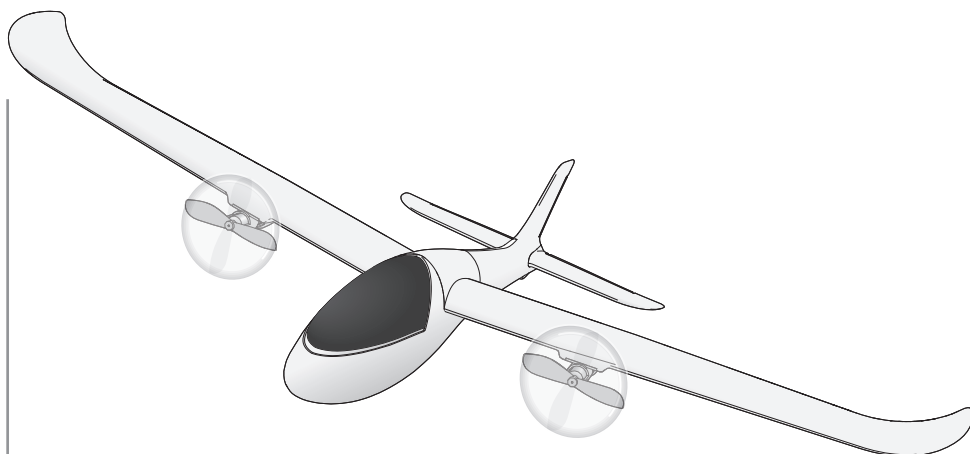


# ASCENT™ MTX

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



**REVOLUTION®**



READY-TO-FLY

**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.

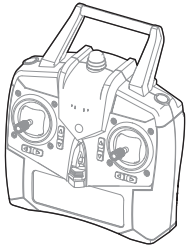
This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use 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.

**Age Recommendation: Not for children under 14 years. This is not a toy.**

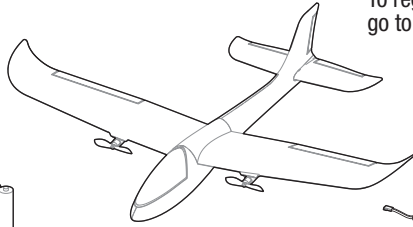
## Safety Precautions and Warnings

- 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 the 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.

## Included in the Box



Transmitter

AA Alkaline  
Batteries (4)

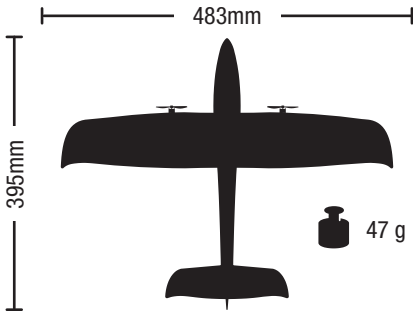
Ascent MTx

To register your product online,  
go to [www.horizonhobby.com](http://www.horizonhobby.com)

300 mAh 3.7V  
Li-Po Battery

USB Charger

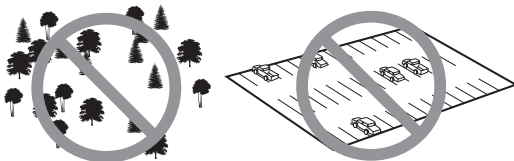
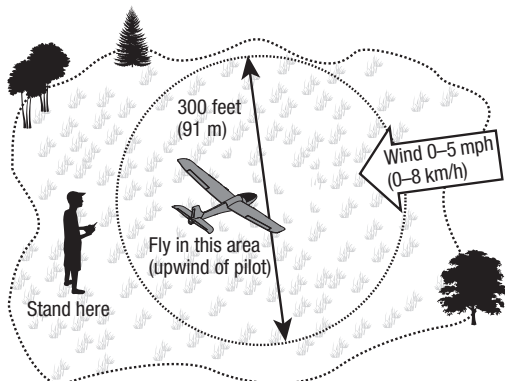
## Specifications



## Preflight Checklist

✓	
	1. Find a safe and open area.
	2. Charge flight battery.
	3. Install flight battery in aircraft.
	4. Perform Control Test.
	5. Plan flight for flying field conditions.
	6. Set a flight timer for 10 minutes.
	7. Have fun!

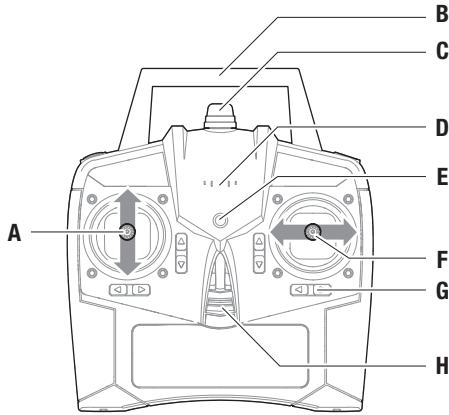
## Flying Tips



- Consult local laws and ordinances before choosing a location to fly your aircraft.
- Fly your aircraft outside in no greater than light winds.
- For indoor flight, fly the aircraft inside in a large gymnasium
- Keep your aircraft in plain sight and up wind. Do not exceed the 300 foot (91 m) radio range. If the connection is lost, the motors will power off and the aircraft will descend. Leave your transmitter powered on and move closer to your aircraft to regain control.
- Always avoid flying near houses, trees, wires and buildings.
- Always avoid flying in areas where there are many people, such as busy parks, schoolyards or soccer fields.

## Transmitter

- A: Throttle
- B: Handle
- C: Antenna
- D: Speaker
- E: LED
- F: Steering
- G: Steering Trim
- H: Power Switch

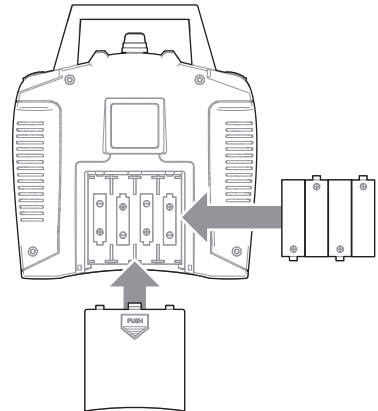


## Transmitter Batteries Installation

Remove the battery cover, install the four included AA batteries (noting proper polarity) and reinstall the battery cover.

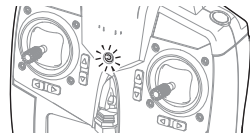
**CAUTION:** If using rechargeable batteries, charge only rechargeable batteries. Charging non-rechargeable batteries may cause the batteries to burst, resulting in injury to persons and/or damage to property.

**CAUTION:** Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to national regulations.



### Low Battery Alarm

When the transmitter battery voltage drops too low, an alarm sounds and the LED flashes. The batteries must be replaced immediately. If this happens while flying, land your aircraft as soon and as safely as possible.



## Charging Warnings

The USB charger has been designed to safely charge the included Li-Po battery.

**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.

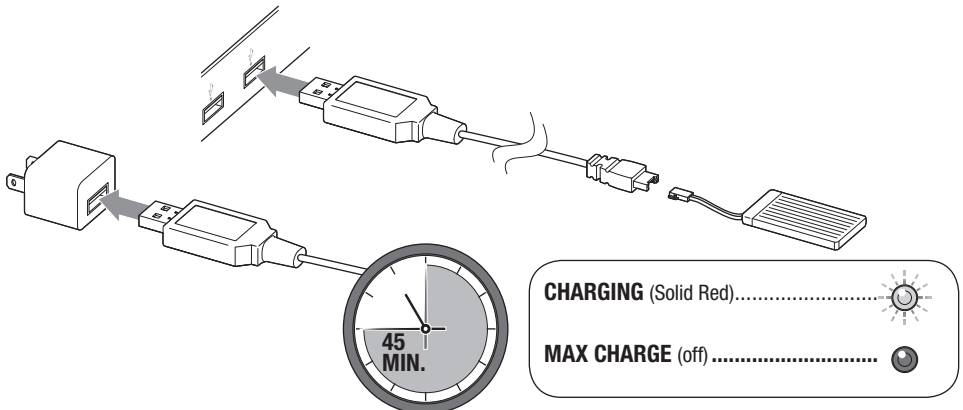
- **NEVER LEAVE CHARGING BATTERIES UNATTENDED**
- **NEVER CHARGE BATTERIES OVERNIGHT**
- By handling, charging or using the included Li-Po battery, you assume all risks associated with lithium batteries.
- If at any time the battery begins to balloon or swell, discontinue use immediately. If charging 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. Do not store the battery or model 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.
- 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 a 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 charge damaged batteries.
- Never attempt to dismantle or alter the charger.
- Never allow minors 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.

## Charging the Flight Battery

1. Connect the Li-Po battery to the included USB charger.
2. Connect the USB charger to a phone USB charge adapter (not included) or into any powered USB port.
3. The LED on the charger will glow solid red while charging and will turn off when charging is complete.

Always charge the aircraft battery before flying.

**CAUTION:** Do not store the Li-Po battery in the charger. Doing so could over-discharge the Li-Po battery.

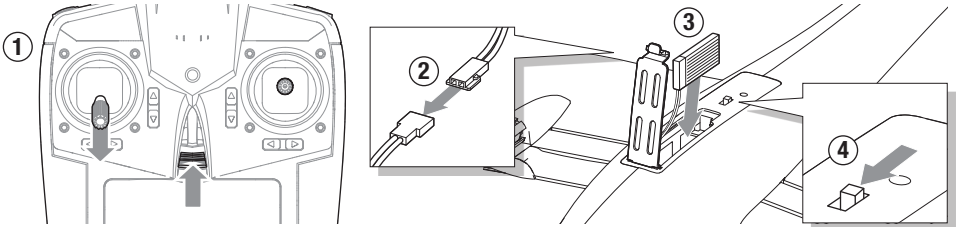


## Installing the Flight Battery

1. Make sure the throttle is in the off position and turn on the transmitter.
2. Open the battery hatch on the bottom of the aircraft and plug in the flight battery.
3. Install the flight battery into the aircraft as shown and close the hatch.
4. Power on the aircraft.

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

**⚠ CAUTION:** Keep away from the propellers.

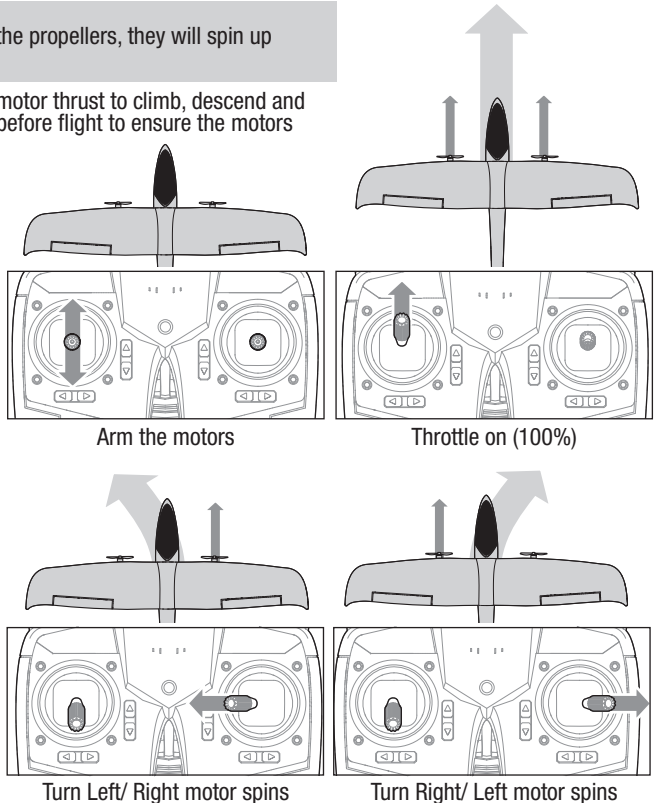


## Control Test

**⚠ CAUTION:** Keep away from the propellers, they will spin up during the control test.

The Ascent™ MTx aircraft relies on motor thrust to climb, descend and turn. Always perform a control test before flight to ensure the motors are working properly.

1. Turn the aircraft on as shown above.
2. Turn the transmitter on.
3. Hold the aircraft so it does not escape your control.
4. Arm the motors by first moving the left stick to 100% and then back down to 0%.
5. Move the sticks on the transmitter to ensure the motors respond as shown.



**Tip:** To check the Left and Right turn, keep the throttle at 0% and note which motor spins.

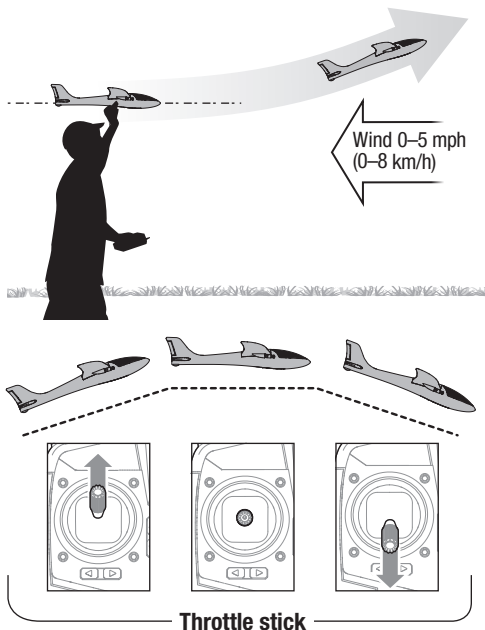
If the motors do not react as shown, refer to the Binding instructions and Troubleshooting Guide in this manual.

# Flying

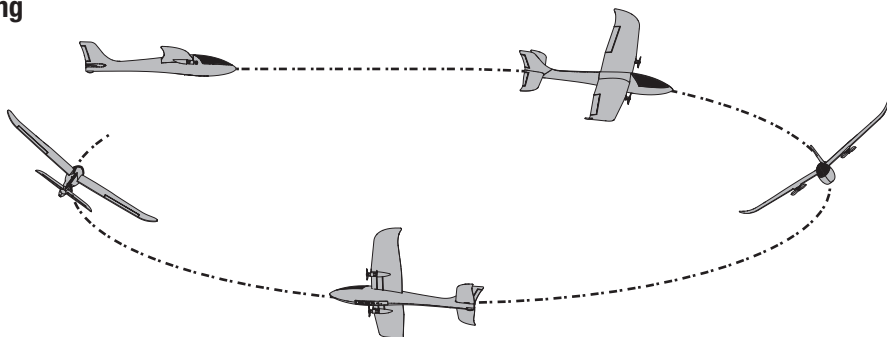
## Taking Off

Get help to hand launch your aircraft so you can concentrate on flying. If you must hand launch the aircraft alone, hold the model in your dominant hand and the transmitter in your other hand.

1. Face into the wind and apply 1/2 (50%) throttle.
2. Hold the plane horizontal and launch straight and level into the wind.
3. The aircraft will climb under full throttle (100%).
4. Reduce to 50% throttle once the plane is at a safe altitude (50-75 feet) to level out.
5. Use the throttle to control altitude.



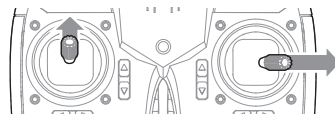
## Turning



To turn the aircraft make small controlled movements with the right stick.

For a right hand turn:

1. Move the right stick slowly to the right.
2. Once the turn begins, add in a little throttle to maintain altitude.
3. Use gentle stick movements to continue the turn to the right.
  - If the turn is too wide, add more right stick.
  - If the turn is too tight, add less right stick.
4. To stop the turn, gently release the right stick and lower the throttle to maintain level flight.



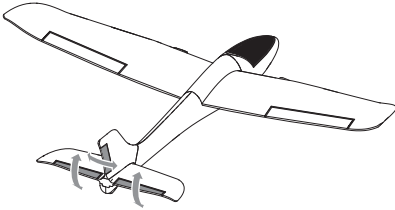
**Tip:** Try to finish the turn at the same altitude it was started from.

For a left hand turn, follow steps above, moving the stick to the left.

## Aircraft Trim

If the aircraft's nose drifts left or right while the steering stick is at neutral (centered) press the steering trim buttons as shown in the chart to the right to correct the drift.

The Ascent MTx can also be trimmed by carefully bending the control surfaces molded into the tail as shown below.



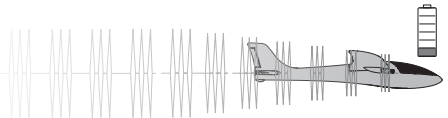
1. Center the transmitter trims.
2. Carefully bend the control surface in the direction shown in the chart to the right.

**NOTE:** Only make small adjustments to the control surfaces. Avoid making large changes as this could affect flight performance.

Direction of Drift	Button to Correct
	Right Stick 
	Right Stick 

Direction of Drift	Bend Direction

When you notice any reduction of power or 10 minutes have elapsed, immediately land the aircraft and recharge the battery.

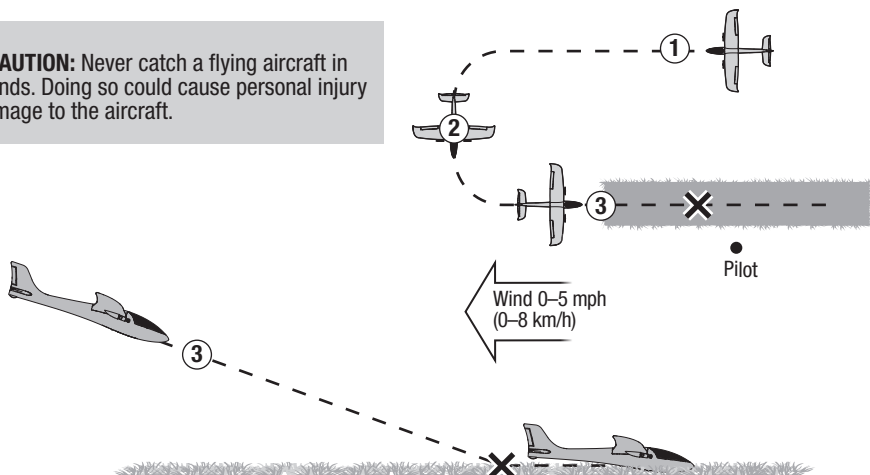




## Landing

1. Fly downwind and reduce the throttle to 25% to begin the descent.
2. Begin turning towards the runway, heading into the wind.
3. Reduce the throttle to 0% and glide onto the runway.
  - If you are going to land short of the runway, add a little throttle to extend the glide.
  - If you are going too fast to land, go around and try again.

**CAUTION:** Never catch a flying aircraft in your hands. Doing so could cause personal injury and damage to the aircraft.



## Post flight Checklist

✓	
	1. Lower throttle to 0%
	2. Disconnect and remove the flight battery
	3. Power off the transmitter
	4. Fully charge the flight battery

✓	
	5. After charging is complete, remove the battery and store in a safe place
	6. Inspect airframe and make any repairs
	7. Store in the original product box

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

**NOTICE:** Always disconnect the battery from the aircraft before powering off the transmitter or injury and damage may result.

## Repairs

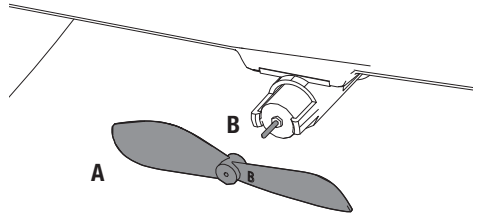
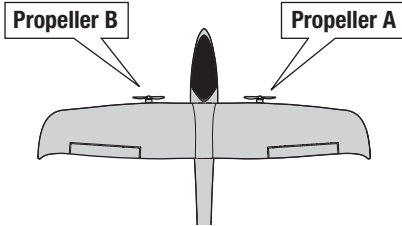
Repairs to the foam can be made using virtually any adhesive (hot glue, regular CA (cyanoacrylate adhesive), epoxy or tape).

1. For small tears, use CA to bond the break
2. 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 back of this manual.

## Propeller Service

1. Remove the propeller (A) from the motor shaft (B).
2. Carefully align the new propeller on the motor shaft and firmly press into place.

**IMPORTANT:** The propellers must be installed with the propeller marked with an *A* on the right and *B* on the left. See illustration below.



## Binding

If your aircraft does not respond to the transmitter when the batteries in the aircraft and transmitter are fully charged, bind your aircraft and transmitter by using the instructions below.

1. Turn off the aircraft by first disconnecting the flight battery from the aircraft and then powering off the transmitter.
2. Make sure your transmitter's controls are neutral, and the throttle is in the off position (0%).
3. Power on the transmitter. The red LED will start flashing indicating the transmitter is in Bind mode.
4. Connect the flight battery to the aircraft and move the switch to the on position.
5. Hold the transmitter more than 24 inches (60 cm) away from the aircraft. Keep away from large metal objects, wireless sources and other transmitters.
6. Move the throttle stick from power off (0%) to full throttle (100%) and back to power off. The red LED will change from flashing to solid when the Bind is complete.
7. Once the Bind is complete you will have control of the motors with the throttle and steering stick.

## Troubleshooting Guide

Problem	Possible Cause	Solution
Aircraft does not respond to the transmitter	No connection	Follow Binding Instructions. Follow "Installing the Flight Battery" instructions. Replace or recharge batteries
	Transmitter too near the aircraft or both are too near large metal objects, wireless sources or another transmitter during battery connection or Binding	Move to another location, with the transmitter more than 24 inches (60 cm) from the aircraft and attempt battery connection or Binding again
	Low or no power	Replace or recharge batteries and correctly connect the aircraft battery
Poor aircraft response to the transmitter	Poor radio connection	Replace or recharge batteries
	Poor control adjustment or damage to the aircraft	Adjust steering by using left or right trim buttons or land immediately and adjust, repair or replace parts
Aircraft turns in one direction	Poor control adjustment or damage to the aircraft	Adjust steering by using the left or right trim buttons or land immediately and adjust, repair or replace parts
	Wind is too gusty or strong	Fly on a calmer day
Aircraft rises steeply at half throttle	Poor control adjustment or damage to the aircraft	Use less throttle to fly without climbing
	Elevator is trimmed for a climb	Flex elevator down slightly
	Aircraft battery is incorrectly installed	Install aircraft battery fully back
	Wind is too gusty or strong	Fly on a calmer day
Aircraft will not climb	Poor control adjustment or damage to the aircraft	Increase throttle making the airplane fly faster and climb
	Elevator is trimmed for a descent	Flex elevator up slightly
	Propellers or spinners are loose or damaged	Land immediately and adjust, repair or replace parts
	Low or no power	Replace or recharge batteries
Aircraft is difficult to launch in the wind	Gusty or cross winds	Launch directly into the wind
	Wind speed is too fast for safe flight	Fly on a calmer day
Flight time is too short	Battery is not fully charged or is damaged	Recharge or replace the battery
	Propellers are loose or damaged	Land immediately and adjust, repair or replace parts
	Flying at full throttle during entire flight	Fly at just above half throttle to increase flying time
	Wind speed is too fast for safe flight	Fly on a calmer day
Aircraft vibrates	Propellers or spinners are loose or damaged	Land immediately and adjust, repair or replace parts

## 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.**

## Warranty and Service 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@horizon-hobby.com 877-504-0233	
	Sales	websales@horizonhobby.com 800-338-4639	

## IC Information

### IC: 6157A-RVOF1100

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

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.”

## FCC Information

### FCC: BRWRVOF1100

This equipment has been tested and found to comply with the limits for 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 to an outlet on a circuit different from that to which the receiver is connected.

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

## Replacement Parts • Pièces de rechange

Part #	Description	Description
RVOF1100	ASCENT MICRO TWIN X RTF	ASCENT MICRO TWIN X RTF
RVOF1101	REPLACEMENT AIRFRAME: ASCENT MTX	FUSELAGE DE RECHANGE : ASCENT MTX
RVOF1102	PROPS (4 PCS): ASCENT MTX	HÉLICES (4 PIÈCES) : ASCENT MTX
RVOF1103	300MAH 1S LI-PO: ASCENT MTX	LITHIUM-POLYMÈRE 300 MAH 1S : ASCENT MTX
RVOF1104	DECAL SHEET: ASCENT MTX	FEUILLE D'AUTOCOLLANTS : ASCENT MTX
RVOF1105	USB 1S LI-PO CHARGER: ASCENT MT	CHARGEUR LITHIUM-POLYMÈRE USB 1S : ASCENT MT
RVOF1106	TRANSMITTER: ASCENT MTX	ÉMETTEUR : ASCENT MTX



**REVOLUTION®**

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RVOF1100

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