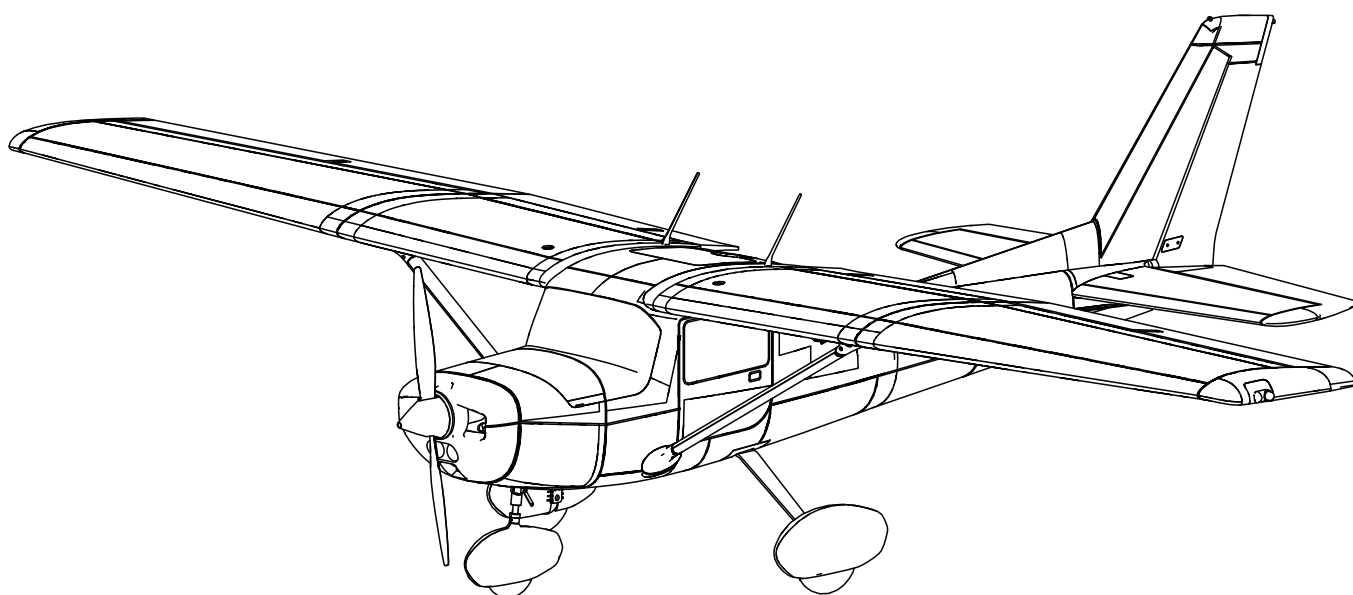


**HORIZON**<sup>®</sup>  
H O B B Y

**E-flite**<sup>®</sup>  
ADVANCING ELECTRIC FLIGHT

# Carbon-Z<sup>®</sup> Cessna 150



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

**SAFE**<sup>®</sup> 

SAFE<sup>®</sup> Select Technology, Optional Flight Envelope Protection

**CARBON**  **STRUCTURE**

**Bind-N-Fly**<sup>®</sup>  
BASIC

**Plug-N-Play**<sup>®</sup>

## 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 [www.horizonhobby.com](http://www.horizonhobby.com) and click on the support tab for this product.

## Meaning of Special Language:

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

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

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

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



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

This is a sophisticated hobby product. 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.

# 14+

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



**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.

## 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.

## Charging Warnings

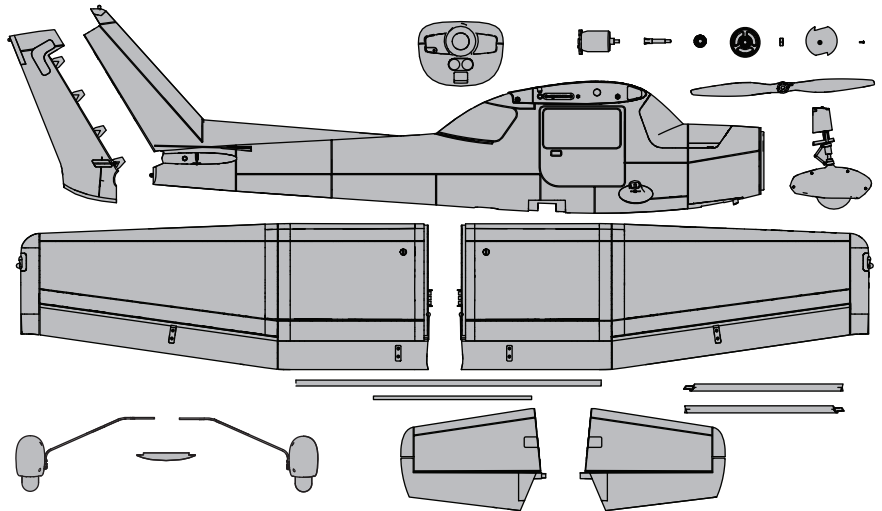


**CAUTION:** All instructions and warnings must be followed exactly. Mishandling of Li-Po batteries can result in a fire, personal injury, and/or property damage.

- **NEVER LEAVE CHARGING BATTERIES UNATTENDED.**
- **NEVER CHARGE BATTERIES OVERNIGHT.**
- By handling, charging or using the included Li-Po battery, you assume all risks associated with lithium batteries.
- If at any time the battery begins to balloon or swell, discontinue use immediately. If charging or discharging, discontinue and disconnect. Continuing to use, charge or discharge a battery that is ballooning or swelling can result in fire.
- Always store the battery at room temperature in a dry area for best results.
- Always transport or temporarily store the battery in a temperature range of 40–120° F (5–49° C). Do not store battery or aircraft in a car or direct sunlight. If stored in a hot car, the battery can be damaged or even catch fire.
- Always charge batteries away from flammable materials.
- Always inspect the battery before charging and never charge dead or damaged batteries.
- Always disconnect the battery after charging, and let the charger cool between charges.
- Always constantly monitor the temperature of the battery pack while charging.
- **ONLY USE A CHARGER SPECIFICALLY DESIGNED TO CHARGE LI-PO BATTERIES.** Failure to charge the battery with a compatible charger may cause fire resulting in personal injury and/or property damage.
- Never discharge Li-Po cells to below 3V under load.
- Never cover warning labels with hook and loop strips.
- Never charge batteries outside recommended levels.
- Never attempt to dismantle or alter the charger.
- Never allow minors under the age of 14 to charge battery packs.
- Never charge batteries in extremely hot or cold places (recommended between 40–120° F or 5–49° C) or place in direct sunlight.

## Box Contents

Quick Start Information			
Transmitter Setup	Blank (Acro) Model		
	Servo Reversing: Normal		
	Travel Adjust (All Surfaces): 100%		
Dual Rates*		<b>Hi Rates</b>	<b>Low Rates</b>
	Ail	▲ = 35mm ▼ = 35mm	▲ = 28mm ▼ = 28mm
	Ele	▲ = 32mm ▼ = 32mm	▲ = 25mm ▼ = 25mm
	Rud	▶ = 60mm ◀ = 60mm	▶ = 45mm ◀ = 45mm
Flap*	Full Flap	Half Flap	
	60mm ▼	28mm ▼	
Center of Gravity (CG)	95-105mm back from leading edge at the wing root.		
Flight Timer Setting	6+ minutes		
* Measured at the widest point and the root.			

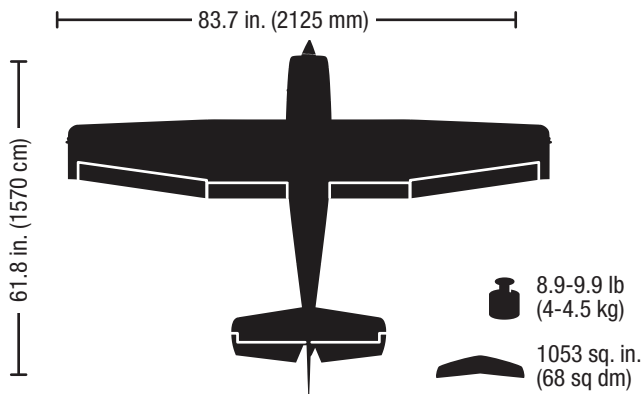


## Specifications

For replacement part numbers see page 80		<b>BNF</b> BASIC	<b>PNP</b> PLUG-N-PLAY
	50-Size Brushless Outrunner Motor 525Kv	Included	Included
	60-Amp, Switch Mode BEC, Brushless ESC	Installed	Installed
	(4) 26 g Metal Gear mini Servo	Installed	Installed
	(2) 13 g Metal Gear micro Servo	Installed	Installed
	Spektrum™ AR636A, 6-Channel AS3X® SAFE Sport Receiver	Installed	6 + Channel Required to Complete
	<b>Battery:</b> 4-6S 4000-7000mAh Li-Po	Required to Complete	Required to Complete
	<b>Battery Charger:</b> 4-6-cell Li-Po battery balancing charger	Required to Complete	Required to Complete
	<b>Recommended Transmitter:</b> Full-Range 6 channel 2.4GHz with Spektrum DSM2®/DSMX® technology with programmable dual rates and exponential.	Required to Complete	Required to Complete

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As of this printing, you are required to register with the FAA if you own this product. For up-to-date information on how to register with the FAA, visit <https://registermyuas.faa.gov/>. For additional assistance on regulations and guidance on UAS usage, visit [knowbeforeyoufly.org/](http://knowbeforeyoufly.org/).

To receive product updates, special offers and more, register your product at [www.e-fliterc.com](http://www.e-fliterc.com)

## Preflight

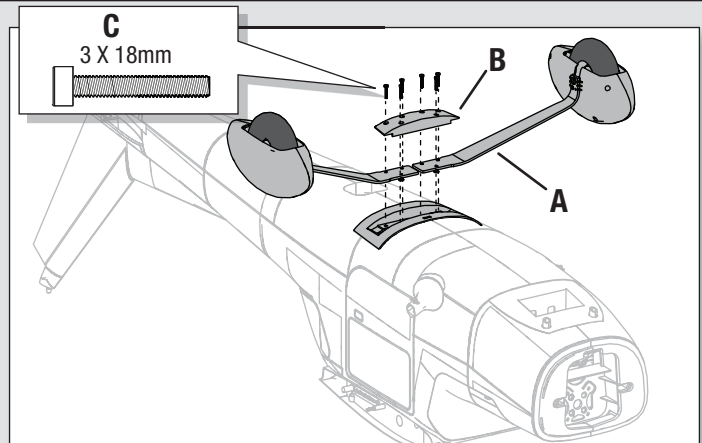
1	Remove and inspect contents.	8	Make sure linkages move freely.
2	Read this instruction manual thoroughly.	9	Perform the Control Direction Test with the transmitter.
3	Charge the flight battery.	10	Perform the AS3X Response Test with the aircraft.
4	Fully assemble the airplane.	11	Adjust flight controls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

## Model Assembly

### Main Gear Installation

- Place the two main landing gear halves (**A**) into the pocket on the bottom of the fuselage.
- Secure them into place using the mounting plate (**B**) and 6 included screws (**C**).

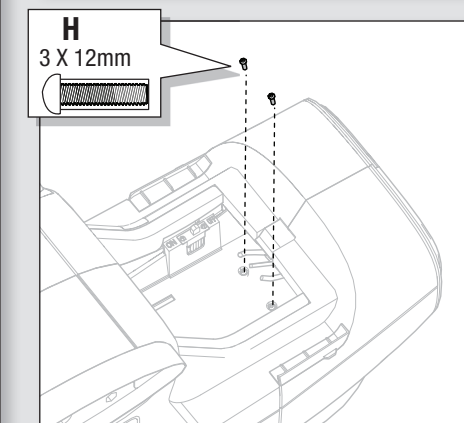
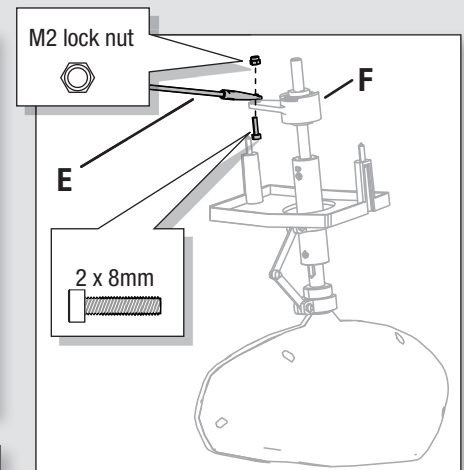
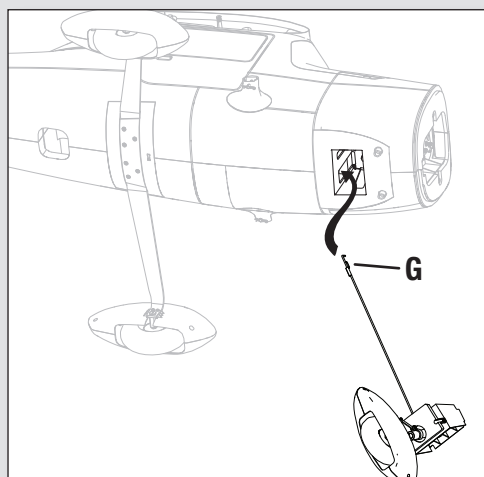
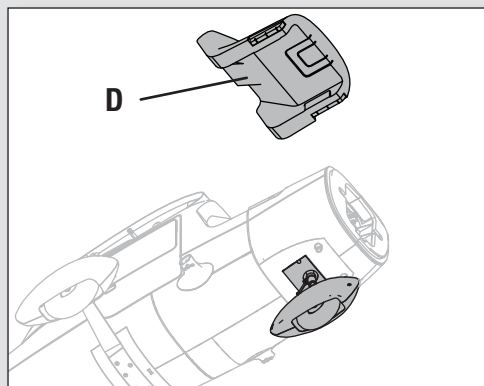
When needed, disassemble in reverse order.



### Nose Gear Installation

- Remove the battery hatch (**D**) to access the location where the nose assembly screws will be installed.
- Connect the nose gear pushrod (**E**) to the nose gear steering arm (**F**) using the included nut and bolt as shown. Part of the box surrounding the steering arm has been removed to show steering arm.
- Remove the clasp (**G**) at the end of the nose gear pushrod and install the nose gear assembly into the fuselage leading with the pushrod.
- Use the arrows on the bottom of the main mount to install the front gear in the correct direction. The arrows point to the front.
- Guide the pushrod up into the fuselage to meet with the servo horn.
- Secure the nose gear assembly into place using the 2 included screws (**H**).

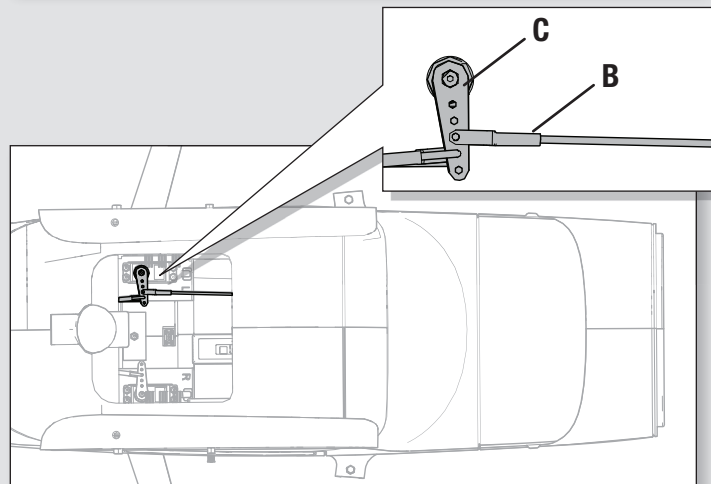
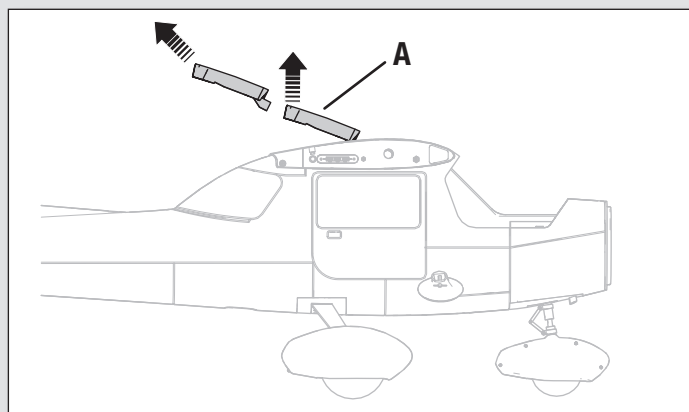
Continue nose gear installation on next page.



## 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 clasp.

When needed, disassemble in reverse order.



## Motor Installation

1. Install the motor with the X-mount (D) on the fuselage using 4 screws (E).
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 2 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.

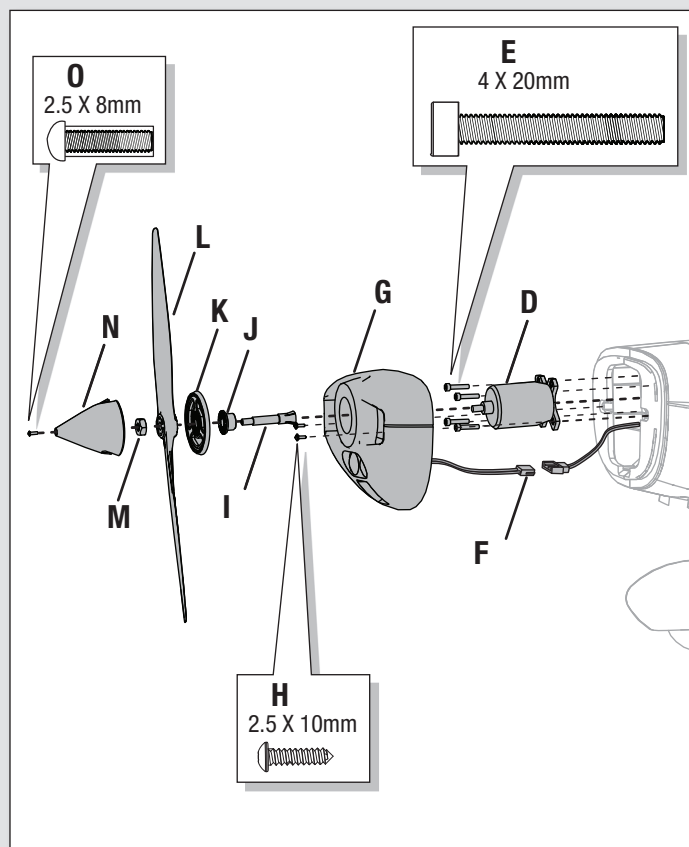
6. Install the spinner (N) onto the prop shaft and secure it into place using the spinner screw (O).

**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.

For more information, view our propeller balancing video on Horizon Hobby's YouTube channel <https://www.youtube.com/watch?v=OXuNnYQ02s4>

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



## Model Assembly *Continued*

### Required Adhesives:

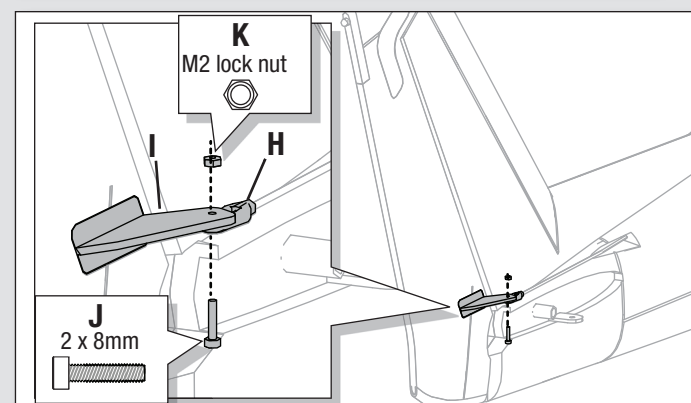
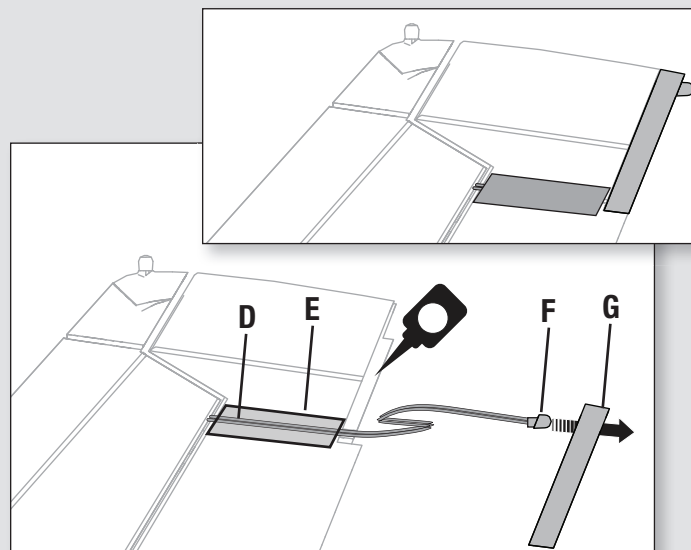
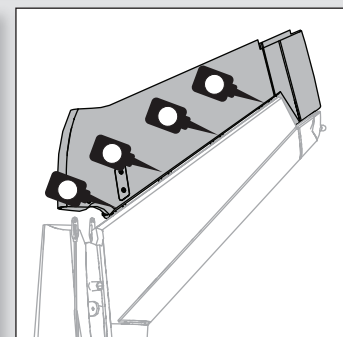
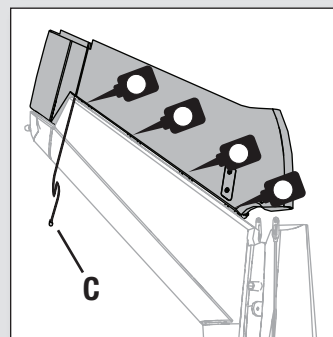
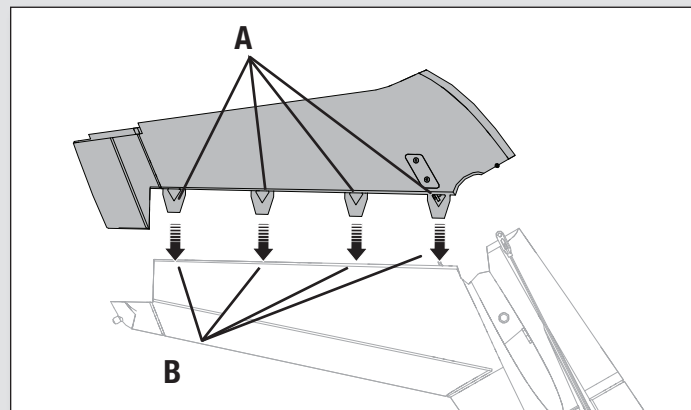


Thin CA

### Rudder Installation

1. Slide the rudder's CA hinges (**A**) into the hinge slots (**B**) of the vertical tail. 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.

When needed, disassemble in reverse order.



## Model Assembly *Continued*

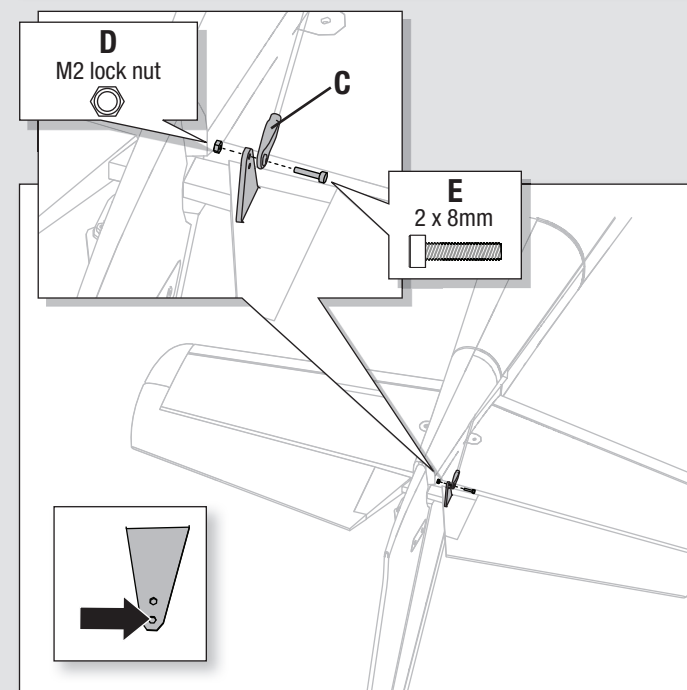
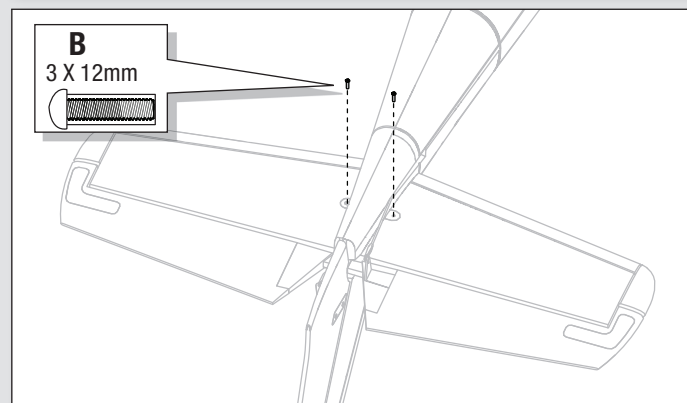
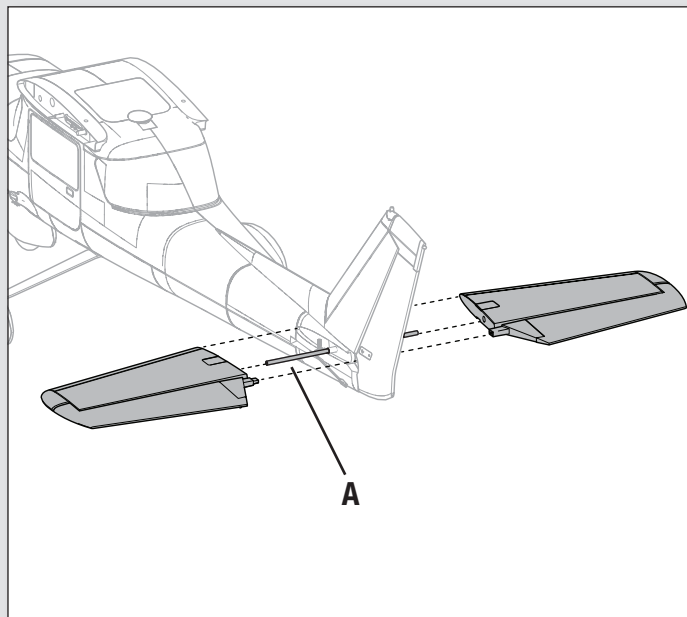
### Horizontal Tail Installation

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 2 screws (B) in the holes in the bottom of the horizontal tail.
4. Attach the ball link (C) to the elevator control horn's outermost hole using the included nut (D) and screw (E).

**Tip:** Use needle-nose pliers or ball link pliers (RV01005) 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.

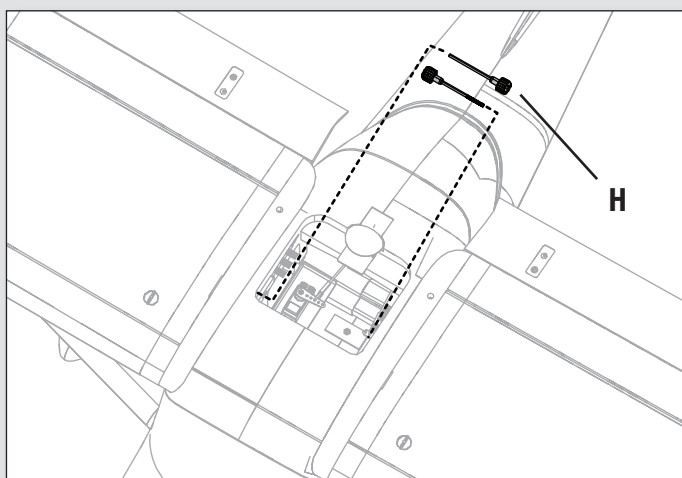
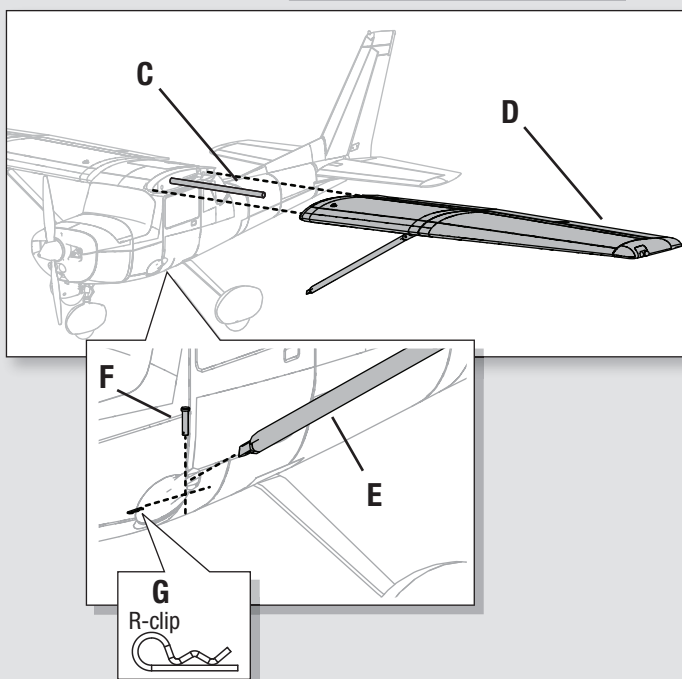
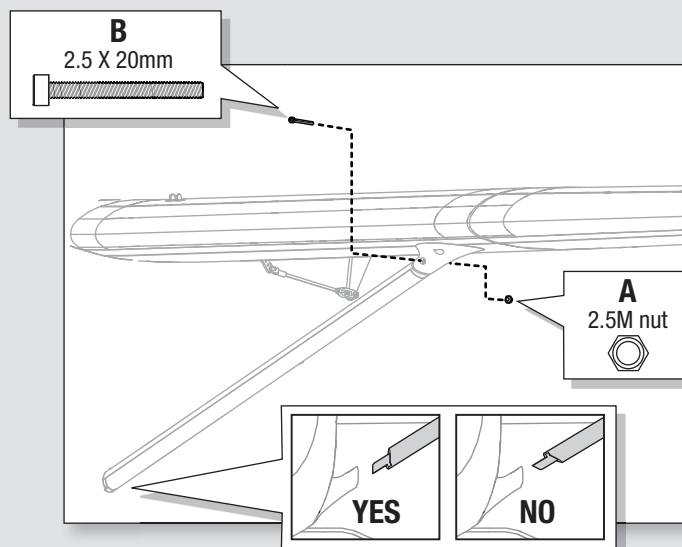


## Model Assembly *Continued*

### Main Wing Installation

1. Secure each wing strut to the wing using the included nut (**A**) and bolt (**B**). Note the orientation of the fuselage end of the strut. The wedge end of the strut should be oriented as shown in the illustration.
2. Slide the wing tube (**C**) into the hole in the wing pocket above the cockpit.
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 2 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.

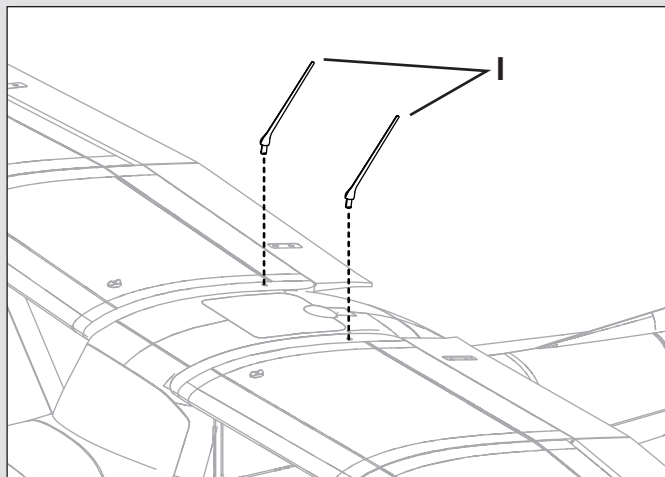




## Model Assembly *Continued*

### Scale Antenna Installation

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



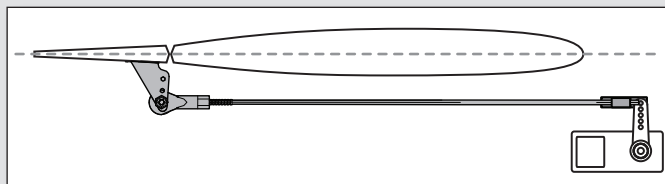
## Control Surface Centering

### Control Surface Centering

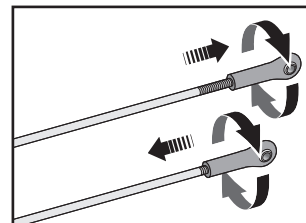
After assembly and transmitter setup, confirm that the control surfaces are centered. If the control surfaces are not centered, mechanically center the control surfaces by adjusting the linkages.

If adjustment is required, turn the ball link on the linkage to change the length of the linkage between the servo arm and the control horn.

After binding a transmitter to the aircraft receiver, set the trims and sub-trims to 0, then adjust the ball links 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.

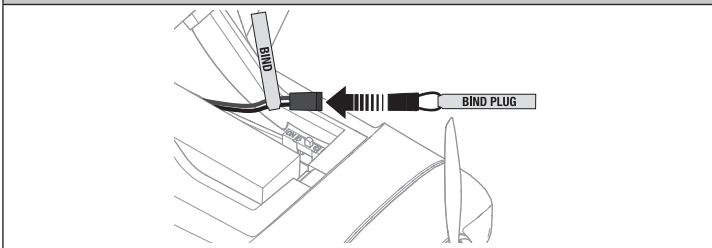


## Transmitter and Receiver Binding / Switching ON and OFF SAFE Select

This product requires an approved Spektrum™ DSM2®/DSMX® compatible transmitter. Visit [www.bindnfly.com](http://www.bindnfly.com) for a complete list of approved transmitters. The aircraft has an optional SAFE Select feature, which can be switched ON or OFF easily by binding in a specific manner as described below.

**IMPORTANT:** Before binding a transmitter, read the Transmitter Setup section of this manual to ensure that your transmitter is properly programmed for this aircraft.

### Bind Plug Installation



### Binding Procedure / Switching ON SAFE Select

**IMPORTANT:** The included AR636A receiver has been programmed for operation specifically for this aircraft. Refer to the receiver manual for correct setup if the receiver is replaced or is used in another aircraft.

**CAUTION:** When using a Futaba® transmitter with a Spektrum DSM module, you must reverse the throttle channel and rebind. Refer to your Spektrum module manual for binding and failsafe instructions. Refer to your Futaba transmitter manual for instructions on reversing the throttle channel.

1. Make sure the transmitter is powered off.
2. Move the transmitter controls to neutral (flight controls: rudder, elevators and ailerons) or to low positions (throttle, throttle trim).\*
3. Install a bind plug in the receiver bind port.
4. Place the aircraft level on its wheels, connect the flight battery to the ESC, then turn ON the switch.  
The ESC will produce a series of sounds. One long tone, then 4, 5 or 6 (factory default) short tones (indicating cell count of the battery) confirm that the LVC is set correctly for the ESC. Confirm the ESC is correctly programmed for the battery being used (4, 5 or 6 cell LiPo).  
The orange bind LED on the receiver will begin to flash rapidly.

5. **Remove the bind plug from the bind port.**
6. Take 3 steps away from the aircraft /receiver and then power ON the transmitter while holding the transmitter bind button or switch. Refer to your transmitter's manual for specific binding instructions.  
**IMPORTANT:** Do not to point the transmitter's antenna directly at the receiver while binding.  
**IMPORTANT:** Keep away from large metal objects while binding.

7. The receiver is bound to the transmitter when the orange bind light on the receiver stays orange. The ESC will also produce a series of three ascending tones. The tones indicate the ESC is armed, provided the throttle stick and throttle trim are low enough to trigger arming.

**IMPORTANT:** Once bound, the receiver will retain its bind and last setting until it has been intentionally changed, even when power is cycled ON and OFF. However, if you notice that bind has been lost, simply repeat the binding process.

#### SAFE Select ON Indication

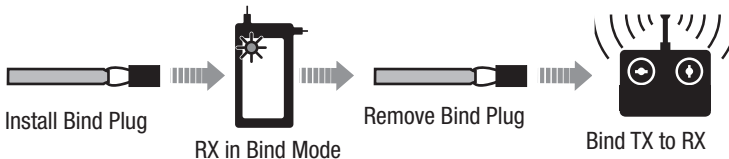
Every time the receiver is powered ON the surfaces will cycle back and forth **twice** with a slight pause at neutral position to indicate that SAFE Select is switched ON.

The throttle will not arm if the transmitter's throttle control is not put at the lowest position. If you encounter problems, follow the binding instructions and refer to the transmitter troubleshooting guide for other instructions. If needed, contact the appropriate Horizon Product Support office.

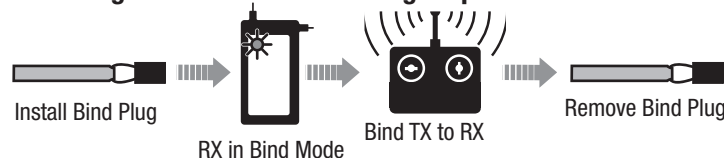
#### \*Failsafe

If the receiver loses transmitter communication, the failsafe will activate. When activated, failsafe moves the throttle channel to its programmed failsafe position (low throttle) that was set during binding. As with most SAFE technology equipped aircraft, the Carbon-Z Cessna 150 is programmed to enter a descending turn on activation of failsafe.

### Switching ON SAFE Select Binding Sequence



### Switching OFF SAFE Select Binding Sequence



### Binding Procedure / Switching OFF SAFE Select

**IMPORTANT:** The included AR636A receiver has been programmed for operation specifically for this aircraft. Refer to the receiver manual for correct setup if the receiver is replaced or is used in another aircraft.

**CAUTION:** When using a Futaba® transmitter with a Spektrum DSM module, you must reverse the throttle channel and rebind. Refer to your Spektrum module manual for binding and failsafe instructions. Refer to your Futaba transmitter manual for instructions on reversing the throttle channel.

1. Make sure the transmitter is powered off.
2. Move the transmitter controls to neutral (flight controls: rudder, elevators and ailerons) or to low positions (throttle, throttle trim).\*
3. Install a bind plug in the receiver bind port.
4. Place the aircraft level on its wheels, connect the flight battery to the ESC, then turn ON the switch.

The ESC will produce a series of sounds. One long tone, then 4, 5 or 6 (factory default) short tones (indicating cell count of the battery) confirm that the LVC is set correctly for the ESC. Confirm the ESC is correctly programmed for the battery being used (4, 5 or 6 cell LiPo).

**The orange bind LED on the receiver will begin to flash rapidly. DO NOT remove the bind plug at this time.**

5. Take 3 steps away from the aircraft /receiver and then power ON the transmitter while holding the transmitter bind button or switch. Refer to your transmitter's manual for specific binding instructions.  
**IMPORTANT:** Do not to point the transmitter's antenna directly at the receiver while binding.  
**IMPORTANT:** Keep away from large metal objects while binding.
6. The receiver is bound to the transmitter when the orange bind light on the receiver stays orange. The ESC will also produce a series of three ascending tones. The tones indicate the ESC is armed, provided the throttle stick and throttle trim are low enough to trigger arming.

7. **Remove the bind plug from the bind port.**

**IMPORTANT:** Once bound, the receiver will retain its bind and last setting until it has been intentionally changed, even when power is cycled ON and OFF. However, if you notice that bind has been lost, simply repeat the binding process.

#### SAFE Select OFF Indication

Every time the receiver is powered ON the surfaces will cycle back and forth **once** to indicate that SAFE Select has been switched OFF.

The throttle will not arm if the transmitter's throttle control is not put at the lowest position. If you encounter problems, follow the binding instructions and refer to the transmitter troubleshooting guide for other instructions. If needed, contact the appropriate Horizon Product Support office.

## SAFE® Select Switch Designation

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

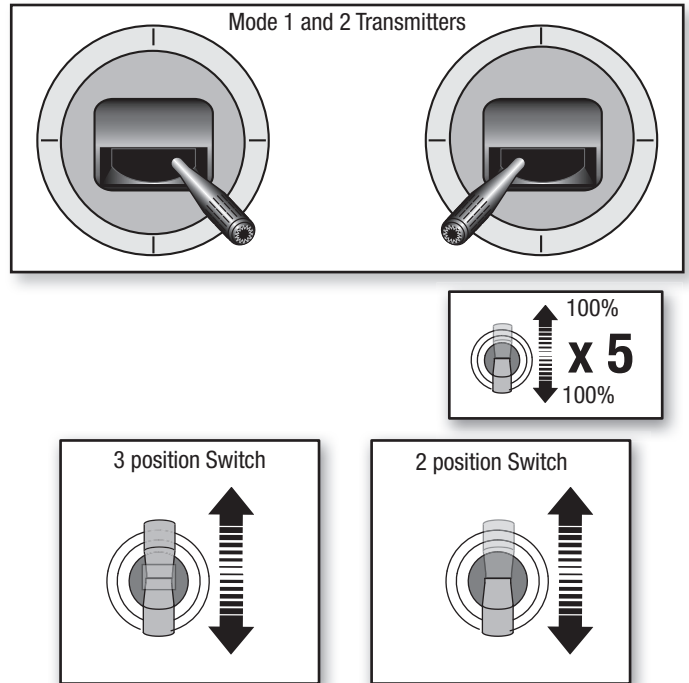
**IMPORTANT:** Before assigning your desired switch, ensure that the travel for that channel is set at 100% in both direction.

### Assigning a switch

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

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

**NOTICE:** SAFE Select is assignable on any unusable Channels 5–9.



## 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 AR636 gain values may need to be adjusted. Refer to the Spektrum AR636 manual for adjustment of gain values.

Factory Settings		
	Horns	Arms
Elevator		
Rudder		
Ailerons		
Flaps		

More control throw	Less control throw

## Battery Installation and ESC Arming

### Battery Selection

We recommend the E-flite® 5000mAh 22.2V 6S 30C Li-Po battery (EFLB50006S30). 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 E-flite 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.

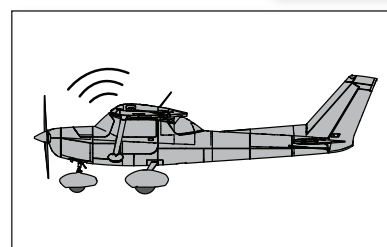
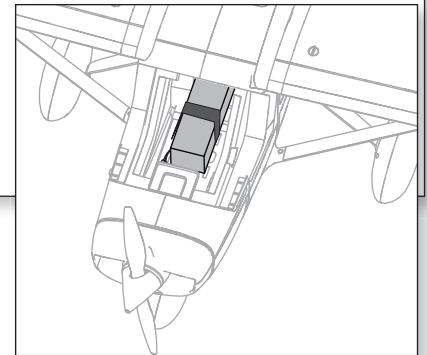
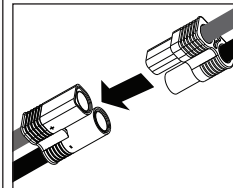
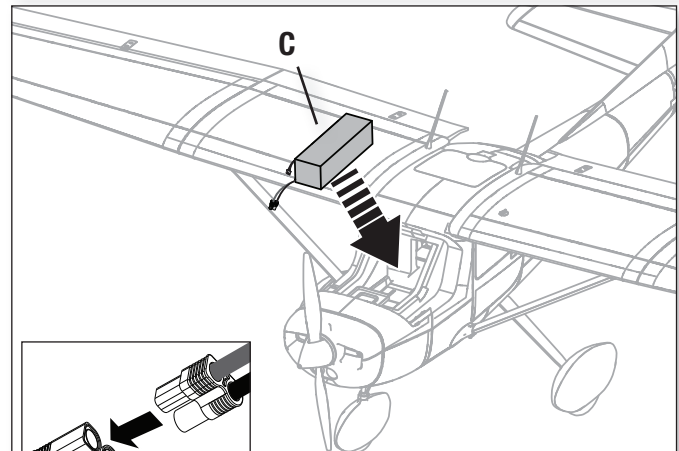
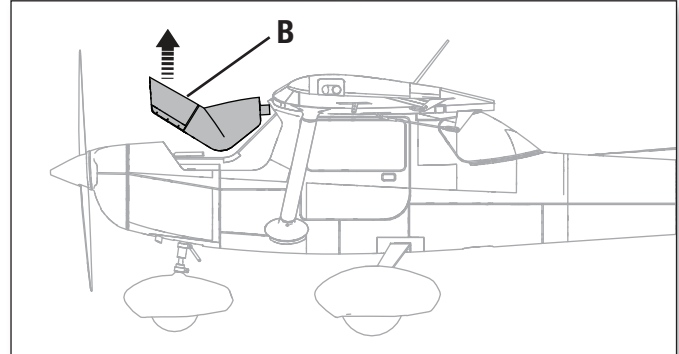
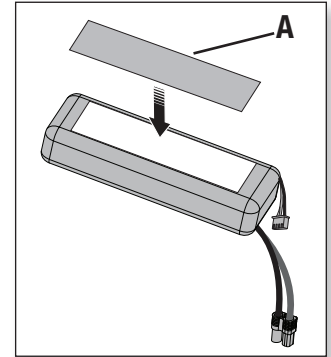
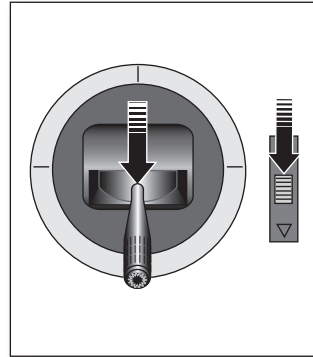
**IMPORTANT:** The ESC comes programmed for a 6-cell battery. To use a battery with a different cell count you must first reprogram your ESC. Refer to your ESC manual for instructions to reprogram the ESC for a different cell count.

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. Turn the switch ON.
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.

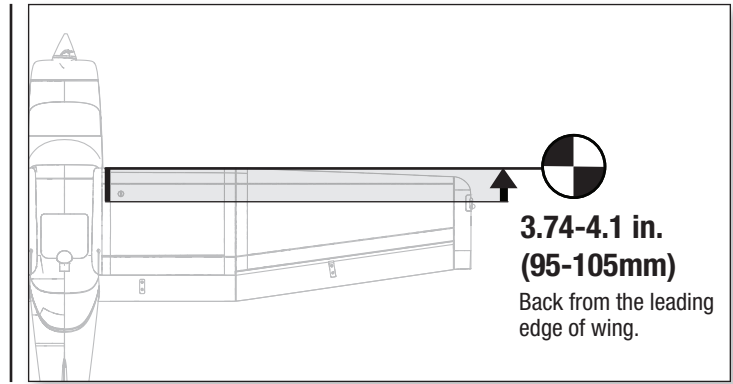
When needed, disassemble in reverse order.



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

## 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 (EFLB50006S30) 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.



## Control Direction Test

Move the controls on the transmitter to make sure the aircraft control surfaces move in the proper direction.

	Transmitter Command		Aircraft Reaction
Elevator	Up Elevator Command		
	Down Elevator Command		
Aileron	Stick Right		
	Stick Left		
Rudder	Stick Right		
	Stick Left		

## 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% and 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.
3. Once the AS3X system is active, control surfaces may move rapidly. This is normal. AS3X is active until the battery is disconnected.

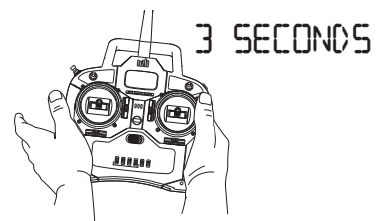
	Aircraft movement	AS3X Reaction
Elevator		
Aileron		
Rudder		

## In Flight Trimming

During your first flight, trim the aircraft for level flight at 3/4 throttle with flaps up. Make small trim adjustments with your transmitter's trim switches to straighten the aircraft's flight path.

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  $\frac{3}{4}$  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.


**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.

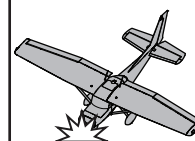
**NOTICE:** If a crash is imminent, reduce the throttle and trim fully. Failure to do so could result in extra damage to the airframe, as well as damage to the ESC and motor.

**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.

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



### 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 (EFLA111, 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.

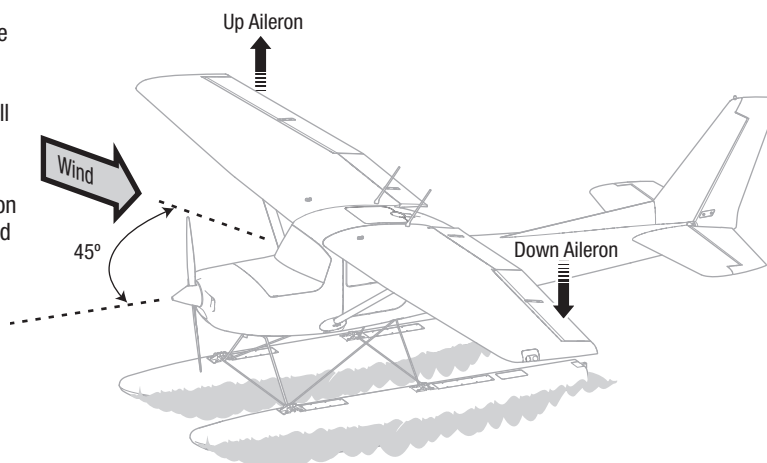
To land this aircraft on water, fly the aircraft to a couple of feet off the surface of the water. Reduce throttle and add up elevator to flare the aircraft. When taxiing, you must use throttle to move the aircraft forward, but steer with the rudder stick. The stick will turn both the aircraft rudder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

SAFE Select will automatically compensate for pitch up with throttle application and flaps deployed.

**IMPORTANT:** If SAFE Select is active, a flap to elevator compensation can be used; however a throttle to elevator mix to reduce the pitchup with flaps deployed should not be used.

During takeoff, apply throttle and hold up some up elevator for short takeoffs, once the desired pitch attitude is reached, hold that amount of elevator, once the elevator stick is returned to center, the aircraft will automatically resume level flight. If not doing a short takeoff, apply throttle and let the tail come up and then gently apply up elevator and allow the plane to fly off the ground.

For landing use the elevator and throttle to adjust your glideslope to the desired landing point. Once at the landing point, just above the ground, reduce throttle and flare.



## PNP Receiver Selection and Installation

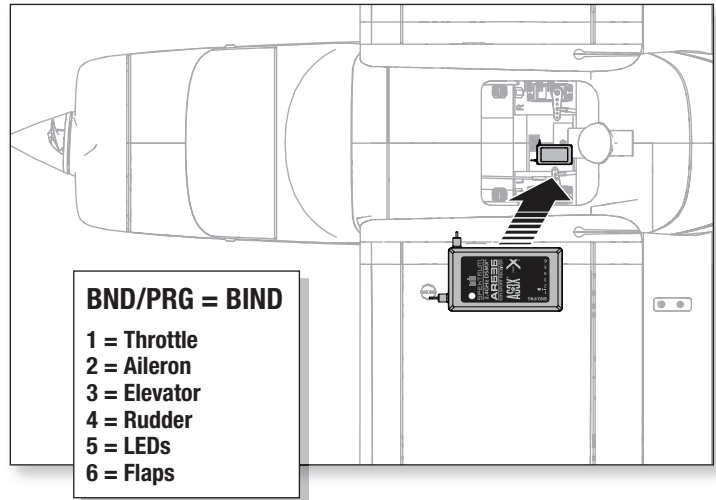
The Spektrum AR636 receiver is recommended for this airplane. If you choose to install another receiver, ensure that it is at least a 6-channel full range receiver. Refer to your receiver manual for correct installation and operation instructions.

**CAUTION:** When using a Futaba® transmitter you must reverse the throttle channel and rebind. Refer to your Futaba transmitter manual for instructions on reversing the throttle channel. Other channels may also need to be reversed.

### Installation (AR636 shown)

1. Remove the top hatch from the fuselage.
2. Mount the receiver parallel to the length of the fuselage as shown. Use double-sided servo tape.
3. Attach the appropriate control surfaces to their respective ports on the receiver using the chart in the illustration.

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



## Post Flight Checklist


1. Turn OFF the switch and 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. For more information, view John Redman's propeller balancing video at <a href="http://www.horizonhobby.com">www.horizonhobby.com</a>
	Motor vibration	Replace parts or correctly align all parts and tighten fasteners as needed
	Loose receiver	Align and secure receiver in fuselage
	Loose aircraft controls	Tighten or otherwise secure parts (servo, arm, linkage, horn and control surface)
	Worn parts	Replace worn parts (especially propeller, spinner or servo)
	Irregular servo movement	Replace servo
Inconsistent flight performance	Trim is not at neutral	If you adjust trim more than 8 clicks, adjust the clevis to remove trim
	Sub-Trim is not at neutral	No Sub-Trim is allowed. Adjust the servo linkage
	Aircraft was not kept immobile for 5 seconds after battery connection	With the throttle stick in lowest position. Disconnect battery, then reconnect battery and keep the aircraft still for 5 seconds
Incorrect response to the AS3X Control Direction Test	Incorrect direction settings in the receiver, which can cause a crash	DO NOT fly. Correct the direction settings (refer to the receiver manual), then fly

## Troubleshooting Guide

Problem	Possible Cause	Solution
Aircraft will not respond to throttle but responds to other controls	Throttle not at idle and/or throttle trim too high	Reset controls with throttle stick and throttle trim at lowest setting
	Throttle servo travel is lower than 100%	Make sure throttle servo travel is 100% or greater
	Throttle channel is reversed	Reverse throttle channel on transmitter.  <b>CAUTION:</b> Make sure to remove propeller before reversing throttle channel on transmitter.
	ESC is not programmed for battery cell count	Refer to ESC manual to program the ESC for your batteries cell count
	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 under-powered	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 is not upright and on its wheels	Place aircraft upright and on its wheels
	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
	Throttle and trim position may be incorrect	Ensure that the throttle and trim are in low position
	Aircraft may not have been immobile, upright and on its wheels	Ensure that the aircraft is immobile, upright and on its wheels
	Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Move aircraft and transmitter to another location and attempt connecting again
	Bind plug left installed in bind port	Rebind transmitter to the aircraft and remove the bind plug before cycling power
	Aircraft bound to different model memory (ModelMatch™ radios only)	Select correct model memory on transmitter
	Flight battery/Transmitter battery charge is too low	Replace/recharge batteries
	Transmitter may have been bound to a different aircraft using different DSM protocol	Bind aircraft to transmitter
Control surface does not move	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and adjust controls
	Wire damaged or connections loose	Do a check of wires and connections, connect or replace as needed
	Transmitter is not bound correctly or the incorrect airplanes was selected	Re-bind or select correct airplanes in transmitter
	Flight battery charge is low	Fully recharge flight battery
	BEC (Battery Elimination Circuit) of the ESC is damaged	Replace ESC
Controls reversed	Transmitter settings are reversed	Perform the Control Direction Test and adjust the controls on transmitter appropriately
Motor power pulses then motor loses power	ESC uses default soft Low Voltage Cutoff (LVC)	Recharge flight battery or replace battery that is no longer performing
	Weather conditions might be too cold	Postpone flight until weather is warmer
	Battery is old, worn out, or damaged	Replace battery
	Battery C rating might be too small	Use recommended battery

# AMA National Model Aircraft Safety Code

Effective January 1, 2014

## A. GENERAL

A model aircraft is a non-human-carrying aircraft capable of sustained flight in the atmosphere. 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 any additional rules specific to the flying site.

1. Model aircraft will not be flown:
  - (a) In a careless or reckless manner.
  - (b) At a location where model aircraft activities are prohibited.
2. Model aircraft pilots will:
  - (a) Yield the right of way to all man carrying aircraft.
  - (b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D.)
  - (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport, without notifying the airport operator.
  - (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
  - (e) Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Aircraft program. (AMA Document 520-A.)
  - (f) Ensure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft. (This does not apply to model aircraft flown indoors).
  - (g) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
  - (h) Not operate model aircraft while under the influence of alcohol or while using any drug which could adversely affect the pilot's ability to safely control the model.
  - (i) Not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property.
 

Exceptions:

    - Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight.
    - Rocket motors (using solid propellant) up to a G-series size may be used provided they remain attached to the model during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code but may not be launched from model aircraft.
    - Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document (AMA Document #718).
  - (j) Not operate a turbine-powered aircraft, unless in compliance with the AMA turbine regulations. (AMA Document #510-A).
3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:
  - (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.
  - (b) An inexperienced pilot is assisted by an experienced pilot.
4. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

## B. RADIO CONTROL

1. All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.
2. A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.
3. At all flying sites a safety line(s) must be established in front of which all flying takes place (AMA Document #706.)
  - (a) Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.
  - (b) At air shows or demonstrations, a straight safety line must be established.
  - (c) An area away from the safety line must be maintained for spectators.
  - (d) Intentional flying behind the safety line is prohibited.
4. RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
5. RC model aircraft will not operate within three (3) miles of any pre-existing flying site without a frequency-management agreement (AMA Documents #922 and #923.)
6. With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.
7. Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual.
8. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times. Hand-held illumination systems are inadequate for night flying operations.
9. The pilot of a RC model aircraft shall:
  - (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
  - (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.
  - (c) Fly using the assistance of autopilot or stabilization system only in accordance with the procedures outlined in AMA Document #560.

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

## Limited Warranty

### What this Warranty Covers

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

### What is Not Covered

This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) attempted service by anyone other than a Horizon Hobby authorized service center, (v) Product not purchased from an authorized Horizon dealer, or (vi) Product not compliant with applicable technical regulations, or (vii) use that violates any applicable laws, rules, or regulations.

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

### Purchaser's Remedy

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

### Limitation of Liability

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

### Law

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

### WARRANTY SERVICES

#### Questions, Assistance, and Services

Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please visit our website at [www.horizonhobby.com](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	Phone Number/Email Address	Address
United States of America	Horizon Service Center (Repairs and Repair Requests)	servicecenter.horizonhobby.com/ RequestForm/	4105 Fieldstone Rd Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com 877-504-0233	
	Sales	websales@horizonhobby.com 800-338-4639	
United Kingdom	Service/Parts/Sales: Horizon Hobby Limited	sales@horizonhobby.co.uk +44 (0) 1279 641 097	Units 1–4 , Ployters Rd, Staple Tye Harlow, Essex, CM18 7NS, United Kingdom
Germany	Horizon Technischer Service Sales: Horizon Hobby GmbH	service@horizonhobby.de +49 (0) 4121 2655 100	Christian-Junge-Straße 1 25337 Elmshorn, Germany
France	Service/Parts/Sales: Horizon Hobby SAS	infofrance@horizonhobby.com +33 (0) 1 60 18 34 90	11 Rue Georges Charpak 77127 Lieusaint, France

## FCC Information

### FCC: BRWDASRX15

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.

This product contains a radio transmitter with wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400GHz to 2.4835GHz frequency range.



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

## IC Information

### IC ID: 6157A-AMRX15

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## Compliance Information for the European Union



### EFL Carbon-Z Cessna 150 BNF Basic (EFL1450)

**EU Compliance Statement:** Horizon Hobby, LLC hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the R&TTE and EMC Directive.

### EFL Carbon-Z Cessna 150 PNP (EFL1475)

**EU Compliance Statement:** Horizon Hobby, LLC hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive.

A copy of the EU Declaration of Conformity is available online at: <http://www.horizonhobby.com/content/support-render-compliance>.

### Instructions for disposal of WEEE by users in the European Union



This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collections point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.



E328

## Replacement Parts • Ersatzteile • Pièces de rechange • Pezzi di ricambio

Part #   Nummer   Numéro   Codice	Description	Beschreibung	Description	Descrizione
EFL1401	Fuselage: C-Z Cessna 150	Rumpf: C-Z Cessna 150	Fuselage : C-Z Cessna 150	Fusoliera: C-Z Cessna 150
EFL1402	Left Wing: C-Z Cessna 150	Linker Flügel: C-Z Cessna 150	Aile gauche : C-Z Cessna 150	Ala sinistra: C-Z Cessna 150
EFL1403	Right Wing: C-Z Cessna 150	Rechter Flügel: C-Z Cessna 150	Aile droite : C-Z Cessna 150	Ala destra: C-Z Cessna 150
EFL1404	Horizontal Tail Set: C-Z Cessna 150	Höhenleitwerk-Satz: C-Z Cessna 150	Empennage horizontal : C-Z Cessna 150	Set impennaggio orizzontale: C-Z Cessna 150
EFL1405	Rudder: C-Z Cessna 150	Seitenruder: C-Z Cessna 150	Gouverne de direction : C-Z Cessna 150	Timone: C-Z Cessna 150
EFL1406	Cowling: C-Z Cessna 150	Motorhaube: C-Z Cessna 150	Capot : C-Z Cessna 150	Cappottatura: C-Z Cessna 150
EFL1407	Battery Hatch: C-Z Cessna 150	Akku-Abdeckung: C-Z Cessna 150	Trappe de batterie : C-Z Cessna 150	Sportello batteria: C-Z Cessna 150
EFL1408	Main Landing Gear w/axles: C-Z Cessna 150	Hauptfahrwerk mit Achsen: C-Z Cessna 150	Train d'atterrissage principal avec axes : C-Z Cessna 150	Carrello principale con assali: C-Z Cessna 150
EFL1409	Wing & Stab Tube: C-Z Cessna 150	Flügel und Stabilisatorrohr: C-Z Cessna 150	Tube d'aile et de stabilisateur : C-Z Cessna 150	Tubo e stabilizzatore e ala: C-Z Cessna 150
EFL1410	Strut Set W/Hardware: C-Z Cessna 150	Verstrebungsatz mit Hardware: C-Z Cessna 150	Haubans avec matériel de fixation : C-Z Cessna 150	Set montanti con bulloneria: C-Z Cessna 150
EFL1411	Pushrod Set: C-Z Cessna 150	Gestängesatz: C-Z Cessna 150	Ensemble de barres de liaisons : C-Z Cessna 150	Set aste di comando: C-Z Cessna 150
EFL1412	Tire Set: C-Z Cessna 150	Radsatz: C-Z Cessna 150	Ensemble de pneus : C-Z Cessna 150	Set ruote: C-Z Cessna 150
EFL1413	Hardware Pack: C-Z Cessna 150	Hardwarepaket: C-Z Cessna 150	Jeu de montage : C-Z Cessna 150	Pacco bulloneria: C-Z Cessna 150
EFL1414	Decal Set: C-Z Cessna 150	Decal-Satz: C-Z Cessna 150	Lot d'autocollants : C-Z Cessna 150	Set decalcomanie: C-Z Cessna 150
EFL1415	Nose Gear Strut: C-Z Cessna 150	Bugfahrwerk-Verstrebung: C-Z Cessna 150	Jambe de train avant : C-Z Cessna 150	Montante carrello anteriore: C-Z Cessna 150
EFL1416	Wheel Pant Set: C-Z Cessna 150	Radverkleidungsatz: C-Z Cessna 150	Lot de carénages de roues : C-Z Cessna 150	Set copri ruote: C-Z Cessna 150
EFL1417	Top Hatch: C-Z Cessna 150	Obere Abdeckung: C-Z Cessna 150	Trappe supérieure : C-Z Cessna 150	Sportello superiore: C-Z Cessna 150
EFL1418	Light Set w/covers: C-Z Cessna 150	Beleuchtungsatz mit Abdeckungen: C-Z Cessna 150	Ensemble de phares avec caches : C-Z Cessna 150	Set luci con coperture: C-Z Cessna 150
EFL1419	Wing Thumb Screws: C-Z Cessna 150	Flügel-Daumenschrauben: C-Z Cessna 150	Vis à oreilles pour ailes : C-Z Cessna 150	Viti zigrinate ala: C-Z Cessna 150
EFL1420	Spinner 62mm; C-Z Cessna 150	Spinner 62 mm; C-Z Cessna 150	Cône 62 mm, C-Z Cessna 150	Ogiva 62 mm; C-Z Cessna 150
EFLM7450	BL50 Brushless Outrunner Motor, 525Kv	BL50 Bürstenloser Außenläufer-Motor, 525 kv	Moteur à cage tournante sans balais BL50, 525 kv	Motore BL50 Brushless Outrunner, 525 Kv
EFLM74501	Motor Shaft: BL50 Outrunner Motor, 525Kv	Motorwelle: BL50 Außenläufer-Motor, 525 kv	Arbre de moteur : Moteur à cage tournante BL50, 525 kv	Albero motore: Motore BL50 Outrunner, 525 Kv
EFLA1060B	60-Amp Pro Switch-Mode BEC Brushless ESC (V2)	60 A BEC-Pro-Wechselmodus Bürstenloser Geschwindigkeitsregler (V2)	Variateur ESC sans balais avec circuit BEC et commutateur pro 60 A (V2)	60-Amp Pro Switch-Mode BEC Brushless ESC (V2)
EFL1025018	Aluminum Motor & Plastic Ring: C-Z Splendor	Aluminium-Motor und Kunststoff-ring: C-Z Splendor	Moteur en aluminium et bague en plastique : C-Z Splendor	Motore in alluminio e anello in plastica: C-Z Splendor
EFL1045013	Propeller Shaft: Carbon-Z Cub	Propellerwelle: Carbon-Z Cub	Arbre d'hélice : Carbon-Z Cub	Albero dell'elica: Carbon-Z Cub
EFLP1570E	15 x 7 Electric Propeller	Elektrischer Propeller 15 x 7	Hélice bipale 15 x 7	Elica, 15 x 7 2 pale
EFLR7145	26g Metal Gear Servo	26g MG Servo	Servo 26g à pignons métal	Servocomando 26g c/ingran. metallo
EFLR7155	13g Metal Gear Servo	13g MG Servo	Servo 13g à pignons métal	Servocomando 13g c/ingran. metallo
SPMAR636A	AR636 6-Channel AS3X Sport Receiver	AR636 6-Kanal AS3X Sport Empfänger	Récepteur AR636 6 voies avec AS3X	Ricevitore sport AR636 6 canali AS3X

## Optional Parts • Optionale Bauteile • Pièces optionnelles • Pezzi opzionali

Part #   Nummer   Numéro   Codice	Description	Beschreibung	Description	Descrizione
EFLA5600	Carbon-Z Float Set	Carbon-Z Schwimmersatz	Ensemble de flotteurs Carbon-Z	Set galleggianti Carbon-Z
EFLA5605	Wire Mounting Set CZ Cessna 150: Carbon-Z Floats	Kabelbefestigungssatz CZ Cessna 150: Carbon-Z Schwimmer	Ensemble pour montage de câbles CZ Cessna 150 : flotteurs Carbon-Z	Set montaggio fili CZ Cessna 150 Galleggianti Carbon-Z
WGT201	Wingtote LLC Extreme Little Tote Double 42"x22"x14" Red/Black	Wingtote LLC Extreme Little Tote Double 42"x22"x14" Red/Black	Sac de transport d'ailes 106.6 x 55.8 x 35.5 cm	Borsa per ali LLC Extreme Little Tote Double 107x56x36 cm Rosso/Nero
EFLB50004S30	5000mAh 4S 14.8V 30C LiPo, 10AWG EC5	5000mAh 4S 14.8V 30C LiPo, 10AWG EC5	Batterie Li-Po 4S 14.8V 5000mA 30C, prise EC5	5000mAh 4S 14.8V 30C LiPo, 10AWG EC5
EFLB50005S30	5000mAh 5S 18.5V 30C LiPo, 10AWG EC5	5000mAh 5S 18.5V 30C LiPo, 10AWG EC5	Batterie Li-Po 5S 18.5V 5000mA 30C, prise EC5	5000mAh 5S 18.5V 30C LiPo, 10AWG EC5
EFLB44006S30	4400mAh 6S 22.2V 30C LiPo, 10AWG EC5	4400mAh 6S 22.2V 30C LiPo, 10AWG EC5	Batterie Li-Po 6S 22.2V 4400mA 30C, prise EC5	4400mAh 6S 22.2V 30C LiPo, 10AWG EC5
EFLB50006S50	5000mAh 6S 22.2V 50C LiPo, 10AWG EC5	5000mAh 6S 22.2V 50C LiPo, 10AWG EC5	Batterie Li-Po 6S 22.2V 5000mA 50C, prise EC5	5000mAh 6S 22.2V 50C LiPo, 10AWG EC5
EFLB40006S30	4000mAh 6S 22.2V 30C LiPo, 12AWG EC3	4000mAh 6S 22.2V 30C LiPo, 12AWG EC3	Batterie Li-Po 6S 22.2V 4000mA 30C, prise EC3	4000mAh 6S 22.2V 30C LiPo, 12AWG EC3
EFLB50006S30	5000mAh 6S 22.2V 30C LiPo, 12AWG EC3	5000mAh 6S 22.2V 30C LiPo, 12AWG EC3	Batterie Li-Po 6S 22.2V 5000mA 30C, prise EC3	5000mAh 6S 22.2V 30C LiPo, 12AWG EC3
KXSB0029	7000mAh 6S 22.2V 30C LiPo, 12AWG EC3	7000mAh 6S 22.2V 30C LiPo, 12AWG EC3	Batterie Li-Po 6S 22.2V 7000mA 30C, prise EC3	7000mAh 6S 22.2V 30C LiPo, 12AWG EC3
DYNC3010	Passport Ultra Force 220W Touch Battery Charger	Passport Ultra Force 220W Touch Akku Ladegerät	Chargeur Passport Ultra Force 220W tactile	Carica batterie Passport Ultra Force 220W Touch
DYNC4300	Passport Duo 400W Dual AC/DC Charger	Passport Duo 400W Dual AC/DC Ladegerät	Chargeur Passport Duo 400W double sortie	Carica batterie Passport Duo 400W doppia alim. AC/DC
DYNC0030	Dynamite EC5 Battery To EC3 Device	Dynamite EC5 Akku auf EC Stecker	Adaptateur Dynamite Batterie EC5 vers EC3 Contrôleur	Da batteria Dynamite EC5 a dispositivo EC3
DYNC0014	Dynamite EC3 Battery Series Harness	Dynamite EC3 serielles Kabel	Cordon Dynamite de branchement série, prise EC3	Cablaggio batteria EC3
SPMA3801	AS3X Programming Cable - Audio Interface	Spektrum Audio-Interface AS3X Empfänger Programmierkabel	Câble de programmation audio AS3X pour smartphone	Cavo di programmazione AS3X - Interfaccia audio
SPMA3065	AS3X Programming Cable - USB Interface	Spektrum USB-Interface AS3X Empfänger Programmierkabel	Câble de programmation USB AS3X pour PC	Cavo di programmazione AS3X - Interfaccia USB
EFLA111	Li-Po Cell Voltage Checker	Li-Po Cell Voltage Checker	Testeur de tension d'éléments Li-Po	Voltmetro verifica batterie LiPo
DYN1405	Li-Po Charge Protection Bag, Large	Dynamite LiPoCharge Protection Bag groß	Sac de charge Li-Po, grand modèle.	Sacchetto grande di protezione per carica LiPo
	DX6 DSMX 6-Channel Transmitter	Spektrum DX6 DSMX 6-Kanal Sender	Emetteur DX6 DSMX 6 voies	DX6 DSMX Trasmettitore 6 canali
	DX7 DSMX 7-Channel Transmitter	Spektrum DX7 DSMX 7 Kanal Sender	Emetteur DX7 DSMX 7 voies	DX7 DSMX Trasmettitore 7 canali
	DX9 DSMX 9-Channel Transmitter	Spektrum DX9 DSMX 9 Kanal Sender	Emetteur DX9 DSMX 9 voies	DX9 DSMX Trasmettitore 9 canali
	DX18 DSMX 18-Channel Transmitter	Spektrum DX18 DSMX 18 Kanal Sender	Emetteur DX18 DSMX 18 voies	DX18 DSMX Trasmettitore 18 canali



## Carbon-Z<sup>®</sup> Cessna 150

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US 9,056,667. US 8,672,726. US 8,201,776. Other patents pending.

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