

# Vista BL



## INSTRUCTION MANUAL

### WARRANTY

Tower Hobbies® guarantees this kit to be free from defects in both material and workmanship at the date of purchase. This warranty does not cover any component parts damaged by use or modification. In no case shall Tower Hobbies' liability exceed the original cost of the purchased kit. Further, Tower Hobbies reserves the right to change or modify this warranty without notice.

In that Tower Hobbies has no control over the final assembly or material used for final assembly, no liability shall be assumed nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product, the user accepts all resulting liability.

If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

To make a warranty claim send the defective part or item to Hobby Services at the address below:

Hobby Services • 3002 N. Apollo Dr. Suite 1 • Champaign IL 61822 • USA

Include a letter stating your name, return shipping address, as much contact information as possible (daytime telephone number, fax number, e-mail address), a detailed description of the problem and a photocopy of the purchase receipt. Upon receipt of the package the problem will be evaluated as quickly as possible.

**WINGSPAN** ◀  
78.5 in [1995 mm]

**MOTOR** ◀  
Included

**LENGTH** ◀  
41 in [1040 mm]

**WING AREA** ◀  
678 sq in [43.7 dm<sup>2</sup>]

**WEIGHT** ◀  
35 – 38 oz [992 – 1077 g]

**WING LOADING** ◀  
7.5 – 8.0 oz/ft<sup>2</sup> [23 – 24 g/dm<sup>2</sup>]

**RADIO** ◀  
3-Channel, Two Standard Servos  
or Two Mini Servos with  
at least 35 g of torque.

**READ THROUGH THIS MANUAL  
BEFORE STARTING CONSTRUCTION.  
IT CONTAINS IMPORTANT INSTRUCTIONS  
AND WARNINGS CONCERNING THE  
ASSEMBLY AND USE OF THIS MODEL.**

### TOWER HOBBIES

Champaign, Illinois  
(217) 398-8970 ext. 5

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## INTRODUCTION

Thank you for purchasing the TOWER HOBBIES Vista™ BL EP ARF motor glider. Identical in construction to the Vista ARF sailplane, this BL version features a 35mm brushless motor that eliminates the need to lay out the Hi-Start launch system typically required for thermal soaring. This BL version therefore requires less space and time to get into the air! Easy-to-fly electric-powered motor gliders such as this are a great way for beginners to get into the hobby—they are relatively inexpensive and they fly and react slowly enough to give novice flyers time to think and react. And when those rising air currents (thermals) appear, the Vista BL EP ARF can still soar with the best of them.

## AMA

We urge you to join the AMA (Academy of Model Aeronautics) and a local R/C club. The AMA is the governing body of model aviation and membership is required to fly at AMA clubs. Though joining the AMA provides many benefits, one of the primary reasons to join is liability protection. Coverage is not limited to flying at contests or on the club field. It even applies to flying at public demonstrations and air shows. Failure to comply with the Safety Code (excerpts printed in the back of the manual) may endanger insurance coverage. Additionally, training programs and instructors are available at AMA club sites to help you get started the right way. There are over 2,500 AMA chartered clubs across the country. Contact the AMA at the address or toll-free phone number that follows.

Academy of Model Aeronautics  
5151 East Memorial Drive  
Muncie, IN 47302-9252  
Tele. (800) 435-9262  
Fax (765) 741-0057



Or via the Internet at: [www.modelaircraft.org](http://www.modelaircraft.org)

**IMPORTANT:** Two of the most important things you can do to preserve the radio controlled aircraft hobby are to avoid flying near full-scale aircraft and avoid flying near or over groups of people.

## SAFETY PRECAUTIONS

### PROTECT YOUR MODEL, YOURSELF & OTHERS... FOLLOW THESE IMPORTANT SAFETY PRECAUTIONS

1. Your Vista BL EP ARF should not be considered a toy, but rather a sophisticated, working model that functions very much like a full-size airplane. Because of its performance capabilities, the Vista BL ARF, if not assembled and operated correctly, could possibly cause injury to yourself or spectators and damage to property.
2. You must assemble the model **according to the instructions**. Do not alter or modify the model, as doing so may result in an unsafe or unflyable model. In a few cases the instructions may differ slightly from the photos. In those instances the written instructions should be considered as correct.
3. You must take time to **build straight, true and strong**.
4. You must use an R/C radio system that is in first-class condition.
5. You must correctly install all R/C and other components so that the model operates correctly on the ground and in the air.
6. You must check the operation of the model before **every** flight to insure that all equipment is operating and that the model has remained structurally sound. Be sure to check clevises or other connectors often and replace them if they show any signs of wear or fatigue.
7. If you are not an experienced pilot or have not flown this type of model before, we recommend that you get the assistance of an experienced pilot in your R/C club for your first flights.



If you're not a member of a club, your local hobby shop has information about clubs in your area whose membership includes experienced pilots.

8. While this kit has been flight tested to exceed normal use, if the plane will be used for extremely high-stress flying the modeler is responsible for taking steps to reinforce the high-stress points.

We, as the kit manufacturer, provide you with a top quality, thoroughly tested kit and instructions, but ultimately the quality and flyability of your finished model depends on how you build it; therefore, we cannot in any way guarantee the performance of your completed model, and no representations are expressed or implied as to the performance or safety of your completed model.

**REMEMBER:** Take your time and follow the instructions to end up with a well-built model.

## ADDITIONAL ITEMS REQUIRED

### Radio Components

A minimum 3-channel radio (elevator, rudder and ESC control) and two standard or mini servos with 35oz. of thrust are required to fly the Vista BL EP ARF. The Tactic TTX404 4-channel or Futaba 4YF 4-channel radio system are great low cost radio systems perfect for the Vista BL EP ARF.

- TACJ2404 TTX404 4-channel radio system
- TACM0235 (TSX35) standard servo
- TACM0220 TSX20) mini servo
- FUTK4200 4YF 4-channel radio system
- FUTM0031 (S3003) standard servo
- FUTM0415 (S3115) micro precision servo
- TOWM4525 (TS-53) standard servo

### Battery and Charger

- A 3S 11.1V 1800mAh – 2200mAh LiPo battery is required to power the Vista BL EP ARF
- ElectriFly 1800mAh 30C (GPMP0855)
- ElectriFly 2200mAh 30C (GPMP0861)
- FlightPower 2200mAh 30C (FPWP3223)
- FlightPower 2200mAh 50C (FPWP5223)

Most modelers may already have a suitable LiPo charger, but for those that do not, the Duratrax Onyx 235 AC/DC Advanced Peak Charger (DTXP4235) is one of the suitable chargers recommended. The Onyx charger is perfect for 3S batteries used with the Tower Vista BL EP ARF and may be powered either by an external DC power source (such as a 12V battery), or a 110V AC outlet. The Onyx also has an adjustable charge rate to charge your batteries in as little as a half-hour or less (depending on the condition of your batteries and manufacturer's specified charge rate). The Onyx can also charge larger batteries and batteries other than LiPo, so it is a versatile charger you can grow into. The 235 also has an LCD digital display screen, so you can see how much capacity it took to recharge the battery

(required for monitoring the condition of your batteries and calculating how long you can fly).

## Adhesives and Building Supplies

- Tower 30-minute epoxy (TOWR3810)
- Mixing sticks (50, GPMR8055)
- Mixing cups (GPMR8056)
- Epoxy brushes (6, GPMR8060)
- Denatured alcohol (for epoxy clean up)
- Masking tape
- Drill
- Drill bits: 1/16" [1.6mm]
- Stick-on segmented lead weights (GPMQ4485)
- #1 Hobby knife (TOWR1010)
- #11 blades (5-pack, TOWR1015)
- Medium T-pins (HCAR5150)
- CG Machine (GPMR2400)
- Paper towels

## Hardware and Accessories

- Spare #64 rubber bands (TOWQ1220)
- 21st Century Sealing Iron (COVR2700)
- 21st Century Hot Sock (COVR2702)

## KIT INSPECTION

Before assembly, take an inventory of this kit to make sure it is complete, and inspect the parts to make sure they are of acceptable quality. If any parts are missing or are not of acceptable quality, or if you need assistance with assembly, contact **Product Support**. When reporting defective or missing parts, use the part names exactly as they are written in the Kit Contents list.

**Hobbico Product Support** Ph: (217) 398-8970 ext. 5  
3002 N Apollo Drive Suite 1 Fax: (217) 398-7721  
Champaign, IL 61822

E-mail: [airsupport@hobbico.com](mailto:airsupport@hobbico.com)

## ORDERING REPLACEMENT PARTS

Replacement parts for the Tower Hobbies Vista BL EP ARF are available using the order numbers in the **Replacement Parts List** that follows. The fastest, most economical service can be provided by your hobby dealer or mail-order company.

To locate a hobby dealer, visit the Hobbico web site at [www.hobbico.com](http://www.hobbico.com). Choose "Where to Buy" at the bottom of the menu on the left side of the page. Follow the instructions provided on the page to locate a U.S., Canadian or International dealer.

Parts may be ordered directly from Hobby Services by calling (217) 398-0007, or via facsimile at (217) 398-7721, but full retail prices and shipping and handling charges will apply. Illinois and Nevada residents will also be charged sales tax. If ordering via fax, include a Visa® or MasterCard® number and expiration date for payment.



Mail parts orders **Hobby Services**  
 and payments by 3002 N Apollo Drive, Suite 1  
 personal check to: Champaign IL 61822

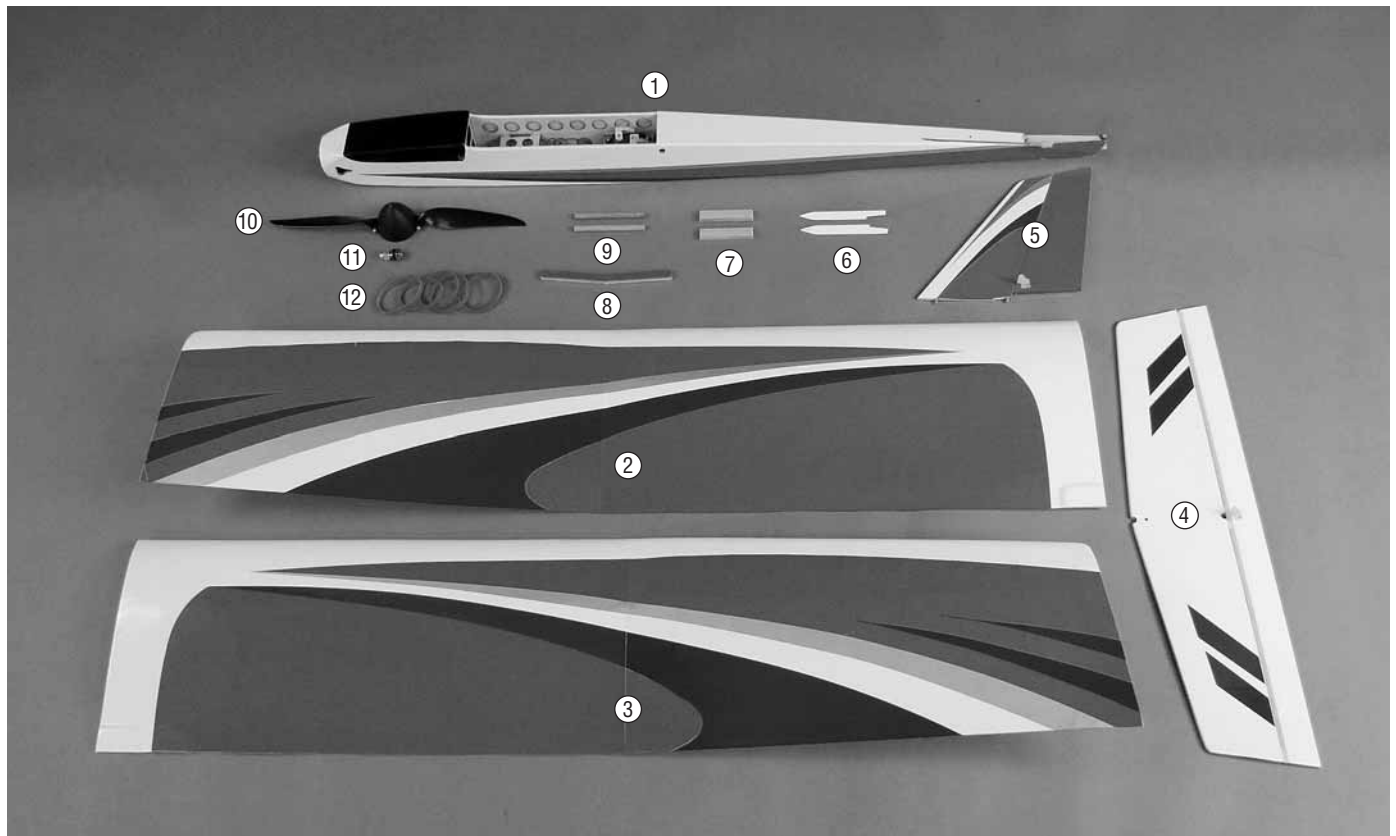
Be certain to specify the order number exactly as listed in the **Replacement Parts List**. Payment by credit card or personal check only; no C.O.D.

If additional assistance is required for any reason contact Product Support by e-mail at [productsupport@hobbico.com](mailto:productsupport@hobbico.com), or by telephone at (217) 398-8970.

## REPLACEMENT PARTS LIST

Order No.	Description
TOWA4021	Fuselage
TOWA4022	Wing
TOWA4023	Tail Surfaces
TOWA4024	Motor
TOWA4025	Folding Prop Assembly
TOWA4026	Folding Blade Set
TOWA4027	Decals
TOWA4028	ESC 30A

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- |                          |                      |
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| 1. Fuselage              | 7. Servo Rails       |
| 2. Left Wing             | 8. Wing Joiner       |
| 3. Right Wing            | 9. Wing Dowels       |
| 4. Horizontal Stabilizer | 10. Prop and Spinner |
| 5. Vertical Stabilizer   | 11. Prop Adapter     |
| 6. Fin Braces            | 12. #64 Rubber Bands |



## ASSEMBLY

### Preparations



❑ 1. Use a model airplane covering iron with a protective covering sock to remove any wrinkles present in the covering. The best temperature setting, with a covering sock on the iron, is approximately 300° F. If this doesn't seem to be enough heat to shrink the wrinkles, increase iron temperature in small increments until the wrinkles disappear.

### Join the Wings



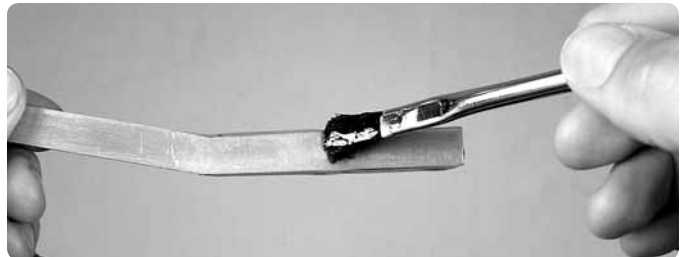
❑ 1. Without using any glue, test fit both wing halves together with the wing joiner. Make sure the halves fit together well and there is no gap. If there is a problem with the fit, look for obstructions such as glue bumps or wood slivers inside the wings where the joiners fit. Make any adjustments necessary to get a good fit.



❑ 2. Place a sheet of wax paper on your workbench and gather all the items required for joining the wings: 30-minute epoxy, a mixing cup, an epoxy mixing stick, an epoxy brush, paper towels and denatured alcohol for epoxy clean up. Hint: To cut down on waste, cut the paper towels into several small squares as shown in the photo.

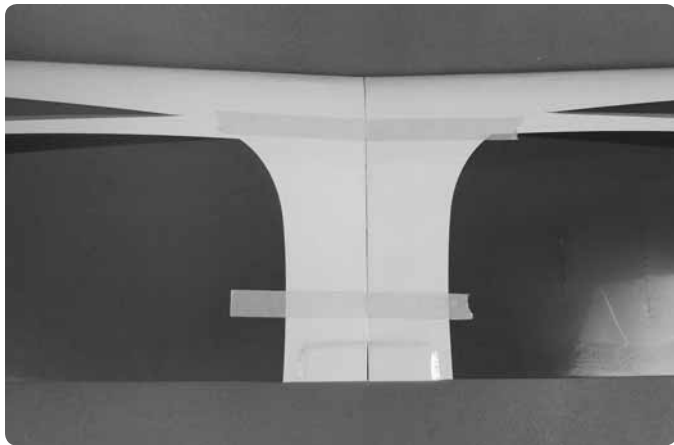
**Caution:** Do not use 5-minute epoxy for joining the wing halves. It will not provide enough working time.

Read steps 3 and 4 all the way through before proceeding. It is important to use the proper technique for joining the wing halves to ensure a strong wing.



❑ 3. Separate the wings and take out the joiner. Mix up approximately 1/2 oz. [15cc] of 30-minute epoxy. Use an epoxy brush to coat both ends of the wing and one half of the joiner all the way around. Pour a generous amount of epoxy into one of the wings where the joiner goes, and then slowly insert the epoxy-coated half of the joiner. Wipe away excess epoxy as it is forced out of the wing. Note: There must be no "empty space" inside the wing where the joiner fits—the cavity must be filled with epoxy. If no epoxy "oozes" out when you installed the joiner, remove the joiner and add more epoxy. Then reinstall the joiner. Proceed rapidly to the next step.



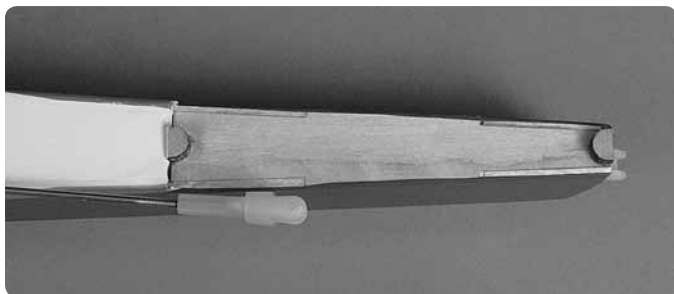
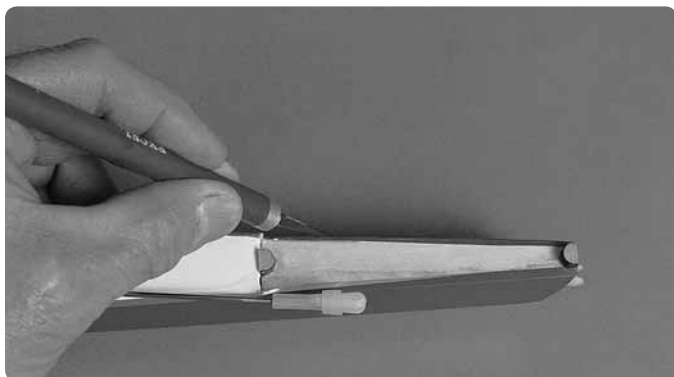


❑ 4. Coat the protruding end of the joiner all the way around with epoxy and pour epoxy into the other wing. Join the wing to the other joiner/wing assembly, slowly pressing the two halves together. Allow excess epoxy to drip out as you go. When the wings come together, wipe away excess epoxy that is squeezed out. Then use several strips of masking tape on both the top and bottom of the wing to tightly hold the two halves together. If epoxy continues to work out of the wing under the tape, remove one strip at a time and wipe off the epoxy. Then replace the tape with another strip. Do not disturb the wing until the epoxy has hardened.

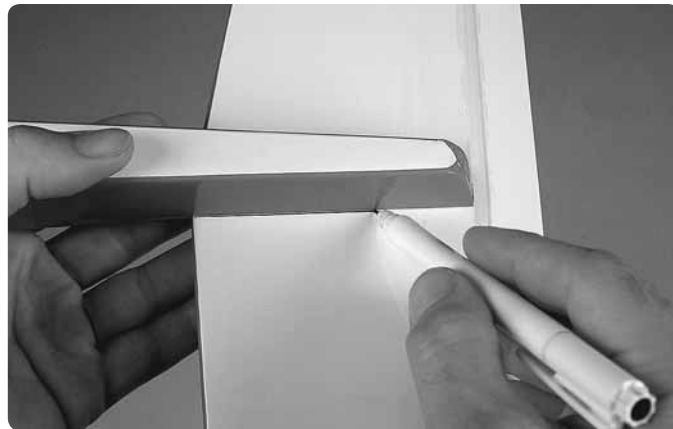
❑ 5. After the epoxy has fully hardened, slowly and carefully pull away the masking tape. If any of the covering loosened, iron it back down with a covering iron on medium heat. Use a covering sock over the iron to protect the Vista BL EP ARF's finish.

## ASSEMBLE THE FUSELAGE

### Join the Stabilizer



❑ 1. Cut off any covering that has been wrapped around the side of the fuselage over the top of the stab saddle where the stabilizer goes.

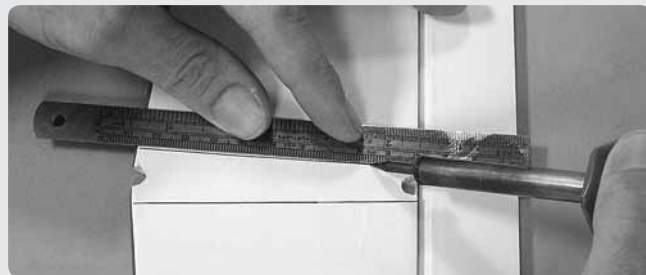


❑ 2. Place the stab on the fuselage, keying the notches in the stab into the pegs on the fuselage. Use a fine-point, felt-tip pen to mark the outline of the fuselage onto the stab.

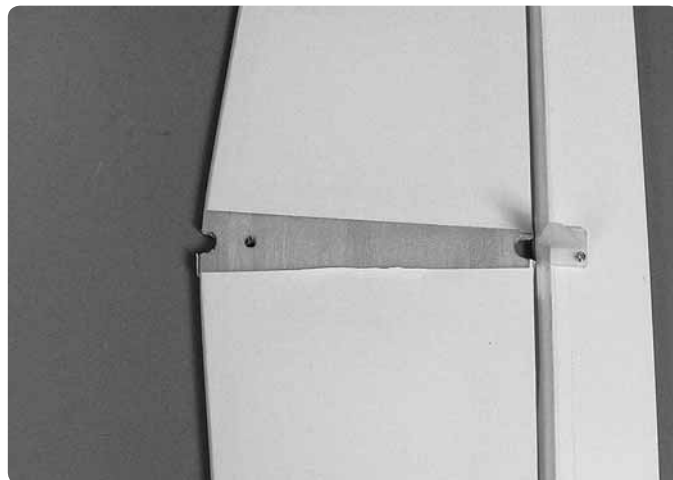
❑ 3. Take the stab off the fuselage and follow the **Expert Tip** below or use a sharp hobby knife with a straightedge to cut along the lines. If using a hobby knife to cut the covering, take great care not to cut into the wood. Cutting into the wood will weaken the structure which could cause it to fail in flight.

### EXPERT TIP

#### How to cut covering from balsa.

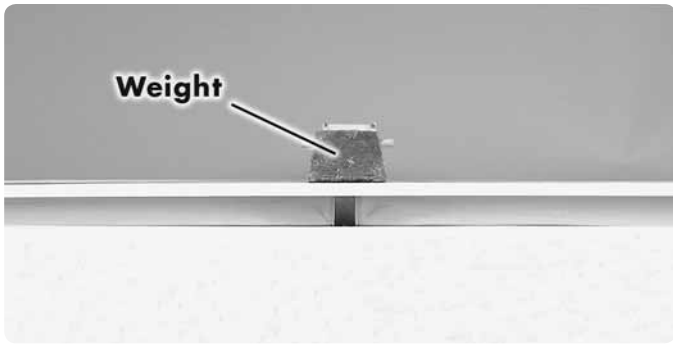


Rather than using a hobby knife which could inadvertently cut into the balsa, use a heated soldering iron. Move the iron at a pace that will just melt the covering without burning into the wood—the hotter the soldering iron, the faster you will have to move it. A sharp tip isn't necessary, but a fine-point does work best.



❑ 4. Peel the covering from the bottom of the stabilizer.

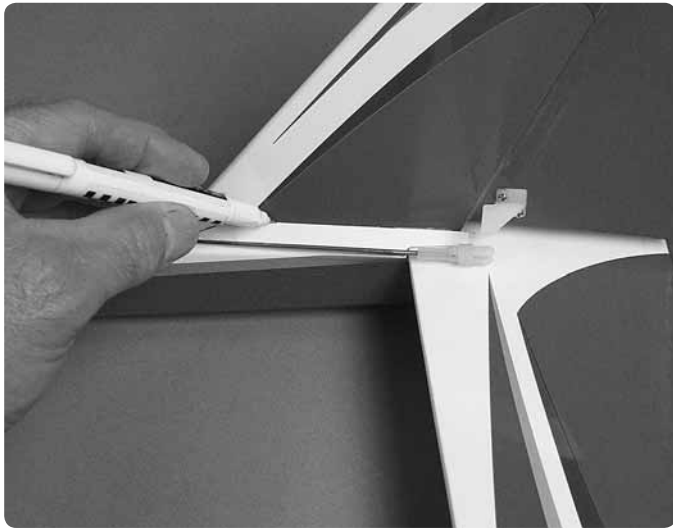




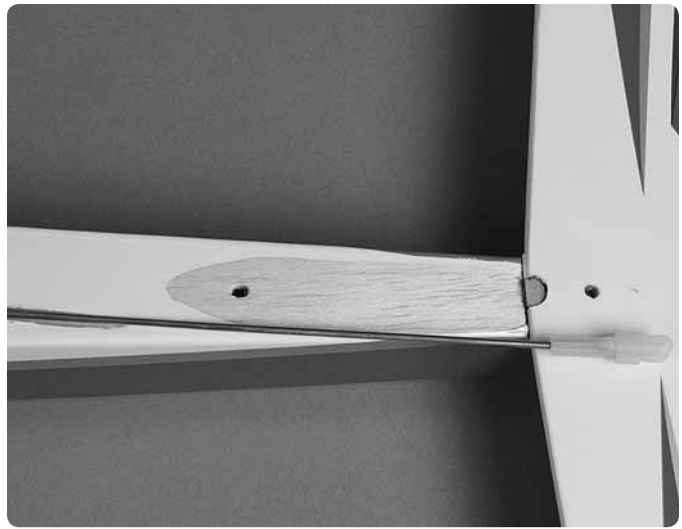
❑ 5. Reposition the stabilizer onto the fuselage. Resting the fuselage on your workbench, place a weight on top of the stab to hold it down. View the fuselage from the rear. If the stab is parallel with the workbench, proceed to the next step. If the stab is not parallel with the workbench, remove the stab and use medium-grit sandpaper to sand down the “high side” of the stab saddle where the stab rests until you can get the stab level.

❑ 6. Use 30-minute epoxy to glue the stab into position—be certain to coat both the bottom of the stab and the fuselage with epoxy. Use weight or T-pins to hold the stab in position until the epoxy hardens.

### Join the Fin

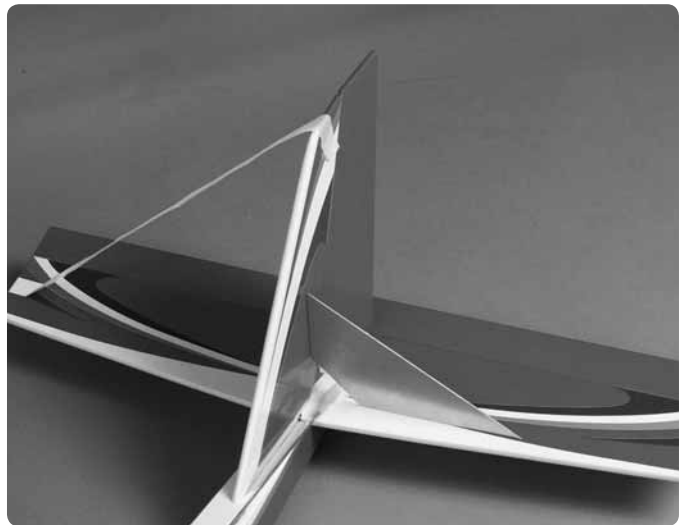


❑ 1. Place the fin on the fuselage, “keying” the dowels in the bottom into the holes in the fuselage and the stab. Without using any glue, place the tri-stock fin braces on both sides of the fin. The same as was done with the bottom of the stab, use a fine-point, felt-tip pen to mark the outline of the fin braces onto the fuselage top and the fin so you will know where to cut off the covering.



❑ 2. Working carefully without cutting into the balsa, use your heated soldering iron or a sharp hobby knife to cut the covering from the sides of the fin and the top of the fuselage. Make sure you cut just inside the lines—approximately 1/32" [.5mm]—so that none of the balsa will be exposed when all the parts are joined.

❑ 3. Use one of your paper towel squares moistened with denatured alcohol to wipe away the ink lines.

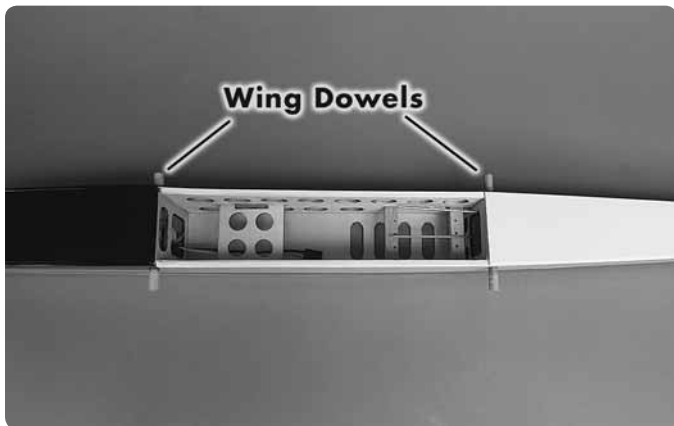


❑ 4. Use 30-minute epoxy to glue the fin to the fuselage with T-pins to hold the fin in position. Before the epoxy hardens use a builder’s square to check to see if the fin is perpendicular to the stab. If necessary, use tape to pull the fin over to one side or the other to get the fin vertical. Allow the epoxy to harden before proceeding.

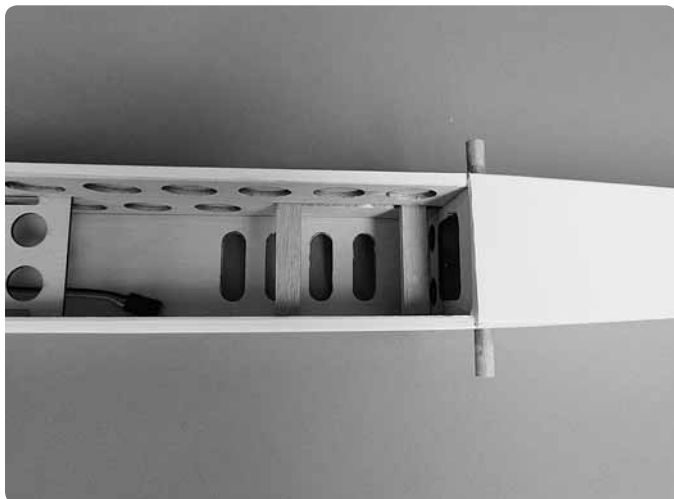




❑ 5. Take out the T-pins. Glue the tri-stock fin braces into position with 30-minute epoxy, using T-pins to hold them in place.



❑ 6. While you have some epoxy mixed, glue in both wing dowels.



❑ 7. Fit both hardwood servo rails in the slots in both sides of the fuselage. Position the forward rail as far forward as it will go and glue it into place, but do not glue in the aft rail until instructed to do so.

## Hook Up the Controls

❑ 1. Connect the clevis to the third hole out from the bottom of the elevator horn.



**Note:** If the silicone retainer on the elevator clevis rubs against the inside of the fuselage sides, use a hobby knife to trim the inside of the fuselage as necessary for free, smooth movement.

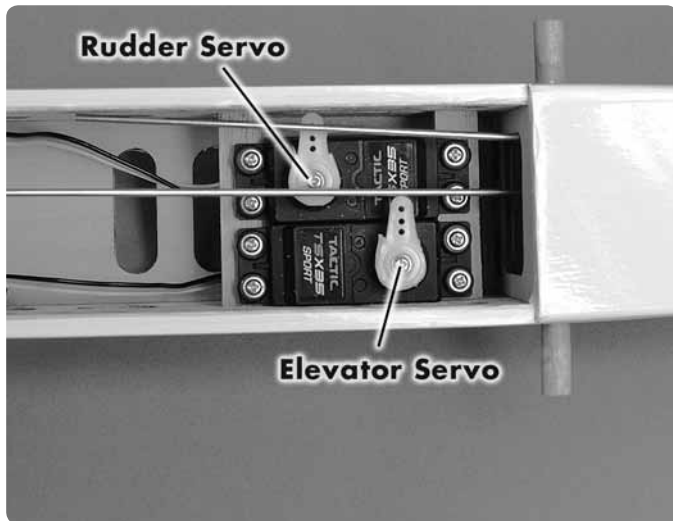


❑ 2. Connect the rudder pushrod to the control horn the same way.





Refer to this photo for the following four steps.

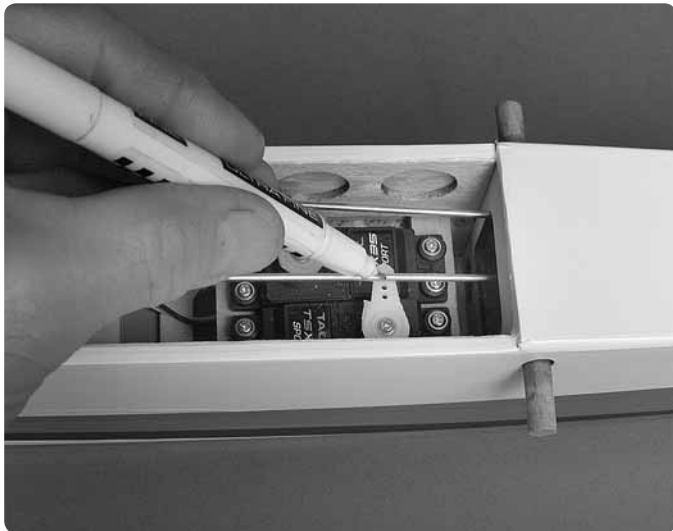


❑ 3. Position the servos on the rails and slide them forward against the forward rail. Note the position of the splined output shaft on the servos (the elevator servo is facing aft and the rudder servo is facing forward). Space the rail approximately 3/32" [3mm] aft of the servos, and then securely glue the rail into position.

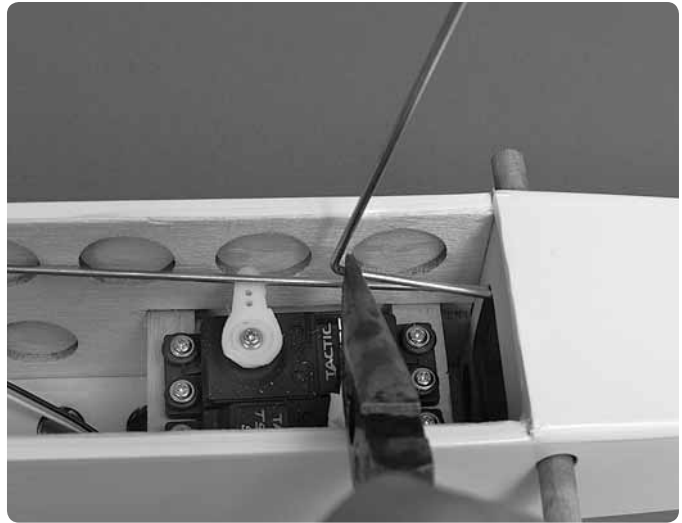
❑ 4. Place the servo arms on the servos—if your servos came with a selection of servo arms, use ones that will not interfere with the other servo or the fuselage sides. For Futaba® and Tactic servos, use the six-arm servo arms and cut off the unused arms.

❑ 5. Position the left servo all the way over to the left side of the fuselage. Drill 1/16" [1.6 mm] holes through the rails for the servo mounting screws. Mount the servo with the screws that came with it.

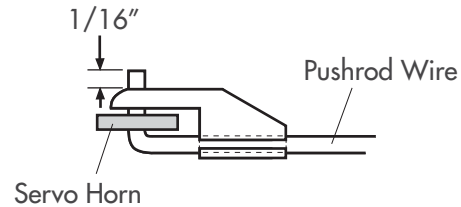
❑ 6. Move the rudder servo all the way over to the elevator servo. Drill 1/16" [1.6mm] holes through the rails and mount the rudder servo with the screws that came with it.



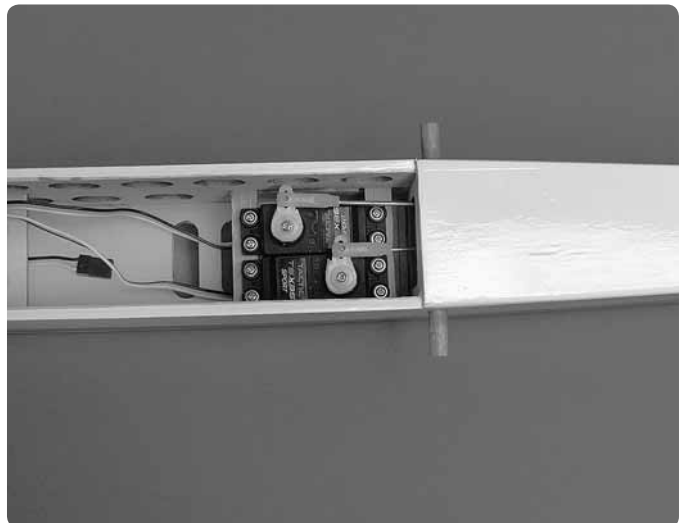
❑ 7. Center the servo arms as shown, holding the elevator pushrod so the elevator is centered. Mark the pushrod where it crosses the holes in the elevator servo arm.



❑ 8. Use pliers to make a 90° bend in the pushrod at the mark you made.



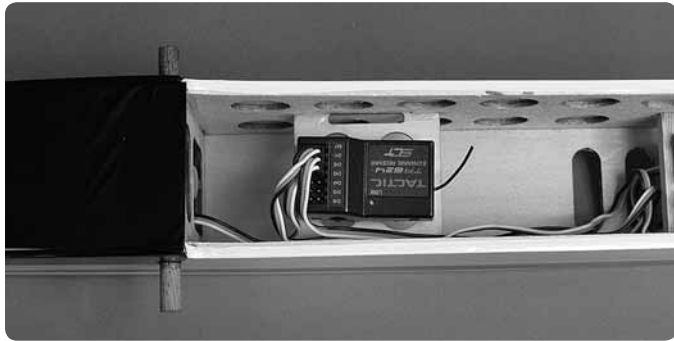
❑ 9. Take the servo arm off the servo. Enlarge the holes in the servo arms with a servo horn drill (HCAR0698), a 5/64" [2mm] drill bit or a hobby knife. Connect the pushrod to the outer hole in the elevator servo using a 90° pushrod connector. Cut the pushrod 1/16" [1.6mm] from the connector. Then replace the servo arm on the servo.



❑ 10. Connect the rudder pushrod to the rudder servo the same way.



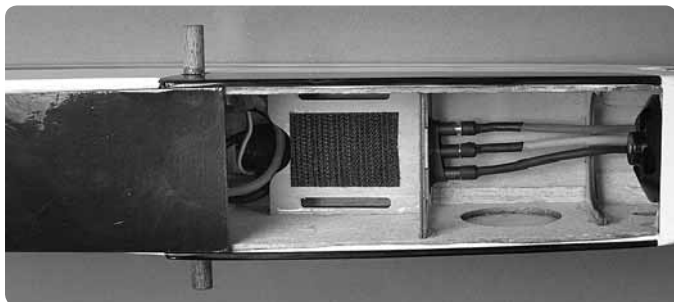
## Mount the Receiver



❑ 1. Cut a 1" [25mm] long piece of adhesive backed hook and loop material. Apply one of the pieces to the receiver tray and the opposite piece to the bottom of the receiver. Secure the receiver on the receiver tray. Connect the servos and ESC to the receiver. If you are flying with a 72 MHz receiver, use hemostats or small needle-nose pliers to guide the antenna down and out the antenna tube next to the elevator pushrod tube.



❑ 2. Remove the battery hatch cover by grabbing it at the back end and pulling it back until the tab at the front clears the fuselage.



❑ 3. Apply the remaining piece of adhesive backed hook and loop material to the top of the battery tray. Apply the opposite piece of the adhesive back hook and loop material to the back of your LiPo battery.



❑ 4. Insert the battery into the battery compartment from the front. Do not connect the motor battery to the ESC until instructed to do so when setting up the radio system later.

## GET THE MODEL READY TO FLY

### Check the ESC

**ATTENTION!!!** Great care must always be used when working on electric-powered models. Unlike glow engines, electric motors can turn on unexpectedly if you aren't paying attention and inadvertently activate the throttle. Follow these instructions to operate the motor correctly and be certain it is properly set up.

❑ 1. Until the radio system has been properly set up and you are familiar with the operation of your motor and ESC, the propeller should not be installed on the model to prevent injury if the motor is inadvertently powered up and the propeller turns.

The following steps will require charged batteries. If you haven't yet done so, charge the motor battery and the batteries in your transmitter.

❑ 2. If using Futaba and Tactic transmitters, set the reversing function for the throttle control in your transmitter to reverse.

❑ 3. Center the trims on the transmitter and lower the throttle stick all the way.

❑ 4. Swing the radio hatch cover to the side.

❑ 5. Take the servo arms off of the servos. With the propeller off the motor, switch on the transmitter and connect the battery to the ESC (the battery does not have to be inside the model—you may just set it to the side).

❑ 6. At this time the ESC is in "safe" mode and will not allow the motor to turn until the system is "armed." To arm the ESC advance the throttle stick all the way forward and hold it there until the motor beeps twice. Lower the throttle stick until the motor beeps twice. Now the ESC is armed and the motor will turn the next time the throttle is advanced.

❑ 7. Slowly advance the throttle and the motor will turn counterclockwise. Move the throttle stick to different positions and see that the motor will react accordingly. When the throttle stick is returned to the "off" position the motor will abruptly stop. This is the "brake" function which allows the propeller to fold backward, thus reducing drag when the Vista BL EP ARF is gliding.

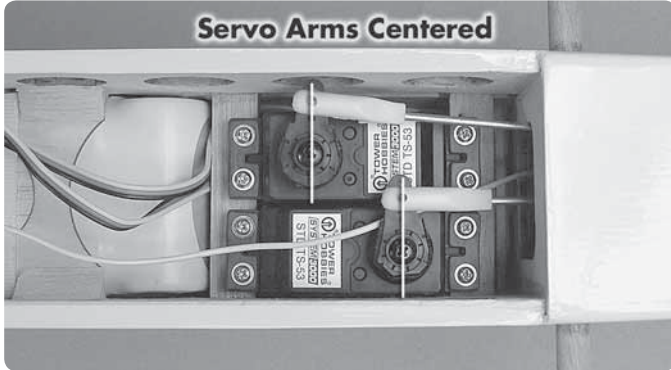
**NOTE:** If the brake does not function, unplug the motor battery, and move the throttle stick to full throttle. Reconnect the motor battery. The motor will beep twice. Move the throttle stick to off. The motor will beep twice. Move the throttle to full again until the motor beeps twice and then lower the throttle stick to off. The motor is now armed.

❑ 8. The system will be turned off when the motor battery is unplugged. When it's time for the next flight the "arming" procedure must be repeated. When you get to the flying field do not arm the motor until you are actually ready to launch the model.



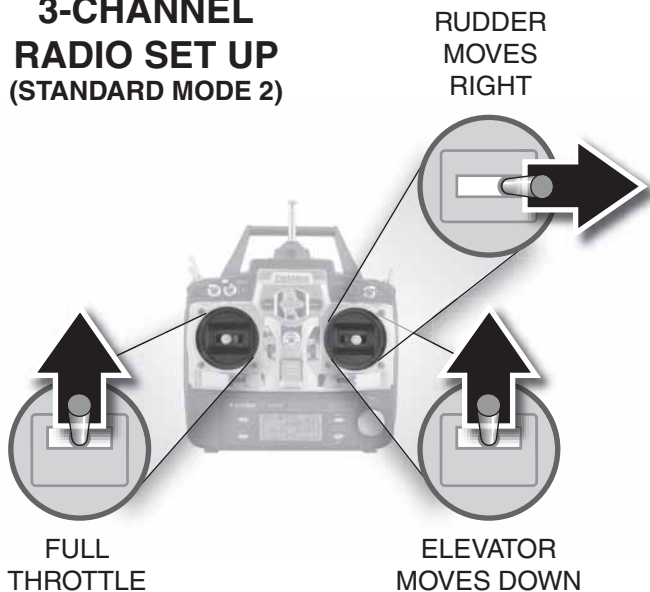
**ATTENTION!!!** The motor battery should never be plugged in without the transmitter switch being on. Otherwise, the receiver could pick up errant signals, inadvertently causing the servos to move or the motor to activate. Always turn on the transmitter first and unplug the motor battery first.

## Check the Control Directions



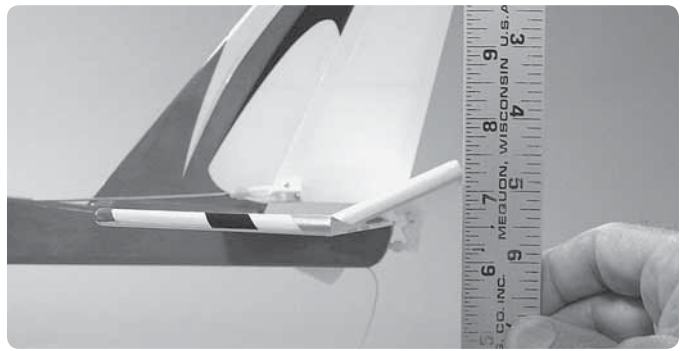
- ❑ 1. With the transmitter and receiver on and the trims centered, make sure the elevator and rudder servo arms are centered, or perpendicular to the servos. If necessary, remove the arms from the servos and reinstall them so they will be perpendicular to the servos. Install the screws that hold on the servo arms.
- ❑ 2. With the transmitter and receiver still on, observe the rudder and elevator to see if they are still centered. If necessary, remove the clevises from the control horns and adjust the length of the pushrods and reconnect the clevises to the horns so the rudder and elevator are centered.

## 3-CHANNEL RADIO SET UP (STANDARD MODE 2)



- ❑ 3. Make certain the elevator, rudder and motor respond in the correct direction as shown in the diagram. If necessary, use the servo reversing function in your transmitter to reverse the direction of the elevator and rudder.

## Set the Control Throws



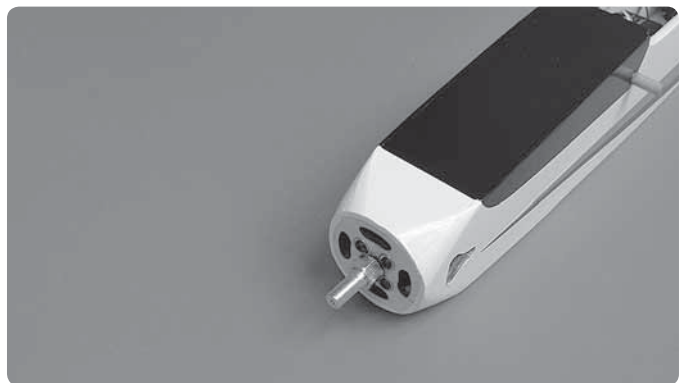
Use a ruler to measure and set the control throw of the elevator and rudder as indicated in the chart that follows. If your radio does not have dual rates, we recommend setting the throws at the low rate setting.

**Note:** The rudder throw is measured at the bottom of the rudder.

THESE ARE THE RECOMMENDED CONTROL SURFACE THROWS:				
	HIGH RATE		LOW RATE	
	UP	DOWN	UP	DOWN
ELEVATOR	5/8" [16 mm]	5/8" [16 mm]	3/8" [9.5 mm]	3/8" [9.5 mm]
RUDDER	RIGHT 1-1/2" [38 mm]	LEFT 1-1/2" [38 mm]	RIGHT 1" [25 mm]	LEFT 1" [25 mm]

**IMPORTANT:** The Vista BL EP ARF has been extensively flown and tested to arrive at the throws at which it flies best. Flying your model at these throws will provide you with the greatest chance for successful first flights. If, after you have become accustomed to the way the Vista BL EP ARF flies, you would like to change the throws to suit your taste that is fine. However, too much control throw could make the model difficult to control, so remember, "more is not always better."

## Install the Propeller



- ❑ 1. Slide the aluminum collet type prop adapter onto the motor shaft.





❑ 2. Install the propeller and propeller backplate on the prop adapter. Make sure the hex on the prop adapter keys into the hex on the back of the backplate. Secure the prop to the adapter with the plastic washer and aluminum hex nut, making sure to leave a 1/16" [1.5mm] gap between the backplate and front of the fuselage.



❑ 3. Install and secure the spinner cone to the prop adapter with the included screw.

### Apply the Decals

- ❑ 1. The decals are die-cut from the factory.
- ❑ 2. Be certain the model is clean and free from oily fingerprints and dust. Prepare a dishpan or small bucket with a mixture of liquid dish soap and warm water—about 1/2 teaspoon of soap per gallon of water. Submerge one of the decals in the solution and peel off the paper backing. Note: Even though the decals have a “sticky-back” and are not the water transfer type, submersing them in soap & water allows accurate positioning and reduces air bubbles underneath.

❑ 3. Position decal on the model where desired. Holding the decal down, use a paper towel to wipe most of the water away.

❑ 4. Use a piece of soft balsa or something similar to squeegee remaining water from under the decal. Apply the rest of the decals the same way.

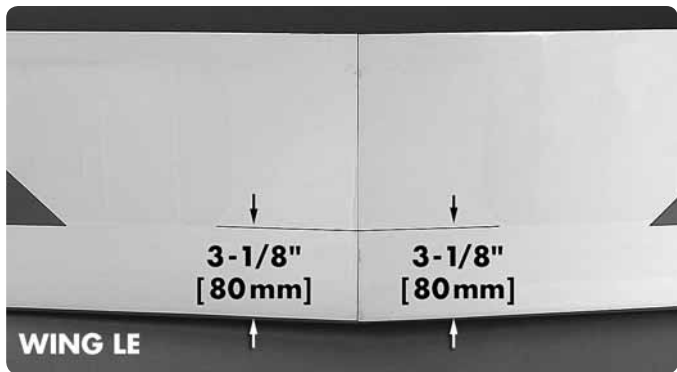


### Balance the Model (C.G.)

More than any other factor, the **C.G.** (balance point) can have the **greatest** effect on how a model flies, and may determine whether or not your first flight will be successful. If you value this model and wish to enjoy it for many flights, **DO NOT OVERLOOK THIS IMPORTANT PROCEDURE.** A model that is not properly balanced will be unstable and possibly unflyable.

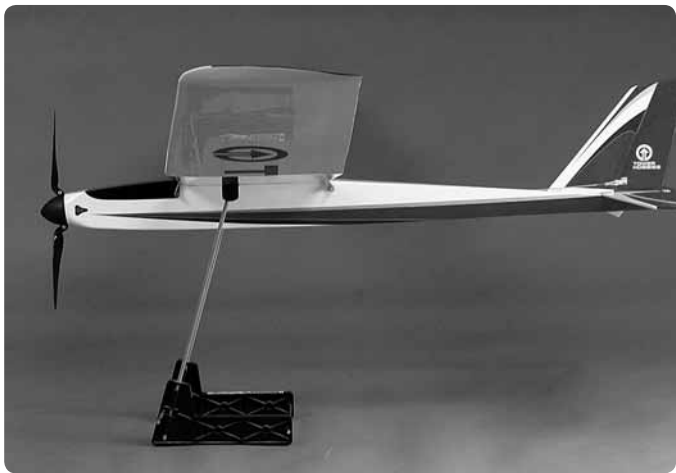
At this stage the model should be in ready-to-fly condition with all of the systems in place including the servos, battery (not plugged in), propeller assembly and receiver.





❑ 1. If you will be using a Great Planes C.G. Machine to balance your model, set the rulers to 3-1/8" [80mm]. Place the plane on the Machine. If you will not be using the C.G. Machine, use a felt-tip pen or 1/8" [3mm]-wide tape to mark a line noting the C.G. on the bottom of the wing 3-1/8" [80mm] back from the leading edge.

This is where your model should balance for the first flights. Later, you may wish to experiment by shifting the C.G. up to 3/8" [9.5mm] forward or 3/8" [9.5mm] back to change the flying characteristics. Moving the C.G. forward may improve wind penetration and stability, but the model will then fly and land a little faster. Moving the C.G. aft makes the model lighter and more responsive to thermals, but could also cause it to become too difficult to control. In any case, **start at the recommended balance point** and do not at any time balance the model outside the specified range.



❑ 2. Attach the wing to the fuselage with a couple of rubber bands. The model must be totally ready to fly with all of the components installed. Place the model on the Great Planes CG Machine or lift it at the balance point you marked. You should be able to feel the tape lines with your fingers.

❑ 3. With the plane on the CG Machine or when lifting it with your fingers at the balance point, if the nose drops the model is nose-heavy and weight must be added to the tail to get it to balance. If the tail drops the model is tail-heavy and weight must be added in the nose to get it to balance. Without actually sticking it on, rest the correct amount of Great Planes Self-Adhesive Lead Weight on the nose or tail of the model to find out how much is required.

❑ 4. After determining the amount of weight required, remove the model from the CG Machine and adhere the weight where needed—to the side of the fuselage under the tail or inside the fuselage behind the motor.

❑ 5. **IMPORTANT:** If you found it necessary to add any weight, recheck the C.G. after the weight has been installed.

## PREFLIGHT

### Identify Your Model

No matter if you fly at an AMA sanctioned R/C club site or if you fly somewhere on your own, you should always have your name, address, telephone number and AMA number on or inside your model. It is required at all AMA R/C club flying sites and AMA sanctioned flying events. Fill out the identification tag on the back cover page and place it on or inside your model.

### Charge the Batteries

Follow the battery charging instructions that came with your radio control system to charge the batteries. You should always charge your transmitter and receiver batteries the night before you go flying, and at other times as recommended by the radio manufacturer.

**CAUTION:** Unless the instructions that came with your radio system state differently, the initial charge on **new** transmitter and receiver batteries should be done for 15 hours **using the slow-charger that came with the radio system**. This will "condition" the batteries so that the next charge may be done using the fast-charger of your choice. If the initial charge is done with a fast-charger, the batteries may not reach their full capacity and you may be flying with batteries that are only partially charged.

### Range Check

Check the operational range of your radio on the ground before the first flight of each day. With the transmitter antenna collapsed and the receiver and transmitter on, you should be able to walk at least 100 feet away from the model and still have control. Perform this same check with the motor running at various speeds as well. Have an assistant stand by your model and, while you work the controls, tell you what the control surfaces are doing. If the control surfaces do not respond correctly, do not fly! Find and correct the problem first. Look for loose servo connections, broken wires, or corroded wires on old servo connectors.



## MOTOR SAFETY PRECAUTIONS

**Failure to follow these safety precautions may result in severe injury to yourself and others.**

- Get help from an experienced pilot when learning to operate motors.
- Use safety glasses when running motors.
- Do not run the motor in an area of loose gravel or sand; the propeller may throw such material in your face or eyes.
- Keep your face and body as well as all spectators away from the plane of rotation of the propeller as you start and run the motor.
- Keep these items away from the prop: loose clothing, shirt sleeves, ties, scarves, long hair or loose objects such as pencils or screwdrivers that may fall out of shirt or jacket pockets into the prop.
- The motor could get hot! Do not touch it during or right after operation.
- When working on your plane, remove the propeller if the motor battery will be connected.
- Always remove the motor battery from the plane when charging.
- Follow the charging instructions included with your charger for charging LiPo batteries. LiPo batteries can cause serious damage if misused.
- Never leave the LiPo battery unattended while charging. If the LiPo battery becomes hot or starts to swell, stop charging and remove the battery to a safe location.

## AMA SAFETY CODE (excerpts)

Read and abide by the following excerpts from the Academy of Model Aeronautics Safety Code. For the complete Safety Code refer to Model Aviation magazine, the AMA web site or the Code that came with your AMA license.

### General

- 1) I will not fly my model aircraft in sanctioned events, air shows, or model flying demonstrations until it has been proven to be airworthy by having been previously, successfully flight tested.
- 2) I will not fly my model aircraft higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give right-of-way and avoid flying in the proximity of full-scale aircraft. Where necessary, an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full-scale aircraft.
- 3) Where established, I will abide by the safety rules for the flying site I use, and I will not willfully and deliberately fly my models in a careless, reckless and/or dangerous manner.

5) I will not fly my model unless it is identified with my name and address or AMA number, on or in the model. Note: This does not apply to models while being flown indoors.

7) I will not operate models with pyrotechnics (any device that explodes, burns, or propels a projectile of any kind).

### Radio Control

1) I will have completed a successful radio equipment ground check before the first flight of a new or repaired model.

2) I will not fly my model aircraft in the presence of spectators until I become a qualified flier, unless assisted by an experienced helper.

3) At all flying sites a straight or curved line(s) must be established in front of which all flying takes place with the other side for spectators. Only personnel involved with flying the aircraft are allowed at or in the front of the flight line. Intentional flying behind the flight line is prohibited.

4) I will operate my model using only radio control frequencies currently allowed by the Federal Communications Commission.

5) I will not knowingly operate my model within three miles of any pre-existing flying site except in accordance with the frequency sharing agreement listed [in the complete AMA Safety Code].

9) Under no circumstances may a pilot or other person touch a powered model in flight; nor should any part of the model, other than the landing gear, intentionally touch the ground except while landing.

## CHECK LIST

**Use this Check List to make sure you haven't forgotten anything during the last few seconds of preparation.**

- 1. Check the C.G. according to the measurements provided in the manual.
- 2. Be certain the receiver is securely mounted.
- 3. Confirm that all controls operate in the correct direction and the throws are set up according to the manual.
- 4. Make sure all the servo arms are mounted to the servos with the screws included with your radio.
- 5. Place your name, address, AMA number and telephone number on or inside your model. There is an identification tag on the back cover page.
- 6. If you wish to photograph your model, do so before your first flight.
- 7. Range check your radio when you get to the flying field.



## FIND A SAFE PLACE TO FLY

The best place to fly any model is at an AMA chartered club field. Club fields are set up for R/C flying, making your outing safer and more enjoyable. We recommend that you join the AMA and a local club so you can have a safe place to fly and have insurance to cover you in case of a flying accident. The AMA address and telephone number are in the front of this manual.

If there is no club or R/C flying field in your area, find a suitable site that is clear of trees, telephone poles, buildings, towers, busy streets and other obstacles. Since you are not flying at a sanctioned AMA site, be aware that there may be others like yourself who could be flying nearby. When flying on 72 MHz, if both of your models happen to be on the same frequency, interference will likely cause one or both of the models to crash. An acceptable minimum distance between flying models is five miles, so keep this in mind when searching for a flying site.

In addition to obstacles, it is important to be aware of people who may wander into the area once you begin flying. At AMA club flying sites it is a severe rule infraction to fly over others and this is a good practice if flying elsewhere. R/C models tend to attract onlookers who may pose two main problems; first is the danger of actually crashing your model into a person, causing injury. Second is the distraction by those who ask you questions while you are trying to concentrate on flying. To minimize or avoid this problem, have an assistant standing by who can spot people who wander into your flying site (so you can avoid flying over them) and who can perform “crowd control” if people start to gather.

## FLYING

### Mount the Wing

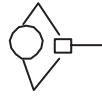
Mount the wing to the fuselage with the ten (10) #64 rubber bands that came with the model. Install them one at a time, crisscrossing the last two. Never use torn, cracked or oily rubber bands.

If the rubber bands you will be using are different from those recommended, consult an experienced modeler to make certain they are strong enough, and that you have used enough of them. If uncertain, force the front of the wing off of the wing saddle. There should be considerable resistance! If the wing can be forced from the fuselage without having to strain your hands, then there are probably not enough rubber bands.

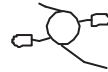
**IMPORTANT!!!** Flying a model with too few rubber bands can be dangerous. The wing could actually detach from the fuselage resulting in a crash. If the model exhibits any tendencies that indicate there are not enough rubber bands, immediately land and closely inspect the model for damage. If no damage is found, add more rubber bands.

## Takeoff

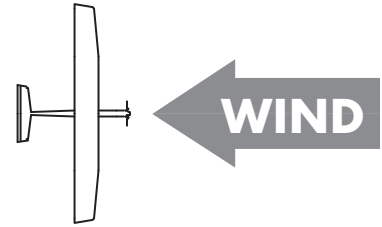
**IMPORTANT:** If you are an inexperienced modeler we strongly urge you to seek the assistance of a competent, experienced R/C pilot to check your model for airworthiness AND to teach you how to fly. No matter how stable or “forgiving” the Vista BL ARF is, attempting to learn to fly on your own is dangerous and may result in destruction of your model or even injury to yourself and others. Therefore, find an instructor and fly only under his or her guidance and supervision until you have acquired the skills necessary for safe and fully controlled operation of your model.



Pilot

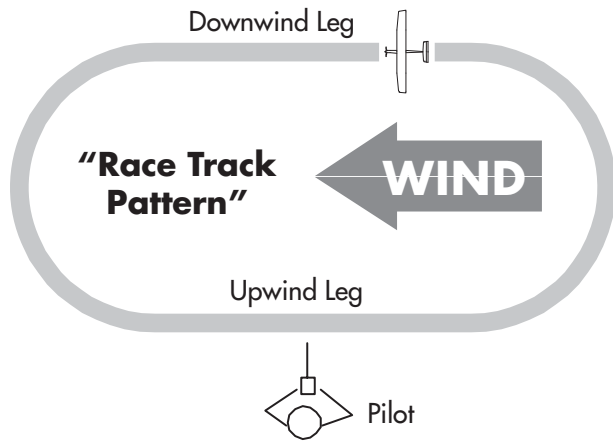


Launch Assistant



The Vista BL EP ARF may be self-launched by the pilot, but if you are a beginner it will be easier to have an assistant launch the Vista BL EP ARF for you. Switch on the transmitter, throttle stick in bottom position, then plug the motor battery into the ESC. Hold the fuselage under the wing. Before flying any model, always check to be certain that all the controls are operating and in the correct direction by moving the control sticks on the transmitter and observing their response. Once you have confirmed that the controls are operating correctly, point the nose into the wind and apply full power. Toss the model into the air at a nose-level or slightly nose-up attitude. The model should climb gently, but be ready on the controls to keep the wings level and model on a straight-out, slightly nose-up ascent. Reduce the throttle to half. Once at a comfortable altitude, use rudder and elevator trim as necessary to get the Vista BL EP ARF to fly straight-and-level when the control sticks are neutral. When the model has reached enough altitude (50 to 100 feet [15 to 30m]) make the first turn away from yourself and the takeoff area. Continue to control the model, keeping it on the intended flight path while climbing at a comfortable rate.





## Flight

Continue to fly the model in the “race track” pattern, making the downwind turn toward you and the upwind turn away from you. If you are experienced enough and can control the model in different orientations, execute figure eights turning the model toward you in the middle of the “racetrack.” Throttle back or cut power altogether when you get to an altitude where the Vista BL EP ARF will be able to glide for a while. Add power when necessary to regain altitude. Once you become an experienced pilot, you will learn how to search for rising air currents where motor power will no longer be necessary to remain aloft for ten, twenty, thirty minutes or more. Total run time under full-power should be approximately four to five minutes, so even without the assistance of rising air currents, the Vista BL EP ARF should be able to remain aloft for at least six minutes.

Mind your battery power level, but use this first flight to become familiar with your model before landing. With most electric planes it is best to have a timer set on your transmitter or a

separate timer with an alarm to alert you when the battery may be getting low. This will require a few flights before determining the maximum flight time you can achieve with the batteries. This will prevent the downwind auto motor cutoff over the end of the flying field.

## Landing

Align the plane with the landing zone and always land into the wind. Increase or decrease motor power as necessary to maintain your descent. When the model is a foot or two [.5m] from the ground, increasingly apply “up” elevator to slow the model without allowing it to climb. “Skim” the ground until flying speed is lost and the model finally touches down as gently as possible. It will probably skid for several feet, so a grassy landing area is preferred.

**Congratulations!** You’ve just made your first flight. Remove the battery and, if the motor has been running for a while and is still warm, allow it to cool before installing a charged battery and making another flight.

One final note about flying your Vista BL EP ARF. Have a goal or a flight plan in mind for each flight. Rather than taking to the air without knowing what you are going to do, take a minute to think about the next flight—whether it’s searching for rising air currents (thermals) or learning how to control the model in different orientations. A little planning ahead should keep you from executing an impulsive maneuver you weren’t actually ready for possibly resulting in a crash.

**Have a ball! But always stay in control and fly in a safe manner.**

**GOOD LUCK AND GREAT FLYING!**

Cut out or copy the identification tag and put it on or inside your model.

This model belongs to:				
Name				
Address				
City, State, Zip				
Phone Number				
AMA Number				

