Sequence

SPECIFICATIONS

Wingspan:	50 in [1270mm]	**Weight:**	3.5– 3.75 lb [1590-1700 g]	**Length:**	51.5 in [1310mm]
Wing Area:	505 sq in [32.6 dm^2]	**Wing Loading:**	16– 17 oz/sq ft [49– 52 g/dm^2]	**Motor:**	RimFire .32 (42-50-800) brushless out-runner motor

RADIO

4-channel minimum

w/4 micro servos and standard size receiver

WARRANTY

Great Planes® Model Manufacturing Co. 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 Great Planes' liability exceed the original cost of the purchased kit.** Further, Great Planes reserves the right to change or modify this warranty without notice.

In that Great Planes 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.

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

GREAT PLANES® MODEL MANUFACTURING COMPANY

Champaign, Illinois
(217) 398-8970, Ext 5
airsupport@greatplanes.com

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INTRODUCTION

Congratulations on your purchase of the Great Planes Sequence ARF! The Sequence has been designed to be a lightweight, precision pattern plane that assembles quickly and easily. An included pull-pull system provides extreme accuracy in rudder control. Aft mounting positions are also provided for the tail servos for direct pushrod connection. The best part of the build is the pre-trimmed cowl and pre-installed cowl ring! Just snap the cowl in place over the firewall and you're ready to move on! Radio equipment and the battery pack are easily accessible beneath the magnetically held canopy hatch that can be removed quickly without tools.

For the latest technical updates or manual corrections to the Sequence ARF visit the Great Planes web site at www.greatplanes.com. Open the "Airplanes" link, then select the Sequence ARF. If there is new technical information or changes to this model a "tech notice" box will appear in the upper left corner of the page.

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 below:

Academy of Model Aeronautics
5151 East Memorial Drive
Muncie, IN 47302-9252

Ph. (800) 435-9262
Fax (765) 741-0057

AMA SINCE 1936

Or via the Internet at:
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.

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

1. Your Sequence 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 Sequence 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, and a correctly sized motor and components throughout the building process.

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, such as racing, or if a motor larger than one in the recommended range is used, the modeler is responsible for taking steps to reinforce the high stress points and/or substituting hardware more suitable for the increased stress.

9. **WARNING:** The cowl and wheel pants included in this kit are made of fiberglass, the fibers of which may cause eye, skin and respiratory tract irritation. Never blow into a part to remove fiberglass dust, as the dust will blow back into your eyes. Always wear safety goggles, a particle mask and rubber gloves when grinding, drilling and sanding fiberglass parts. Vacuum the parts and the work area thoroughly after working with fiberglass parts.

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 that is straight and true.

DECISIONS YOU MUST MAKE

This is a partial list of items required to finish the Sequence ARF that may require planning or decision making before starting to build. Order numbers are provided in parentheses.

Radio Equipment

The Sequence ARF requires a minimum 4-channel radio system with four micro servos such as the Futaba® S3115 micro precision servo. For optimum performance, we recommend using Futaba S3150 digital micro servos.

In addition, two 12" [305mm] servo extensions are required for the aileron servos. Two 24" [610mm] servo extensions are required for the elevator and rudder servos if installing the servos in the optional aft location. Servo extensions will not be required for the elevator and rudder servos if using the recommended power system and battery. If you are using a radio system that does not support mixing functions, a Y-harness will also be required to connect the aileron servos to the receiver. One 6" [152mm] servo extension is required for the ESC.

❏ Futaba S3115 Micro Precision Servo (FUTM0415)

OR

❏ Futaba S3150 Slim Digital Servo (FUTM0303)

Plus

❏ Hobbico® Extension 12" [152mm] Futaba J (HCAM2100)

❏ Futaba Dual Servo Extension 6" J (FUTM4130)

❏ Hobbico Servo Extension 24" Futaba J (HCAM2200)

❏ Hobbico Extension 6" Futaba J (HCAM2000)

Motor Recommendation

The recommended motor for the Sequence ARF is a RimFire™ .32 (42-50-800) brushless outrunner motor.

❏ Great Planes RimFire .32 (42-50-800) Out-Runner Brushless (GPMG4700)

If using the recommended brushless motor, a 45A brushless ESC is required:

❏ Great Planes Silver Series 45A Brushless ESC 5V/2A (GPMM1840)

Propeller

If you are installing the recommended RimFire brushless motor, we suggest a 12x6E APC propeller.

❏ APC 12x6 Electric Propeller (APCQ4130)

Batteries and Charger

One 2100mAh 14.8V Lithium Polymer battery pack is recommended.

❏ Great Planes ElectriFly LiPo 14.8V 2100mAh 20C Power (GPMP0618)

A cell balancer is required for the LiPo battery pack listed above:

❏ Great Planes ElectriFly Equinox LiPo Cell Balancer 1-5 (GPMM3160)

A suitable charger is also required. The Great Planes PolyCharge4™ is designed for LiPo packs only. However, it is able to charge four LiPo packs simultaneously. The Great Planes Triton2™ charger will only charge one pack at a time, but is capable of charging NiCd, NiMH, LiPo, and Pb acid batteries. Order numbers for both are provided below:

❏ Great Planes PolyCharge4 DC Only 4 Output LiPo Charger (GPMM3015)

OR

❏ Great Planes ElectriFly Triton2 DC Comp Peak Charger (GPMM3153)

ADDITIONAL ITEMS REQUIRED

Required Hardware and Accessories

This is the list of hardware and accessories required to finish the Sequence ARF. Order numbers are provided in parentheses:

❏ Great Planes Velcro Hook & Loop 1x6" (2) (GPMQ4480)

❏ DuraTrax® Servo Tape Wide 1x36" (DTXR1215)

Adhesives and Building Supplies

This is the list of Adhesives and Building Supplies that are required to finish the Sequence ARF:

❏ 1/2 oz. [15g] Thin Pro™ CA (GPMR6001)

❏ Pro 30-minute epoxy (GPMR6047)

❏ Threadlocker thread locking cement (GPMR6060)

❏ Denatured alcohol (for epoxy clean up)

❏ Drill bits: 1/16" [1.6mm], 5/64" [2mm]

❏ Small metal file

❏ #1 Hobby knife (HCAR0105)

❏ #11 blades (5-pack, HCAR0211)

❏ Medium T-pins (100, HCAR5150)

❏ Top Flite® MonoKote® sealing iron (TOPR2100)

❏ Top Flite Hot Sock iron cover (TOPR2175)

❏ 220 grit sandpaper

❏ Panel Line Pen (TOPQ2510)

Optional Supplies and Tools

Here is a list of optional tools that will help you build the Sequence ARF:

❏ 1/2 oz. [15g] Medium Pro CA+ (GPMR6007)

❏ 1/2 oz. [15g] Thick Pro CA- (GPMR6013)

❏ 2 oz. [57g] spray CA activator (GPMR6035)

❏ 4 oz. [113g] aerosol CA activator (GPMR6034)

❏ CA applicator tips (HCAR3780)

❏ CA debonder (GPMR6039)

❏ Pro 6-minute epoxy (GPMR6045)

❏ Epoxy brushes 6, (GPMR8060)

❏ Mixing sticks (GPMR8055)

❏ Mixing cups (GPMR8056)

❏ Pliers with wire cutter (HCAR0625)

❏ Rotary tool such as Dremel

❏ Rotary tool reinforced cut-off wheel (GPMR8020)

❏ Servo horn drill (HCAR0698)

❏ Hobby Heat™ micro torch II (HCAR0755)

❏ Precision Magnetic Prop Balancer (TOPQ5700)

❏ AccuThrow™ Deflection Gauge (GPMR2405)

❏ CG Machine™ (GPMR2400)

❏ Hobbico Flexible 18" Ruler Stainless Steel (HCAR0460)

❏ Top Flite MonoKote trim seal iron (TOPR2200)

❏ Top Flite MonoKote heat gun (TOPR2000)

❏ Hobbico Pin Vise 1/16 Collet w/6 Bits (HCAR0696)

❏ Hobbico 8-Piece Ball Tip Hex L Wrench SAE (HCAR0520)

❏ Great Planes Clevis Installation Tool (GPMR8030)

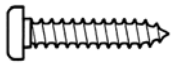
Building Stand

A building stand or cradle comes in handy during the build. We use the Robart Super Stand II (ROBP1402) for all our projects in R&D, and it can be seen in pictures throughout this manual.

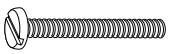
IMPORTANT BUILDING NOTES

- There are several types of screws used in this kit:

  Self-tapping or sheet metal screws are designated by a number and a length. For example, #6 x 3/4" [19mm].

  Machine screws are designated by a number, threads per inch, and a length. For example, 4-40 x 3/4" [19mm].

  Socket Head Cap Screws (SHCS) are designated by a number, threads per inch, and a length. For example, 4-40 x 3/4" [19mm]

- When you see the term ***test fit*** in the instructions, it means that you should first position the part on the assembly **without using any glue**, then slightly modify or *custom fit* the part as necessary for the best fit.
- Whenever the term ***glue*** is written you should rely upon your experience to decide what type of glue to use. When a specific type of adhesive works best for that step, the instructions will make a recommendation.
- Whenever just ***epoxy*** is specified you may use ***either*** 30-minute (or 45-minute) epoxy ***or*** 6-minute epoxy. When 30-minute epoxy is specified it is **highly** recommended that you use only 30-minute (or 45-minute) epoxy, because you will need the working time and/or the additional strength.
- **Photos** and **sketches** are placed **before** the step they refer to. Frequently you can study photos in following steps to get another view of the same parts.
- The Sequence is factory-covered with Top Flite MonoKote film. Should repairs ever be required, MonoKote can be patched with additional MonoKote purchased separately. MonoKote is packaged in six-foot rolls, but some hobby shops also sell it by the foot. If only a small piece of MonoKote is needed for a minor patch, perhaps a fellow modeler would give you some. MonoKote is applied with a model airplane covering iron, but in an emergency a regular iron could be used. A roll of MonoKote includes full instructions for application. Following are the colors used on this model and order numbers for six foot rolls.

White	TOPQ0204	Orange	TOPQ0202
Circus Pink	TOPQ0215	Sapphire Blue	TOPQ0226
Missle Red	TOPQ0201	Sky Blue	TOPQ0206

- The stabilizer and wing incidences and engine thrust angles have been factory-built into this model. However, some technically-minded modelers may wish to check these measurements anyway. To view this information visit the web site at www.greatplanes.com and click on "Technical Data." Due to manufacturing tolerances which will have little or no effect on the way your model will fly, please expect slight deviations between your model and the published values.

COMMON ABBREVIATIONS

Stab	= Horizontal Stabilizer
Fin	= Vertical Stabilizer
LE	= Leading Edge
TE	= Trailing Edge
LG	= Landing Gear
Ply	= Plywood
"	= Inches
mm	= Millimeters
SHCS	= Socket Head Cap Screw
ESC	= Electronic Speed Control
LiPo	= Lithium Polymer battery
4S	= Four cells in series
mAh	= Milliamp Hours (refers to the usable capacity of a battery)

To convert inches to millimeters, multiply inches by 25.4 (25.4mm = 1")

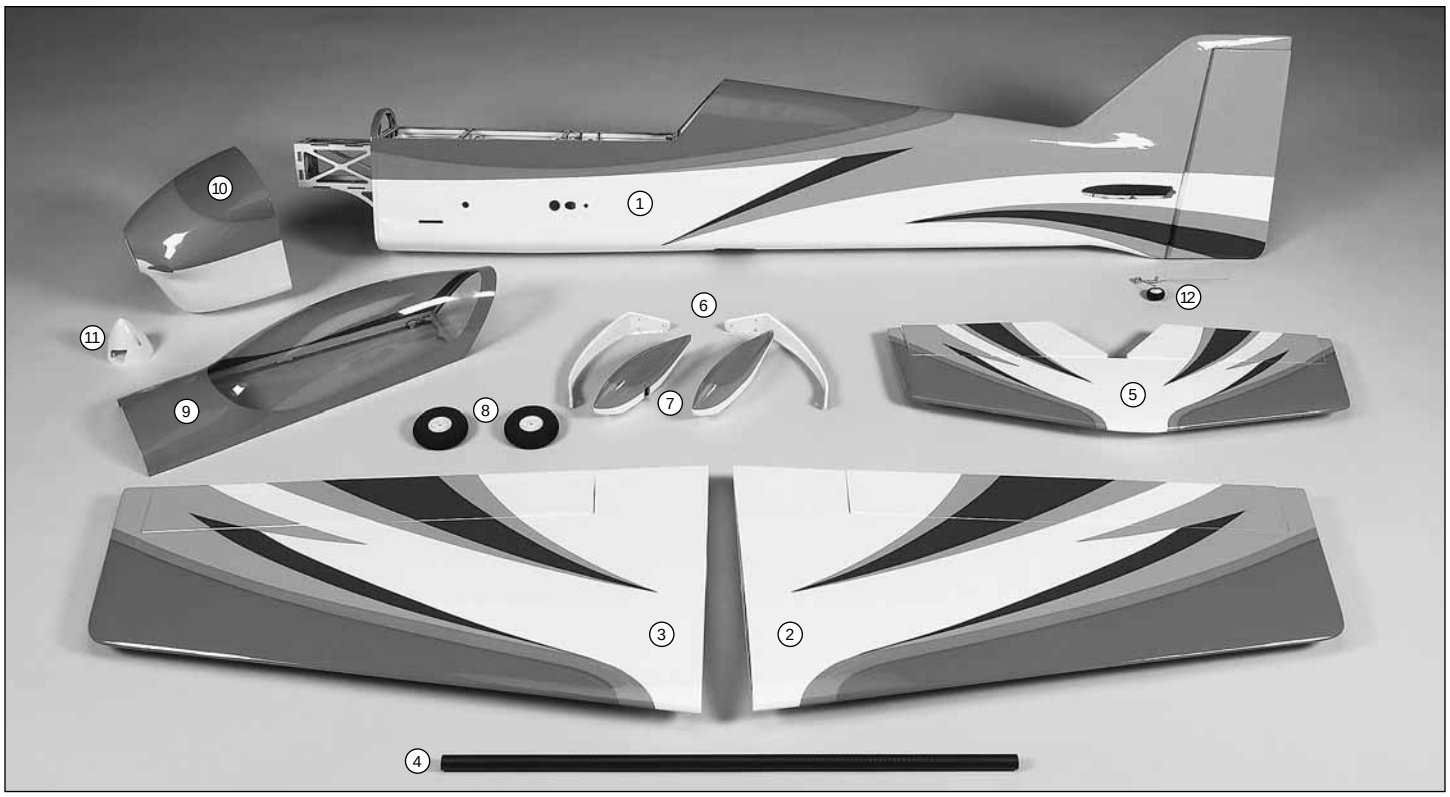
KIT INSPECTION

Before starting to build, 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.

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

E-mail: airsupport@greatplanes.com

KIT CONTENTS



1. Fuselage
2. Left Wing with Aileron
3. Right Wing with Aileron
4. Carbon Wing Joiner
5. Horizontal Stabilizer w/ Elevators
6. Main Landing Gear
7. Wheel Pants
8. Main Wheels
9. Canopy Hatch
10. Cowl
11. Spinner
12. Tail Wheel Assembly

ORDERING REPLACEMENT PARTS

Replacement parts for the Great Planes Sequence 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. 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 also 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 and payments by personal check to:

Hobby Services
3002 N Apollo Drive, Suite 1
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@greatplanes.com, or by telephone at (217) 398-8970.

REPLACEMENT PARTS LIST

Order No.	Description	How to purchase
	Missing pieces	Contact Product Support
	Instruction manual	
	Full-size plans	Not available
GPMA3369	Wing Set	Contact your hobby supplier to purchase these items
GPMA3370	Fuselage	
GPMA3371	Tail Set	
GPMA3372	Land Gear	
GPMA3373	Wheel Pants	
GPMA3374	Cowl	
GPMA3375	Canopy	
GPMA3376	Wing Tube	
GPMA3377	Decal Sheet	
GPMA3328	Tailwheel Assembly	
Upgrade Parts		
GPMA3378	CF Landing Gear Sequence ARF	
GPMQ4273	Low Profile Landing Gear Axles 4mm (2)	
GPMQ4404	Nylon Ez Bolts 10-24 (2)	

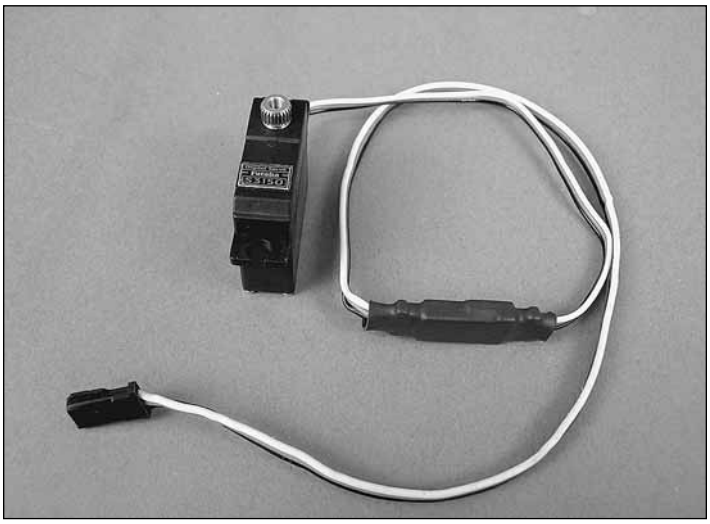
BUILDING INSTRUCTIONS

Preparations

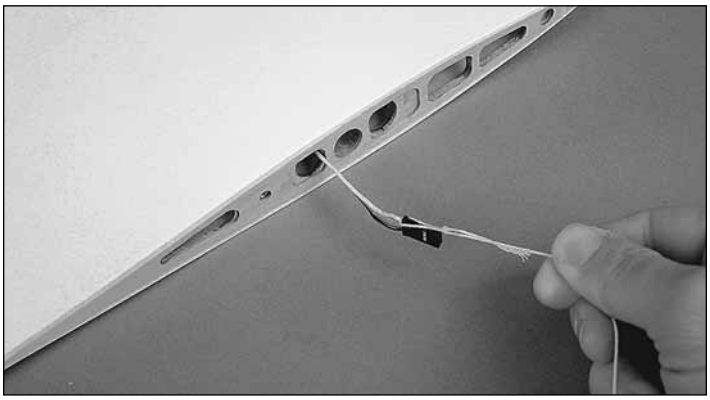
❏ 1. If you have not done so already, remove the major parts of the kit from the box and inspect for damage. If any parts are damaged or missing, contact Product Support at the address or telephone number listed in the “Kit Inspection” section on page 5.

❏ 2. Carefully remove the tape and separate all the control surfaces. Use a covering iron with a covering sock on high heat to tighten the covering if necessary. Apply pressure over sheeted areas to **thoroughly** bond the covering to the wood.

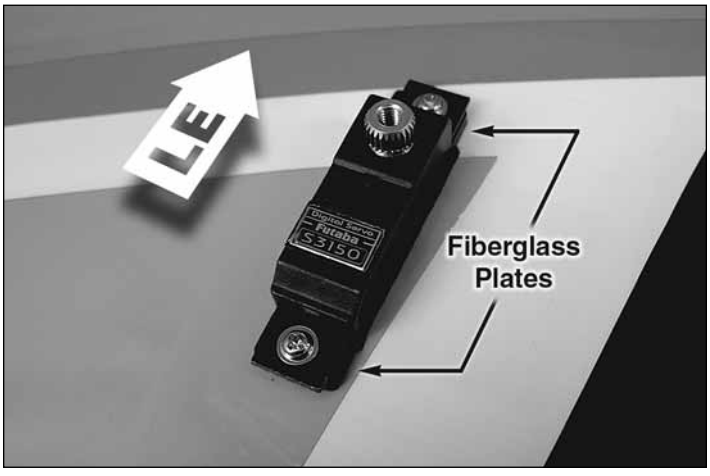
ASSEMBLE THE WING



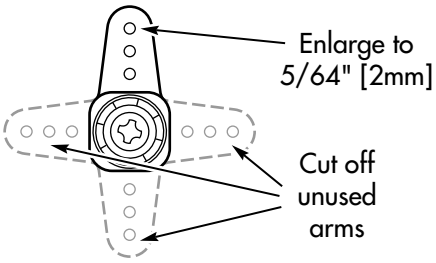
❏ 1. Attach a 12" [305mm] servo extension to each aileron servo. Secure the connections using tape, heat shrink tubing (not included) or special clips designed for that purpose.



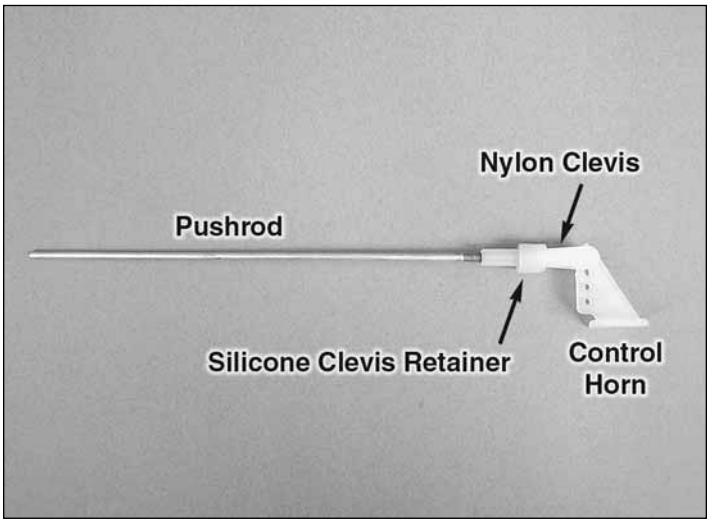
❏ 2. Locate the strings taped inside the aileron servo bays and tie the ends of the strings to the servo extensions. Use the string to pull the servo leads through the **wing** ribs.



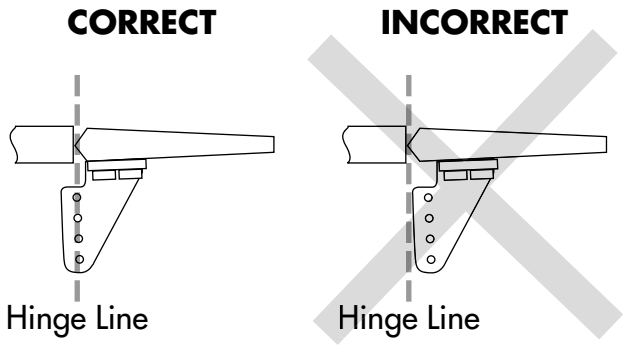
❏ 3. Position the servos in the aileron servo bays in the orientation shown. Drill 1/16" [1.6mm] holes through the servo mounting tabs. Thread a servo mounting screw (included with the servos) into each hole and back it out. Apply a drop of thin CA to each hole to harden the wood. When the glue has dried, install the servos using the included black fiberglass plates and the screws included with the servos. Do not use the rubber grommets or eyelets included with the servos because the flex allowed by the grommets will reduce the precision of the control surfaces.

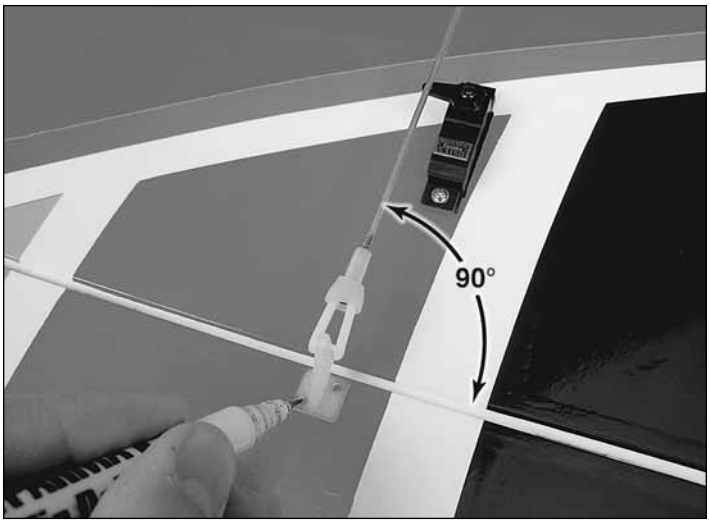


❏ 4. Cut three arms from a four-armed servo arm for each aileron servo. Enlarge the outer hole of the remaining arm with a 5/64" [2mm] drill bit. Center the servos with your radio system and install the servo arms to the servos perpendicular to the servo case as shown with the arms pointing toward the wing tip. Be sure to reinstall the servo arm screws into the servos (use thread locking compound if the servo has a metal output spline).



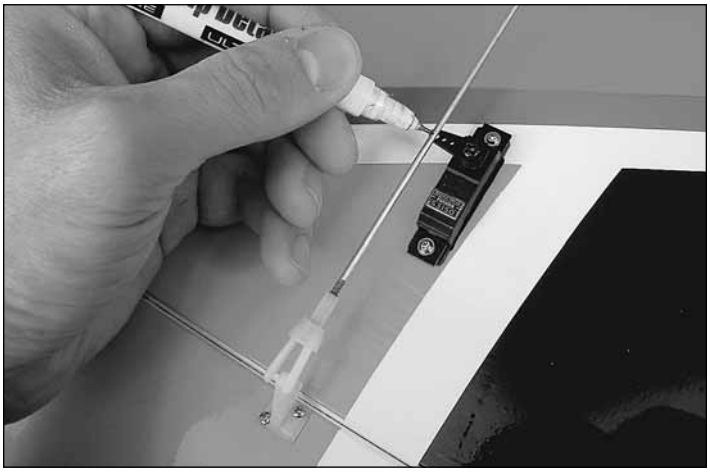
❏ 5. Thread a nylon clevis 20 complete turns onto each 5" [127mm] pushrod. Slide a silicone clevis retainer onto each clevis and connect the clevises to the outer holes of two control horns.

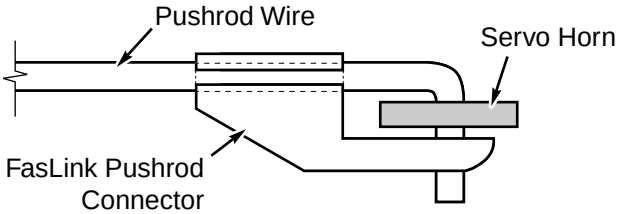


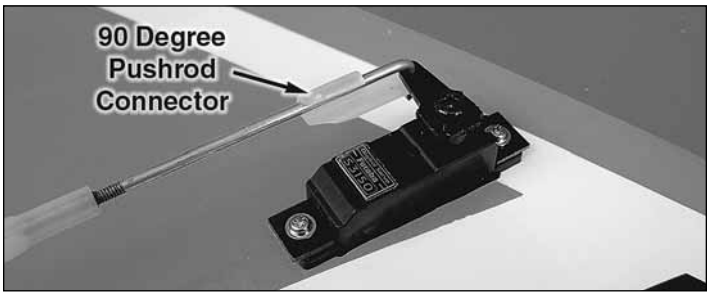


❏ 6. Position the control horns over the hardwood blocks in the ailerons (if you cannot see them, hold the aileron at a shallow angle in good lighting or use a small pin to puncture the covering) using the position of the servo arms as a guide. Align the holes in the control horns directly over the aileron hinge line and mark the location of the control horn mounting holes.

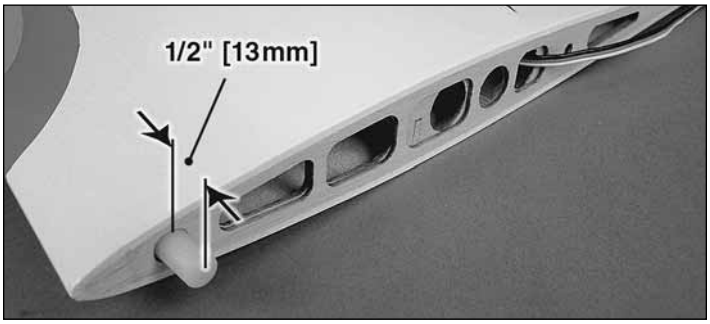
❏ 7. Drill 1/16" [1.6mm] holes at the marks you made through the hardwood blocks. Do not drill all the way through the aileron! Apply a couple drops of thin CA glue to each hole to harden the wood surrounding the holes. When the glue has dried, install the control horns onto the ailerons using four #2 x 1/2" [13mm] self-tapping screws.





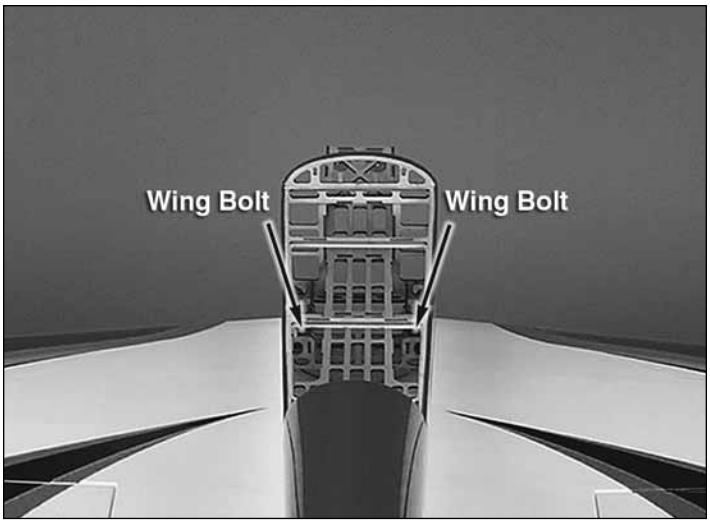


❏ 8. Use tape or a small clamp to hold the ailerons in the neutral position. Make a mark on the pushrods where they cross the outer holes in the servo arms. Make a 90 degree bend at the mark on the pushrod and cut off the excess pushrod 1/4" [6mm] beyond the bend. Attach the pushrods to the servo arms using FasLink pushrod connectors. Thread the clevises up or down on the pushrods as necessary to center the ailerons with the servo arms centered. When satisfied, slide the silicone clevis retainers to the ends of the clevises to secure them.

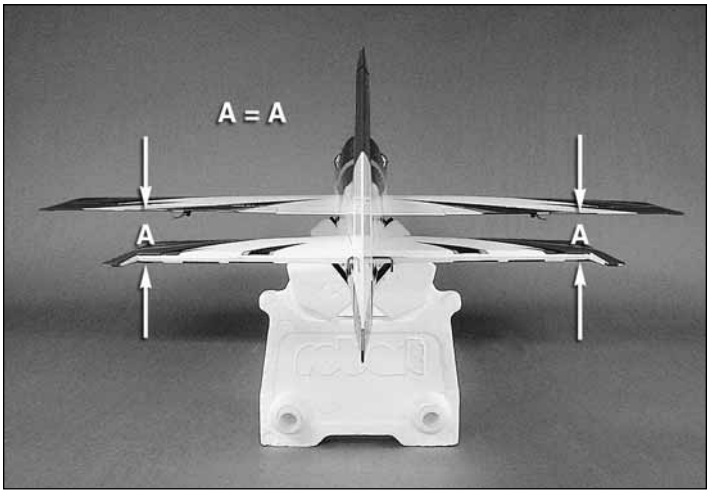


❏ 9. Use epoxy to glue the nylon **wing dowels** into the root rib of each panel. The smooth ends of the dowels should protrude from the root ribs approximately 1/2" [13mm]. Use a paper towel dampened with denatured alcohol to wipe away any excess epoxy.

INSTALL THE HORIZONTAL STABILIZER AND ELEVATORS

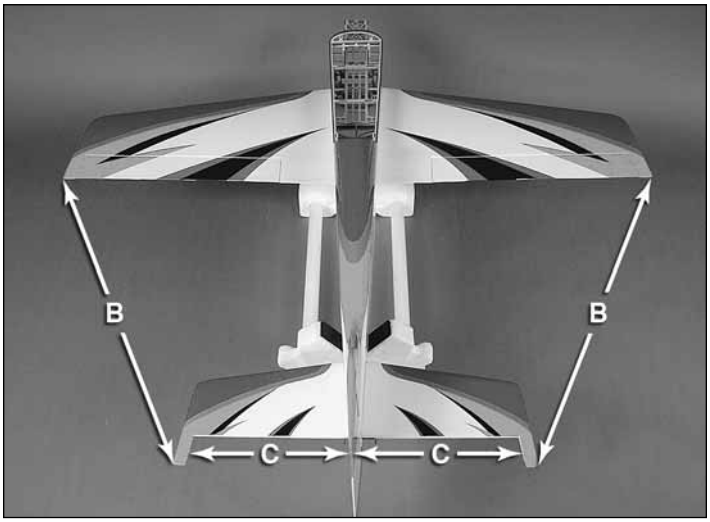


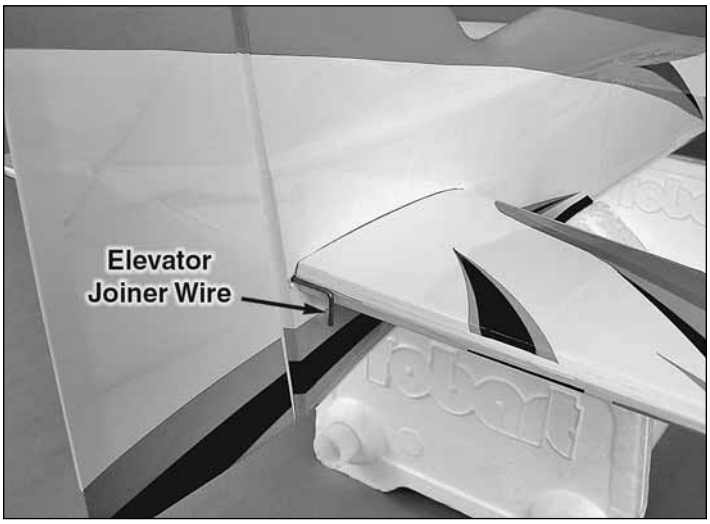
❏ 1. Insert the **carbon wing joiner** into the outer wing tube in the **fuselage** and center it left and right. Slide the wing panels onto the tube and tighten them down using the included wing bolts.



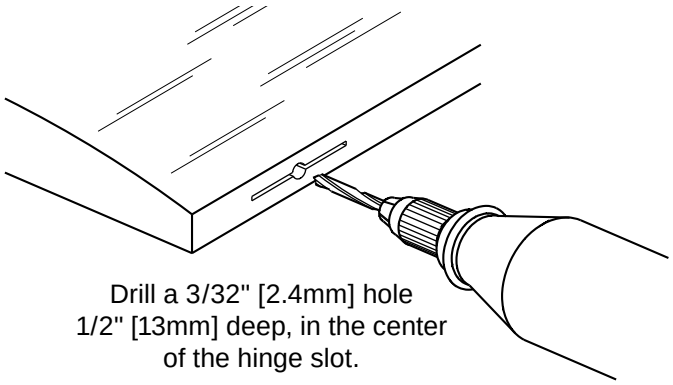
❏ 2. Temporarily install the **horizontal stabilizer** into the stab slot. Stand back 5-6 ft [1.5 - 1.8m] and view the model from behind. Confirm that the stab and wing are parallel. If not, sand the slot as necessary until they are parallel. A weight can also be placed on the high side to bring the stab parallel with the wing.

Before beginning step 3, have some paper towels, denatured alcohol, and a tape measure or length of string with some masking tape on hand and ready to use. When gluing the stab into the slot, it is recommended to coat both the stab itself and the slot with epoxy. Doing so will require additional cleaning of excess epoxy from one side of the stab. However, a better glue joint is achieved when both mating sides have epoxy applied to them. We also suggest dry fitting the stab with the elevator joiner in place to confirm that the joiner wire rotates smoothly and the stab fits properly.

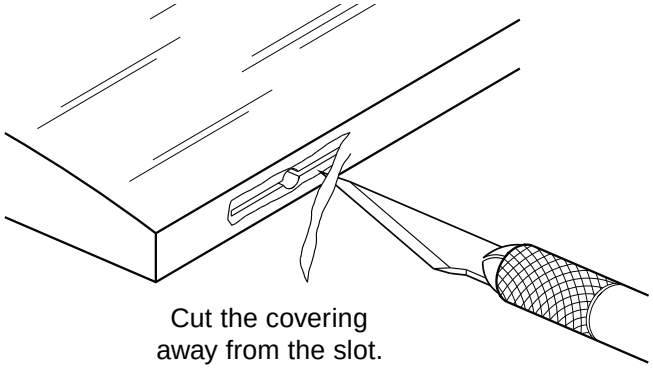




❏ 3. Insert the **elevator joiner wire** into the aft end of the stab slot. Coat the exposed wood on the top and bottom of the stab with 30-minute epoxy as well as the mating edges of the stab slot. Insert the stab into the slot and center it left and right. Measure from the wing tips to the stab tips and make those distances equal. Wipe away excess epoxy with paper towels dampened with denatured alcohol. Confirm that the stab and wing are still parallel. A weight can be added to one side of the stab to make any small corrections. Allow the epoxy to cure undisturbed. The wing can now be removed from the fuselage and set aside.

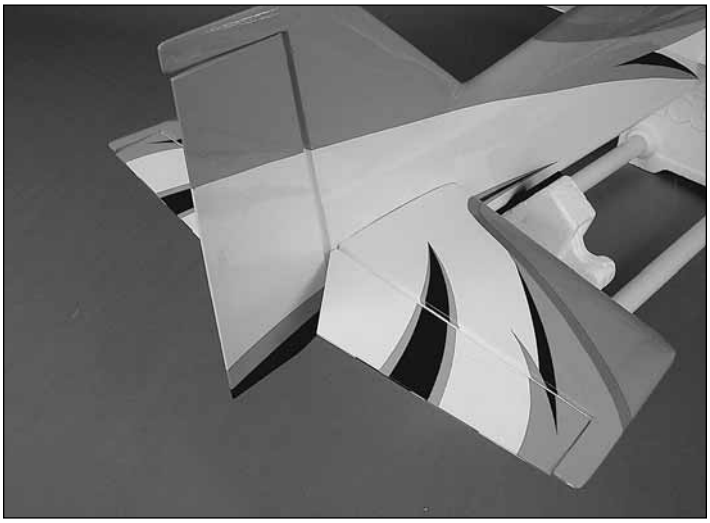


Drill a 3/32" [2.4mm] hole
1/2" [13mm] deep, in the center
of the hinge slot.



Cut the covering
away from the slot.

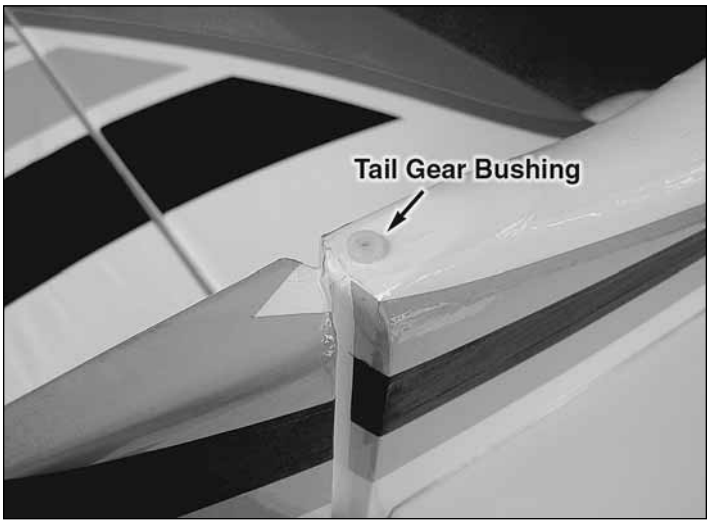
❏ 4. Drill a 3/32" [2.4mm] hole 1/2" [13mm] deep into the center of each hinge slot in the **elevator halves** and stab. Trim the covering away from each hinge slot to ensure that the hinges will be properly glued in place.



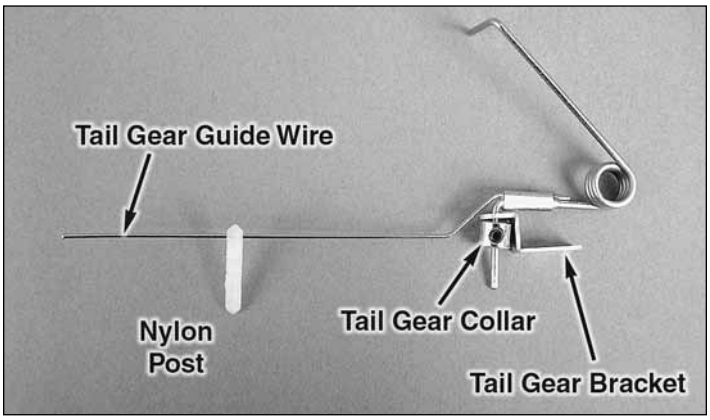
❏ 5. Test fit the elevator halves onto the stab with CA hinges. If necessary, enlarge the hinge slots with a hobby knife. When satisfied with the fit, insert a CA hinge halfway into each hinge slot in the stab. Push a pin through the middle of each hinge to keep them centered. The elevator joiner wire ends fit into the pre-drilled holes and slots at the LE of the elevators. When satisfied, roughen the ends of the elevator

joiner wire with sandpaper and clean them with denatured alcohol. Mix up a small amount of epoxy and coat the ends of the joiner wire. Install the elevator halves onto the stab with CA hinges, being sure that there are even gaps between the stab tips and elevators on each side. Remove the pins from the hinges. Adjust the elevators so there is a small gap between the LE of the elevators and the stab. The gap should be small, just enough to see light through the gap or to slip a piece of paper through. Apply six drops of thin CA to the top and bottom of each hinge without using accelerator. After the CA glue has hardened, confirm that the elevators are secure by pulling on them and deflecting them up and down. Wipe away any excess epoxy with denatured alcohol. The CA hinges will hold the elevators in place while the epoxy on the joiner wire cures.

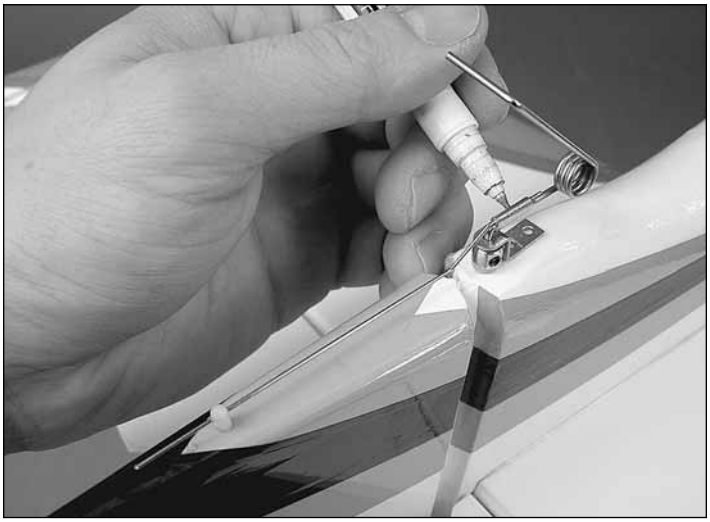
INSTALL THE LANDING GEAR



❏ 1. Apply CA or epoxy to the outside of the tail gear bushing and insert the bushing into the hole into the aft end of the fuselage by gently tapping it into place until fully seated. Be sure not to get glue into the hole in the bushing.

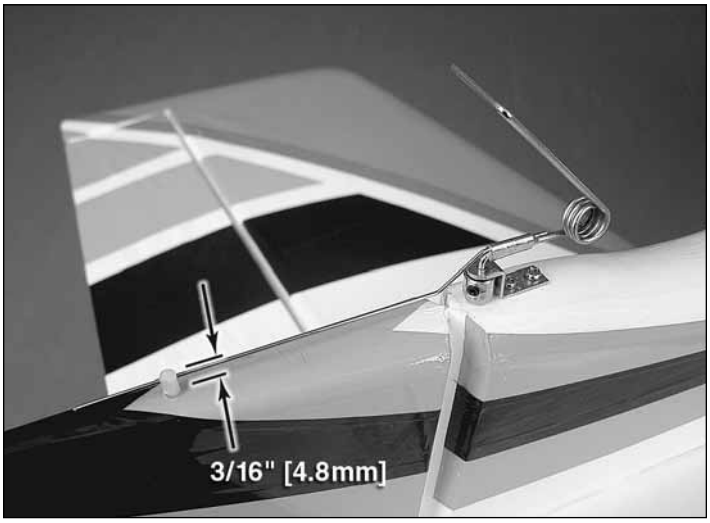


❏ 2. Slide the **tail gear bracket**, **tail gear collar** and **nylon post** onto the **tail gear assembly** as shown. If necessary, enlarge the hole in the nylon post for the tail gear guide wire. Insert a 4-40 set screw into the tail gear collar and tighten the set screw.



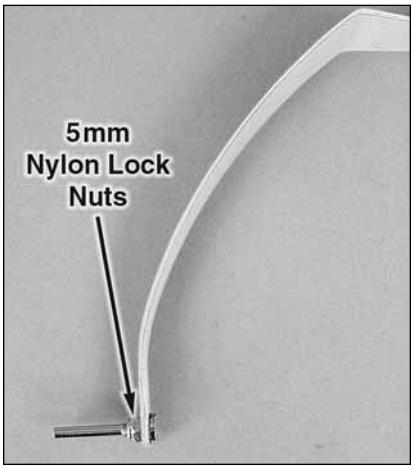
❏ 3. Trim the covering from the hole in the bottom of the rudder for the nylon post. Temporarily insert the tail gear assembly into the tail gear bushing and the nylon post into the hole. If necessary, enlarge the hole in the bushing so the tail gear assembly rotates freely within it. Center the tail gear bracket onto the fuselage over the tail gear collar and mark the location of the mounting holes.

❏ 4. Drill 1/16" [1.6mm] holes at the marks you made. Thread a #2 x 3/8" [9.5mm] self-tapping screw into each hole and back it out. Apply a couple drops of thin CA glue to each hole and allow it to harden.

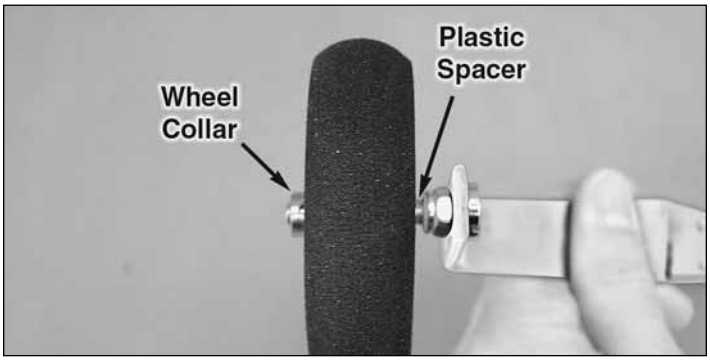


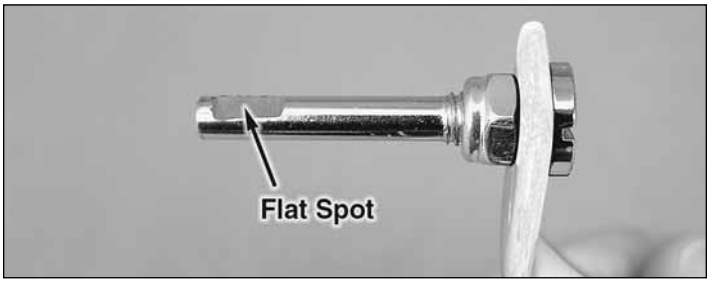
❏ 5. Apply CA or epoxy to the nylon post and reinstall the tail gear assembly into the bushing and rudder. Do not glue the nylon post to the guide wire. The wire must slide freely through the hole in the post. Gently tap the post in place until approximately 3/16" [4.8mm] protrudes below the bottom of the rudder. Attach the tail gear bracket using two #2 x 3/8" [9.5mm] self-tapping screws.

❏ 6. Install the tail wheel onto the wire and secure it in place with a nylon retainer. Confirm that the tail wheel rotates freely. Oil the axle and adjust the position of the retainer if necessary. A drop of CA on the retainer will ensure that it will not come loose from the wire.



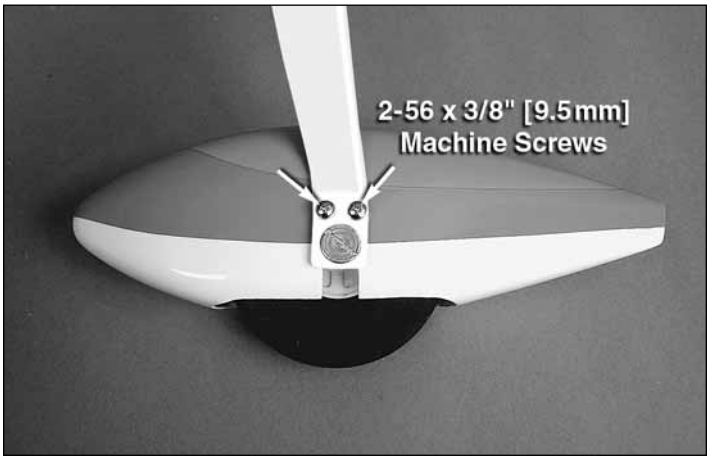
❏ 7. Secure the main axles to the **landing gear legs** using the 5mm nylon lock nuts.



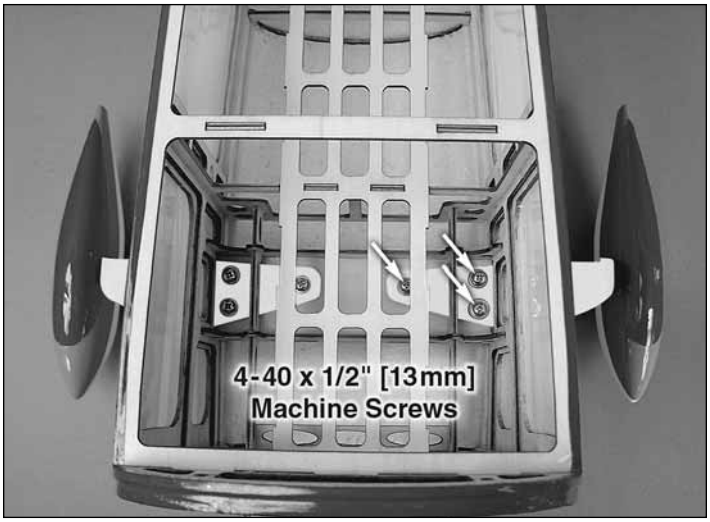


❏ 8. Slide a 5/32" [4mm] plastic spacer onto each axle followed by a 2-1/2" [64mm] wheel and then a 5/32" [4mm] wheel collar. Mark the location of the threaded holes in the wheel collars onto the axles. Use a file or rotary tool such as a Dremel to grind flat spots at the marks on the axles.

❏ 9. Reinstall the spacers, wheel collars and wheels onto the axles. Thread a 6-32 set screw into each wheel collar and tighten the screws against the flat spots on the axles. Be sure that the wheel rotates freely on the axle. Oil the axles if necessary.



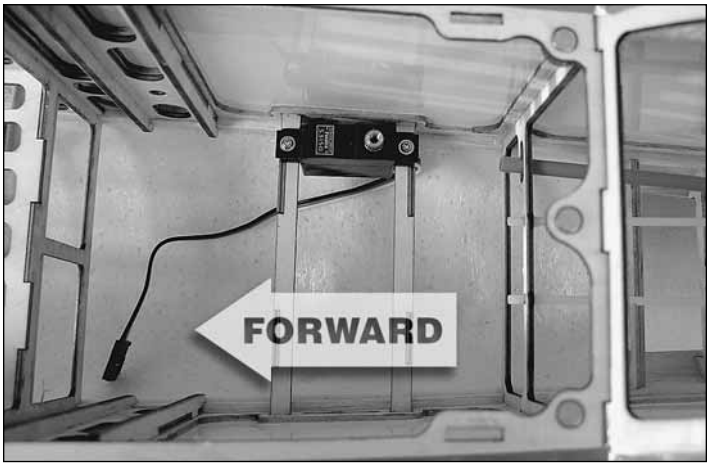
❏ 10. Attach the wheel pants to the landing gear legs using four 2-56 x 3/8" [9.5mm] machine screws, four #2 flat washers, four #2 lock washers, and thread locking compound.



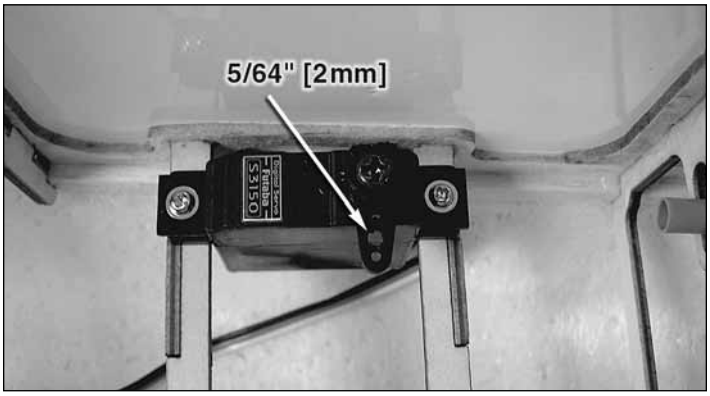
❏ 11. Attach the landing gear legs to the fuselage using six 4-40 x 1/2" [13mm] machine screws, six #4 flat washers, six #4 lock washers, and thread locking compound.

INSTALL THE TAIL SERVOS AND PUSHRODS

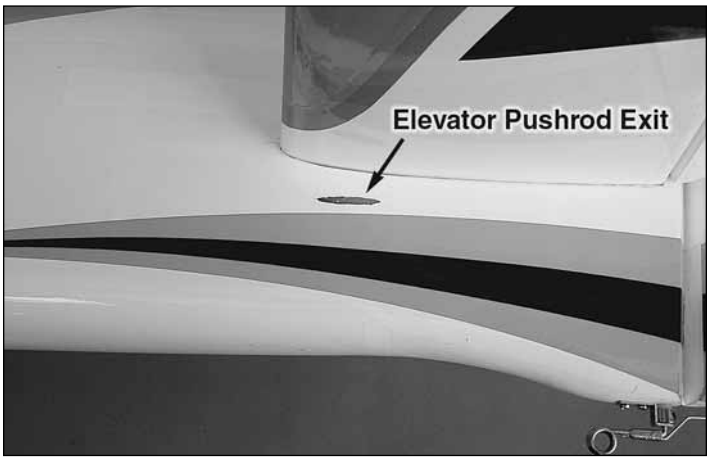
The tail servos can be installed in either the forward or aft position for balancing purposes. If using the recommended equipment, you will want to install the servos in the forward position. If you plan to use a motor and/or battery that is heavier than our recommended setup, you may wish to install the tail servos in the aft position to minimize or eliminate any additional tail ballast that would be needed to balance the plane at our recommended C.G. For aft servo installation directions, look ahead to the end of this section.



❏ 1. Install the elevator servo on the far right side of the tail servo mounting rails using the screws that come in the servo hardware bag and two fiberglass plates. Be sure to reinforce the screw holes in the rails with thin CA.

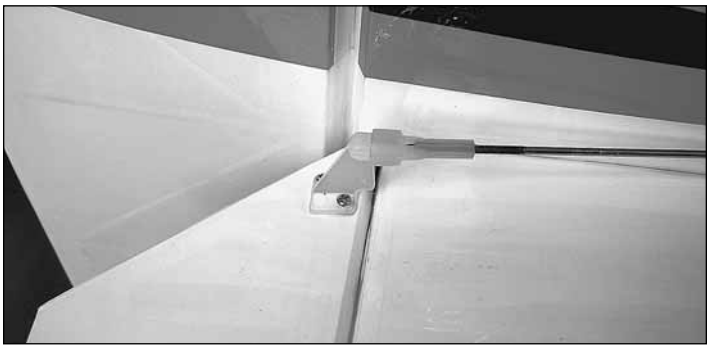


❏ 2. Cut three arms from a four-armed servo arm. Enlarge the middle hole of the remaining arm with a 5/64" [2mm] drill bit. Center the servo with your radio system and install the servo arm onto the servo perpendicular to the servo case as shown, with the arm pointing toward the center of the fuselage. Be sure to reinstall the servo arm screw into the servo (use thread locking compound if the servo has a metal output spline).



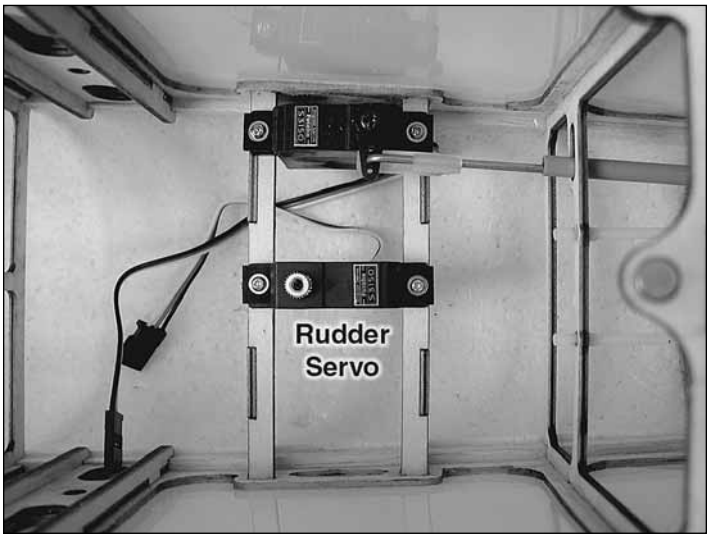
❏ 3. Trim the covering from the elevator pushrod exit slot on the left side of the fuselage.

❏ 4. Temporarily insert the 31-1/2" [800mm] pushrod into the exit slot and use the position of the pushrod in the tube as shown to attach a control horn to the underside of the left elevator half using two #2 x 1/2" [13mm] self-tapping screws.

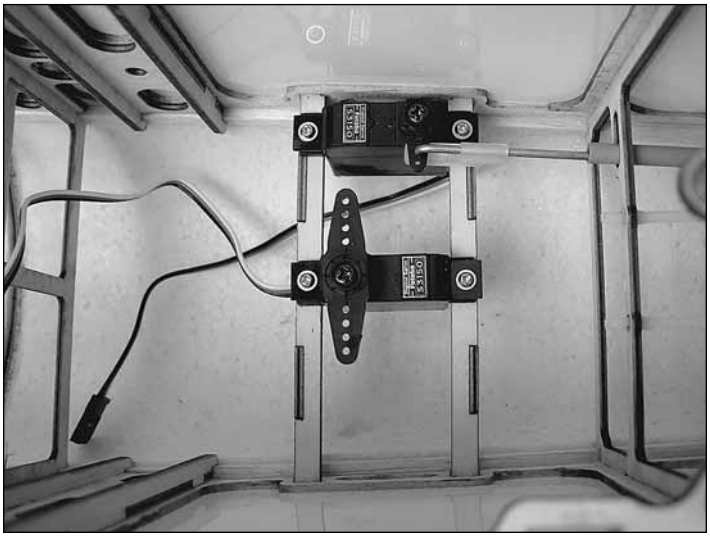


❏ 5. Thread a clevis 20 complete turns onto the 31-1/2" [800mm] pushrod and slide a silicone clevis retainer over

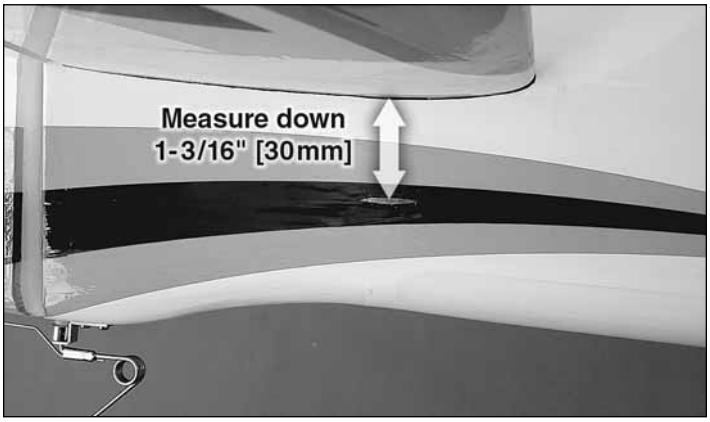
the end of it. Insert the pushrod into the elevator exit slot and attach the clevis to the outer hole of the elevator control horn. With the elevators in the neutral position and the elevator servo centered, mark the pushrod where it crosses the middle hole of the elevator servo arm. Remove the pushrod, make a 90 degree bend at your mark, cut off of the excess pushrod 1/4" [6mm] beyond the bend and attach the pushrod to the servo arm using a FasLink pushrod connector.



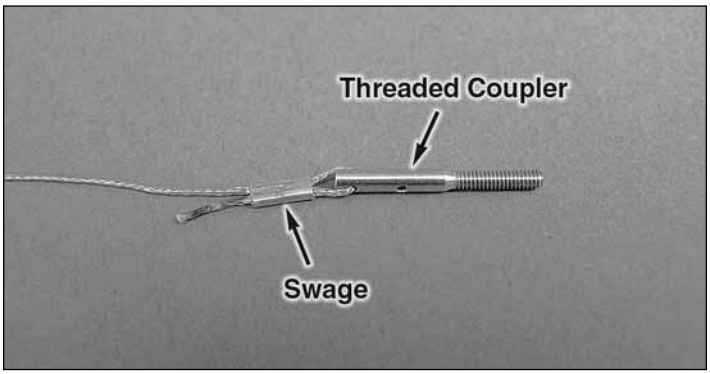
❏ 6. Install the rudder servo in the center of the servo mounting rails with the servo spline facing the front of the plane.



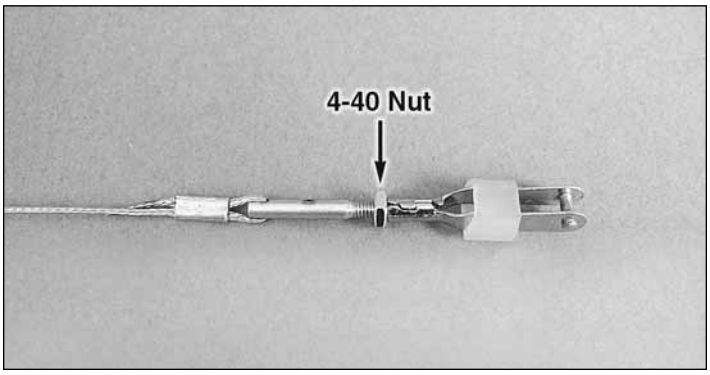
❏ 7. Cut two arms from a four-armed servo arm, leaving two arms opposite each other in place. Center the servo and install the servo arm perpendicular to the servo case.



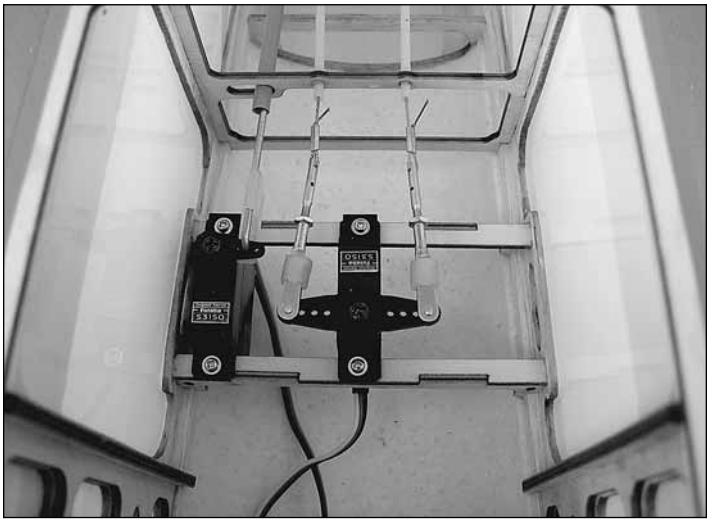
❏ 8. Trim the covering from the rudder pull-pull cable exit slots on each side of the fuselage. The slots may be difficult to find underneath the covering. Measure down 1-3/16" [30mm] from the underside of the stab in the location shown for the position of the slots.



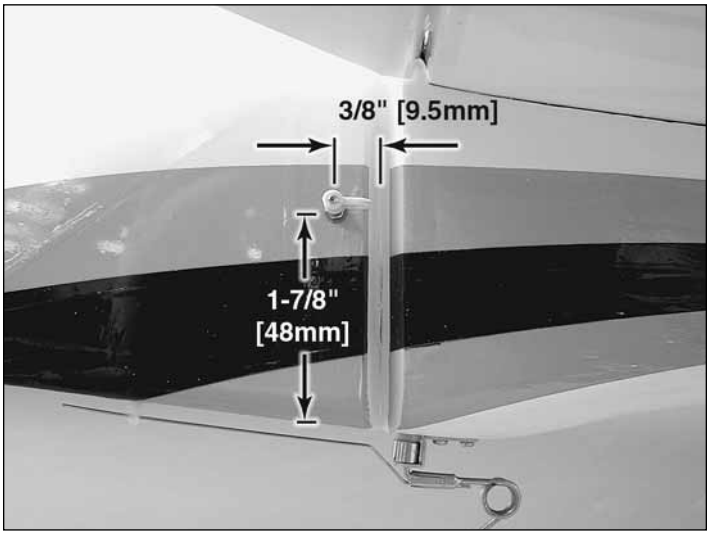
❏ 9. Cut the provided pull-pull string accurately in half. Apply a drop of thin CA to each 1/4" [6mm] end of both pieces of string. Allow the CA to harden and use a sharp hobby knife to trim away the frayed ends of the strings. Feed one end of each string through a brass threaded coupler. Slide a swage (crimp) onto each string and loop the end that you put through the threaded coupler back through the swage. Slide the swage to the base of the threaded coupler and use a pair of large pliers to crimp the swage onto the string. Confirm that the string is adequately secure in the swage.

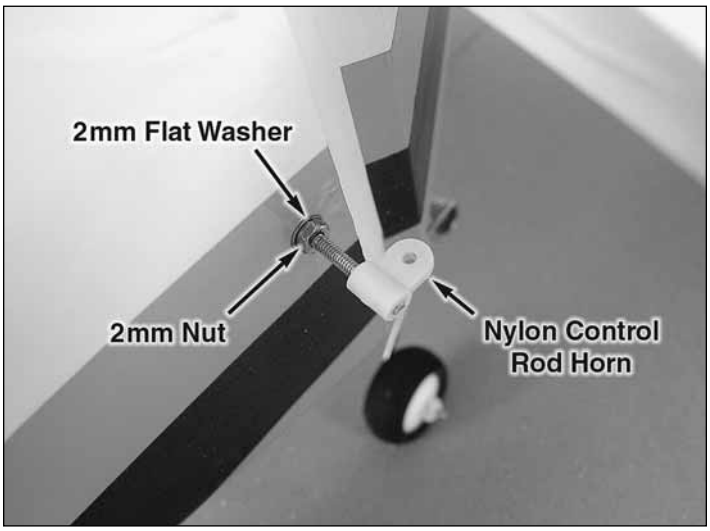


❏ 10. Thread a 4-40 nut with threadlocking compound onto the threaded couplers. Thread a 4-40 threaded metal clevis after each nut. Slide a silicone clevis retainer over the clevises.

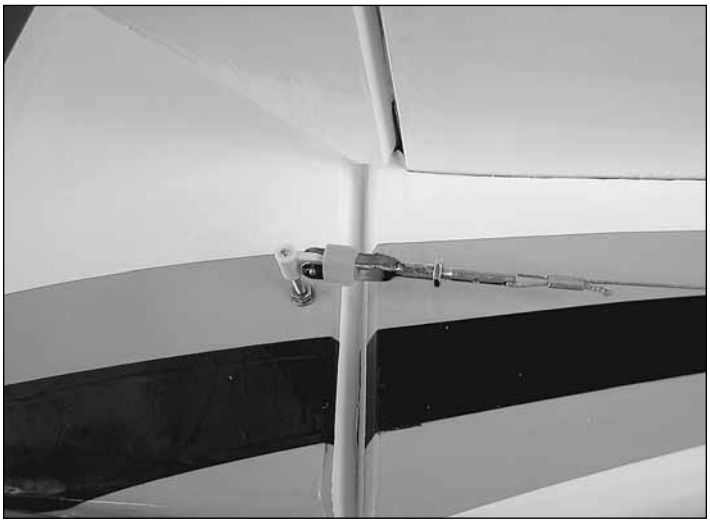


❏ 11. Attach the clevises to the outer holes in the rudder servo arm. Feed the pull-pull strings through the pull-pull tubes and out the exit slots.





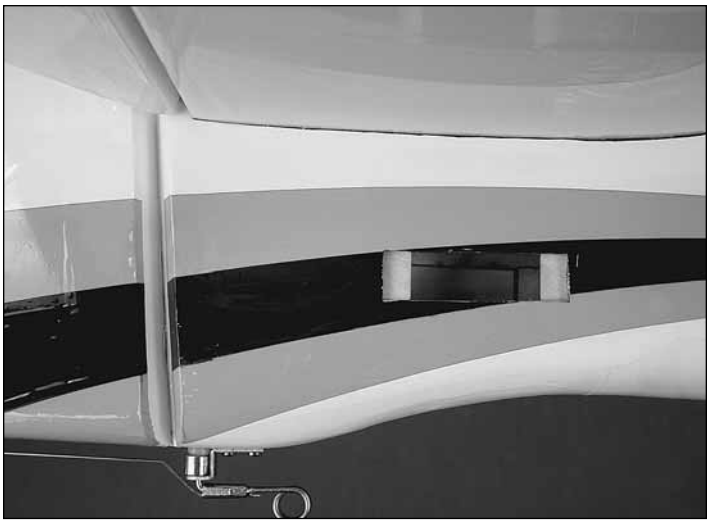
❏ 12. Drill a 5/64" [2mm] diameter hole 1-7/8" [48mm] from the bottom of the rudder and 3/8" [9.5mm] aft of the rudder hinge line as shown. Be sure that you drill the hole perpendicular through the rudder. To ensure accuracy, you may want to mark the location of the hole on each side of the rudder and partly drill through the rudder from each side, then connect the two holes by drilling through the entire thickness of the rudder. Apply a few drops of thin CA to the hole to harden the surrounding wood. When the CA has hardened, insert the 2" [51mm] threaded control rod through the hole and center its position. Tighten a 2mm flat washer and 2mm nut with threadlocking compound on each side of the rod as shown. Finish the rudder control rod by threading a nylon control rod horn onto each end of the control rod.



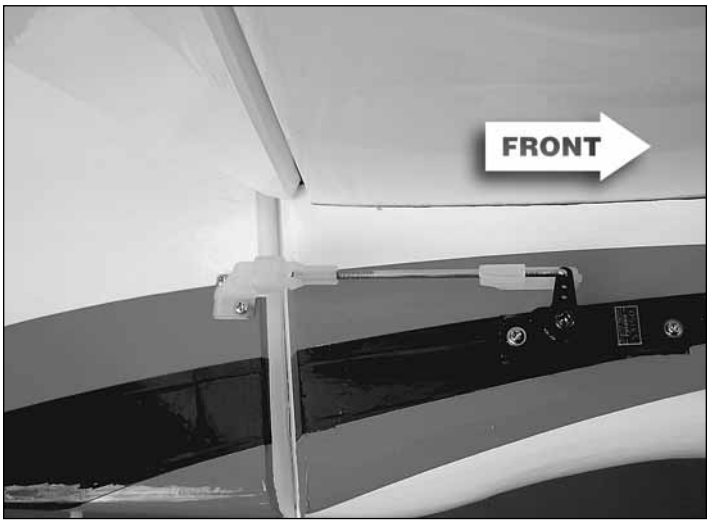
❏ 13. Thread a 4-40 nut with thread locking compound onto each of the remaining threaded couplers. Thread a metal clevis **4 to 5 complete turns only** onto each coupler and a silicone clevis retainer on each clevis. Slide a swage onto each aft end of the pull-pull strings. Feed the string ends through the holes in the coupler and back through the swages but do not crimp the swages yet. Confirm that the rudder servo is centered and the rudder is in the neutral position. Connect the clevises to the control rod horns. Draw each pull-pull string tight, slide the swage to the base of the coupler and crimp it onto the strings. Cut off the excess string. It is likely that there is still some slack in the pull-pull strings. For precise rudder control, the strings must be equally tight on both sides. Disconnect the clevises from the control rod horns and thread the clevises farther onto the couplers. Reconnect the clevises to the control rod horns and confirm that all the slack is out of the strings. Repeat this process on the servo side of the strings if necessary. When satisfied that the rudder is in the neutral position when the servo is centered and the strings are equally taut on both sides, slide the silicone clevis retainers to the ends of the clevises and tighten the 4-40 nuts against the bases of the clevises. Test the operation of the rudder using your radio system.

Aft Tail Servo Installation

A 24" [610mm] servo extension will be needed for the rudder and elevator servos. Installation is the same as the aileron pushrods. Use the photos and text below as a general guide for the location of the servos and control horns. Refer back to the aileron pushrod installation for pushrod details.



❏ 1. Trim the covering from the aft rudder servo bay from the right side of the fuselage. Be sure that you trim the covering from the correct opening. There is an upper and lower servo bay on both sides of the fuse. The lower bay on the right side is for the rudder servo and the upper bay on the left side of the fuse is for the elevator servo.



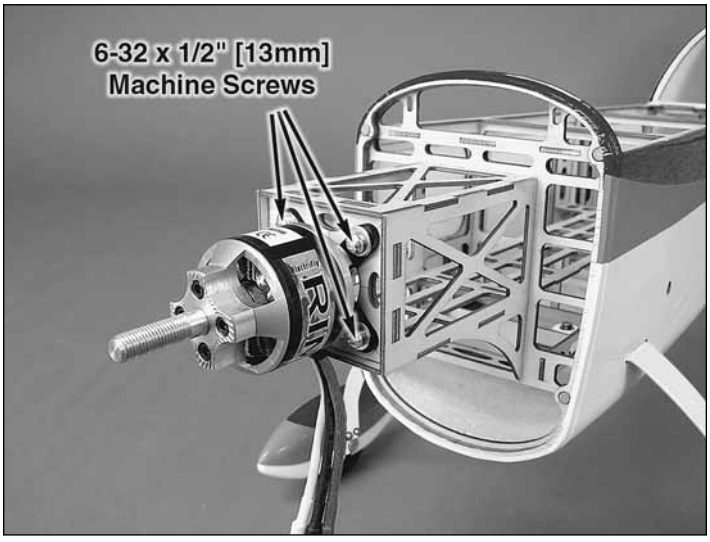
❏ 2. Install the rudder servo in the orientation shown. Just like you did with the ailerons, create and connect a pushrod to the rudder using one of the remaining 5" [127mm] pushrods, nylon clevis, silicone clevis retainer, control horn, FasLink pushrod connector, and two #2 x 1/2" [13mm] self-tapping screws.

❏ 3. Install the elevator servo and pushrod in the same manner. Note that the elevator servo spline is toward the front of the plane.

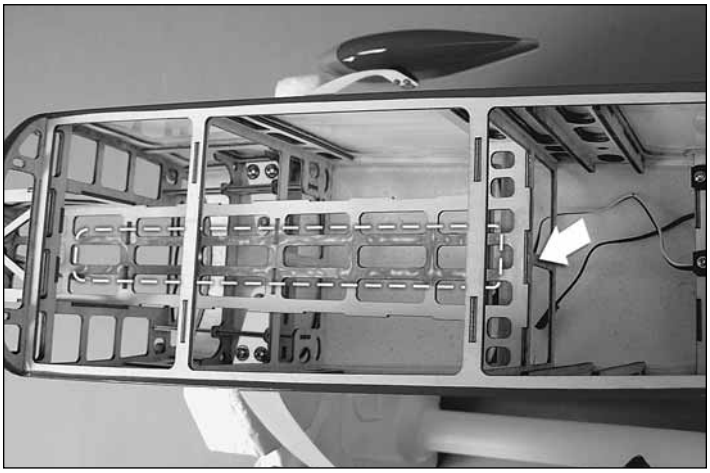
MOTOR INSTALLATION

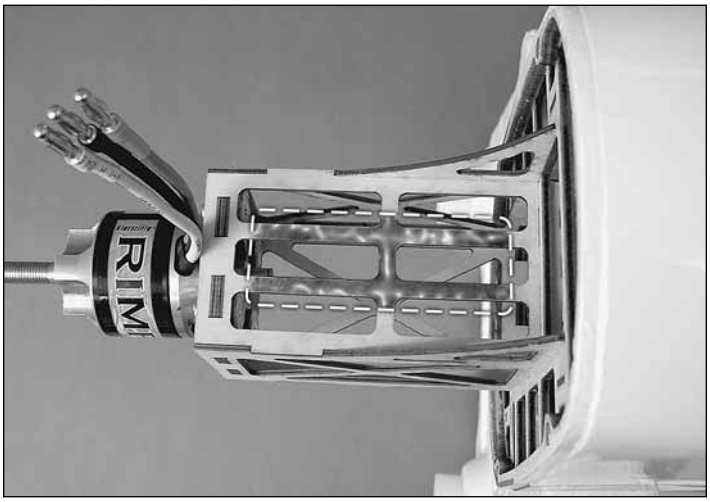
Be sure to read and understand the instructions that come with the ESC and motor before attempting to operate the system. Also read the lithium battery handling and usage warning on page 23 of this manual.

If you are installing a motor other than what is recommended, you may need to change the location of the motor mounting holes on the mounting box.

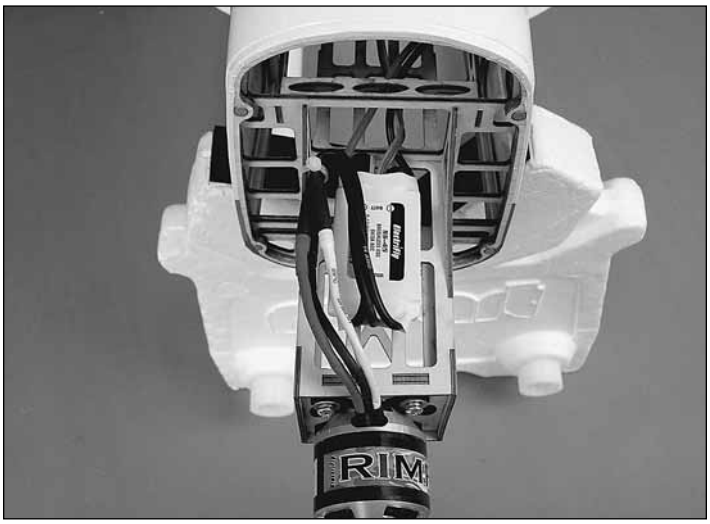


❏ 1. If your motor came with the aluminum “X” shape motor mount pre-installed, remove it and reinstall it using thread locking compound. If you haven’t done so yet, install the prop adapter to the motor case with the hardware included with the motor and thread locking compound. Install the motor onto the motor mounting box using four 6-32 x 1/2" [13mm] machine screws, four #6 flat washers, four #6 lock washers and thread locking compound.

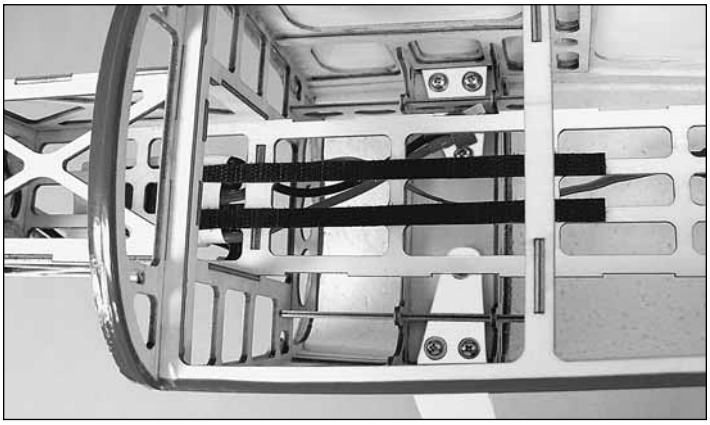




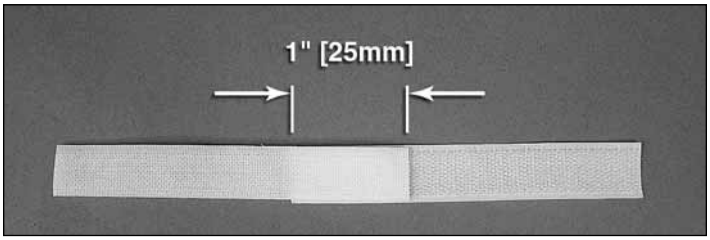
❏ 2. Apply a thin coating of epoxy down the center of the battery tray, behind the wing tube and to the underside of the motor mounting box. The epoxy will improve the adhesion of double-sided tape and self-adhesive hook and loop material. Allow the epoxy to cure undisturbed.



❏ 3. Connect a 6" [152mm] servo extension to the ESC. Attach the ESC to the underside of the motor mounting box with a piece of double-sided foam tape (not included). We used a tie-strap to secure the motor leads safely out of the way of the motor.



❏ 4. Cut strips of self-adhesive from the hook side of a package of self-adhesive hook and loop material (not included) and apply them down the length of the battery tray as shown. The loop side should be applied to the underside of your battery pack.

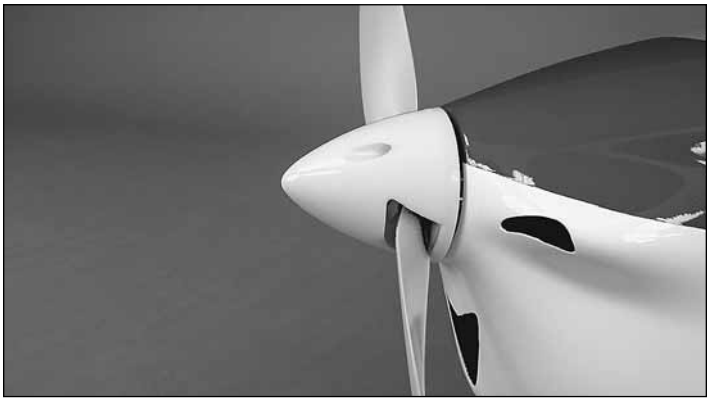


❏ 5. Make a strap from the included non-adhesive hook and loop material by overlapping the mating ends by approximately 1" [25mm]. The strap is used to hold the battery onto the battery tray. Test fit the battery onto the tray and loop the strap underneath the tray, over the battery pack and draw it tight. After following the balancing procedure, you will know exactly where the battery will need to be placed on the battery tray. It is suggested to make a mark on the tray when you determine that location. Now would also be a good time to confirm that the motor will rotate the correct direction by temporarily powering up the motor using the ESC and your radio system (do not install a propeller yet!). If the motor rotates the wrong direction (it should rotate counter-clockwise when viewing it from the front), disconnect any two of the three motor leads and swap their position.

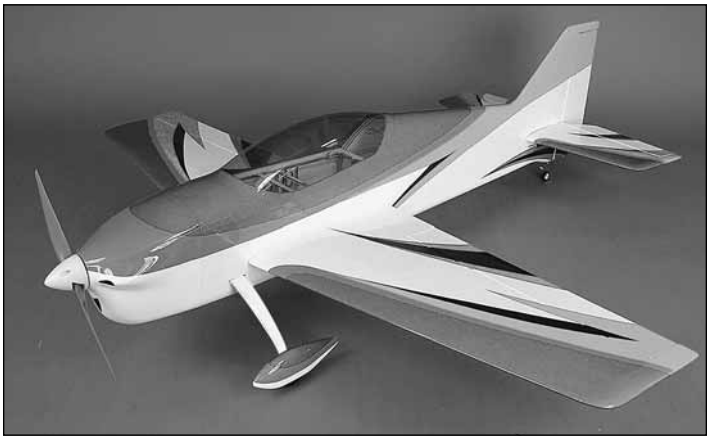
FINISH THE MODEL

❏ 1. In order to minimize the number of servo extensions needed, the most suitable place to install the receiver is just behind the wing tube. Connect the ESC and servos to your receiver and use a piece of double-sided foam tape to secure the receiver in place. If you are installing a standard FM or PCM receiver, extend the receiver antenna and route it out the cool air exit hole on the underside of the fuselage. The antenna can simply be taped down the length of the bottom of the fuse. If you are installing a 2.4GHz receiver as shown, tape the antennas to the side of the fuselage 90 degrees in relation to each other (see your radio system manual for details).

❏ 2. The cowl does not require any work to install. The pre-glued cowl ring and magnets are properly positioned inside the cowl for the correct fit. Simply set the cowl in place onto the firewall. All the necessary cooling holes have been pre-cut as well. Two small pieces of clear tape will assure that the cowl will not shift in flight.



❏ 3. If you have installed the recommended motor, you will need to drill or ream the propeller and spinner backplate to 5/16" [7.9mm]. Install the spinner backplate onto the prop adapter followed by the prop, prop washer, and prop nut. Install the spinner cone using the included screws.



❏ 4. Finish the assembly by fitting the canopy hatch in place. It is held on magnetically so batteries can be quickly changed without the use of screws.

Apply the decals

1. Use scissors or a sharp hobby knife to cut the decals from the sheet.

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 one teaspoon of soap per gallon of water. Submerse the decal in the soap and water 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.

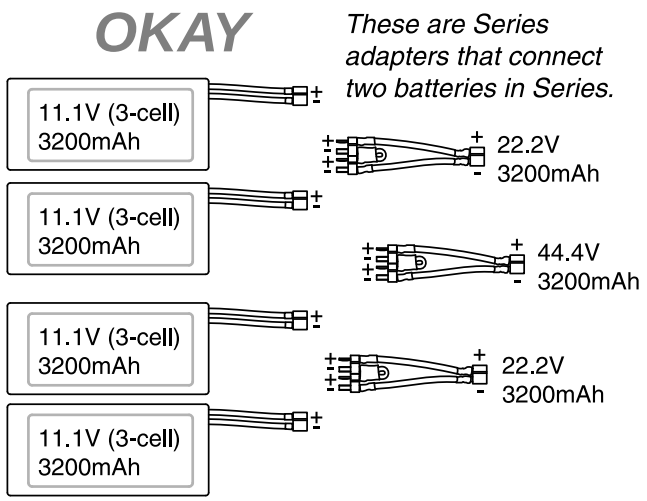
GET THE MODEL READY TO FLY

Install and Operate the Motor Battery (Brushless Only)

IMPORTANT: If using multiple battery packs that are connected with an adapter, never charge the batteries together through the adapter. Always charge each battery pack separately. Charge the batteries, then read the following precautions on how to connect multiple packs for flying the model:

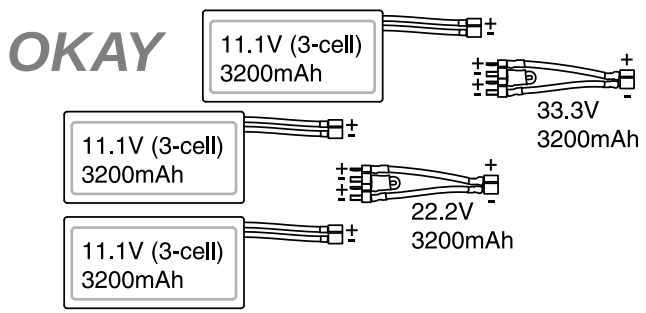
BATTERY PRECAUTIONS: There are two ways to connect multiple battery packs: In **Series** and in **Parallel**.

These are four 11.1V, 3200mAh batteries. When joined in Series, the result will be a 44.4V, 3200mAh battery.

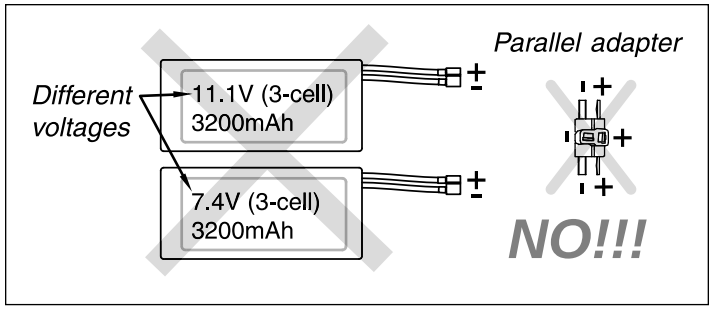


❏ 1. Connecting batteries in **"Series"** means to connect the +'s to the –'s and the –'s to the +'s. This combines the batteries' Voltages, but the capacity remains the same.

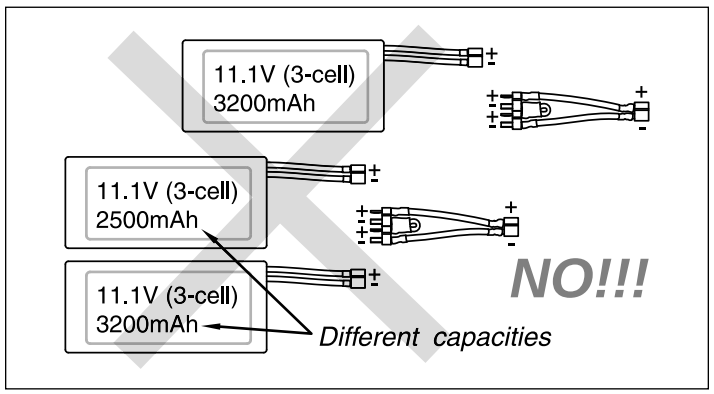
These are three 11.1V, 3200mAh batteries. When joined in Series, the result will be a 33.3V, 3200mAh battery.



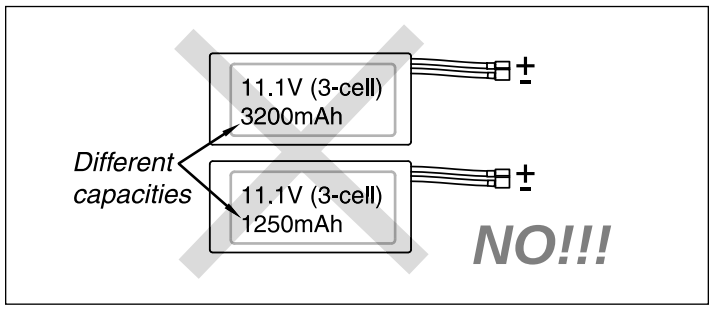
❏ 2. Connecting batteries in **"Parallel"** means to connect the +'s to the +'s and the **–**'s to the **–**'s. This combines the batteries' capacities, but the Voltage remains the same.



NEVER connect battery packs with different Voltages in **Parallel**–only combine in **Series**. Otherwise, the batteries will try to "equalize" with the larger one trying to "charge" the smaller one, thus causing heat and likely a fire.



Also **NEVER** connect battery packs with different capacities in Series or in Parallel.

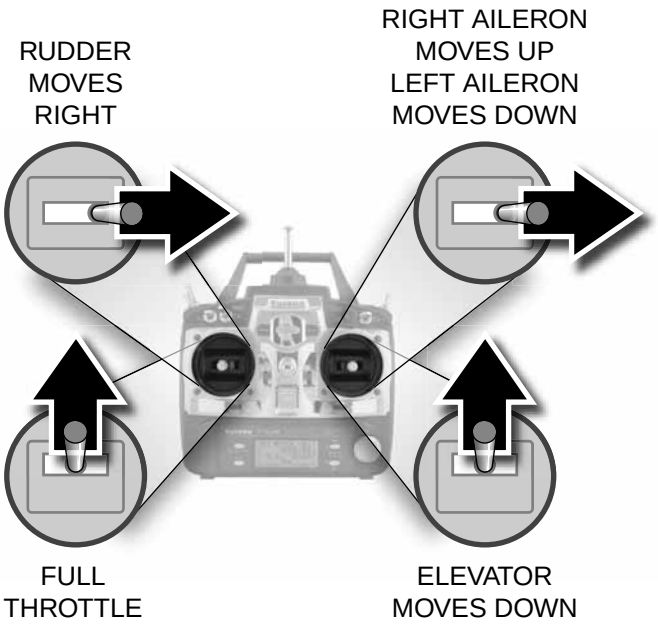


Check the Control Directions

❏ 1. Turn on the transmitter, plug the battery into the ESC and center the trims. ***Stay clear of the propeller!*** If necessary, remove the servo arms from the servos and reposition them so they are centered. Reinstall the screws that hold on the servo arms.

❏ 2. With the transmitter and receiver still on, check all the control surfaces to see if they are centered. If necessary, adjust the clevises on the pushrods to center the control surfaces.

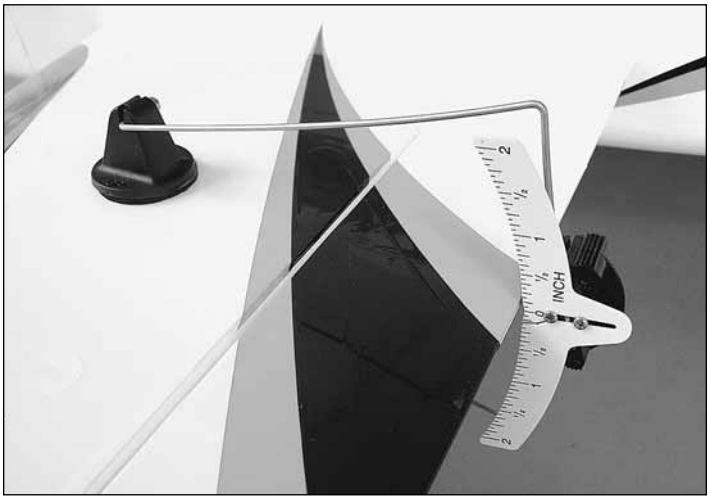
4-CHANNEL RADIO SETUP
(STANDARD MODE 2)



❏ 3. Make certain that the control surfaces and the throttle respond in the correct direction as shown in the diagram. If any of the controls respond in the wrong direction, use the servo reversing in the transmitter to reverse the servos connected to those controls. Be certain the control surfaces have remained centered. Adjust if necessary.

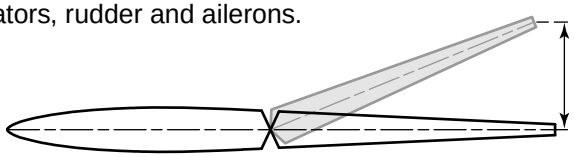
Set the Control Throws

Measure and set the **low rate** elevator throws and the high and low rate throws for the rest of the control surfaces the same way.



Use a Great Planes AccuThrow (or a ruler) to accurately measure and set the control throw of each control surface 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 throws are measured at the **widest part** of the elevators, rudder and ailerons.



These are the recommended control surface throws:				
	HIGH RATE ▼		**LOW RATE** ▼	
ELEVATOR	Up	Down	Up	Down
	3/8" [9.5mm] 7 deg	3/8" [9.5mm] 7 deg	1/4" [6mm] 5 deg	1/4" [6mm] 5 deg
RUDDER	Right	Left	Right	Left
	2" [51mm] 24 deg	2" [51mm] 24 deg	1" [25mm] 12 deg	1" [25mm] 12 deg
AILERONS	Up	Down	Up	Down
	3/4" [19mm] 15 deg	3/4" [19mm] 15 deg	1/2" [13mm] 11 deg	1/2" [13mm] 11 deg

IMPORTANT: The Sequence 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 Sequence 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."

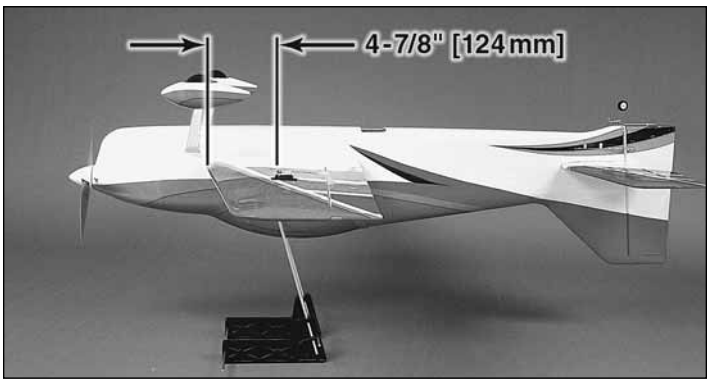
Balance the Model (C.G.)

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 engine or brushless motor, landing gear, and the radio system (and battery pack if applicable).

❏ 1. Use a felt-tip pen or 1/8" [3mm]-wide tape to accurately mark the C.G. on the top of the wing on both sides of the fuselage. The C.G. is located 4-7/8" [124mm] back from the leading edge of the wing.

This is where your model should balance for the first flights. Later, you may wish to experiment by shifting the C.G. up to 5/8" [16mm] forward or 3/8" [9.5mm] back to change the flying characteristics. Moving the C.G. forward may improve the smoothness and stability, but the model may then require more speed for takeoff and make it more difficult to slow for landing. Moving the C.G. aft makes the model more maneuverable, 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. With the wing attached to the fuselage, and all parts of the model installed (ready to fly), place the model upside-down on a Great Planes CG Machine, or lift it upside-down at the balance point you marked.

❏ 3. If the tail drops, the model is "tail heavy" and the battery pack and/or receiver must be shifted forward or weight must be added to the nose to balance. If the nose drops, the model is "nose heavy" and the battery pack and/or receiver must be shifted aft or weight must be added to the tail to balance. (See the ***Aft Tail Servo Installation*** section on page 16.) If possible, relocate the battery pack and receiver to minimize or eliminate any additional ballast required. If additional weight is required, nose weight may be easily added by using a "spinner weight" (GPMQ4645 for the 1 oz. [28g] weight, or GPMQ4646 for the 2 oz. [57g] weight). If spinner weight is not practical or is not enough, use Great Planes (GPMQ4485) "stick-on" lead. A good place to add stick-on nose weight is to the firewall (don't attach weight to the cowl—it is not intended to support weight). Begin by placing incrementally increasing amounts of weight on the bottom of the fuse over the firewall until the model balances. Once you have determined the amount of weight required, it can be permanently attached. If required, tail weight may be added by cutting open the bottom of the fuse and gluing it permanently inside.

Note: Do not rely upon the adhesive on the back of the lead weight to permanently hold it in place. Over time, the adhesive may fail and cause the weight to fall off. Use #2 sheet metal screws, RTV silicone or epoxy to permanently hold the weight in place.

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

Balance the Model Laterally

❏ 1. With the wing level, have an assistant help you lift the model by the motor propeller shaft and the bottom of the fuse under the TE of the fin. Do this several times.

❏ 2. If one wing always drops when you lift the model, it means that side is heavy. Balance the airplane by adding weight to the other wing tip. **An airplane that has been laterally balanced will track better in loops and other maneuvers.**

PREFLIGHT

Identify Your Model

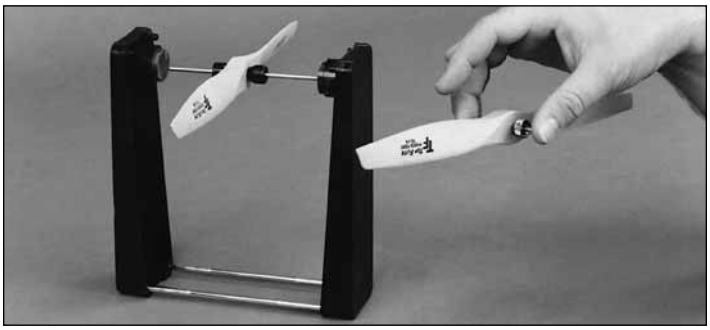
No matter if you fly at an AMA sanctioned R/C club site or if you fly somewhere on your own, you should always have your name, address, telephone number and AMA number on or inside your model. It is **required** at all AMA R/C club flying sites and AMA sanctioned flying events. Fill out the identification tag on page 24 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 battery 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 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.

Balance Propellers



Carefully balance your propeller and spare propellers before you fly. An unbalanced prop can be the single most significant cause of vibration that can damage your model.

Not only will motor mounting screws loosen, possibly with disastrous effect, but vibration may also damage your radio receiver and battery.

We use a Top Flite Precision Magnetic Prop Balancer (TOPQ5700) in the workshop and keep a Great Planes Fingertip Prop Balancer (GPMQ5000) in our flight box.

Range Check

Ground check the operational range of your radio before the first flight of the 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 (follow the instructions that came with your radio if you are using a 2.4GHz system). Have an assistant stand by your model and, while you work the controls, tell you what the control surfaces are doing. Repeat this test **with the motor running** at various speeds with an assistant holding the model, using hand signals to show you what is happening. If the control surfaces do not respond correctly, **do not fly!** Find and correct the problem first. Look for loose servo connections or broken wires, corroded wires on old servo connectors, poor solder joints in your battery pack or a defective cell, or a damaged receiver crystal from a previous crash.

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 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 gets hot! Do not touch it during or right after operation.

LITHIUM BATTERY HANDLING & USAGE

WARNING!! Read the entire instruction sheet included with your battery. Failure to follow all instructions could cause permanent damage to the battery and its surroundings, and cause bodily harm!

- ONLY use a Li-Po approved charger. NEVER use a NiCd/NiMH peak charger!
- NEVER charge in excess of 4.20V per cell.
- ONLY charge through the “charge” lead. NEVER charge through the “discharge” lead.
- NEVER charge at currents greater than 1C.
- ALWAYS set charger’s output volts to match battery volts.
- ALWAYS charge in a fireproof location.
- NEVER trickle charge.
- NEVER allow the battery temperature to exceed 150° F (65° C).
- NEVER disassemble or modify pack wiring in any way or puncture cells.
- NEVER discharge below 3.0V per cell.
- NEVER place on combustible materials or leave unattended during charge or discharge.
- ALWAYS KEEP OUT OF REACH OF CHILDREN.

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

During the last few moments of preparation your mind may be elsewhere anticipating the excitement of the first flight. Because of this, you may be more likely to overlook certain checks and procedures that should be performed before the model is flown. To help avoid this, a check list is provided to make sure these important areas are not overlooked. Many are covered in the instruction manual, so where appropriate, refer to the manual for complete instructions. Be sure to check the items off as they are completed (that's why it's called a *check list!*).

❏ 1. Check the C.G. according to the measurements provided in the manual.

❏ 2. Be certain the receiver is securely mounted in the fuse. Simply stuffing it into place with foam rubber is not sufficient.

❏ 3. Extend your receiver antenna.

❏ 4. Balance your model *laterally* as explained in the instructions.

❏ 5. Use threadlocking compound to secure critical fasteners such as set screws, nuts, etc.

❏ 6. Add a drop of oil to the axles so the wheels will turn freely.

❏ 7. Make sure all hinges are **securely** glued in place.

❏ 8. Reinforce holes for wood screws with thin CA where appropriate (servo mounting screws, control horn screws, etc.).

❏ 9. Confirm that all controls operate in the correct direction and the throws are set up according to the manual.

❏ 10. Make sure there are silicone retainers on all the clevises and that all servo arms are secured to the servos with the screws included with your radio.

❏ 11. Secure connections between servo wires and Y-connectors or servo extensions with vinyl tape, heat shrink tubing or special clips suitable for that purpose.

❏ 12. Make sure any servo extension cords you may have used do not interfere with other systems (servo arms, pushrods, etc.).

❏ 13. Balance your propeller (and spare propellers).

❏ 14. Tighten the propeller nut and spinner.

❏ 15. Place your name, address, AMA number and telephone number on or inside your model.

❏ 16. If you wish to photograph your model, do so before your first flight.

❏ 17. Range check your radio when you get to the flying field.

FLYING

The Sequence ARF is a great-flying model that flies smoothly and predictably. The Sequence does not, however, possess the self-recovery characteristics of a primary R/C trainer and should be flown only by experienced R/C pilots.

CAUTION (THIS APPLIES TO ALL R/C AIRPLANES): If, while flying, you notice an alarming or unusual sound such as a low-pitched "buzz," this may indicate control surface *flutter.* Flutter occurs when a control surface (such as an aileron or elevator) or a flying surface (such as a wing or stab) rapidly vibrates up and down (thus causing the noise). In extreme cases, if not detected immediately, flutter can actually cause the control surface to detach or the flying surface to fail, thus causing loss of control followed by an impending crash. The best thing to do when flutter is detected is to slow the model **immediately** by reducing power, then land as soon as safely possible. Identify which surface fluttered (so the problem may be resolved) by checking all the servo grommets for deterioration or signs of vibration. Make certain all pushrod linkages are secure and free of play. If it fluttered once, under similar circumstances it will probably flutter again unless the problem is fixed. Some things which can cause flutter are; Excessive hinge gap; Not mounting control horns solidly; Poor fit of clevis pin in horn; Side-play of wire pushrods caused by large bends; Excessive free play in servo gears; Insecure servo mounting; and one of the most prevalent causes of flutter; Flying an over-powered model at excessive speeds.

Takeoff

Before you get ready to takeoff, see how the model handles on the ground by doing a few practice runs at **low speeds** on the runway. Hold "up" elevator to keep the tail wheel on the ground. If necessary, adjust the tail wheel so the model will roll straight down the runway. If you need to calm your nerves before the maiden flight, shut the motor down and bring the

model back into the pits. Top off the battery, then check all fasteners and control linkages for peace of mind.

Remember to takeoff into the wind. When you're ready, point the model straight down the runway, hold a bit of up elevator to keep the tail on the ground to maintain tail wheel steering, then gradually advance the throttle. As the model gains speed decrease up elevator allowing the tail to come off the ground. One of the most important things to remember with a tail dragger is to always be ready to apply **right** rudder to counteract motor torque. Gain as much speed as your runway and flying site will practically allow before gently applying up elevator, lifting the model into the air. At this moment it is likely that you will need to apply more right rudder to counteract motor torque. Be smooth on the elevator stick, allowing the model to establish a **gentle** climb to a safe altitude before turning into the traffic pattern.

Flight

For reassurance and to keep an eye on other traffic, it is a good idea to have an assistant on the flight line with you. Tell him to remind you to throttle back once the plane gets to a comfortable altitude. While full throttle is usually desirable for takeoff, most models fly more smoothly at reduced speeds.

Take it easy with the Sequence for the first few flights, gradually getting acquainted with it as you gain confidence. Adjust the trims to maintain straight and level flight. After flying around for a while and while still at a safe altitude with plenty of battery charge, practice slow flight and execute practice landing approaches by reducing the throttle to see how the model handles at slower speeds. Add power to see how the model climbs as well. Continue to fly around, executing various maneuvers and making mental notes (or having your assistant write them down) of what trim or C.G. changes may be required to fine tune the model so it flies the way you like. Mind your remaining battery charge, but use this first flight to become familiar with your model before landing.

Landing

To initiate a landing approach, lower the throttle while on the downwind leg. Allow the nose of the model to pitch downward to gradually bleed off altitude. Continue to lose altitude, but maintain airspeed by keeping the nose down as you turn onto the crosswind leg. Make your final turn toward the runway (into the wind) keeping the nose down to maintain airspeed and control. Level the attitude when the model reaches the runway threshold, modulating the throttle as necessary to maintain your glide path and airspeed. If you are going to overshoot, smoothly advance the throttle (always ready on the right rudder to counteract torque) and climb out to make another attempt. When you're ready to make your landing flare and the model is a foot or so off the deck, smoothly increase up elevator until it gently touches down. Once the model is on the runway and has lost flying speed, hold up elevator to place the tail on the ground, regaining tail wheel control.

One final note about flying your model. Have a goal or flight plan in mind for **every** flight. This can be learning a new maneuver(s), improving a maneuver(s) you already know, or learning how the model behaves in certain conditions (such as on high or low rates). This is not necessarily to improve your skills (*though it is never a bad idea!)*, but more importantly so you do not surprise yourself by impulsively attempting a maneuver and suddenly finding that you've run out of time, altitude or airspeed. Every maneuver should be deliberate, not impulsive. For example, if you're going to do a loop, check your altitude, mind the wind direction (anticipating rudder corrections that will be required to maintain heading), remember to throttle back at the top, and make certain you are on the desired rates (high/low rates). A flight plan greatly reduces the chances of crashing your model just because of poor planning and impulsive moves. **Remember to think.**

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

GOOD LUCK AND GREAT FLYING!

This model belongs to:

_____
Name

_____
Address

_____
City, State, Zip

_____
Phone Number

_____
AMA Number