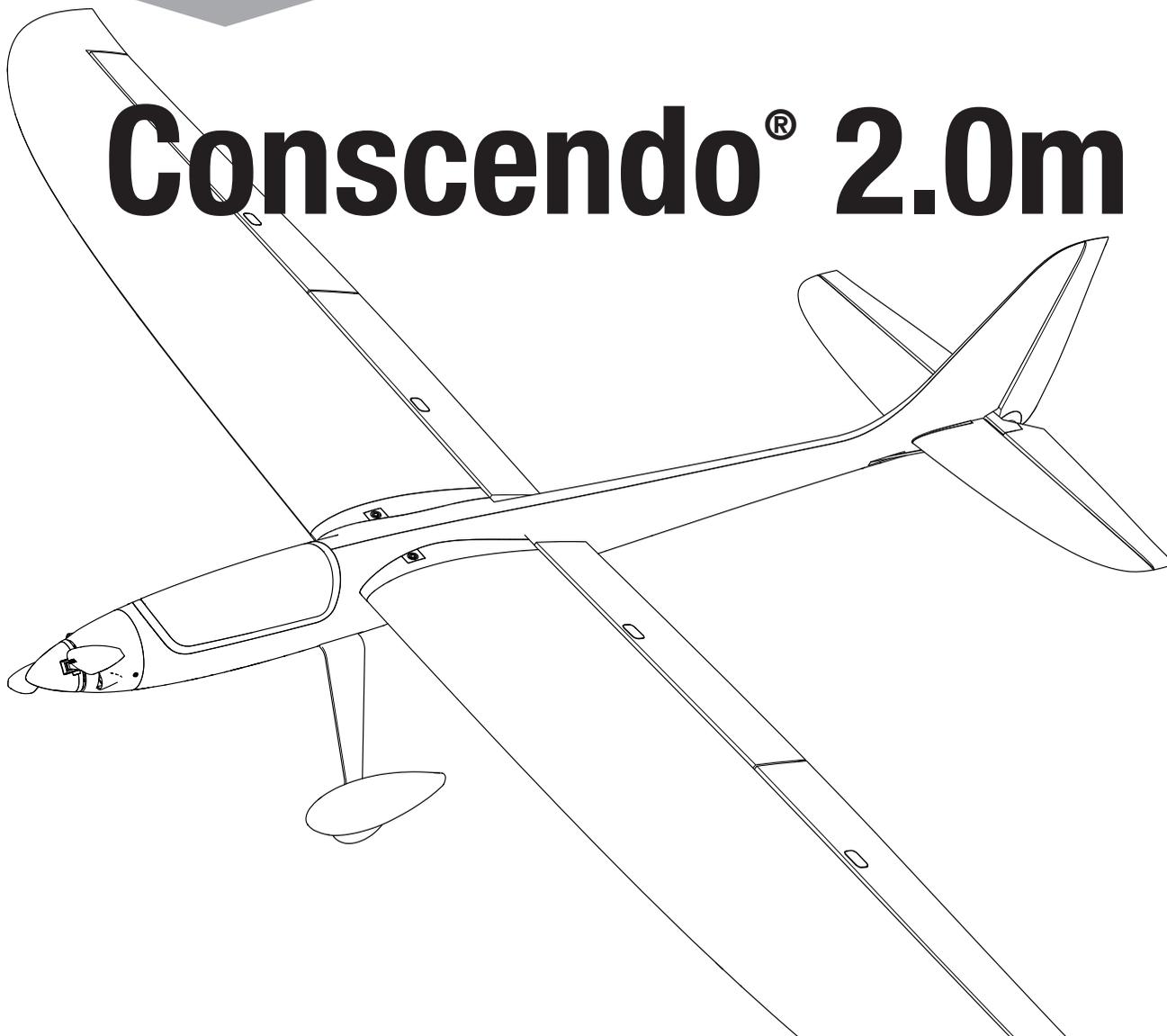


# Conscendo<sup>®</sup> 2.0m



**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.



EFL32275



EFL32250

## NOTICE

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

## MEANING OF SPECIAL LANGUAGE

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

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

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

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

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

This is a sophisticated hobby product. 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.



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Specifications	
<b>Wingspan</b>	78.74" (2000mm)
<b>Length</b>	52.90" (1344mm)
<b>Weight</b>	Without Battery: 84.5 oz (2.40kg) With Recommended 6S 3200mAh Battery: 103.5 oz (2.95kg)

Included Equipment	
<b>Receiver</b>	AR8360T+ DSMX 8-Channel AS3X+ & SAFE Telemetry Receiver (BNF Only) (SPM-1033)
<b>Motor</b>	Brushless Outrunner Motor, 3130–480Kv (SPM-1099)
<b>Servos</b>	(2) Elevator and Rudder: A383 13g Metal-Geared Digital Servo (SPMSA383) (2) Aileron: A383 13g Metal-Geared Digital Servo (SPMSA383) (2) Flap: A383 13g Metal-Geared Digital Servo (SPMSA383)

Required Equipment	
<b>Transmitter</b>	Full Range 6+Channel 2.4GHz w/ Spektrum DSM2/DSMX® Technology
<b>Battery</b>	6S 3200mAh 30C Smart LiPo with EC5™ or IC5® Connector
<b>Battery Charger</b>	6-Cell Li-Po Battery Balancing Charger
<b>Receiver</b>	6+ Channel (AR8360T+ Recommended) (PNP Only)

## Required Tools



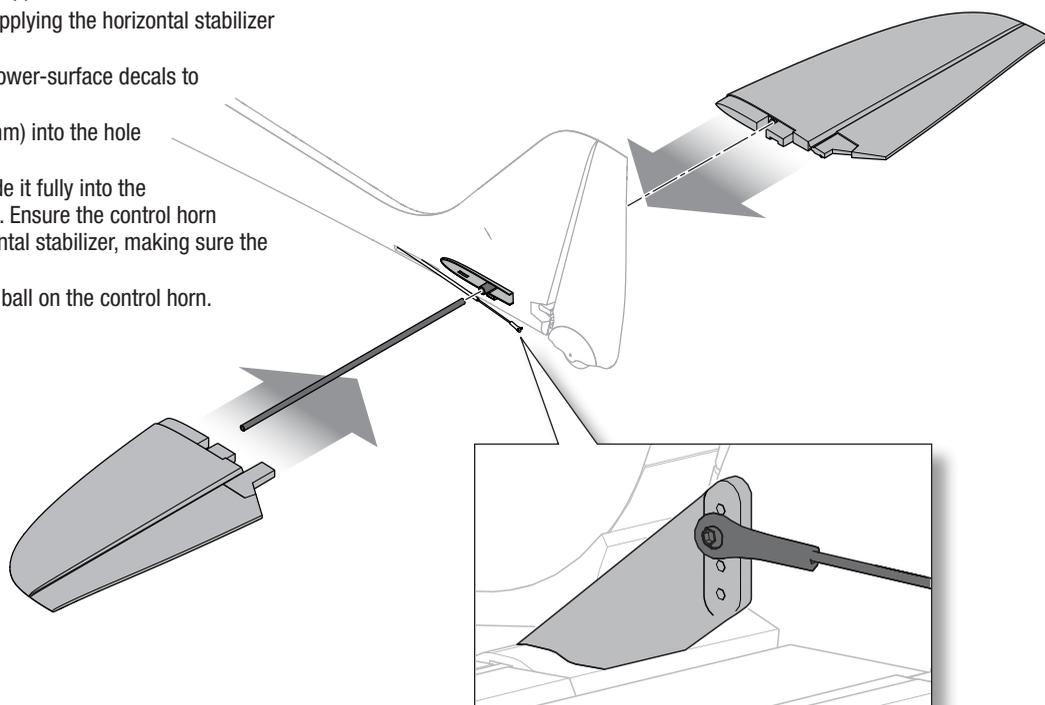
Phillips Screwdriver (PH#0)

## Model Assembly

### Horizontal Stabilizer Installation

The horizontal stabilizer decals are included but not applied.

1. Install the optional LED Night Flying Set before applying the horizontal stabilizer decals.
2. Using the wing decals as a template, apply the lower-surface decals to the horizontal stabilizers.
3. Slide the horizontal stabilizer tube (6mm x 295mm) into the hole in the rear of the fuselage.
4. Install the left horizontal stabilizer as shown. Slide it fully into the fuselage pocket, taking care to engage the latch. Ensure the control horn faces down. Repeat this step for the right horizontal stabilizer, making sure the elevator halves engage with each other.
5. Use ball link pliers to connect the rod end to the ball on the control horn.

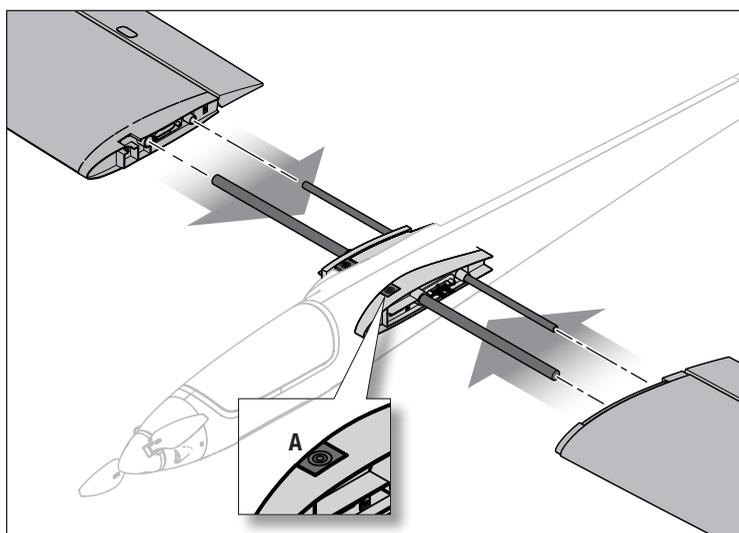
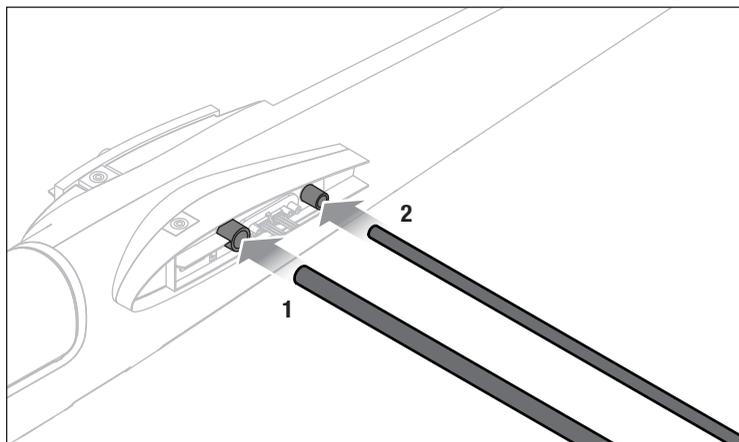


### Wing Installation

1. Insert the larger wing joiner tube (12mm x 540mm) into the forward fuselage wing tube socket.
2. Insert the smaller wing joiner tube (8mm x 398mm) into the rear fuselage wing tube socket.
3. Slide one of the wing panels onto the wing joiner tubes, and press it firmly into the wing pocket of the fuselage. Ensure the wing retaining latch engages. Repeat for the other wing panel.

**IMPORTANT:** Ensure the servo hands-free connectors align and fully seat.

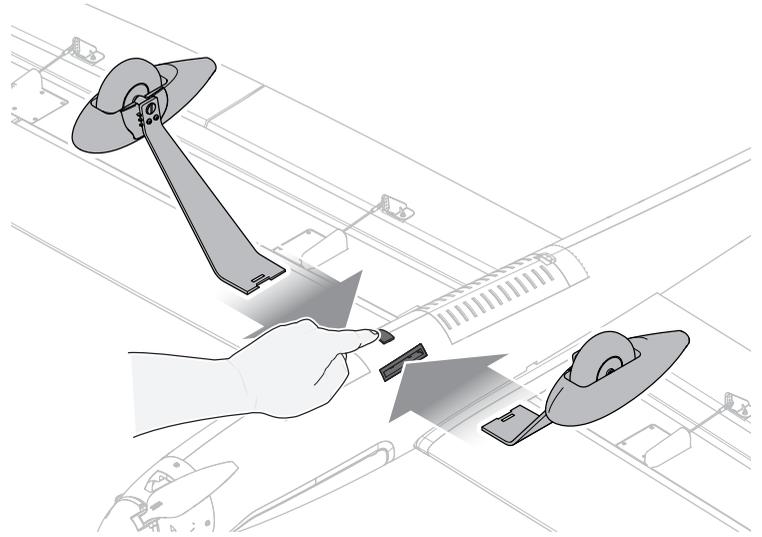
To remove the wings, press each retaining latch (A) on the top of the wing root while sliding the wing panels outboard.



## Landing Gear Installation

Use of the landing gear is optional. When changing landing gear configurations, check the center of gravity before flying.

1. Insert the left and right landing gear assemblies into the respective landing gear pocket on the underside of the fuselage, as shown. Each landing gear leg locks into place with a positive snap from the latching mechanism. To remove the landing gear, depress the latch button on the bottom of the fuselage, then pull each leg from its pocket.



## PNP Receiver Selection and Installation

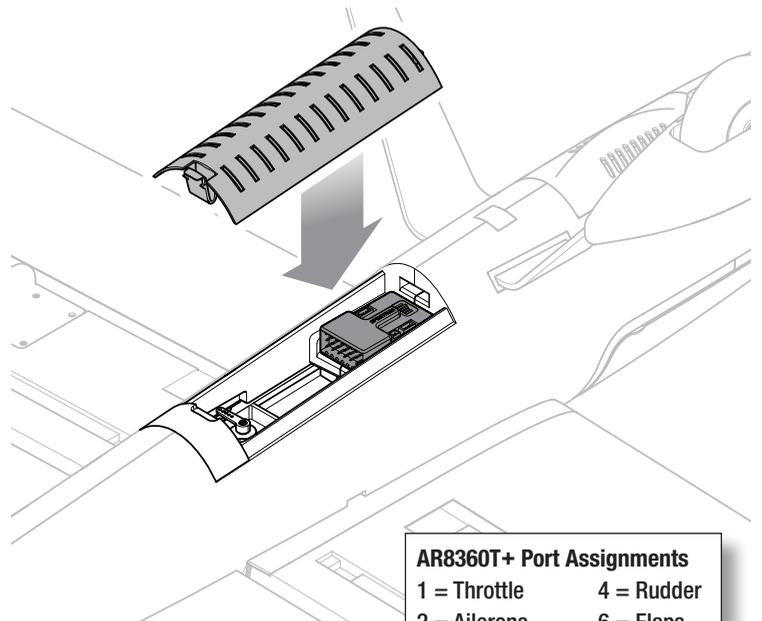
The recommended receiver for this aircraft is the Spektrum AR8360T+.

If you choose to install a different receiver, ensure that it is at least a 6-channel full range receiver. Refer to the manual of your chosen receiver for correct installation and operation instructions.

### AR8360T+ Installation

1. Remove the hatch on the bottom of the fuselage.
2. Attach the appropriate control surfaces to their respective ports on the receiver using the table at the right.
3. Using double-sided adhesive tape, mount the receiver at the forward end of the compartment.

Mount the receiver in the orientation shown, parallel to the length of the fuselage, with the label facing down and the servo ports facing the rear of the aircraft. The orientation of the receiver is critical for all AS3X+ and SAFE technology setups.



AR8360T+ Port Assignments	
1 = Throttle	4 = Rudder
2 = Ailerons	6 = Flaps
3 = Elevator	

**CAUTION:** Incorrect installation of the receiver could cause a crash.

## Smart Transmitter File (STF) Loading Option (For Standard Configuration)

The receiver installed in the aircraft contains a transmitter setup file developed specifically for this aircraft. This Smart Transmitter File allows you to quickly import the transmitter settings directly from the receiver during the binding process.

### Load the Smart Transmitter File

1. Turn on the transmitter.
2. Create a new blank model file on the transmitter.
3. Power on the receiver.
4. Press the bind button on the receiver.
5. Put the transmitter into bind mode; the model will bind normally.
6. Once the bind is complete, the download screen appears:
7. Select **LOAD** to continue.

The following screen is a warning that downloading overwrites all current model settings. If this is a new blank model, the file populates the transmitter parameters of the aircraft into the active model and renames it Conscendo 2.0m.

**NOTICE:** Confirming will override any previously saved transmitter setups.

8. Press **CONFIRM** to continue.

The file is installed on the transmitter, and the telemetry information loads automatically when the download is complete. The radio returns to the home screen, and the new model name is displayed.

**The transmitter setup is now complete, and the aircraft is ready to fly.**

### Important Notes

#### Flight Timer

The STF does not populate a flight timer in the transmitter. The voltage monitor provides transmitter alerts when battery voltage drops to just above the LVC, indicating it is time to land. The transmitter alert is set so there is time to land before the ESC begins to surge (pulse) when LVC is reached. This method takes flying style and throttle use into account and is more precise than a timer alone.

If you are not using the STF, set a timer for 4 minutes when using the recommended battery. Monitor the battery usage and adjust the timer after the initial flights to best suit your flying style.

**Supported Transmitters, and firmware requirements, include the following:**

- All NX Radios (with firmware version 4.0.11+)
- iX14 (with app version 2.0.9+)
- iX20 (with app version 2.0.9+)
- iX12 and DX radios do not currently support Smart Transmitter File transfers.

#### Flight Modes

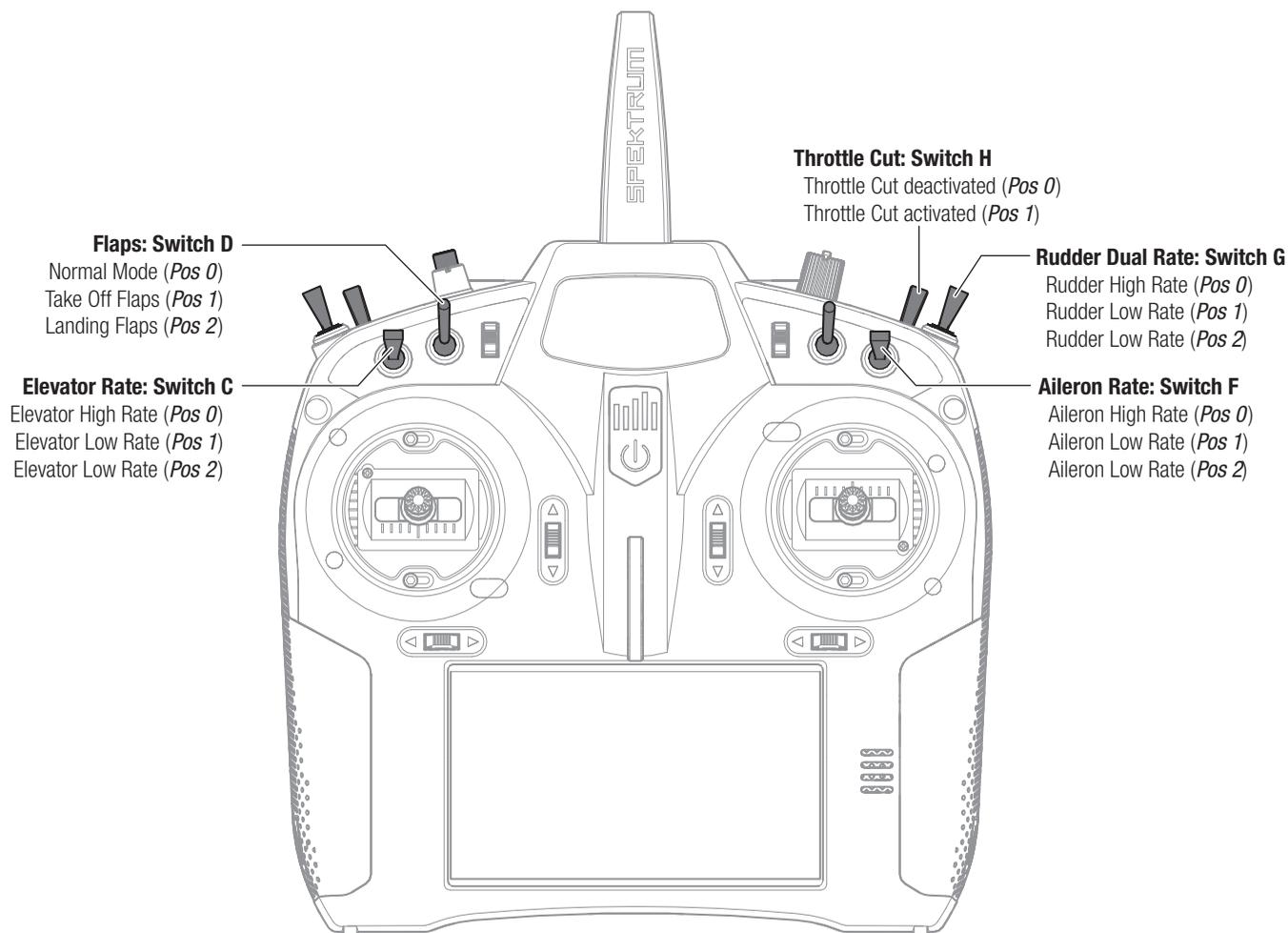
The STF has Flight Modes enabled. These Flight Modes are separate from AS3X+ and SAFE Select and allow you to trim the aileron, elevator, and rudder channels separately for each flap position (0, 1, 2) as controlled by switch D. This is beneficial because it allows you to trim the aircraft for level flight when the flaps are retracted (normal mode), deployed partially (take off flaps), or fully (landing flaps). Trim the aileron, elevator, and rudder channels separately for each flap position in flight. Once you trim each Flight Mode/flap position the way you prefer, you shouldn't need to trim the aircraft much or at all again in the future.

<b>Smart Transmitter File</b> The receiver contains a pre-loaded Smart Transmitter File. RX Version: EFL32250 (Firmware version) Do you want to the load the file from the receiver	
<b>SKIP</b>	<b>LOAD</b>

<b>NOTICE</b> This WILL overwrite ALL current model settings. If stock BNF model hardware has changed, the receiver's file may not work properly- Do not use without checking everything. Do you want to the load the file from the receiver	
<b>BACK</b>	<b>CONFIRM</b>

## STF and Manual Transmitter Setup Switch Layout (For Standard Configuration)

The following illustration shows the switch layout and functions on a typical Spektrum transmitter when programmed per the manual transmitter setup tables or utilizing the Smart Transmitter File loaded from the aircraft receiver.



## Optional Advanced Configuration

The aircraft is equipped with flaps that can travel both ways. Using the optional "advanced configuration" setup allows mixing with the ailerons to offer optional full-span aileron/flaperon/spoileron and crow operation with a 7–8+ channel receiver (including the AR8360T+ installed in the BNF Basic version) and transmitter. For more information on the optional advanced configuration, please scan the QR code or visit: [horizonhobby.cc/conscendoacs](http://horizonhobby.cc/conscendoacs).



## Manual Transmitter Setup / Programming Option (For Standard Configuration)

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

For the first flight, set the flight timer to 4 minutes when using a 6S 3200mAh 30C battery. Adjust the time after the initial flight.

### Exponential

After first flights, you may adjust exponential 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: 1 Ail 1 Flap Tail: Normal**
5. Select **Main Screen**, Click the scroll wheel to enter the **Function List**.
6. Go to **D/R (Dual Rate) 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**  
**High Rates: 100%, Expo 10%** — **Low Rates 70%, Expo 5%**
9. Set **D/R (Dual Rate) and Expo: Rudder**  
Set **Switch: Switch G**  
**High Rates: 100%, Expo 10%** — **Low Rates 70%, Expo 5%**
10. Set **Throttle Cut; Switch: Switch H, Position: -100%**
11. Select **Flap System**  
Set **Switch: Switch D**  
Set **Flaps: POS 0: 0%, POS 1: -50%, POS 2: -100%**  
Set **Elev: POS 0: 0%, POS 1: 20%, POS 2: 33%**  
Set **Speed: 2.0**

#### iX Series Transmitter Setup

1. Power ON your transmitter and begin once the Spektrum 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. Select **1 Ail 1 Flap Tail: Normal**
7. Press and hold the back arrow icon in the upper left corner of the screen to return to the main screen.

### Dual Rates

**Attempt your first flights in low rate. For landings, use high rate elevator.**

**NOTICE:** To ensure AS3X+ technology functions properly, do not lower rate values below 50%. If less control deflection is desired, manually adjust the position of the pushrods on the servo arm.

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

#### 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: 1 Ail 1 Flap 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**  
**High Rates: 100%, Expo 10%** — **Low Rates 70%, Expo 5%**
9. Set **D/R (Dual Rate) and Expo: Rudder**  
Set **Switch: Switch G**  
**High Rates: 100%, Expo 10%** — **Low Rates 70%, Expo 5%**
10. Set **Throttle Cut; Switch: Switch H, Position: -100%**
11. Select **Flaps**  
Set **Switch: Switch D**  
Set **Flaps: POS 0: 0%, POS 1: -50%, POS 2: -100%**  
Set **Elev: POS 0: 0%, POS 1: 20%, POS 2: 33%**  
Set **Speed: 2.0**

#### iX Series Transmitter Setup

8. Go to the **Model Adjust** menu.
9. Set **Dual Rates and Expo: Aileron**  
Set **Switch: Switch F**  
Set **High Rates: 100%, Expo 10%** — **Low Rates: 70%, Expo 5%**
10. Set **Dual Rates and Expo: Elevator**  
Set **Switch: Switch C**  
**High Rates: 100%, Expo 10%** — **Low Rates 70%, Expo 5%**
11. Set **D/R (Dual Rate) and Expo: Rudder**  
Set **Switch: Switch G**  
**High Rates: 100%, Expo 10%** — **Low Rates 70%, Expo 5%**
12. Select **Flap System**  
Set **Switch: Switch D**  
Set **Flaps: POS 0: 0%, POS 1: -50%, POS 2: -100%**  
Set **Elev: POS 0: 0%, POS 1: 20%, POS 2: 33%**  
Set **Speed: 2.0**
13. Set **Throttle Cut; Switch: Switch H, Position: -100%**

## 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 orange 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.

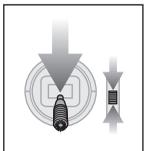
**IMPORTANT:** Move the transmitter flight controls (rudder, elevators, and ailerons) and the throttle trim to neutral. Move the throttle to low before and during binding. This process defines the failsafe settings.

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

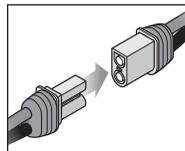
**SAFE Select can also be enabled via Forward Programming.**

### Using The Bind Button...

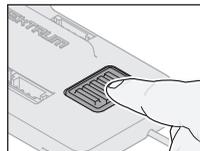
#### To Enable SAFE Select



Lower Throttle



Connect Power



Press and Hold Bind Button



Orange Flashing LED



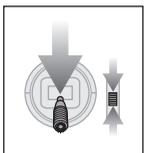
Bind TX to RX



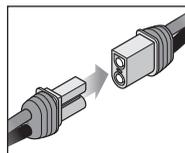
Release Bind Button

**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.

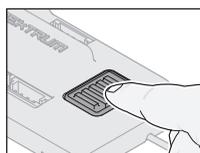
#### To Disable SAFE Select



Lower Throttle



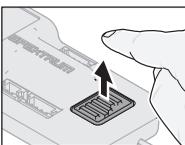
Connect Power



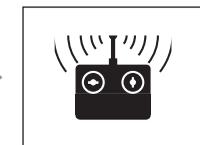
Press and Hold Bind Button



Orange Flashing LED



Release Bind Button

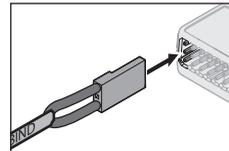


Bind TX to RX

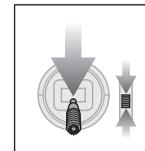
**SAFE SELECT DISABLED:** The control surfaces cycle back and forth **once** every time the receiver is powered on.

### Using The Bind Plug...

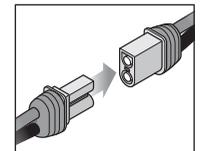
#### To Enable SAFE Select



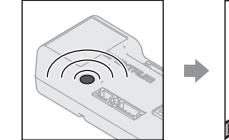
Install Bind Plug



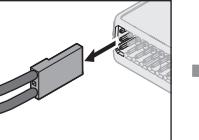
Lower Throttle



Connect Power



Orange Flashing LED



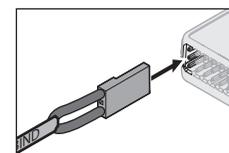
Remove Bind Plug



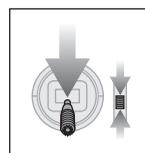
Bind TX to RX

**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.

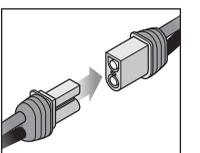
#### To Disable SAFE Select



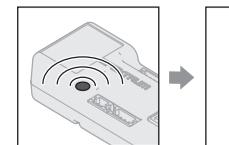
Install Bind Plug



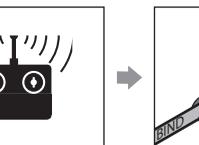
Lower Throttle



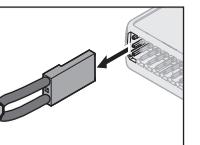
Connect Power



Orange Flashing LED



Bind TX to RX



Remove Bind Plug

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

## Smart Technology Telemetry

The included receiver has Spektrum Smart Technology, which provides telemetry information (e.g., battery voltage). Smart Technology requires a compatible transmitter. Keep the transmitter firmware updated.

### To View Smart Telemetry:

1. Verify the transmitter is bound to the receiver.
2. Power ON the transmitter.

3. Power ON the aircraft.
4. The Smart logo appears under the battery logo on the homepage. A signal bar appears in the top left corner of the screen.
5. Scroll past the servo monitor to view the Smart Technology screens.

For more information about compatible transmitters, firmware updates, and how to use the Smart Technology on your transmitter, visit [www.SpektrumRC.com](http://www.SpektrumRC.com).

## SAFE® Select Technology

When flying in SAFE Select mode, the aircraft returns to level flight any time the aileron and elevator controls are at neutral. Applying aileron or elevator control causes the airplane to bank, climb or dive, and the amount of stick movement determines the aircraft attitude. Holding full control pushes the aircraft to, but not beyond, the pre-determined pitch and roll limits.

When flying through a turn in SAFE Select, it is normal to hold the control stick deflected with moderate aileron input. To fly smoothly in SAFE Select, avoid frequent control changes. Do not attempt to correct for minor deviations. Holding deliberate control inputs in SAFE Select commands the aircraft to fly at a specific angle, and the aircraft makes corrections to maintain that flight attitude.

Return the elevator and aileron controls to neutral before switching from SAFE Select to AS3X+. If you do not neutralize controls when switching into AS3X+, the control inputs used for SAFE Select will be excessive, and the aircraft will react immediately.

### SAFE and AS3X+ Mode Differences

Flight speed and battery charge status may affect aircraft performance.

Control Input	Aircraft in SAFE Select	Aircraft in AS3X+
Neutral	Self levels	Flies at present attitude
Partial	Banks or pitches to a moderate angle; maintains attitude	Pitches or rolls slowly
Full	Banks or pitches to predetermined limits; maintains attitude	Pitches or rolls rapidly

## SAFE Select Switch Designation

SAFE Select technology can be assigned to any open switch (2 or 3 position) controlling a channel (5–20) on the transmitter. Once assigned to a switch, SAFE Select ON offers the flexibility to choose SAFE Select or AS3X+ while in flight. If the aircraft is bound with SAFE Select OFF, the aircraft operates in AS3X+.

To use the Flap channel for the SAFE Select switch, set the values to +100 and -100 and temporarily set the speed to 0 so you can assign the SAFE switch in the flap system menu. After assigning the switch, change the flap system values to match the transmitter setup listing. Refer to the SAFE Select Switch Designation section to assign a SAFE Select switch.

**IMPORTANT:** Before assigning a 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 100% travel.

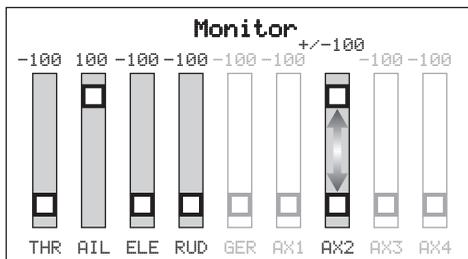
**CAUTION:** Keep all body parts well clear of the rotor and keep the aircraft securely restrained in case of accidental throttle activation.

**TIP:** SAFE Select can be assigned to any unused channel from 5 to 20. See the transmitter manual for more information about assigning a switch to a channel.

**TIP:** While assigning the switch, use a radio channel monitor to confirm that the four primary channels are showing 100% travel.

**TIP:** Use a radio channel monitor to verify:

1. The assigned switch for SAFE Select is active.
2. The switch is driving a channel between 5–20.
3. The channel travels 100% in each direction.



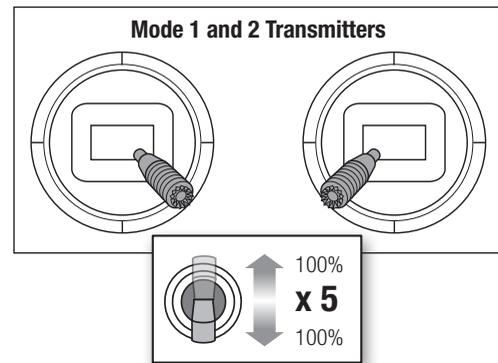
This example of the channel monitor shows the stick positions for switch assignment, the switch selection on Aux2, and ±100% travel on the switch.

**TIP:** If you have trouble assigning a SAFE Select switch, verify the four primary channels are not reversed.

### Assigning a Switch

1. Power ON the transmitter.
2. Power ON the aircraft.
3. Hold both transmitter sticks to the bottom inside corners, and toggle the desired switch 5 times (1 toggle = full up and down). The control surfaces of the aircraft will move, indicating the switch is selected.

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



## Forward Programming

Assign the SAFE Select channel through forward programming on your compatible Spektrum transmitter.

For more information about setting SAFE Select and using Forward Programming, please refer to the following link for a detailed video:

<https://www.youtube.com/watch?v=0-46P066cik>



### Forward Programming SAFE Select Setup

DX series, NX series, iX series	1. Begin with the transmitter bound to the receiver.
	2. Power ON the transmitter.
	3. Assign a switch for SAFE Select that is not already in use for another function. Use any open channel between 5–20 (Gear, Aux1–4).
	4. Set switch H (throttle cut) to prevent accidental motor operation.
	5. Power ON the aircraft. A signal bar appears on the transmitter main screen when the telemetry information is received.
	6. Go to the FUNCTION LIST (Model Setup).
	7. Select Forward Programming; Select Gyro Settings, Choose SAFE Select to enter the menu.
	8. Set SAFE Select Ch: To the channel you have chosen for SAFE Select.
	9. Set AS3X+ and SAFE ON or OFF for each switch position.

## Integrated ESC Telemetry

**BNF:** This aircraft includes telemetry between the ESC and receiver, which can provide information including RPM, voltage, motor current, throttle setting (%), and FET (speed controller) temperature.

**PNP:** The ESC in this aircraft is capable of delivering telemetry information over the throttle connection when paired with a Smart compatible Spektrum telemetry receiver. It will function with a normal PWM servo signal for common radio control systems.

For more information about compatible transmitters, firmware updates, and how to use the telemetry technology on your transmitter, visit [www.SpektrumRC.com](http://www.SpektrumRC.com).

### Telemetry Settings

Rx V : Min Rx V	4.2V
Smart ESC : Low Voltage Alarm	3.44V
Smart Battery : Startup Volt Minimum	4.0V
Motor Pole Count	14

### Telemetry Setup

DX series, NX series, iX series	1. Begin with the transmitter bound to the receiver.
	2. Power ON the transmitter.
	3. Set switch H (throttle cut) to prevent accidental motor operation.
	4. Power ON the aircraft. A signal bar appears on the transmitter main screen when the telemetry information is received.
	5. Go to the FUNCTION LIST (Model Setup)
	6. Select TELEMETRY: Smart ESC
	7. Set Total Cells: 3
	8. Set LVC Alarm: 3.44V Set Alarm: Voice/Vibe
	9. Set pole count: 14 pole

## Battery Installation and ESC Arming

**CAUTION:** Always disconnect the LiPo flight battery from the aircraft receiver when not flying to avoid over-discharging the battery. Batteries discharged to a voltage lower than the lowest approved voltage may become damaged, resulting in loss of performance and potential fire when batteries are charged.

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

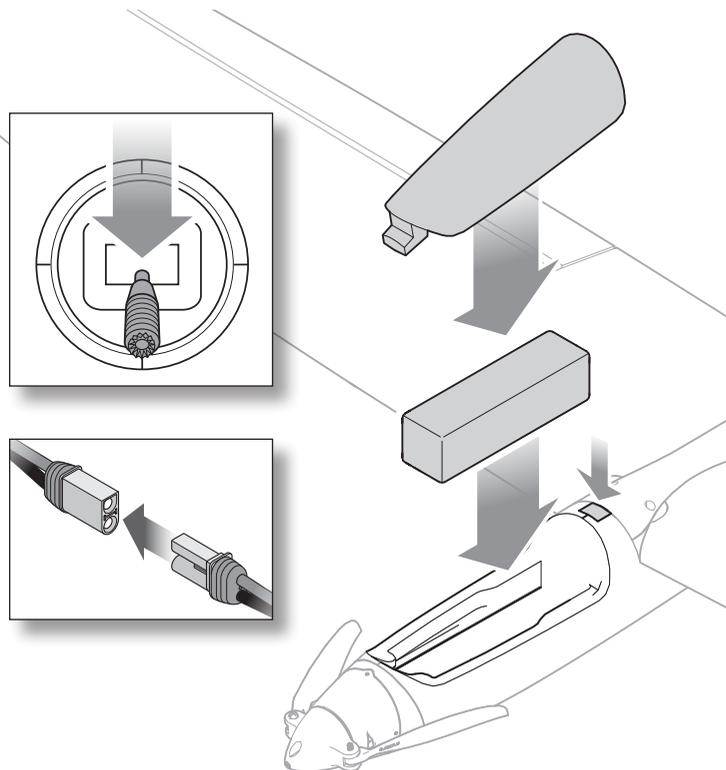
### Battery Selection

We recommend the Spektrum 30C Smart G2 LiPo Battery with IC5 connector (SPMX326S30).

If using another battery, verify the center of gravity is correct before flying.

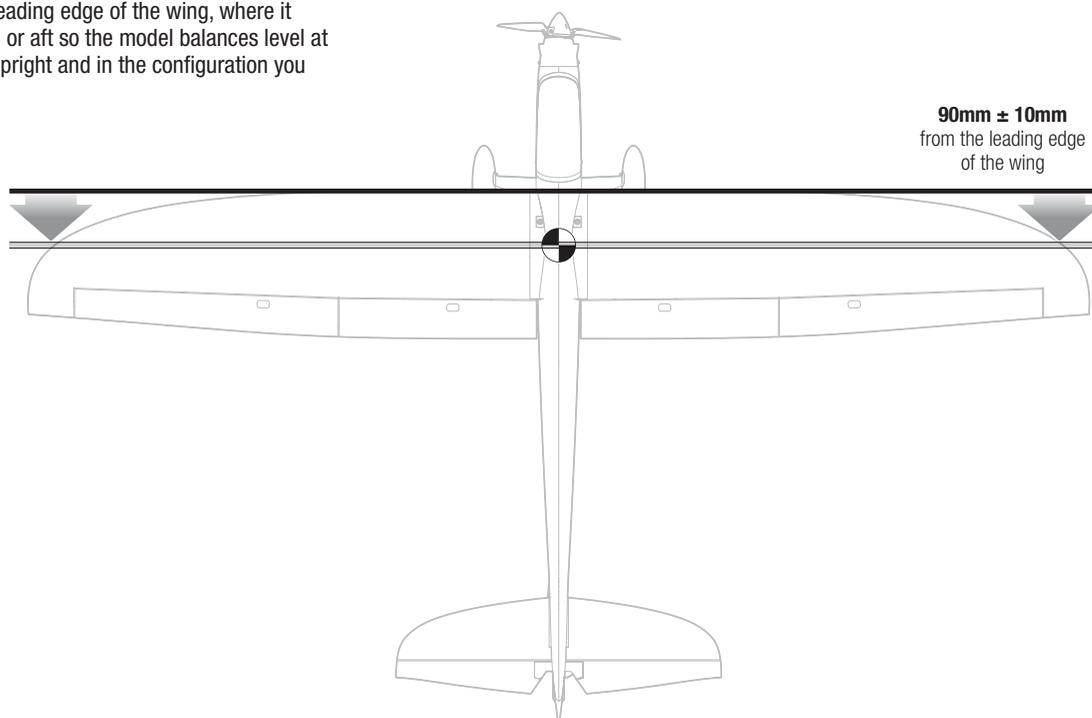
### Battery Installation

1. Lower the throttle and enable Throttle Cut.
2. Power ON the transmitter, then wait 5 seconds.
3. Pull up on the rear of the battery hatch to remove it.
4. Install the battery forward in the front of the battery compartment.
5. Secure the flight battery with the hook and loop strap.
6. Connect the battery to the ESC and keep the aircraft immobile on the ground and away from wind for 5 seconds.
  - The ESC will sound a series of tones.
  - If the ESC sounds a continuous double beep after the flight battery is connected, recharge or replace the battery.
7. Reinstall the battery hatch. Push the rear of the battery hatch securely to ensure the latch is fully engaged.



## Center of Gravity (CG)

The CG location is  $90\text{mm} \pm 10\text{mm}$  from the leading edge of the wing, where it meets the fuselage. Move the battery forward or aft so the model balances level at the recommended point. Balance the model upright and in the configuration you intend to fly (with or without landing gear).



## Control Direction Test

**WARNING:** Do not perform this or any other equipment test without turning on throttle cut. Serious injury or property damage could result from the motor starting inadvertently.

If the control surfaces do not respond as shown, **DO NOT FLY**. Refer to the *Troubleshooting Guide* for more information. If you need more assistance, contact the appropriate Horizon Hobby Product Support department.

1. Power ON the transmitter.
2. Enable throttle cut.
3. Connect the battery.
4. Use the transmitter to operate the aileron, elevator and rudder controls.

**NOTICE:** View the aircraft from the rear when checking the control directions.

### Ailerons

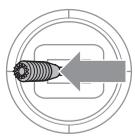
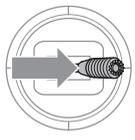
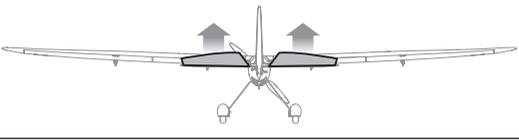
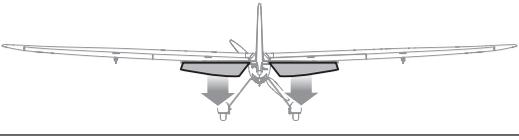
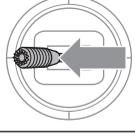
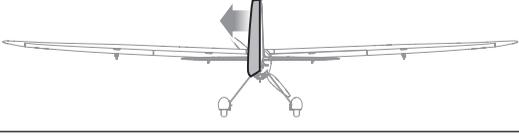
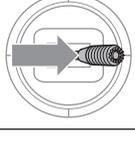
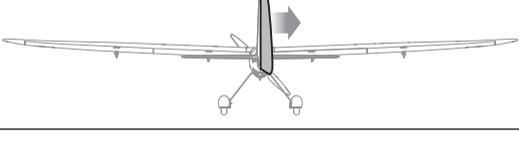
1. Move the aileron stick to the left. The right aileron should move down and the left aileron up, which will cause the aircraft to bank left.
2. Move the aileron stick to the right. The right aileron should move up and the left aileron down, which will cause the aircraft to bank right.

### Elevators

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

### Rudder

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

	Transmitter Command	Control Surface Response (Rear View)
Aileron		
		
Elevator		
		
Rudder		
		

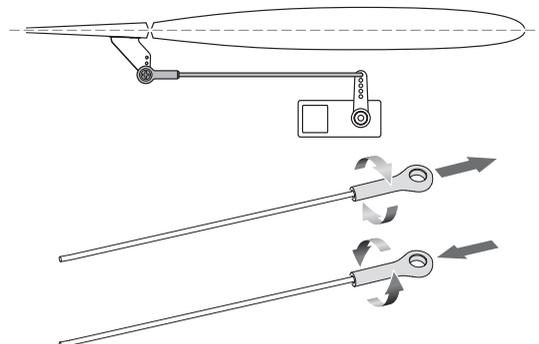
## Control Surface Centering

**Before the first flights, or in the event of an accident, make sure the flight control surfaces are centered.** Adjust the linkages mechanically if the control surfaces are not centered. Transmitter sub-trims may not correctly center the aircraft control surfaces due to the mechanical limits of linear servos.

1. Make sure the control surfaces are neutral with the transmitter controls and trims are centered. Always set the transmitter sub-trim to zero.
2. Power on the aircraft in AS3X+ mode, and leave the throttle at zero.
3. Look at the tip of each control surface and verify they are mechanically centered.
4. To adjust control surfaces, rotate the ball link on the linkage to change the linkage length between the servo arm and the control horn.

### Centering Controls After First Flights

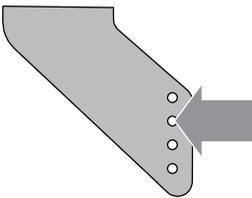
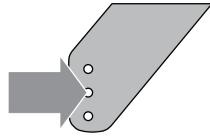
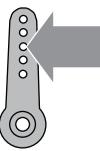
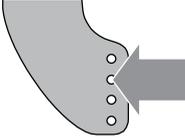
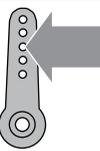
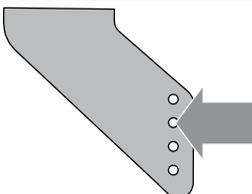
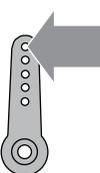
**For best performance with AS3X+, do not use excessive trim.** If the aircraft requires excessive transmitter trim (4 or more clicks of trim per channel), return the transmitter trim to zero and adjust the linkages mechanically so that the control surfaces are in the flight trimmed position.



## Control Horn and Servo Arm Settings

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.

Increasing control throws beyond these values should be done with caution. Larger control surface movements can result in unpredictable or erratic flight performance, and may result in a crash.

	Control Horns	Servo Arms
Aileron		
Elevator		
Rudder		
Flap		

## Dual Rates and Control Throws

Program the transmitter to set the rates and control throws based on your experience level. These values have been tested and are a good starting point to achieve successful a successful first flight.

After flying, adjust the values for the desired control response.

	High Rate	Low Rate
Aileron	▲ = 26mm ▼ = 26mm	▲ = 19mm ▼ = 19mm
Elevator	▲ = 22mm ▼ = 22mm	▲ = 15mm ▼ = 15mm
Rudder	▶ = 33mm ◀ = 33mm	▶ = 25mm ◀ = 25mm
	Half	Full
Flap Travel	15mm	30mm

## Low Voltage Cutoff (LVC)

When a LiPo 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 pulses, showing that some battery power is reserved for flight control and safe landing.

After using the aircraft, disconnect and remove the LiPo battery to prevent trickle discharge. Charge the LiPo battery to approximately 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.

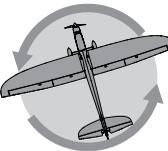
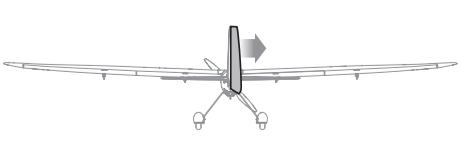
**TIP:** Monitor your aircraft battery's voltage before and after flying by using a LiPo cell voltage checker (SPMXBC200, sold separately).

## AS3X+ Control Response Test (BNF Basic)

This test ensures that the AS3X+ control system is functioning properly. Assemble the aircraft and bind the 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.

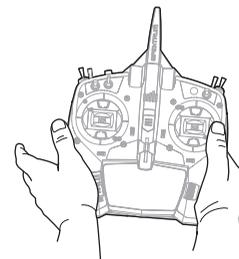
Once the AS3X+ system is active, control surfaces may move rapidly. This is normal. AS3X+ remains active until the battery is disconnected.

	Aircraft Movement	AS3X+ Reaction
Elevator		
		
Aileron		
		
Rudder		
		

## In Flight Trimming

During the first flight, trim the aircraft for level flight at  $\frac{3}{4}$  throttle. Make small trim adjustments using the transmitter trim switches to straighten the aircraft 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.



**3 Seconds**

## Hand Launching

**NOTICE:** We recommend hand launching in SAFE Mode, into the wind at 100% power, in high rates.

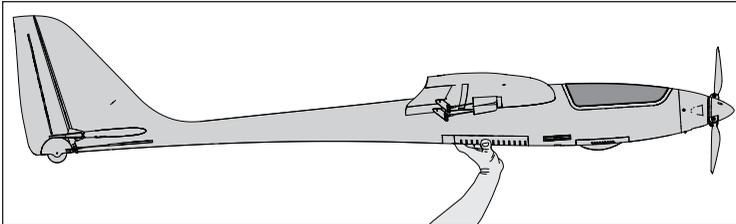
1. Hold the aircraft in one hand and the transmitter in the other.
2. Apply 70% or higher throttle.
3. Hold the aircraft on the underside below the wing, and launch it directly into the wind, angled slightly up (5–10° above the horizon).

**TIP:** Avoid a baseball style throw where your throwing hand follows an arc. Imagine guiding the aircraft onto a flight path.

4. Allow the aircraft to climb to a safe altitude before maneuvering.

### Grip

We recommend holding the aircraft on the bottom of the fuselage, below the wing, as shown.



### Follow Through

Use an overhand throw, and launch with wings level and the aircraft nose slightly upward. Follow through with the hand launch by pointing your fingers at the airplane after the throw. Avoid throwing in an arc, which can pull the nose down upon release.

## Flying Tips and Repairs

Consult local laws and ordinances before choosing a flying location.

### Range Check the Radio System

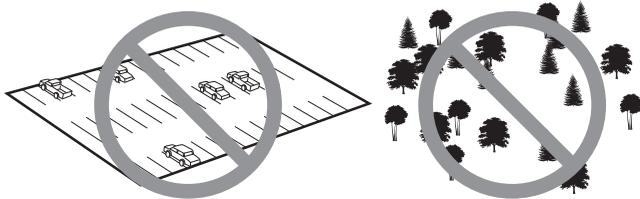
Before you fly, range check the radio system. Refer to the transmitter instruction manual for range test information.

### Oscillation

The AS3X+ system activates after the throttle is advanced past 25%. During flight, you will observe the control surfaces correcting for aircraft movement. If the aircraft begins to oscillate or over-correct, see the Troubleshooting Guide for solutions.

### Location

Choose a wide-open space for flying, ideally a dedicated RC flying field. If flying at other sites, avoid flying near houses, trees, wires and buildings. Never fly over people.



## Hand Launch Assist Mode

The BNF Basic version of the Conscendo is equipped with Hand Launch Assist mode, which takes the stress out of hand launching the aircraft. The system works to level the wings and set the model in a positive climb attitude.

To activate Hand Launch Assist Mode:

1. Verify SAFE Select is enabled.
2. Place the aircraft in SAFE mode.
3. Advance the throttle above 70%.
4. Hand launch the aircraft. The acceleration of throwing the aircraft automatically activates the assist mode, leveling the wings and setting the aircraft in a positive climb attitude.
5. After a few seconds of flight, the system automatically disengages and reverts to SAFE mode.
6. The system automatically resets after landing when the throttle is reduced below 5% and the model is stationary for more than 5 seconds.

### Hand Launch Assist Mode Settings (BNF-Basic Only)

Threshold Gs	0.5
Threshold Throttle	70%
Duration	4 seconds
Pitch Offset	15 degrees

## Landing

Land the aircraft into the wind. Plan your flight path and stay clear of trees, buildings and cars. Make a few practice approaches to get used to the aircraft's sink rate during the landing approach. During landing approach manage the descent so the aircraft bleeds off speed as it descends. If the approach is too steep, the aircraft will pick up speed and overshoot the landing. When the aircraft settles into ground effect, feed in a small amount of up elevator to flare and land.

**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, ensure the receiver is secure in the fuselage. When replacing 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.

## 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 irreparable, refer to the replacement and optional parts lists at the end of this manual.

## Post Flight

- |  |
|--|
| Disconnect the flight battery from the ESC (required for safety and battery life). |
| Power OFF the transmitter.   |
| Remove the flight battery from the aircraft.                                       |
| Recharge the flight battery.   |

- |  |
|--|
| Repair or replace all damaged parts.   |
| Store the flight battery apart from the aircraft and monitor the battery charge.         |
| Make note of the flight conditions and flight plan results, planning for future flights. |

## Power Components Service

**CAUTION:** Always disconnect the flight battery before performing service on any of the power system components.

### Disassembly

1. Use a 1.5mm hex wrench to remove the two M2 x 8mm socket head machine screws from the spinner.
2. Use a 3mm hex wrench and 5.5mm nut driver to remove the two M3 x 18mm propeller bolts, then remove the propeller blades.
3. Remove the three 2mm x 5mm self-tapping screws from the cowl, then remove the cowl.
4. Use a 2.5mm hex wrench to remove the four socket head screws securing the motor mount to the fuselage.
5. Remove the four M3 x 14mm socket head screws and M3 washers from the back of the motor to remove the motor mount.

### Assembly

- Assemble in reverse order.
- Correctly align and connect the motor wire colors with the ESC wires.
- Ensure the spinner is fully secured for safe operation.
- Ensure no wiring is pinched by any of the power components.

### Wing Servo Removal

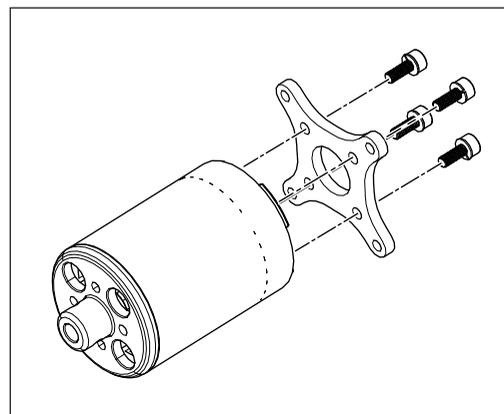
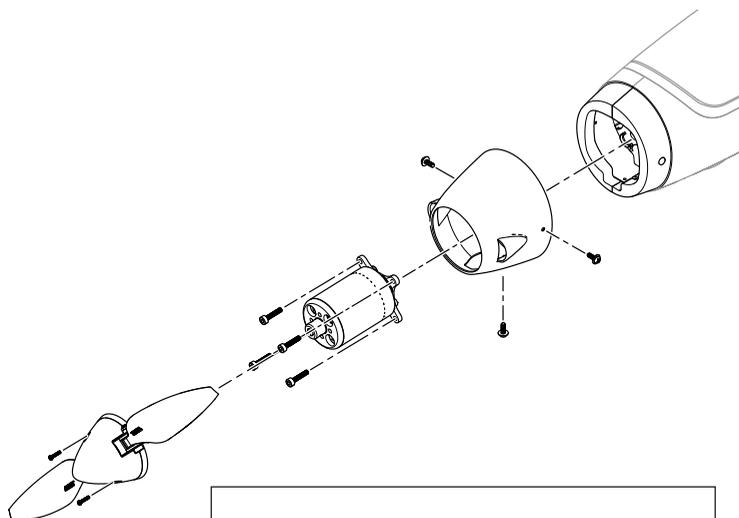
1. Place the wing inverted on a smooth, soft surface.
2. Remove the pushrod ball link from the control horn.
3. Use a PH#0 screwdriver to remove the four M1.5 x 7mm screws, then remove the servo cover.
4. Gently lift the servo to access and disconnect the servo wire plug.
5. Remove the servo screw and the servo arm.

### Fuselage Servo Replacement

Follow the **Wing Servo Removal** instructions (Steps 1–5) to replace the rudder and/or elevator servos.

### Wing Servo Installation

1. Plug the servo into the wing extension lead.
2. With the propeller removed, power ON the aircraft. Wait for the aircraft to initialize and for the servos to center.
3. Center the transmitter trims.
4. Align the servo arm by pressing the arm onto the servo.
5. Install the servo arm screw.
6. Place the servo in the wing pocket.
7. Connect the pushrod z-bend to the servo arm and the ball link to the control horn.
8. Install the servo cover.
9. Repeat Steps 1–8 for the left wing.



Control Surface	Replacement Servo	Description
Ailerons	SPMSA383	A383 Sub-Micro Metal-Geared Digital Servo
Elevator	SPMSA383	A383 Sub-Micro Metal-Geared Digital Servo
Rudder		
Flaps	SPMSA383	A383 Sub-Micro Metal-Geared Digital Servo

## Troubleshooting Guide AS3X+

Problem	Possible Cause	Solution
In-flight oscillation	Damaged propeller or spinner	Replace propeller assembly
	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 immobile for 5 seconds after battery connection	With the throttle stick in lowest position, disconnect then reconnect battery, and keep the aircraft still for 5 seconds
Incorrect response to the AS3X+ Control Direction Test	Incorrect direction settings in the transmitter or receiver	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, or motor	Replace damaged parts
	Propeller is out of balance	Balance or replace propeller
	Spinner screw is loose	Tighten the spinner screw
Reduced flight time or aircraft underpowered	Flight battery charge is low	Completely recharge flight battery
	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
	Bind process not followed	Reference the page in this manual on binding
	Flight battery/transmitter battery charge is too low	Replace/recharge batteries
	Bind switch or button not held long enough during bind process	Repeat bind process
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 not bound correctly or incorrect airplane 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 transmitter controls
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 low	Use recommended battery

## Replacement Parts

Part #	Description
EFL3225001	Fuselage
EFL3225002L	Left Wing Panel
EFL3225002R	Right Wing Panel
EFL3225003	Stabilizer Set
EFL3225004	Wing and Stabilizer Tubes
EFL3225005	Hardware Set
EFL3225006	Pushrod and Control Horn Set
EFL3225007	12.8 x 10 Propeller and Spinner Assembly
EFL3225008	12.8 x 10 Propeller Blades
EFL3225009	Motor Mount
EFL3225010	Decal Sheet
EFL3225011	Canopy Hatch
EFL3225012	Control Horns Set
EFL3225013	Servo Mounts and Fairings Set
EFL3225014	Main Landing Gear Set
EFL3225015	Wheel Pants with Hardware
EFL3225016	Wheels Set
EFL3225017	Cowling
EFL3225018	Extension Lead Set
SPM-1033	AR8360T+ DSMX 8-Channel AS3X+ & SAFE Telemetry Receiver
SPM-1099	3130-480Kv Brushless Outrunner Motor
SPMA9701	LED Night Flying Set with Controller
SPMSA383	A383 Sub-Micro Metal-Geared Digital Servo
SPMSA3831	A383 Servo Arms Set (6)
SPMXAE70G	70-Amp Telemetry-Capable Brushless ESC, 3S-6S: IC5 Ver. G

## Recommended Parts

Part #	Description
SPMR8210	NX8+ 20-Channel DSMX Transmitter Only
SPMX326S30	22.2V 3200mAh 6S 30C Smart G2 LiPo Battery: IC5

## Optional Parts

Part #	Description
SPMA9701	LED Night Light Set with Controller
SPMR7120	NX7e+ 14-Channel DSMX Transmitter Only, Black Edition
SPMX46S50	22.2V 4000mAh 6S 50C Smart G2 LiPo Battery: IC5
SPMX40006S50	22.2V 4000mAh 6S 50C Smart LiPo Battery: IC5
SPMX50004S30	14.8V 5000mAh 4S 30C Smart LiPo Battery: IC5
SPMX50006S30	22.2V 5000mAh 6S 30C Smart LiPo Battery: IC5
SPMXBC200	XBC200 Smart LiPo Battery Checker & Servo Tester

## 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. To learn more about registering with the FAA, use the QR code below.



According to FAA regulation, all unmanned aircraft over .55lbs (250 grams) 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 aircraft using 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, (vi) Product not compliant with applicable technical regulations, or (vii) use that violates any applicable laws, rules, or regulations.

OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

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

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

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

### WARRANTY SERVICES

**Questions, Assistance, and Services**—Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please visit

our website at [www.horizonhobby.com](http://www.horizonhobby.com), submit a Product Support Inquiry, or call the toll free telephone number referenced in the Warranty and Service Contact Information section to speak with a Product Support representative.

**Inspection or Services**—If this Product needs to be inspected or serviced and is compliant in the country you live and use the Product in, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service Request is available at [http://www.horizonhobby.com/content/service-center\\_render-service-center](http://www.horizonhobby.com/content/service-center_render-service-center). If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

**NOTICE:** Do not ship 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](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.

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## Contact Information

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

## FCC Information



**Contains: FCC ID: BRWSPMAR8360T**  
**Supplier's Declaration of Conformity**  
**EFL Conscendo 2.0m PNP (EFL32275) and**  
**Conscendo 2.0m BNF-Basic (EFL32250):**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



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

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this

equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

## IC Information

**Contains: CAN ICES-3 (B)/NMB-3(B)**  
**Contains IC: 6157A-SPMAR8360T**

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 Conscendo 2.0m PNP (EFL32275):** 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.

**EFL Conscendo 2.0m BNF-Basic (EFL32250):** 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.

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  
 19.42dBm

### 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.





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E-Flite, Conscendo, Plug-N-Play, Bind-N-Fly, BNF, the BNF logo, DSM, DSM2, DSMX, Spektrum AirWare, EC5, IC5, 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 US 9,753,457. US 10,078,329. US 9,930,567. US 10,419,970.

<http://www.horizonhobby.com/>