

# Stealth & Stingray R.T.F. Airplanes



- Radio-Controlled.
- Quiet, Safe Electric Flight.
- Includes NiMH Flight Battery
- Requires 8 (AA) Batteries for Transmitter.
- Requires 6 (D) Batteries for Portable Charger.



Items may differ from images depicted above

Congratulations on the purchase of your Air-Tech aircraft. This manual is written for both the Stealth and the Stingray since these aircraft are identical in terms of design and differ only in their graphics scheme. Your new aircraft is designed to be easy to fly and to survive the learning curve associated with new R/C pilots. But, as with any sophisticated device, you must learn how to operate it and care for it. Please read this manual thoroughly and take the time to watch the instructional CD.

**Be sure to assemble and fly your aircraft only under adult supervision.**

**Do not fly near cars, people, pets, overhead wires, bodies of water, buildings, trees, etc.**

**Use common sense when operating your aircraft!**

**Keep clear of the propeller blades.**

## Safety

The Stealth and the Stingray are sophisticated model aircraft and should be treated as such. Improper use or assembly could cause damage to you, bystanders and property. Please follow all safety and assembly instructions listed within this manual and on the CD. **Assemble and fly your aircraft only under adult supervision.**

## Learning to Fly

We strongly recommend that you seek the help of an experienced R/C pilot to help you learn to fly your new plane. While the Stealth and the Stingray are designed as training aircraft with docile flight characteristics, instruction by an experienced pilot will make the learning experience much more enjoyable and lessen the risk of damage to your new aircraft. We suggest that you join a local R/C club – your local hobby shop will be able to help you to find one.

## Basic Safety Precautions

1) Carefully follow all assembly instructions. Do not modify the aircraft; this will void your warranty and may degrade performance.

- 2) Test your aircraft before every flight. All systems must function correctly and the aircraft itself must be structurally sound. Ensure that all components are securely attached to the aircraft.
- 3) The Stealth and the Stingray are designed to fly in low wind conditions only. Do not attempt to fly them when wind speeds exceed 5 mph (8 km/h).
- 4) Always fly in large open areas only. Do not fly the model near people, cars, buildings, trees, overhead wires or other obstructions. Use common sense!
- 5) Ensure that the transmitter has fresh batteries and that the onboard battery pack is fully charged before attempting to fly.
- 6) Always range-check your transmitter prior to every flight.
- 7) Keep fingers clear of the propellers when the battery is installed in the aircraft.
- 8) Never turn the plane "On" while the transmitter is off. The receiver may pick up stray radio signals causing the propellers to turn on sporadically.

## Glossary:

**Motors:** The Stealth and the Stingray have 2 motors - for main thrust and steering.

**Electronic Speed Control:** Also referred to as an ESC, the speed control sends electric current to the motors causing them to spin the propellers. It also regulates the amount of current sent to the motors when you want to turn the aircraft.

**Battery Pack:** The Stealth and the Stingray come with a 280 mAh NiMH rechargeable battery that is used to power the electric motors and receiver. Flight time is approximately 7 minutes on a full charge.

**Transmitter:** The radio control transmitter allows you to control the aircraft's rate of climb, descent and flight direction. The left stick controls throttle and rate of climb or glide, while the right stick causes the aircraft to turn left or right.

**Charger:** The included portable charger uses 6 "D" size alkaline batteries to charge the NiMH battery pack. Plug in the 280 mAh flight battery pack and set the timer for 30 minutes. Do not allow the battery to get hot.

## Your Stealth or Stingray package contains the following:

Transmitter & antenna  
Fuselage/Wing assembly  
Propellers & removal tool  
Quick charger  
NiMH battery pack  
Instructional CD or coupon (or see videos on our website)

## Install the Propellers

- 1) If the propellers are not already installed on the motors, locate them and press-fit them onto the motors.
- 2) Be sure to leave at least a 1/16" gap between the propeller and the rear of the motor covers to prevent binding. The prop should not come into contact with any part of the aircraft.



## If you need to remove the Propellers

- 1) If the propellers need to be replaced in the future, use the propeller removal tool to carefully pry the propellers off the motor's shafts.



## Prepare the Transmitter

- 1) Remove the battery cover located at the rear of the transmitter.
- 2) Install 8 AA alkaline batteries, ensuring that the polarities are correct.
- 3) Reinstall the battery cover.
- 4) Turn the transmitter on and make sure that both the red and green LEDs light up. If only the red one is lit, you must replace the batteries with fresh ones prior to flying or your control range will be dangerously limited.
- 5) Insert the transmitter antenna into the top of the transmitter and thread it into place. Do not overtighten.



## Remove the Battery Cover

- 1) Locate the small plastic catch mounted underneath the aircraft, at the rear of the body.
- 2) Gently push the catch towards the nose of the aircraft while at the same time gently pushing it inwards.
- 3) Gently pull the rear of the top-mounted cover upwards and slide it towards the back of the aircraft.
- 4) Installation is simply the reverse of removal.



## Charge the Onboard Battery

- 1) Remove the top cover from the charger by sliding it rearward.
- 2) Insert 6 "D" size alkaline batteries into the charger. Be careful to orient them in the proper directions.
- 3) Remove the green NiMH battery from the aircraft or the packaging.
- 4) Connect the output plug of the charger to the input plug of the battery pack. Notice that the plugs can only be connected in one orientation - do not force them.





5) Rotate the timer dial on the charger to approx. 30 minutes.  
 6) Ensure that the red LED on the charger illuminates, indicating that the battery pack is being charged.



7) After each flight, remove the battery pack from the aircraft and allow it to cool before recharging. Failure to do so will significantly shorten its lifespan.

## ! IMPORTANT Battery Care

- 1) *Never allow the battery pack to become hot during charging - this will cause permanent damage. Warm is okay - hot is not!*
- 2) *Never leave a battery unattended while it is being charged.*
- 3) *Charging times required for a full charge increase with number of charge cycles due to draining of the charger's "D" cells.*
- 4) *Never recharge a hot battery. Always allow it to cool*
- 5) *If you use an after-market charger, never charge the battery at a rate greater than 500 mA.*
- 6) *If the flight battery is not completely discharged before recharging, the charging time may be less than 15 minutes. Again, do not allow the battery to get hot!*
- 7) *If a day or more passes without charging the battery or if you are unsure whether or not it is fully charged, discharge the battery, then fully recharge it.*

## Balance the Aircraft

*Note: this step must be performed or your model may not fly properly.*

1) Insert the charged battery pack within the battery compartment of the aircraft (ensure that the on/off switch is in the *forward* or 'off' position), then carefully close the battery compartment.



2) Place your fingertips under the wing, about 4 3/4" back from the tip of the nose, and try to balance the aircraft on them. The plane should remain in a level or slightly nose-down attitude. If the nose falls or rises too much, move the battery pack backward or forward to correct this tendency.



## How the Stealth and the Stingray work

Your aircraft uses 2 electric motors for both thrust and steering, thus there are no moving control surfaces to damage or to need adjustment. The aircraft is steered by differential thrust - a fancy way of saying that the aircraft turns while in flight, when one side of it gets more thrust than the other. In order to achieve this differential thrust, one of the motors speeds up when you want the aircraft to turn. If you want to turn left for instance, the right motor speeds up, leading to more thrust on the right side of the wing and the plane turns to the left! The combined thrust of both motors causes the aircraft to climb. Cut the thrust and the plane glides - to a landing if you leave the motors 'off' long enough.

## Flying Field Selection and Weather

The Stealth and the Stingray are very lightweight and thus you must be very aware of wind conditions when you want to fly them. There should be very little wind (no more than 5 mph / 8 km/h) otherwise loss of aircraft control may result. Note that you must always launch and land your model *into* the wind. Your flying site should be a large empty and

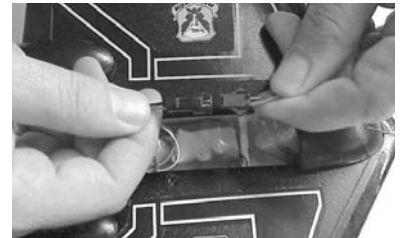
flat area. Avoid places that have many trees, buildings, people or other obstructions. Avoid areas where other R/C models are in operation - your radio transmitter may cause a frequency conflict with them. If this happens, both models will go out of control and crash. Be very careful to keep your model away from people. Though the Stealth and the Stingray are lightweight, nevertheless they can cause injury if they hit someone.

## Learning to Fly your Stealth or Stingray

We strongly suggest that you ask an experienced R/C pilot to help you learn to fly your aircraft. All R/C clubs have flight instructors who will be happy to teach you.

## Preflight Preparation

1) Before turning on your transmitter, make sure that no one in the vicinity is using a radio control model on the same frequency as yourself. The frequency of your model is shown on the tag located at the front of your transmitter.



- 2) Open the battery hatch located on the topside of the fuselage and plug in a freshly charged battery. Close the battery compartment hatch.
- 3) Switch the aircraft on by moving the switch located on the bottom of the fuselage, *to the rear*.
- 4) Switch on the transmitter ensuring that both LEDs light up.

## Preflight Check

- 1) While an assistant holds the aircraft, test the following:
  - Move the left transmitter stick forward* - both motors should run.
  - Release the left transmitter stick* - both motors should stop.
  - Move the right stick to the right* - the left motor should run faster.
  - Move the right stick to the left* - the right motor should run faster.
- 2) Range check your transmitter (with the transmitter antenna down). Have a helper hold your aircraft then walk 20 feet (7m) away and test to see if the motors respond to your stick movements. If they do not, ensure that the NiMH flight battery is fully charged or put fresh batteries into the transmitter.

## Take-Off

- 1) Enlist the aid of a helper. Have the helper face into the wind and gently hold the aircraft by the fuselage hump, under the wings at its balance point (Center of Gravity), at about eye level.
- 2) Move the left stick on the transmitter forward, so that both engines are turning at their maximum rates.
- 3) Have your assistant firmly toss the aircraft into the wind. The throw should launch the aircraft at a 20 to 30 degree angle upwards.
- 4) Keep the throttle stick forward, allowing the airplane to climb at an angle of 20 to 30 degrees, to gain altitude and airspeed.



*Note that you can perform the launch yourself when you become proficient in the operation of the aircraft, by holding the transmitter in one hand and tossing the aircraft with the other. Be sure to hold (and point) the antenna away from the model to minimize radio interference issues. Low powered radio control units sometimes exhibit a loss of signal when the antenna and receiver are in close proximity - this will not affect normal flight performance*

## Flight

Use the left (throttle) transmitter stick to control the aircraft's altitude; push it forward to climb, release it to glide and descend.

The Stealth and Stingray have excellent glide characteristics, if you release the throttle stick, your aircraft will glide for quite a distance. It is not necessary to keep the throttle on at all times. Give the plane brief bursts of power to climb then cut the power and let it glide for a few seconds.

To turn the Stealth and the Stingray, move (and quickly release) the steering stick in whichever direction you wish the model to turn (repeat as many times as necessary to turn in the desired direction). DO NOT hold the stick in the turn - it must be pulsed on and off. If you hold the stick without pulsing it, the aircraft will turn sharply and quickly lose altitude. Use only brief bursts of steering control.

Get the aircraft to a safe altitude then let it glide. Play with the controls, get a feel for its performance characteristics.

Keep the plane from getting too far away from you. As it gets farther away, it becomes more and more difficult to determine the model's orientation and its direction of flight.

Try to keep the aircraft at a height of several hundred feet so that you have enough time and altitude to react in case you make a mistake. Start learning to fly by flying oval circuits in front of yourself. Concentrate on keeping the plane under constant control and try not to lose too much altitude during the turns. Do not let the aircraft fly over your head - it is very disorienting for beginner pilots to follow the aircraft as it passes overhead and can easily lead to an accident. After you have become proficient at racetrack-style ovals, learn to fly rectangles, then figure-8s. Always keep the aircraft at a safe distance - not so close that it might hit you if you make a piloting mistake, and not so far that it becomes difficult to see.

## ! Control Reversal

*Note that all remote controlled models exhibit control reversal when approaching the ground-based pilot. When the model is moving away from you and you push the steering stick to the left (for instance) the model turns left. However when the model is coming towards you and you push the steering stick to the left, the model appears to turn to the right - this is very confusing for students! Though the model is responding correctly, it appears to be turning in the "wrong" direction. If you look at this from the model's perspective though (imagine yourself in the pilot's seat), the model is in fact still turning left. You must get used to this apparent reversal of controls so that your reactions are instinctive regardless of the direction of the aircraft's flight. In the beginning, it might help to turn your back to the aircraft and look over your shoulder, when it is coming towards you.*

## Landing

Your Stealth or Stingray will fly for about 7 minutes on a fully charged battery pack. We suggest that during your first few flights you land before the battery runs out. This will give you some maneuvering ability in case your approach is not quite right.

During your first few flights, try shutting off the motors by letting the throttle control stick return to neutral momentarily. This will give you an idea of how the aircraft reacts with no power.



When you are ready to land, approach the landing area from downwind so that you are landing into the wind. When you are a couple hundred feet from your landing zone, gently straighten the aircraft up and allow the wings to level out. Turn off the motors - the aircraft will start to descend. If it looks like you will land short of the landing area, give the aircraft a couple short burst of power to extend the glide. As the aircraft descends, use brief bursts of steering control (right stick) to control direction. The aircraft will almost land itself.

## After the Flight

Switch off your transmitter and then switch off your aircraft. Open the aircraft's battery compartment and remove the battery pack. Allow it to cool to room temperature. This is very important! The battery will be quite warm after it's rapid discharge during the flight and if you charge it immediately, before allowing it to cool, you will damage the battery. Check the plane thoroughly for any damage and be sure to repair anything that might need to be repaired prior to flying again.

## Repairs

The Stealth and the Stingray are very rugged but of course can be damaged if overly abused. Crashes happen to even the best pilots. Don't despair if something needs to be repaired - this is a necessary part of the model aircraft experience and in most cases repairs are easy to accomplish. If there are crack or breaks in the wing or fuselage, apply 5-minute epoxy or white glue to the broken areas. Hold the parts together with clear packaging tape and allow the glue to cure. You can leave the tape in place for added strength. In some cases, strong tape alone, will be enough to make the aircraft flight-capable again. Note that cyanoacrylate (i.e. Krazy Glue™) will melt the foam of the aircraft - do not use this type of glue! If you are unsure of the suitability of the glue, you should test the glue on a hidden piece of the plane's body prior to commencing repairs.

## Replacement Parts

If you need to, you can order replacement parts directly from us via telephone or email. Please call (416) 444-6873 or send email to [info@interactivetoy.com](mailto:info@interactivetoy.com)

## Warranty

Interactive Toy Concepts guarantees your Stealth or Stingray to be free from manufacturing defects for a period of 90 days from date of purchase. This warranty does not cover any modifications or parts damaged by the owner. In no case will Interactive Toy Concepts' liability exceed the original cost of the kit. Interactive Toy Concepts reserves the right to change this warranty without notice. Interactive Toy Concepts assumes no liability over final assembly or for any damage resulting from the use of this product. If the buyer is not prepared to accept the liability associated with use of the Stealth or Stingray, he/she should return it in unused condition to the place of purchase.

We reserve the right to make improvements to the design of the Air-Tech Stealth and Stingray. Thus, your aircraft may vary slightly from that depicted in the preceding photographs.

## Battery Recycling & Disposal

It may be illegal to dispose of the NiMH battery in your municipal waste. The battery pack contains a chemical known to the State of California to cause birth defects or other reproductive problems. Do not try to open the battery pack!

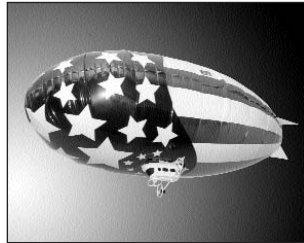
## FCC Note: USA only

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
- 2) This device must accept any interference received, including interference that may cause undesired operation.



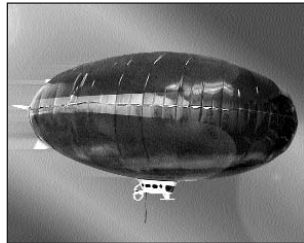
**NAVY BLIMP**  
Item # 14051



**AIRSHIP AMERICA**  
2-channel: Item # 14061  
3-channel: Item # 05032



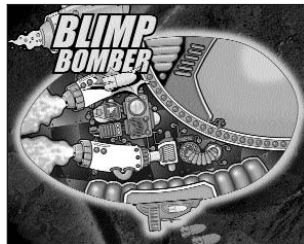
**Alien Wizard**  
Item # 02020



**TURBO BLIMP**  
2-channel: Item # 03020  
3-channel: Item # 04020



**BATTLE BOTS™**  
Item # 06020



**BLIMP BOMBER**  
Item # 14001



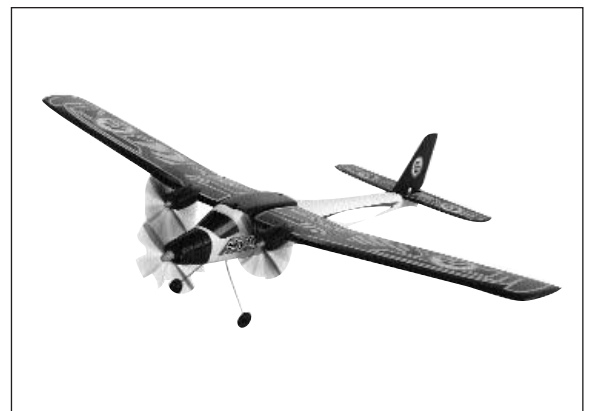
**AIRSHIP EARTH**  
Item # 02420



**STINGRAY**  
Item # 13261



**STEALTH**  
Item # 13251



**SkyFlyer**  
Item # 13201

**Contact:**

Interactive Toy Concepts Ltd.  
1192 Martin Grove Road  
Toronto, Ontario, Canada  
M9W 5M9  
info@interactivetoy.com

For more info, visit our website at  
[www.interactivetoy.com](http://www.interactivetoy.com)