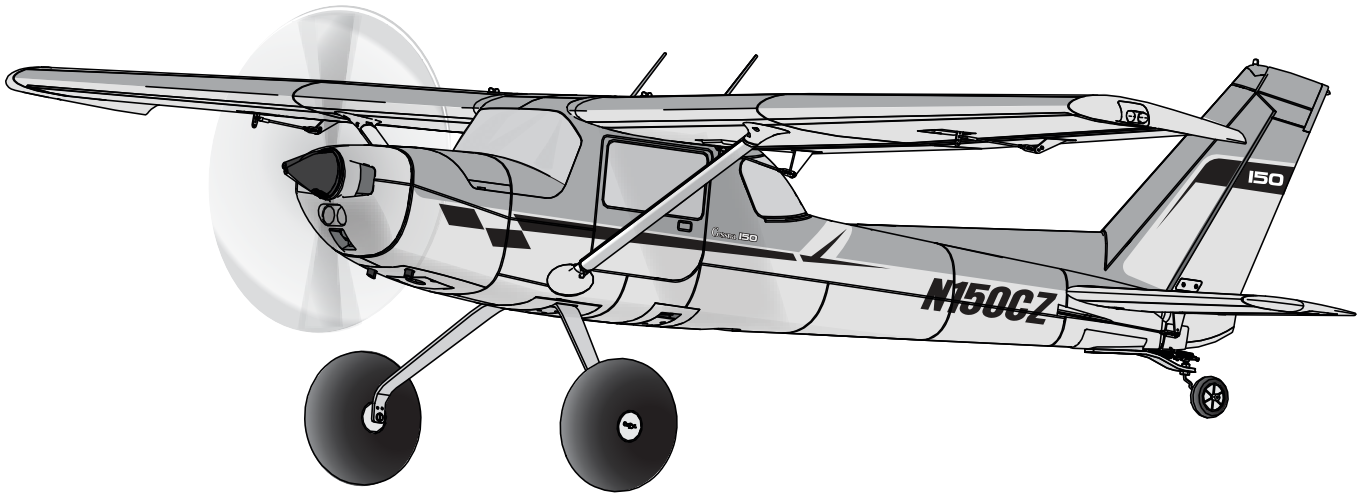
E-flite®
ADVANCING ELECTRIC FLIGHT

Carbon-Z Cessna 150T 2.1m



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

EFL12750

PNP® PLUG-N-PLAY®

EFL12775

Instruction Manual
Bedienungsanleitung
Manuel d'utilisation
Manuale di Istruzioni

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.

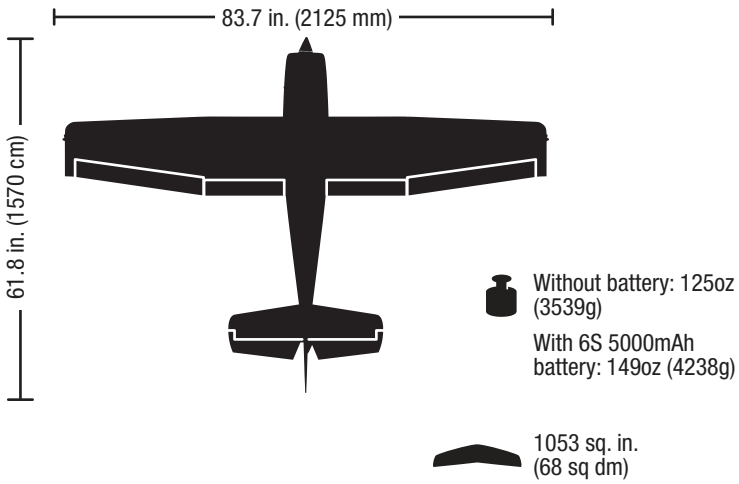
WARNING AGAINST COUNTERFEIT PRODUCTS: If you ever need to replace your Spektrum receiver found in a Horizon Hobby product, always purchase from Horizon Hobby, LLC or a Horizon Hobby authorized dealer to ensure authentic high-quality Spektrum product. Horizon Hobby, LLC disclaims all support and warranty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

Quick Start Information			
Transmitter Setup	Set up your transmitter using the transmitter setup chart		
Dual Rates*		**High Rate**	**Low Rate**
	Aileron:	▲ = 30mm ▼ = 30mm	▲ = 25mm ▼ = 25mm
	Elevator:	▲ = 35mm ▼ = 35mm	▲ = 25mm ▼ = 25mm
	Rudder:	▶ = 55mm ◀ = 55mm	▶ = 40mm ◀ = 40mm
Flap Travel	Half ▼ = 25mm	Full ▼ = 50mm	
Flap to Elevator Mix	14% down elevator	24% down elevator	
Center of Gravity (CG)	95mm-105 behind the leading edge of the wing at the fuselage		
Flight Timer Setting	6 minutes		
* Measured at the widest point and the root.			

Specifications

	BNF BASIC	PNP PLUG-N-PLAY
Motor: BL50 BL Outrunner Motor, 525Kv, 12 pole	**Included**	**Included**
ESC: Avian 60Amp Brushless Smart ESC 6S	**Installed**	**Installed**
Servos: Aileron: (2) EFLR7145 26g mini servo: 610mm Lead Rudder: (1) EFLR7145 26g mini serv: 130mm Lead Elevator: (1) EFLR7145 26gmini serv: 130mm Lead Flaps: (2) EFLR7155 13g mini serv: 140mm Lead	**Installed**	**Installed**
Receiver: Spektrum™ AR637TA 6-Channel AS3X/SAFE Telemetry Receiver (SPMAR637T)	**Installed**	**Required**
Recommended Battery: 6S 5000mAh LiPo	**Required**	**Required**
Recommended Battery Charger: 4-6-cell Li-Po battery balancing charger	**Required**	**Required**
Recommended Transmitter: Full range 6-channel 2.4GHz with Spektrum DSMX® technology with adjustable Dual Rates.	**Required**	**Required**

If you own this product, you may be required to register with the FAA. For up-to-date information on how to register with the FAA, please visit https://registermyuas.faa.gov/.
For additional assistance on regulations and guidance on UAS usage, visit knowbeforeyoufly.org/.



Box Contents

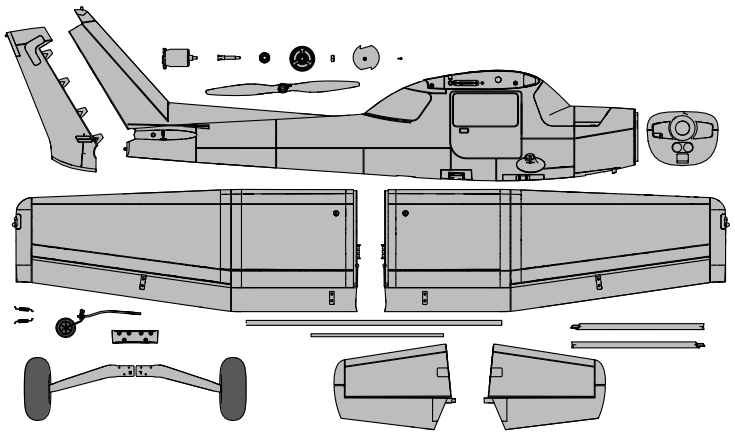


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SAFE® Select Technology (*BNF Basic*)

The BNF Basic version of this airplane includes SAFE Select technology which can offer an extra level of protection in flight. Use the following instructions to make the SAFE Select system active and assign it to a switch. When enabled, SAFE Select prevents the airplane from banking or pitching past predetermined limits, and automatic self-leveling keeps the airplane flying in a straight and level attitude when the aileron, elevator and rudder sticks are at neutral.

SAFE Select is enabled or disabled during the bind process. When the airplane is bound with SAFE Select enabled, a switch can be assigned to toggle between SAFE Select mode and AS3X mode. AS3X® technology remains active with no banking limits or self leveling any time SAFE Select is disabled or OFF.

SAFE Select can be configured three ways;

- SAFE Select Off: Always in AS3X mode
- SAFE Select On with no switch assigned: Always in SAFE Select mode
- SAFE Select On with a switch assigned: Switch toggles between SAFE Select mode and AS3X mode

Preflight

1. Remove and inspect contents.
2. Read this instruction manual thoroughly.
3. Charge the flight battery.
4. Setup Transmitter using transmitter setup chart.
5. Fully assemble the airplane.
6. Install the flight battery in the aircraft (once it has been fully charged).
7. Check the Center of Gravity (CG).
8. Bind the aircraft to your transmitter.
9. Make sure linkages move freely.
10. Perform the Control Direction Test with the transmitter.
11. Perform the AS3X Control Direction Test with the aircraft.
12. Adjust flight controls and transmitter.
13. Perform a radio system Range Test.
14. Find a safe open area to fly.
15. Plan flight for flying field conditions.

Transmitter Setup

⚠ **WARNING**: If your transmitter allows it, enable the throttle cut feature. Always engage throttle cut before approaching the aircraft.

⚠ **WARNING**: Never assign Aux 2 to SAFE Select during transmitter setup with any model transmitter. If SAFE Select is assigned to Aux 2, the throttle channel/motor will reverse in flight once SAFE is enabled. Motor reversing is assigned to Aux 2/channel 7 by default in the Smart ESC.

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

IMPORTANT: The included receiver has been programmed specifically for operation in this aircraft.

Dual Rates

Low rate is recommended for the initial flights.

NOTICE: 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.

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

Exponential

After first flights, you may adjust expo in your transmitter.

Transmitter Telemetry Setup

If the transmitter that you intend to use with this aircraft is not displaying telemetry data, visit www.SpektrumRC.com and update your firmware. With the latest firmware installed on your transmitter the telemetry option should now be functional on your transmitter.

† Some of the terminology and function locations used in the iX12 and iX20 programming may be slightly different than other Spektrum AirWare™ radios. The names given in parentheses correspond to the iX12 and iX20 programming terminology. Consult your transmitter manual for specific information about programming your transmitter.

‡ For DX6e, DX6, NX6 and DX7 setups, you can combine SAFE Select on channel 5/gear with the light controller (the light mode will change when you switch between SAFE Select on/off). If you use a 2-position switch (such as A) you'll get 2 light modes. If you use a 3-position switch (such as B, as recommended) you'll get 3 light modes.

Computerized Transmitter Setup

Start all transmitter programming with a blank ACRO model (perform a model reset), then name the model.

Set Dual Rates to	2 Position switch	3 Position switch
	HIGH 100%	HIGH 100%
		MID 70%
	LOW 70%	LOW 50%
Set Servo Travel to	100%	
Set Throttle Cut to	-100%	

DX6e ‡ DX6 ‡ (Gen2)	1. Go to the SYSTEM SETUP 2. Set MODEL TYPE: AIRPLANE 3. Set AIRCRAFT TYPE - WING: 1 AIL 1 FLAP 4. Go to the FUNCTION LIST 5. Set FLAP SYSTEM: SWITCH D Pos 0: 100% FLAP 0% Elevator Pos 1: 0% FLAP 14% Elevator Pos 2: -100% FLAP 24% Elevator Switch: Switch D Speed: 2.0s
Continue below for DX7 or NX6 with motor reversing setup	
DX7‡ (Gen2) NX6‡	6. Go to the SYSTEM SETUP 7. Go to CHANNEL ASSIGN: CHANNEL INPUT CONFIG AUX2 Switch A 8. Go to the FUNCTION LIST 9. Go to Digital Switch Setup: Switch: Switch A Pos 0: -100 = **no motor reversing** Pos 1: -100 = **no motor reversing** **OR** Pos 1: 100 = **motor reversing**
8-channel and higher transmitters	
DX8e DX8 (Gen2) DX9 DX10t DX18 DX20 iX12 † iX20 † NX8 NX10	1. Go to the SYSTEM SETUP (Model Utilities)† 2. Set MODEL TYPE: AIRPLANE 3. Set AIRCRAFT TYPE: (Model Setup, Aircraft Type)†: WING: 1 AIL 1 FLAP 4. Go to CHANNEL ASSIGN: CHANNEL INPUT CONFIG AUX2 Switch A 5. Go to the FUNCTION LIST (Model Adjust)† 6. Set FLAP SYSTEM: Switch D Pos 0: 100% FLAP 0% Elevator Pos 1: 0% FLAP 14% Elevator Pos 2: -100% FLAP 24% Elevator Switch: Switch D Speed: 2.0s 7. Go to Digital Switch Setup: Switch: Switch A Pos 0: -100 = **no motor reversing** Pos 1: -100 = **no motor reversing** **OR** Pos 1: 100 = **motor reversing**

Binding

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 / Enabling 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.

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.

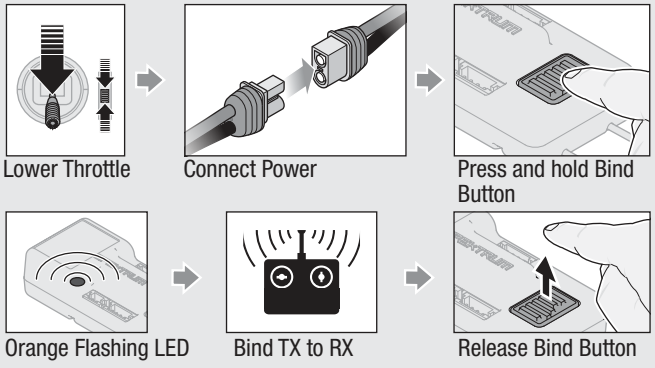
IMPORTANT: Move the transmitter flight controls (rudder, elevators, and ailerons) and the throttle trims to neutral. Move the throttle to low before and during binding.

You can use either the bind button on the receiver or the conventional bind plug to complete the binding process.

A bind plug extension has been provided in BNF Basic version models. It will be labeled and located in the battery or radio compartment for easy access.

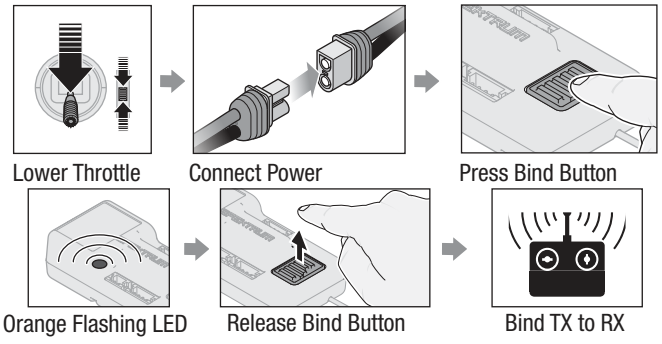
Using Bind Button

SAFE Select Enabled



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.

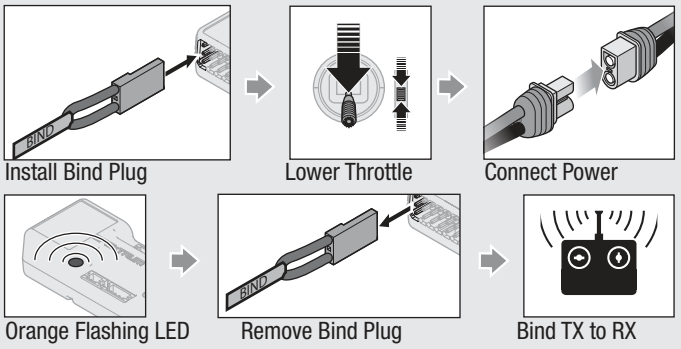
SAFE Select Disabled



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

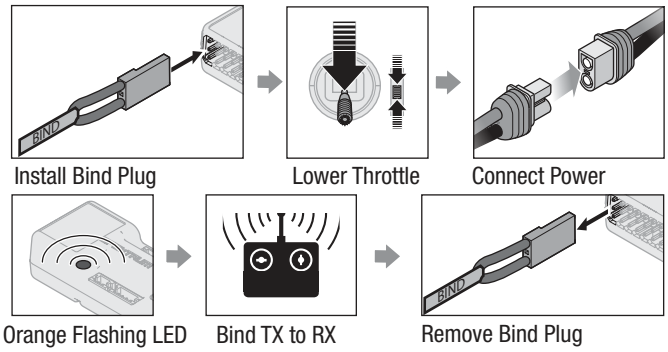
Using Bind Plug

SAFE Select Enabled



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.

SAFE Select Disabled



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

SAFE Select can also be activated via Forward Programming in compatible transmitters.

Model Assembly

Required Adhesives:

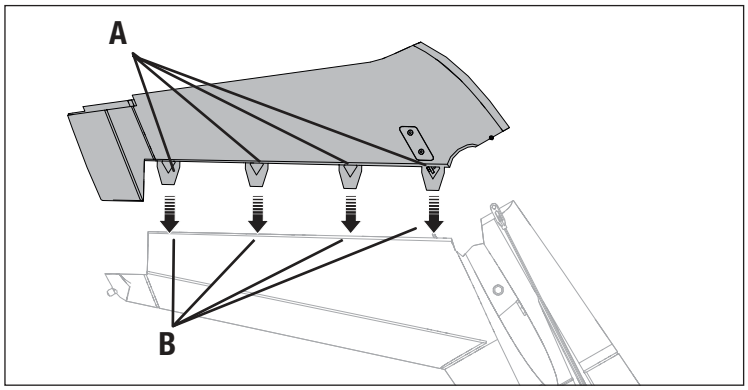


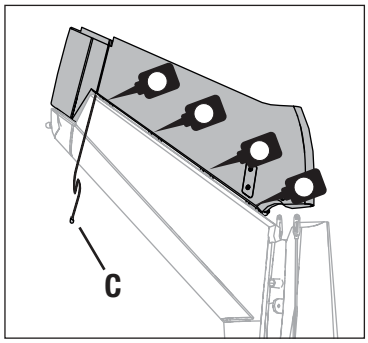
Thin CA

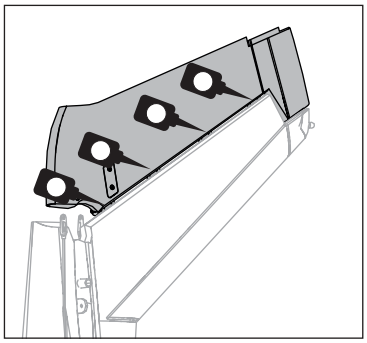
Tip: There are spare screws included with the airplane in case a fastener is lost.

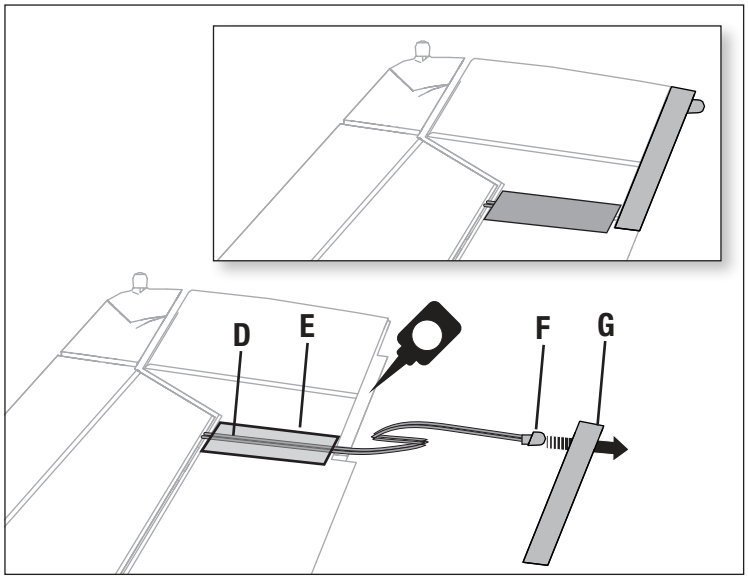
Rudder Installation

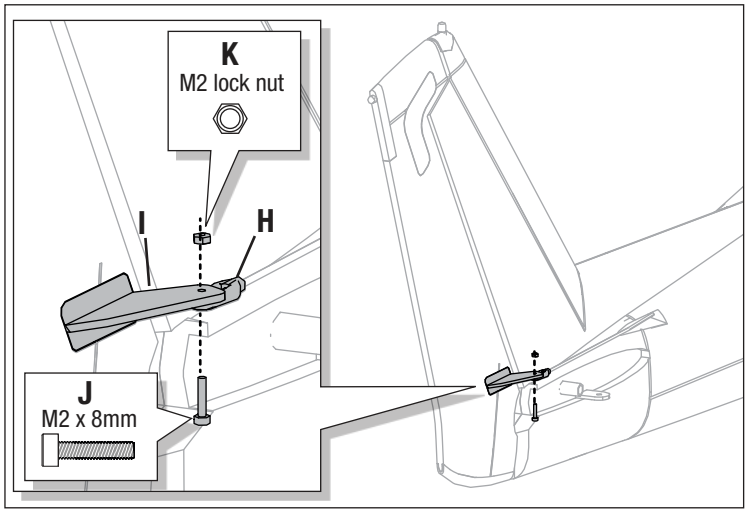
1. Slide the rudder's CA hinges **(A)** into the hinge slots **(B)** of the vertical fin. Make sure to place the tail light and wire **(C**) on the left side of the rudder.
2. Rest the aircraft on its nose, holding the tail up so the thin CA (cyanoacrylate adhesive) will flow into the slots.
3. Bend the hinges by turning the rudder left, then carefully apply thin CA to each hinge in the right side of each slot.
4. When the CA is dry, turn the rudder to the right and apply CA in the left side of each slot.
5. Place the tail light wire in the groove **(D)** and secure it into place with the included red tape **(E)**.
6. Insert the LED **(F)** into the tail light housing **(G)**, then secure the tail light housing onto the edge of the rudder using CA.
7. Connect the ball link **(H)** to the rudder control horn **(I)** using a screw **(J)** and nut **(K)**. Ensure the rudder servo arm is in the correct position, then adjust the ball link on the linkage to center the rudder.











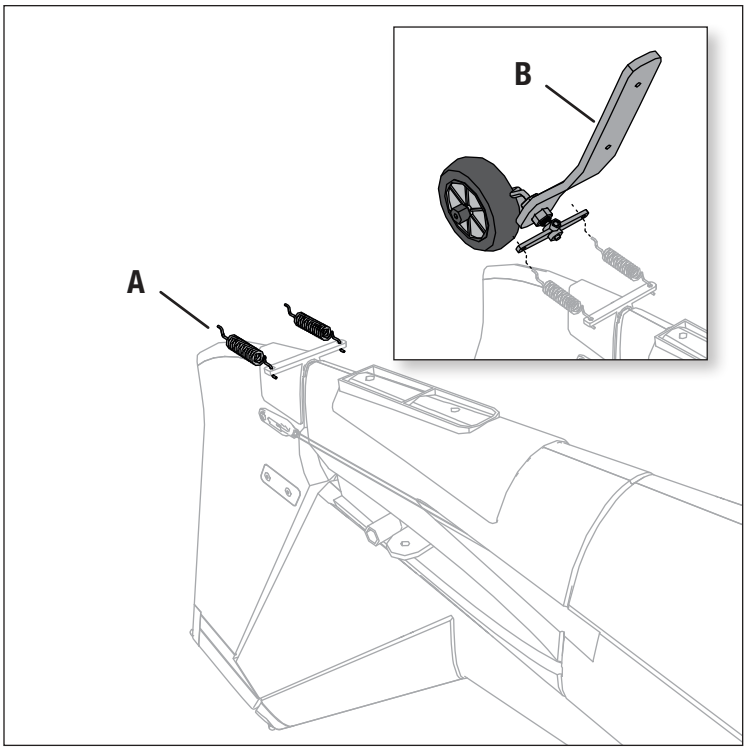
Tail Gear Installation

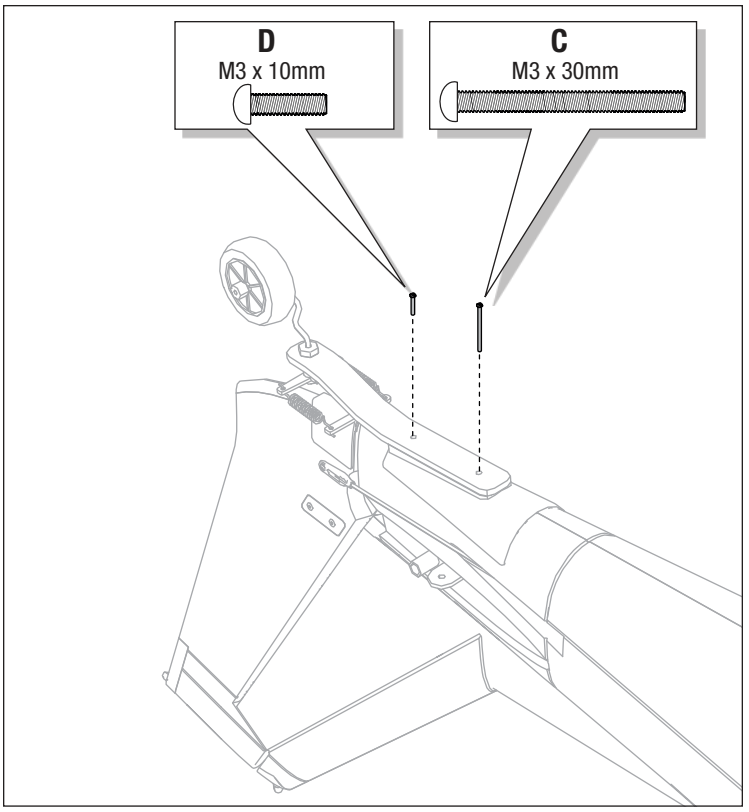
1. Install the tail gear springs **(A)** as shown.

2. Install the opposite ends of the tail gear springs to the tail gear assembly (**B**).

3. Secure the tail gear assembly into place using the included M3 x 30mm screw **(C)** in the front hole and the M3 x 10mm screw **(D)** for the rear hole. Tighten the two screws into place using a 2.0 hex wrench.

When needed, disassemble in reverse order.



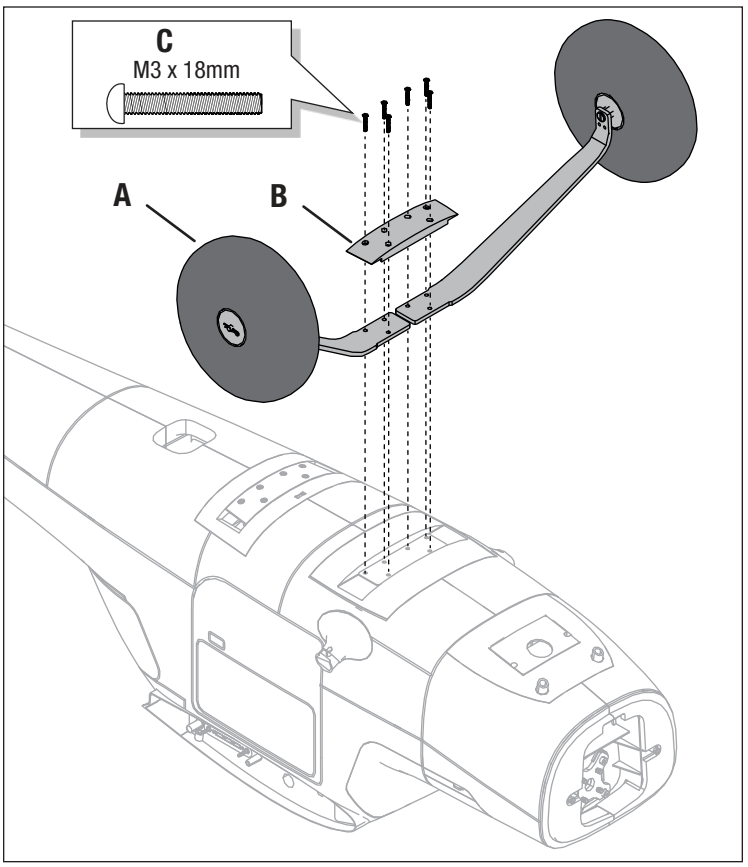


Main Gear Installation

1. Place the two main landing gear halves **(A)** into the pocket on the bottom of the fuselage.

2. Secure them into place using the mounting plate **(B)** and 6 included M3 x 18mm screws **(C)**. Tighten the M3 x 18mm screws using a 2.0 hex wrench.

When needed, disassemble in reverse order.



Motor Installation

1. Install the motor with the X-mount **(D)** on the fuselage using four M4 x 20mm screws **(E)**. Tighten the screws in place using a 3mm hex wrench.

2. Correctly align and connect the motor wire colors with the ESC wires. Ensure the motor spins in the correct direction. If motor spins incorrectly, reverse any two wire connections.

CAUTION: Make sure that the propeller is not installed before reversing throttle channel on transmitter.

3. Connect the landing lights **(F)** and install the cowling **(G)** using two 2.5 x 10mm self tapping screws **(H)**.

4. Install the collet **(I)**, collar **(J)** and spinner backplate **(K)** onto the motor shaft.

5. Install the propeller **(L)** on the propshaft and secure it in place with the prop nut **(M)**. Use a tool to tighten the nut.

IMPORTANT: The propeller size numbers (15 x 7) must face out from the motor for correct propeller operation.

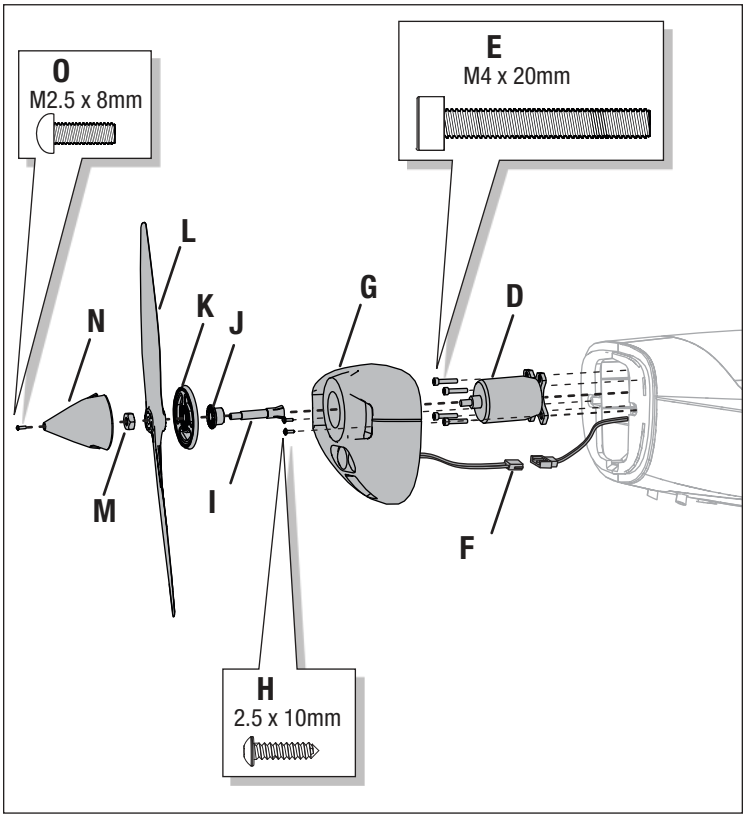
6. Install the spinner **(N)** onto the prop shaft and secure it into place using the M2.5 x 8mm spinner screw **(O)**.

NOTICE: If the propeller is not balanced, the aircraft may vibrate, causing the stabilization system to not operate correctly and/or decrease the life of the servos.

Horizon Hobby does not warrant replacement if the servos are used under extreme vibration or the stabilization system is used with an unbalanced propeller.

CAUTION: Remove the propeller before radio system setup or accidental injury may occur.

For more information, view our propeller balancing video on Horizon Hobby's YouTube channel.



Horizontal Tail Installation

1. Slide the horizontal tail tube (**A**) into the hole in the rear of the fuselage.

2. Install the 2 piece (left and right) horizontal tail as shown. Ensure the control horn faces down.

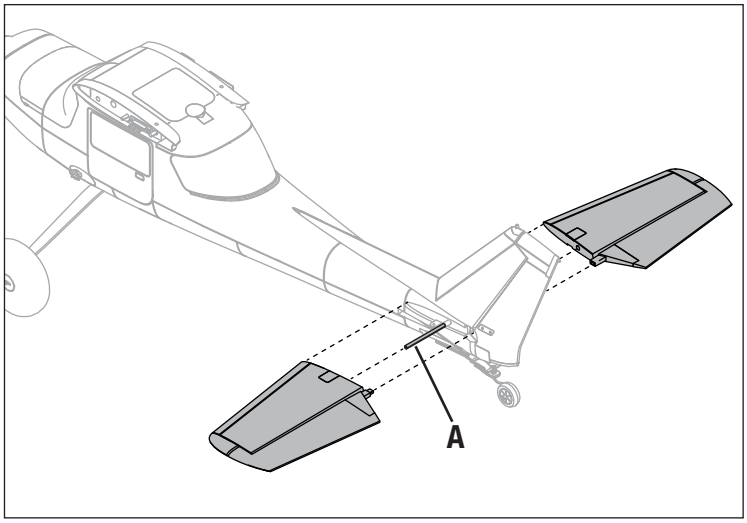
3. Install two M3 x 12mm screws (**B**) in the holes in the bottom of the horizontal tail. Tighten the scews using a 2.0 hex wrench.

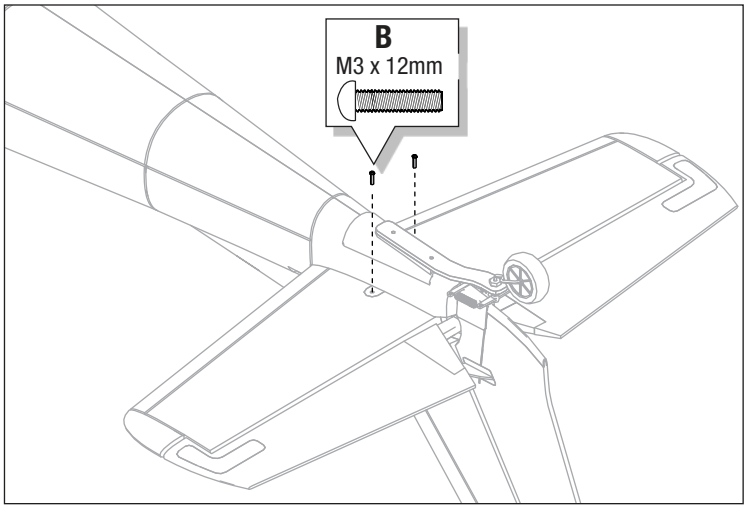
4. Attach the ball link (**C**) to the elevator control horn's outermost hole using the included M2 lock nut (**D**) and M2 x 12mm screw (**E**). Tighten the M2 lock nut and M2 x 12mm screw using a 5mm nut driver and a 2.0 hex wrench.

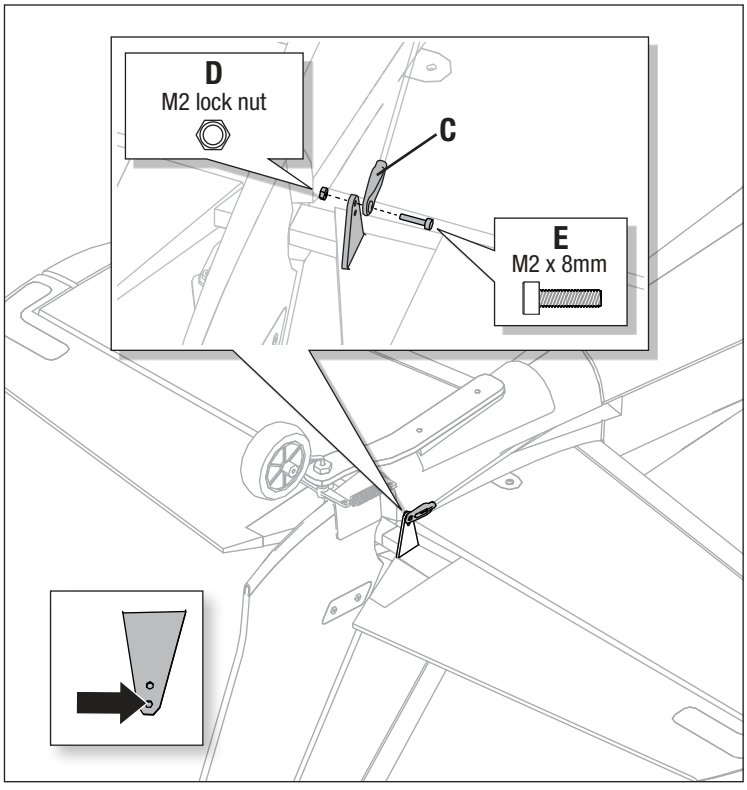
Tip: Use ball link pliers (BLH100) to remove or install a link on a control horn.

5. Ensure the elevator servo arm is in the correct position, then adjust the linkage to center the elevator.

When needed, disassemble in reverse order.







Main Wing Installation

1. Secure each wing strut to the wing using the included M2.5 nut **(A)** and M2.5 x 20mm bolt **(B)**. Tighten the M2 nut and M2.5 x 20mm screw using a 5mm nut driver and a 2.0 hex wrench. Note the orientation of the fuselage end of the strut. The strut should be oriented as shown in the illustration.

2. Slide the wing tube (**C**) into the fuselage.

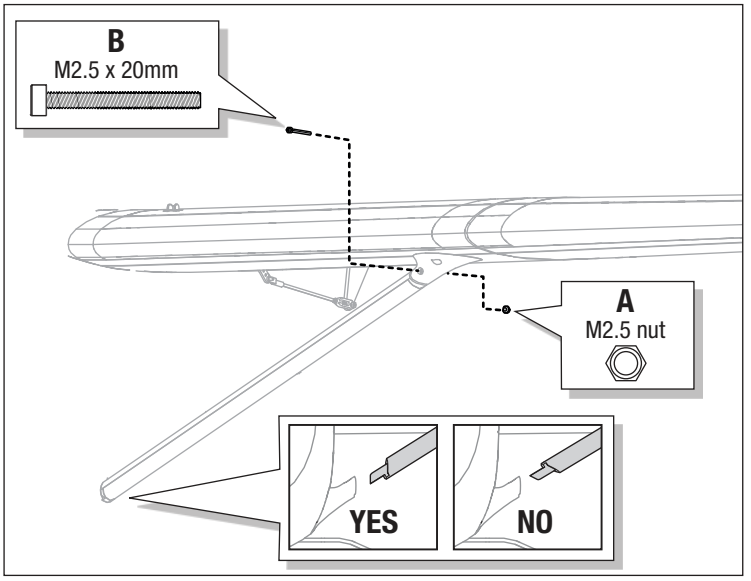
3. Align the wing halves **(D)** with the recess of the fuselage and fit the wing to the fuselage.

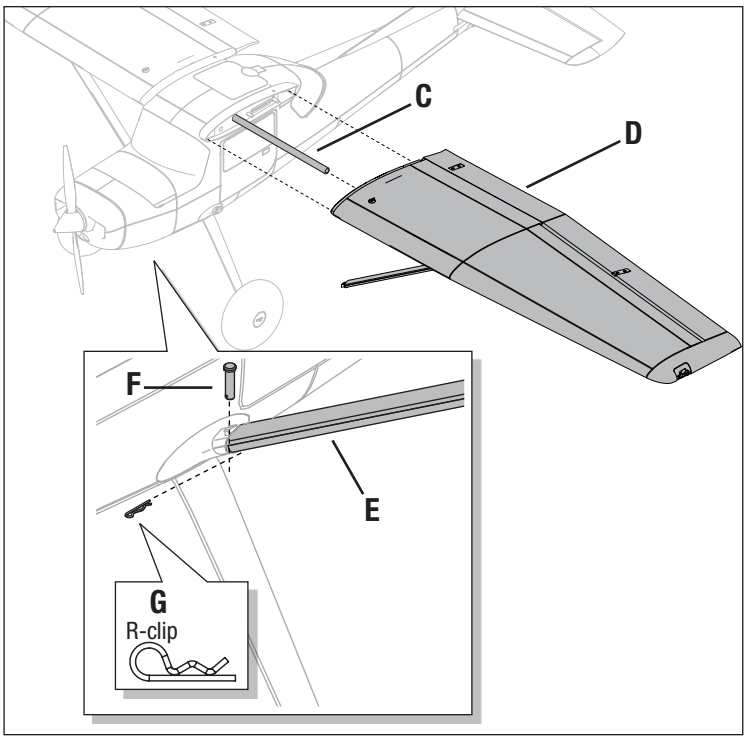
4. Align the wing struts **(E)** to each side of the fuselage and secure them into place with the pin **(F)** and R-clip **(G)**.

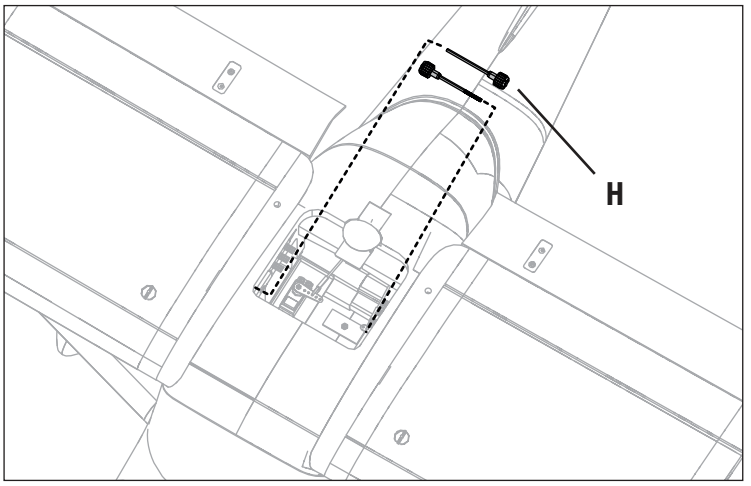
5. Secure both wing halves into place using the two thumb screws **(H)**. Install them from the inside of the fuselage going out into the wing.

6. Re-install the top hatch.

When needed, disassemble in reverse order.

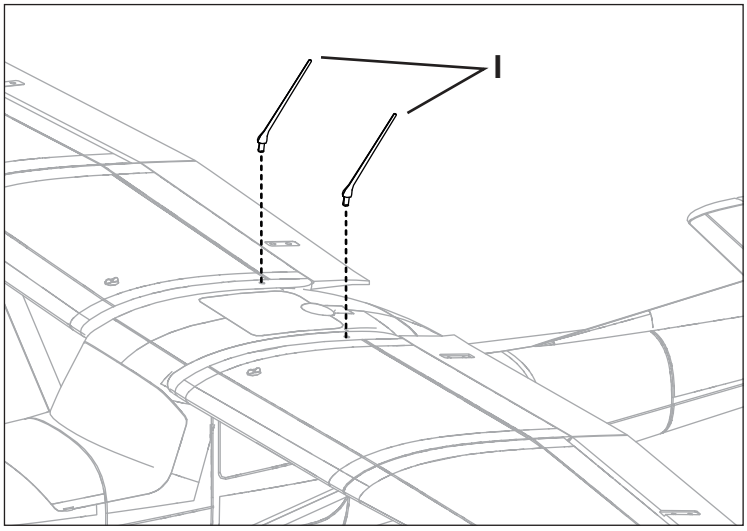






Scale Antenna Installation

Install the antenna **(I)** by pushing them into place.



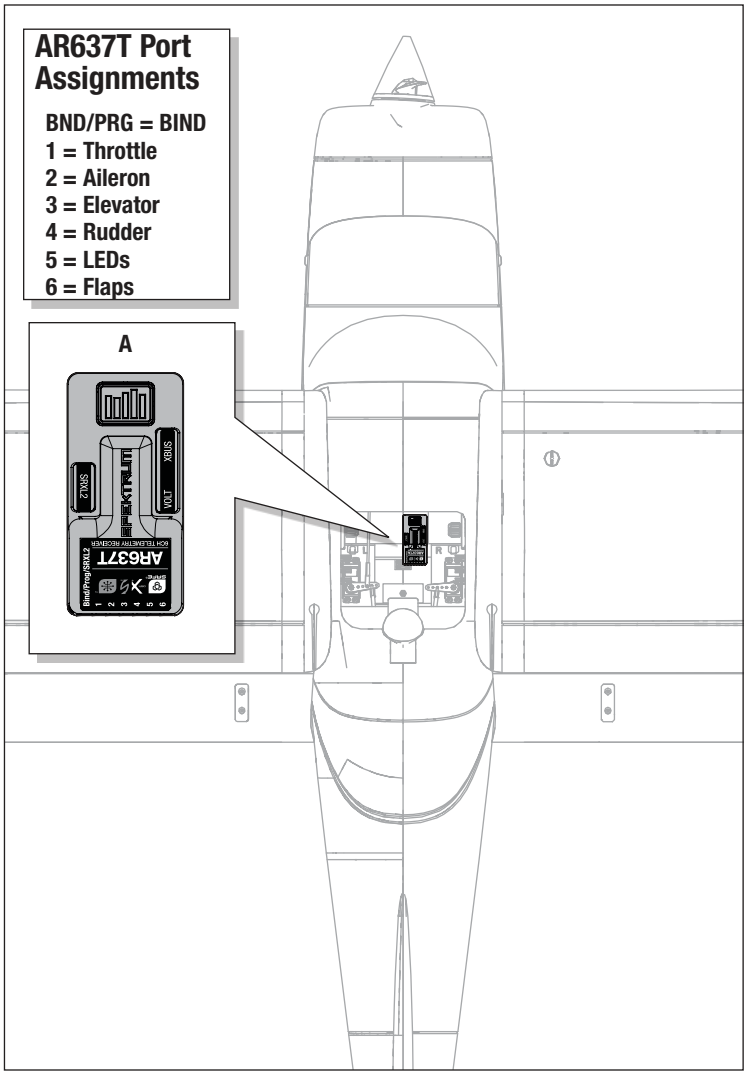
PNP Receiver Selection and Installation

The recommended receiver for this aircraft is the Spektrum AR637T. 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.

AR637T Installation

1. Remove the Remove the top foam hatch by pulling on the plastic tab.
2. Remove the receiver hatch by pulling up on the hatch tabs, to expose the receiver compartment.
3. Connect the control surface servos to the their respective ports on the receiver using the table at the right.
4. Using double-sided servo tape (not included) mount the receiver to the flat area of the receiver compartment, as shown. The receiver (**A**) should be mounted in the orientation shown, parallel to the length of the fuselage, with the label facing up and the servo ports facing the rear of the aircraft. The orientation of the receiver is critical for all AS3X® and SAFE® technology setups.

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



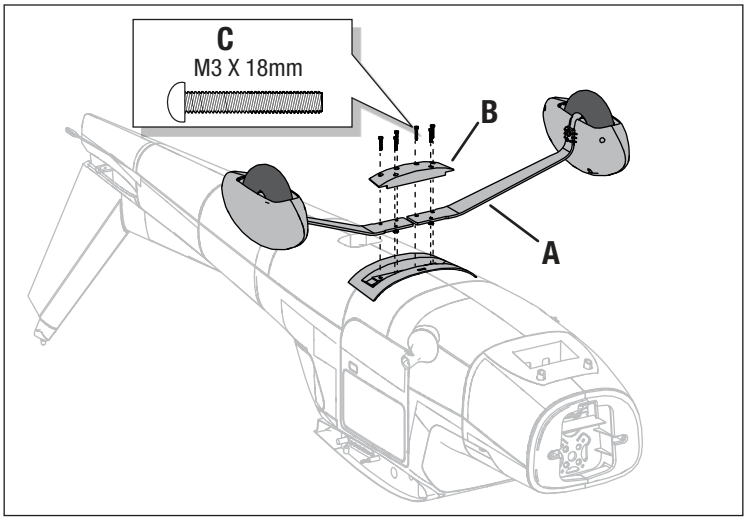
Optional Tricycle Gear Installation (Sold Separately)

Main Gear Installation

1. Place the two main landing gear halves **(A)** into the pocket on the bottom of the fuselage.

2. Secure them into place using the mounting plate **(B)** and 6 included M3 x 18mm screws **(C)**. Tighten the M3 x 18mm screws using a 2.0 hex wrench.

When needed, disassemble in reverse order.



Nose Gear Installation

1. Remove the battery hatch **(D)** to access the location where the nose assembly screws will be installed.

2. Connect the nose gear pushrod **(E)** to the nose gear steering arm **(F)** using the included nut and bolt as shown. Tighten the M2 lock nut and M2 x 8mm screw using a 5mm nut driver and a 2.0 hex wrench. Part of the box surrounding the steering arm has been removed to show the steering arm.

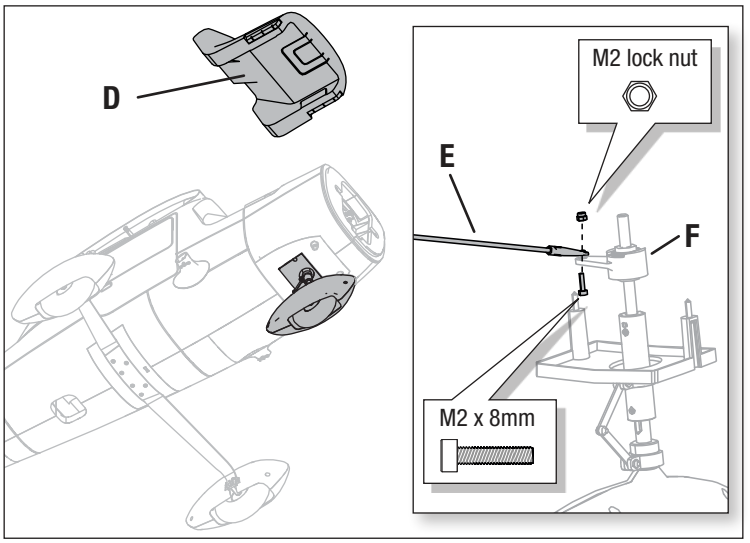
3. Remove the pushrod retainer **(G)** at the end of the nose gear pushrod and install the nose gear assembly into the fuselage leading with the pushrod.

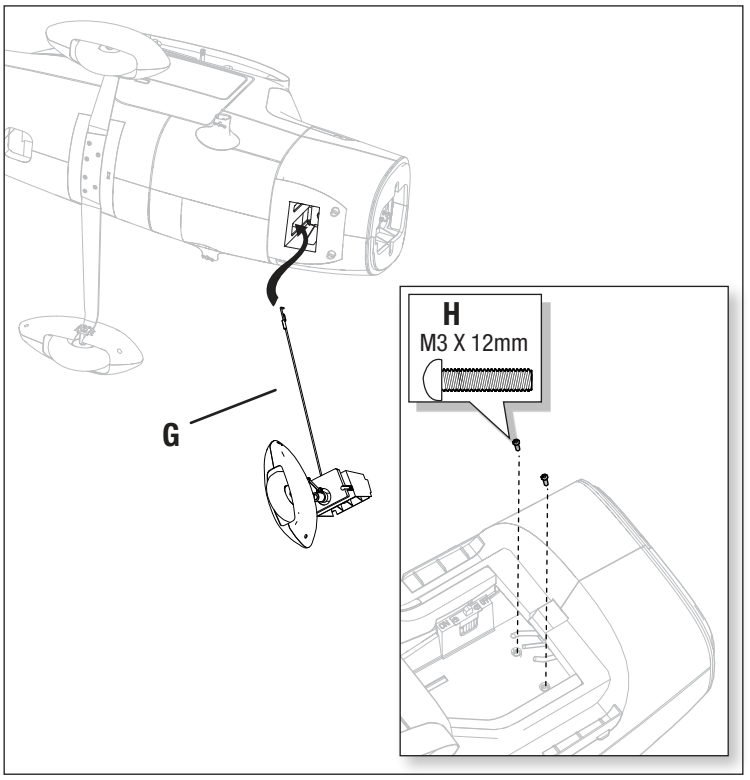
4. Use the arrows on the bottom of the main mount to install the nose gear in the correct direction. The arrows point to the front.

5. Guide the pushrod into the fuselage to meet with the servo horn.

6. Secure the nose gear assembly into place using the two M3 x 12mm screws **(H).** Tighten the M3 x 12mm screw using a 2.0 hex wrench.

Continue nose gear installation on next page.



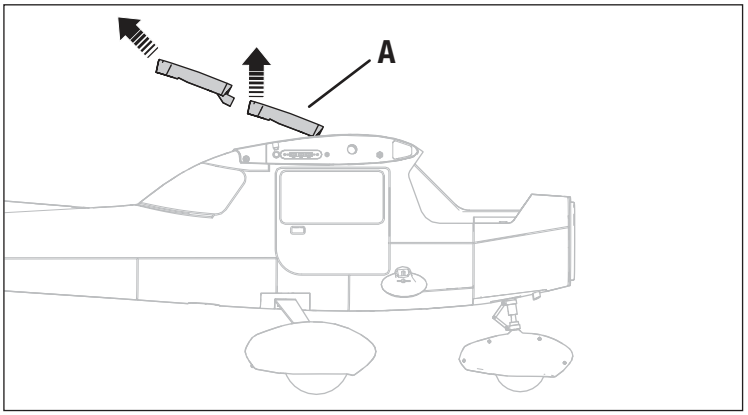


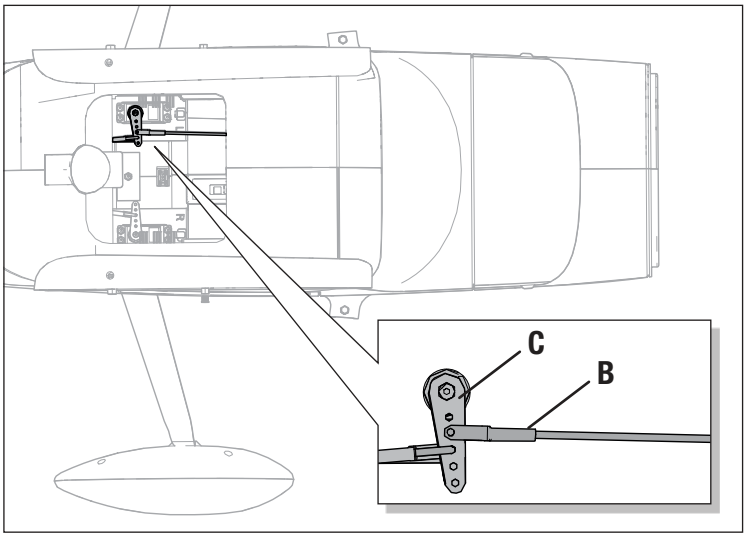
Nose Gear Installation Continued

1. Remove the top hatch **(A)** to access the nose gear/rudder servo arm.

2. Attach the nose gear pushrod **(B)** to the servo arm **(C)**. Attach the pushrod to the third outermost hole as shown and re-install the pushrod retainer.

When needed, disassemble in reverse order.





Battery Installation and ESC Arming

Battery Selection

We recommend the Spektrum 5000mAh 22.2V 6S 30C Li-Po battery (SPMX50006S30). 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.

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

IMPORTANT: The ESC comes programmed for a 6-cell battery. To use a battery with a different cell count you must first reprogram your ESC. Refer to your ESC manual for instructions to reprogram the ESC for a different cell count. REMOVE!!!!!!!!!!

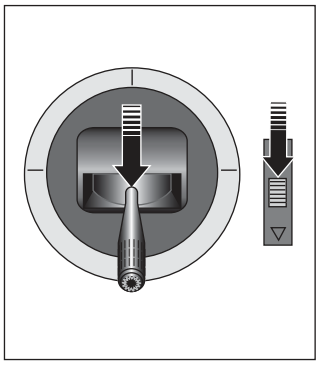
1. Lower the throttle and throttle trim to the lowest settings. Power on the Transmitter, then wait 5 seconds.
2. It is recommended to apply hook and loop tape **(A)** to the bottom of your battery.
3. Remove the battery hatch **(B)** by pulling up on the side tabs.
4. Install the fully charged battery **(C)** in the battery compartment as shown. *See the Adjusting the Center of Gravity instructions for more information.*
5. Make sure the flight battery is secured using the hook and loop straps.
6. Connect the battery to the ESC.
7. Keep the aircraft level on its wheels, immobile and away from wind or the system will not initialize.

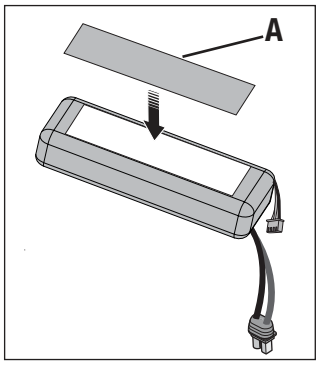
Once armed:

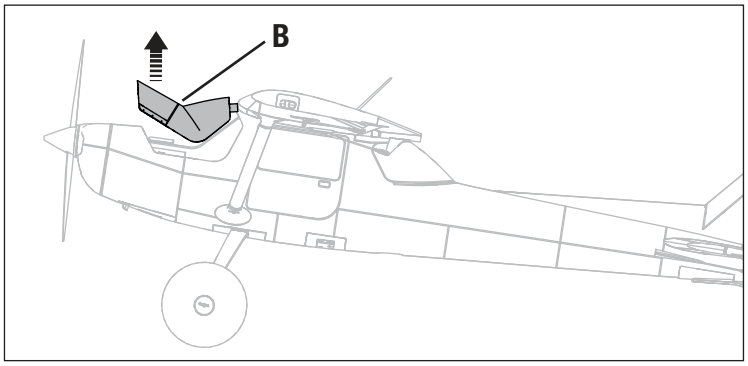
- The ESC will sound a series of tones (number of tones depend on the cell count of the battery).
- The control surfaces will cycle once for AS3X or twice for SAFE technology if it is turn ON.
- An LED will light on the receiver.

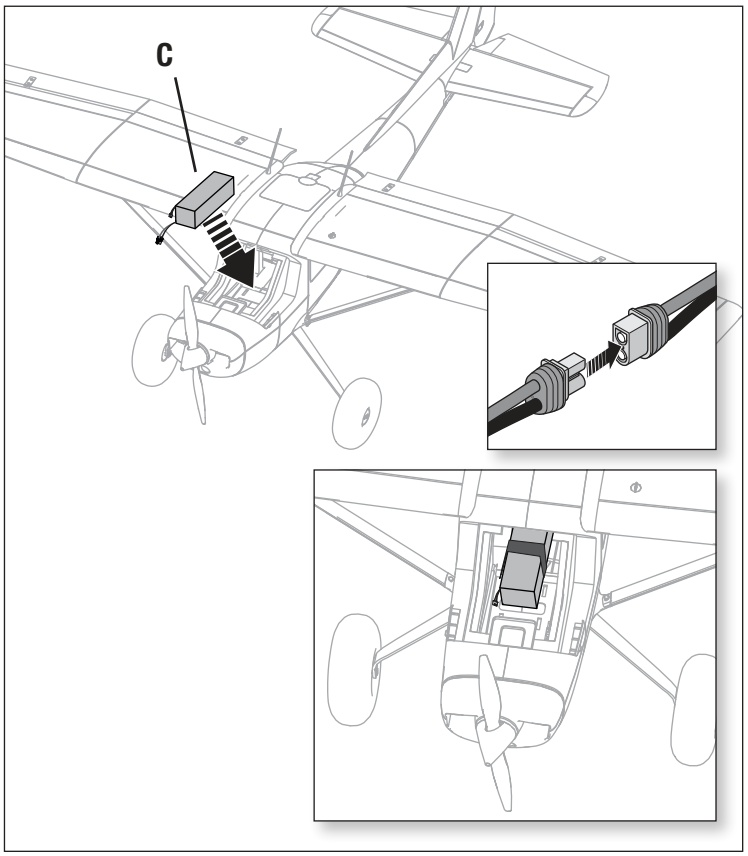
8. Reinstall the battery hatch.

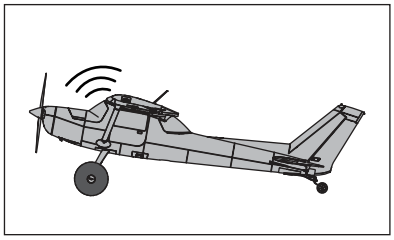
When needed, disassemble in reverse order.











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

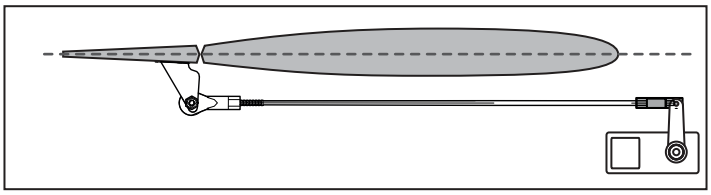
Control Surface Centering and Adjusting a Ball Link

IMPORTANT: Perform the Control Direction Test before performing control surface centering.

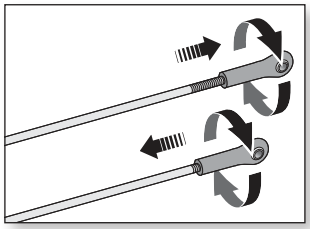
While SAFE is inactive, mechanically center the control surfaces.

IMPORTANT: Correct operation of the SAFE system requires sub-trim and trim at 0.

After binding a transmitter to the receiver, set the trims and sub-trims to 0, ensure the servo arms are in the correct positions, then adjust the linkages to center the control surfaces.



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

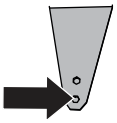
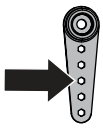
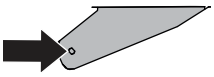
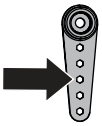
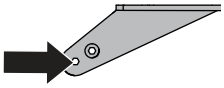
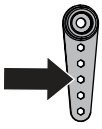
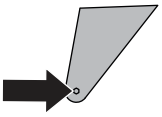
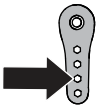


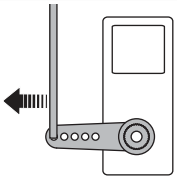
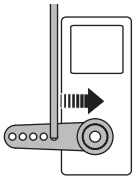
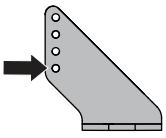
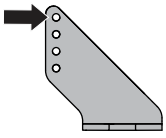
Control Horn and Servo Arm Settings

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.

After flying, you may choose to adjust the linkage positions for the desired control response. See the table to the right.

IMPORTANT: If control throws are changed from the factory settings, the AR637T gain values may need to be adjusted. Refer to the Spektrum AR637T manual for adjustment of gain values.

	Horns	Arms
Elevator		
Rudder		
Ailerons		
Flaps		

More control throw	Less control throw
	
	

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 siganl 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.

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 your transmitter's main screen when the telemetry information is being received.
	5. Go to the FUNCTION LIST (Model Setup)
	6. Select TELEMETRY; Smart ESC
	7. Set Total Cells: 4
	8. Set LVC Alarm: 3.4V Set Alarm; Voice/Vibe
	9. Set pole count; 12 pole

SAFE® Select Switch Designation *BNF*

Stick Inputs

Once SAFE Select is enabled, you can choose to fly in SAFE mode full-time, or assign a switch. Any switch on any channel between 5 and 9 can be used on your transmitter.

⚠ **WARNING**: Do not assign Aux 2 to SAFE Select during transmitter setup. If SAFE Select is assigned to Aux 2, the throttle channel will reverse in flight once SAFE is enabled.

If the aircraft is bound with SAFE Select disabled, the aircraft will be in AS3X mode exclusively.

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

IMPORTANT: To be able to assign a switch, first verify:

- The aircraft was bound with SAFE Select enabled.
- Your choice for the SAFE Select switch is assigned to a channel between 5 and 9 (Gear, Aux1-4), and travel is set at 100% in each direction.
- The aileron, elevator, rudder and throttle direction are set to normal, not reverse.
- The aileron, elevator, rudder and throttle are set to 100% travel. If dual rates are in use, the switches need to be in the 100% position.

See your transmitter manual for more information about assigning a switch to a channel.

TIP: If a SAFE Select switch is desired for your 6-function aircraft, and you are using a 6 channel transmitter, the SAFE Select switch channel will have to be shared with either channel 5 or 6 of the transmitter.

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:

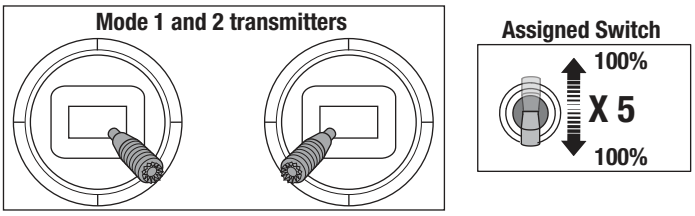
https://www.youtube.com/watch?v=o-46P066cik

Assigning a Switch

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

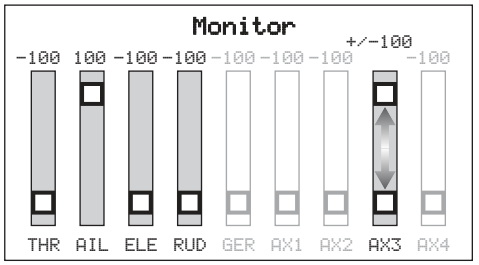
Repeat the process to assign a different switch or to deactivate the current switch.

SAFE Select Switch Assignment Stick Positions



TIP: Use the channel monitor to verify channel movement.

This example of the channel monitor shows the stick positions for assigning a switch, the switch selection on Aux3, and +/- 100% travel on the switch.



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 and 9 (Gear, Aux1-4).
	4. Set switch H (throttle cut) to prevent accidental motor operation.
	5. Power ON the aircraft. A signal bar appears on your transmitter's main screen when the telemetry information is being 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 as desired for each switch position.

Thrust Reversing *(Optional)*

The Avian™ Smart ESC in this aircraft is equipped with thrust reversing, but it must be enabled before it will function. Reversing the motor can be helpful when taxiing or for shortening ground roll after a landing. Flipping the designated switch reverses motor rotation, throttle will still control motor speed.

⚠ **WARNING**: Never attempt to use thrust reversing in flight. Applying reverse thrust while in flight will result in loss of control and possibly a crash. Crash damage is not covered under warranty.

IMPORTANT: The motor will draw more current in reverse as the propeller becomes less efficient and creates more drag. This can reduce flight time.

IMPORTANT: Thrust reversing requires a Spektrum receiver with Smart Throttle (including the AR637TA and AR631) and a Spektrum transmitter with a minimum of 7 channels. The Avian ESC is also backwards compatible with conventional receivers (PWM output signal) for normal operation, but reversing functions are only available with Smart Throttle technology.

Thrust Reversing Setup

Transmitter

On the transmitter, select an open channel (not already in use), and assign it to an open switch. Use a different channel for thrust reversing and SAFE Select. Motor reversing is assigned to Aux 2/Channel 7, by default, in the Smart ESC. If SAFE Select and the ESC are assigned to the same channel, the motor will reverse in flight.

⚠ **WARNING**: Do not assign thrust reversing and SAFE Select to the same channel. Doing so will reverse the motor when SAFE Select is enabled during flight, resulting in a crash.

ESC

Set up the transmitter according to the setup chart, and bind your transmitter to the airplane. The airplane must be powered on and bound to the transmitter to access the Smart ESC programming.

As an alternative, it is possible to program the ESC with the Smart ESC Programming Box (SPMXCA200, optional, not included).

ESC Reversing 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. Set elevator and aileron to high rate.
	5. Set Flight Mode to AS3X (The menu will not open if the Flight Mode is set to SAFE).
	6. Power ON the aircraft. A signal bar appears on the transmitter main screen when the telemetry information is being received.
	7. From the main screen navigate to the last screen past the telemetry screens, the Avian Programming menu (Avian Prog).
	8. All configuration in the Avian Programming menu is done by moving the elevator and aileron stick. Follow the on-screen prompts to access the menu. Move the stick up or down to move the cursor, left or right to select a setting.
	9. Set BRAKE TYPE: Reverse
	10. Set BRAKE FORCE: 7
	11. Set THRUST REV: Select the channel you designated for thrust reversing in your transmitter. CH7 is the selection by default, but do not use this default option if you are using Aux2/Ch7 for SAFE Select.
	12. Select EXIT W/ SAVE to save your selections

Control Direction Test

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

The BNF Basic version of this model has a built in aileron to rudder mix, when the ailerons are deflected the rudder will move.

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

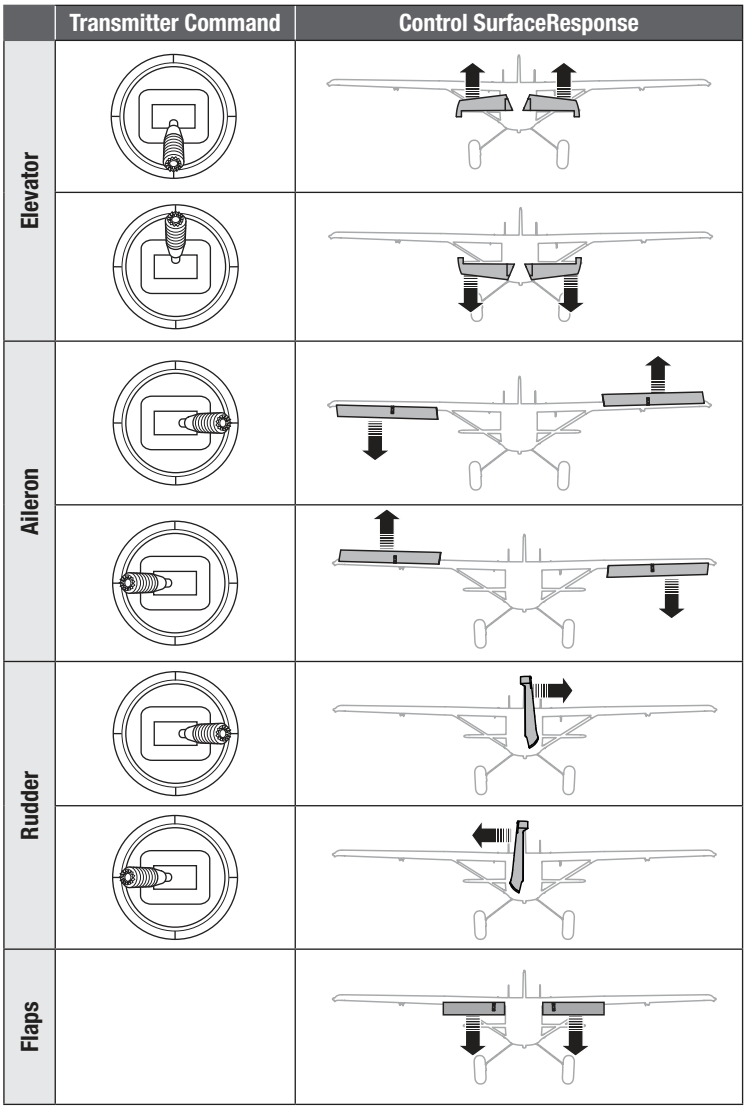
1. Move the aileron stick to the left. The left aileron should move up and the right aileron down, which will cause the aircraft to bank left.
2. Move the aileron stick to the right. The right aileron should move up and the left aileron down, which will cause the aircraft to bank right.

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.

Flaps

1. Move your flap control switch to the “half flaps” position.
2. Confirm that the flaps move down.
3. Move flap control switch to the full flaps position.
4. Confirm the flaps move farther down than in step two.



AS3X Response Test

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.

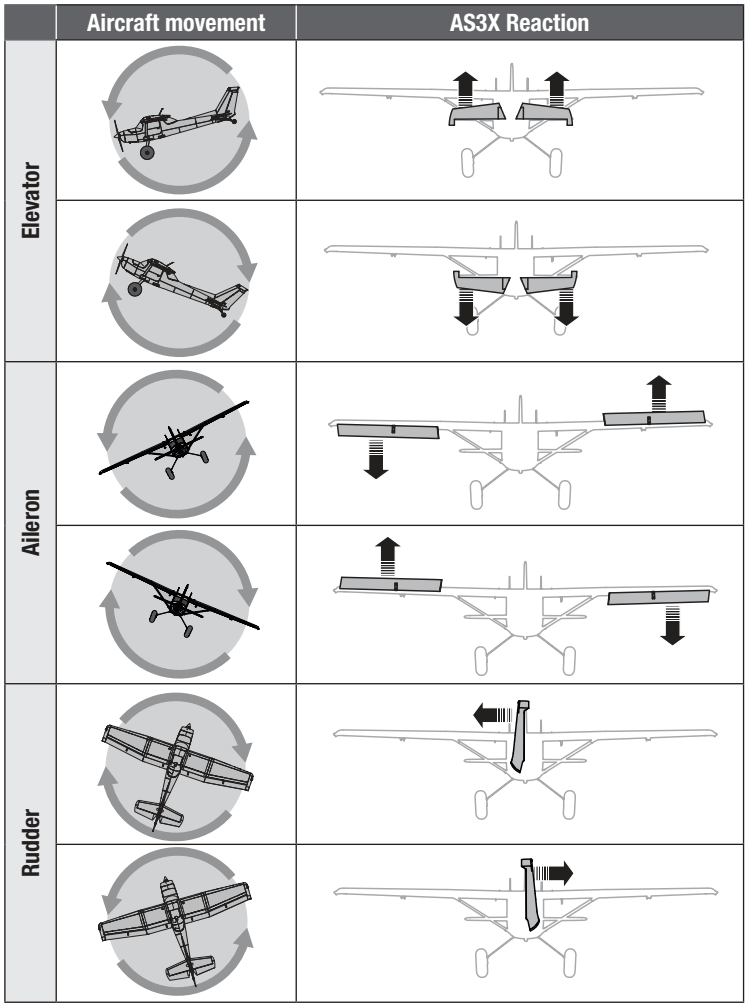
1. Raise the throttle just above 25%, then lower the throttle to activate AS3X.

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

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.

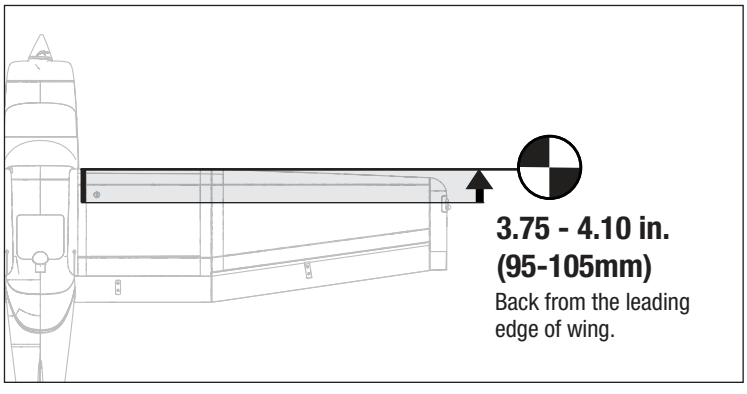
Due to different effects of torque, lift, and drag some aircraft require trim changes with different speeds and throttle settings. Mixes are pre-loaded into the receiver to compensate for these changes. The mixes become active the first time the throttle is raised above 25%. The control surfaces may be offset slightly at different throttle settings after the first time throttle is raised. Trimming the plane in flight should be done at 80-100% throttle for best results.



Center of Gravity (CG)

The CG location is measured back from the leading edge of the wing, at the root. This CG location has been determined with the recommended battery (SPMX50006S30) placed almost all the way to the back of the battery compartment with the model balanced upright. Adjust the battery forward or aft as needed to achieve the proper CG location.

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

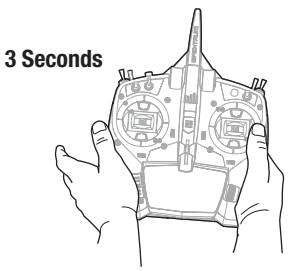


In-Flight Trimming

During your first flight, trim the aircraft for level flight at 80-100% throttle. Make small trim adjustments with your transmitter's trim switches to achieve straight and level flight.

After adjusting 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.

Flying Field

Always choose a wide-open space for flying your aircraft. It is recommended that you fly at a designated RC flying field. Always avoid flying near houses, trees, wires and buildings. Avoid flying in areas where there are many people, such as parks, schoolyards, or soccer fields.

Range Check your Radio System

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

Understanding 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 will see oscillation. If oscillation occurs, decrease airspeed. If oscillation persists, refer to the Troubleshooting Guide for more information.

Takeoff

Place the aircraft in position for takeoff (facing into the wind). Set your transmitter to low rate and gradually increase the throttle from 60% to full and steer with the rudder. As the airplane gains speed, gently pull back on the elevator and climb to a comfortable altitude. You may also set flaps to half travel for shorter takeoffs.

Flying

Fly the airplane and trim it for level flight at ¾ throttle with flaps up. After adjusting trim in flight do not touch the control sticks for 3 seconds. This allows the receiver to learn the correct settings to optimize AS3X performance.

Landing

Make sure to land the aircraft into the wind. Start to slow the model down to an approach speed and set the flaps to half travel. If landing in windy conditions, land at half flap travel. If flying in light winds, set flaps to full for final approach.

With flaps, fly the aircraft to approximately 36 inches (90 cm) or less above the runway, using a small amount of throttle for the entire descent. Keep the throttle on until the aircraft is ready to flare. During flare, keep the wings level and the aircraft pointed into the wind. Gently lower the throttle while pulling back on the elevator to bring the aircraft down on its wheels.

Refer to the Dual Rates and expo chart for proper flap to elevator mix to help reduce the pitching tendency from flaps.

⚠ **WARNING:** Always decrease throttle at propeller strike.

NOTICE: When using flaps with this airplane, down elevator to flap mixing is required. Failure to do so may result in loss of control or a crash.

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 airplane in direct sunlight or a hot, enclosed area such as a car. Doing so can damage the foam.

Low Voltage Cutoff (LVC)

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. 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 Z-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.

Flying Tips and Repairs Continued

Water Takeoff and Landing Using the Optional Float Set (Float Set EFLA5600 and Wire Mounting Set EFLA5605)

Only use the floats if you are comfortable flying your aircraft and have repeatedly taken off, flown and landed with success. Flying off water poses a higher risk to the airplane because the electronics can fail if fully immersed in water.

Always ensure the optional floats are secure on the fuselage and that the float rudder system is correctly connected and moves freely before putting the aircraft in water.

To take off on water, steer with the rudder and slowly increase the throttle. Keep the wings level on takeoff. Hold a small amount (1/4–1/3) of up elevator and the aircraft will lift off once flying speed is reached.

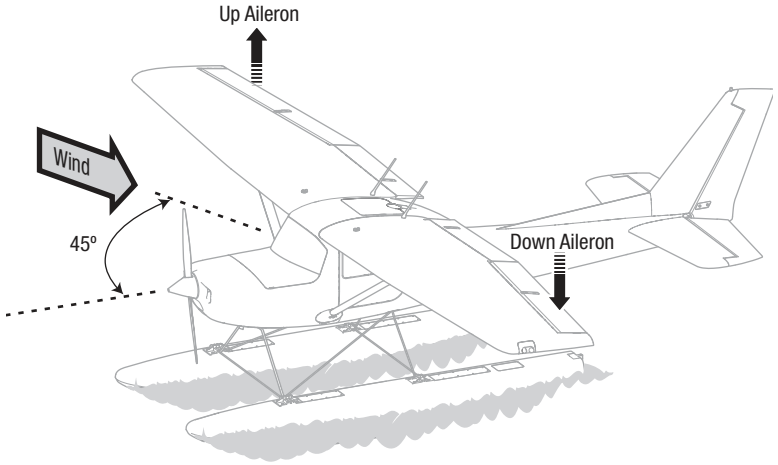
To land this aircraft on water, fly the aircraft to a couple of feet off the surface of the water. Reduce throttle and add up elevator to flare the aircraft.
When taxiing, you must use throttle to move the aircraft forward, but steer with the rudder stick. The stick will turn both the aircraft rudder and the small rudder attached to the floats.

Avoid taxiing cross wind if there is a breeze, as this can cause the aircraft to flip over if wind gets under the upwind wing. Taxi 45 degrees into the direction of the wind (not perpendicular to the wind) and use aileron to hold the upwind wing down. The aircraft will naturally try to face into the wind when taxiing.

Always fully dry the aircraft after landing on water.

⚠ **CAUTION:** Never go alone to get a downed model in the water.

⚠ **CAUTION:** If at any time water splashes in the fuselage while flying from water, bring the airplane to shore, open the battery hatch and immediately remove any water that may have gotten in the fuselage. Leave the battery hatch open overnight to let the inside dry out and to prevent moisture damage to the electronic components. Failure to do so could cause the electronic components to fail, which could result in a crash.



Taxi 45 degrees into the direction of the wind.

SAFE Select Flying Tips

When flying in SAFE Select mode the aircraft will return to level flight any time the aileron and elevator controls are at neutral. Applying aileron or elevator control will cause the airplane to bank, climb or dive, and the amount the stick is moved will determine the attitude the airplane flies. Holding full control will push the aircraft to the pre-determined bank and roll limits but it will not go past those angles.
When flying with SAFE Select it is normal to hold the control stick deflected with moderate aileron input when flying through a turn. To fly smoothly with SAFE Select avoid making frequent control changes and don't attempt to correct for minor deviations. With SAFE Select, holding deliberate control inputs will command the aircraft to fly at a specific angle and the model will make all corrections to maintain that flight attitude.
Return the elevator and aileron controls to neutral before switching from SAFE Select mode to AS3X mode. If you do not neutralize controls when switching into AS3X mode, the control inputs used for SAFE Select mode will be excessive for AS3X mode and the aircraft will react immediately.

Differences between SAFE Select and AS3X modes

This section is generally accurate but does not take into account flight speed, battery charge status, and many other limiting factors.

- In SAFE Select mode the aircraft will self level when the control stick is neutralized.
  In AS3X mode the aircraft will continue to fly at its present attitude when the control stick is neutralized.
- In SAFE Select mode holding a small amount of control will result in the model banking or pitching to a moderate angle and remaining at that angle as long as the control stick doesn't move.
  In AS3X mode holding a small amount of control will result in the model continuing to pitch or roll at a slow rate as long as the control stick doesn't move.
- In SAFE Select mode holding full control will result in the airplane banking or pitching to the predetermined limits and the aircraft will keep flying at that attitude as long as the control stick is fully deflected.
  In AS3X mode holding full control will result in the aircraft pitching or rolling as fast as possible, and it will continue to rapidly change attitude as long as the control stick is fully deflected.

Post Flight

1. Disconnect the flight battery from the ESC (Required for Safety and battery life).
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.

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, clevis, 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

Troubleshooting Guide Continued

Problem	Possible Cause	Solution
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 low	Use recommended battery

Replacement Parts

Part #	Description
EFL1025018	Motor Mount Set: C-Z Splendor
EFL1045013	Prop Shaft: C-Z Cub
EFL12412	Tundra Tires: Carbon-Z Cub SS 2
EFL12751	Fuselage: CZ Cessna 150T
EFL12752	Landing gear: CZ Cessna 150T
EFL12753	Axles: CZ Cessna 150T
EFL12754	Gear plate: CZ Cessna 150T
EFL12755	Tailwheel Assembly: CZ Cessna 150T
EFL12760	Tailwheel: CZ Cessna 150T
EFL1402	Left Wing: C-Z Cessna 150
EFL1403	Right Wing: C-Z Cessna 150
EFL1404	Horizontal TailSet:C-Z Cessna150
EFL1405	Rudder: C-Z Cessna 150
EFL1406	Cowling: C-Z Cessna 150
EFL1407	Battery Hatch: C-Z Cessna 150
EFL1409	Wing & Stab Tube: C-Z Cessna 150
EFL1410	Strt Set W/Hrdwr:C-ZCessna 150
EFL1411	Pushrod Set: C-Z Cessna 150
EFL1413	Hardware Pack: C-Z Cessna 150
EFL1414	Decal Set: C-Z Cessna 150
EFL1417	Top Hatch: C-Z Cessna 150
EFL1418	Light Set w/covers:C-Z Cessna150
EFL1419	Wing Thumb Screws:C-Z Cessna 150
EFL1420	Spinner 62mm; C-Z Cessna 150
EFL1421	Radio Antennas(2):C-Z Cessna 150
EFLM7450	BL50 BL Outrunner Motor, 525Kv
EFLM74501	Motor Shaft: BL50 Outrunner
EFLP1570E	15 x 7 Electric Propeller
EFLR7145	26g Digital MG Mini Servo
EFLR7155	13g Digital Micro Servo
SPMAR637TA	6-Channel AS3X/SAFE Telemetry Receiver
SPMXAE1060	Avian 60Amp Brushless Smart ESC 6S

Optional Parts

Part #	Description
EFL1408	Main Landing Gear w/axles: C-Z Cessna 150
EFL1411	Pushrod Set: Carbon-Z Cessna 150
EFL1412	Tire Set: C-Z Cessna 150
EFL1415	Nose Gear Strut: C-Z Cessna 150
EFL1416	Wheel Pant Set: C-Z Cessna 150
EFLA5600	Carbon-Z Float Set
EFLA5605	Wire Mounting Set CZ Cessna 150: Carbon-Z Floats
SPMR6775	NX6 6-Channel Transmitter Only
SPMR8200	NX8 8-Channel DSMX Transmitter Only
SPMR6655	DX6e 6-Channel Transmitter Only
SPMXC2010	S2200 G2 AC Smart Charger, 2x200W
SPMXC1050	S1500 DC Smart Charger, 1x500W
SPMXC1000	S1200 DC Smart Charger, 1x200W
SPMXCA507	Adapter: IC3 Battery / IC5 Device
SPMX70006S30	22.2V 7000mAh 6S 30C Smart LiPo: IC5
SPMX40006S30	22.2V 4000mAh 6S 30C Smart LiPo: IC5
SPMX50004S30	14.8V 5000mAh 4S 30C Smart LiPo: IC5
SPMX76S30	22.2V 7000mAh 6S 30C G2 Smart LiPo: IC5
SPMX56S100	22.2V 5000mAh 6S 100C G2 Smart LiPo: IC5
SPMX56S50	22.2V 5000mAh 6S 50C G2 Smart LiPo: IC5
SPMX56S30	22.2V 5000mAh 6S 30C G2 Smart LiPo: IC5
SPMX46S50	22.2V 4000mAh 6S 50C Smart LiPo: IC5

AMA National Model Aircraft Safety Code

Academy of Model Aeronautics
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, (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: BRWTIARLGTNG1
This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and/or antenna and your body (excluding fingers, hands, wrists, ankles and feet). This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Supplier's Declaration of Conformity

EFL Carbon-Z Cessna 150T BNF Basic and PNP (EFL12750/EFL12775)
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-TIARLGTNG1
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 Carbon-Z Cessna 150T PNP (EFL12775); 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 Carbon-Z Cessna 150T BNF Basic (EFL12750); 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:
2402 – 2478 MHz
19.95dBm

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.

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

Australia/New Zealand:

E328

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Other patents pending.
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