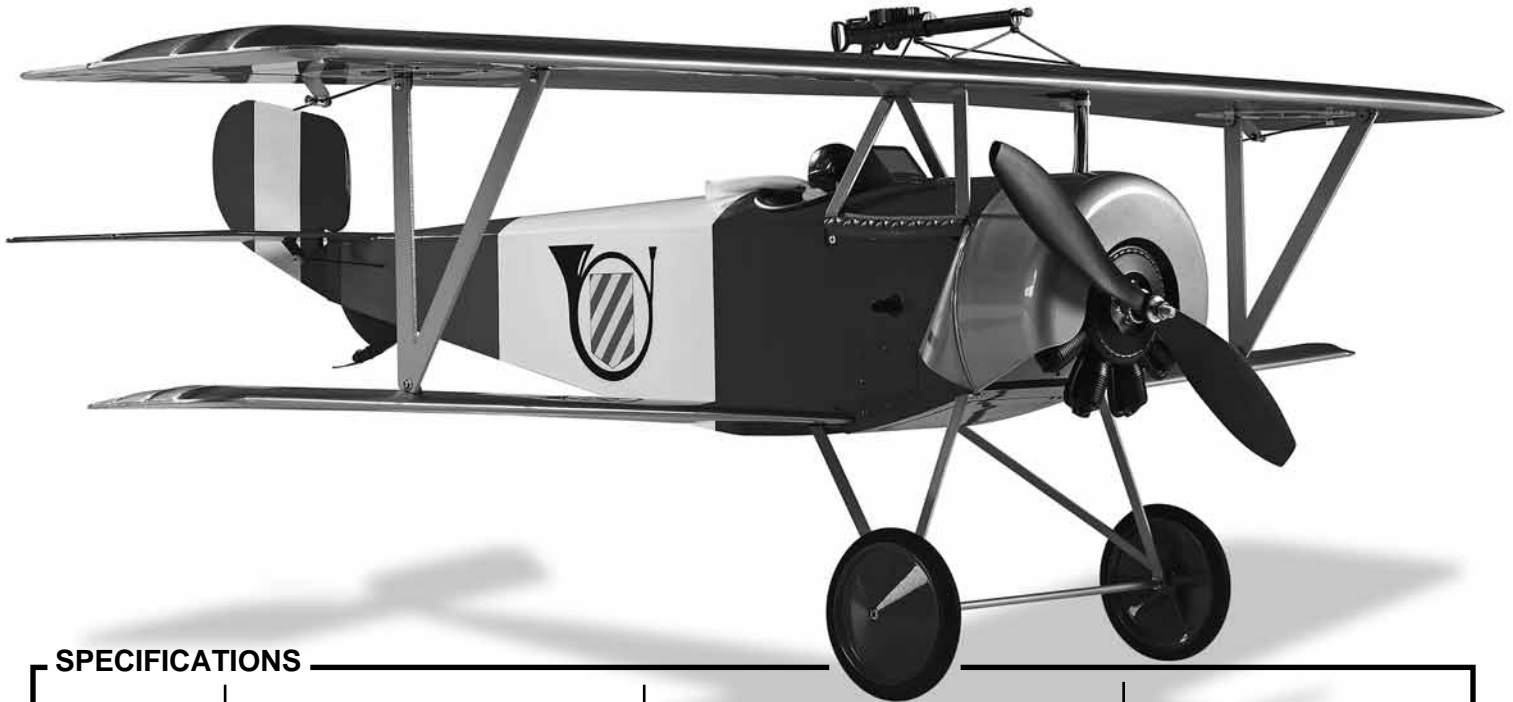


# NIEUPOORT XI



## SPECIFICATIONS

<b>Wingspan:</b>	35.5 in [900mm]	<b>Length:</b>	28 in [710mm]	<b>ESC:</b>	Electrifly™ SS-25
<b>Wing Area:</b>	314 sq in [20.3dm <sup>2</sup> ]	<b>Motor:</b>	ElectriFly™ RimFire™ 400 (28-30-950) Brushless	<b>Battery:</b>	Great Planes 11.1V, 1600mAh LiPo
<b>Weight:</b>	21.9-23.1 oz [620-650g]	<b>Propeller:</b>	Great Planes® 10x4.5 Slo-Flyer Electric Prop	<b>Radio:</b>	4-Channel (minimum) with Micro Receiver, four Micro Servos
<b>Wing Loading:</b>	10-10.6 oz/sq ft [31-32g/dm <sup>2</sup> ]				

## 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.



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

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## INTRODUCTION

Thank you for purchasing the Great Planes Nieuport 11 EP park flyer. Add it to your collection of our other WWI-era park flyers and enjoy the differences that set each model apart. The Nieuport 11 was a French design introduced on January 5<sup>th</sup>, 1916 and saw service as a fighter and later as a trainer when it was superseded by the Nieuport 17. The SPAD XIII (another Great Planes park flyer offering)

replaced the Nieuports down the line, so if you own a Great Planes SPAD XIII you can see how different war demands caused airplanes to evolve.

Don't make the mistake of calling the Nieuport 11 a biplane – it's considered a sesquiplane because of its small, narrow chord lower wing. While not for rank beginners, the Great Planes Nieuport 11 is an excellent flyer and is very forgiving. Most pilots will be comfortable flying it on a ball field even at low speeds.

For the latest technical updates or manual corrections to the Nieuport 11 EP visit the Great Planes web site at [www.greatplanes.com](http://www.greatplanes.com). Open the "Airplanes" link, then select the Nieuport 11 EP 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 – Academy of Model Aeronautics

If you are not already a member of the AMA, please join! The AMA is the governing body of model aviation and membership provides liability insurance coverage, protects modelers' rights and interests and is required to fly at most R/C sites.

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



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 Nieuport 11 EP 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 Nieuport 11 EP, 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.

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.

## **LITHIUM BATTERY HANDLING & USAGE**

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

- ONLY use a LiPo approved 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 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.

## **REQUIRED ITEMS**

This is a partial list of items required to finish the Nieuport 11 EP. Order numbers are provided in parentheses.

### **Radio Equipment**

A 4-channel radio system with four micro servos and a micro receiver are required for this plane. Many radio systems are suitable, but we have chosen the following for this build-up.

- (4) Futaba® S3114 Micro HT Servo (FUTM0414)  
**OR**
- (4) minimum 20 oz-in torque micro servos
- Servo Mounting Screws (FUTM2250)
  
- Futaba R617FS 7-channel 2.4GHz Receiver  
**OR**
- Futaba R114F FM Micro Receiver  
(Low Band – FUTL0442, High Band – FUTL0443)
- Futaba FM Single Conversion Short Crystal  
(Low Band – FUTL62\*\*, High Band – FUTL63\*\*)
- (1) Y-harness  
(FUTM4130 or FUTM4135 for digital servos)

### **Motor, ESC & Propeller Recommendations**

The Nieuport 11 EP was tested extensively to find the best "power package" that offers light weight, long flight time, and excellent thrust. The order numbers are provided below.

- Great Planes RimFire™ 400 (28-30-950) Brushless Outrunner Motor (GPMG4560)
- ElectriFly™ Silver Series 25A Brushless ESC 5V/2A BEC (GPMM1820)
- ElectriFly 10x4.5 PowerFlow™ Propeller (GPMQ6660) (draws 15 amps max.)  
**OR**
- APC 11x3.8 Slo-Flyer Propeller (APCQ5017) (draws 15 amps max.)
- ElectriFly 3.5mm Male/2.5mm Female Bullet Connector Adapter (GPMM3122)
- ElectriFly 3mm to 5mm Prop Adapter (GPMQ4959)

## Battery Pack & Accessories

The following battery pack is recommended. Note: The 1600mAh pack weighs approximately 5oz [142g] and should balance this model without requiring nose ballast weight. If you are using batteries other than the one recommended here, please be sure that your battery is capable of delivering 15A safely.

- ElectriFly LiPo 1600mAh 11.1V 20C Discharge w/ Balance (GPMP0719)

A LiPo-compatible charger is required for these batteries, along with a cell balancer. We recommend:

- ElectriFly Equinox™ 1-5 cell LiPo cell balancer (GPMM3160)
- ElectriFly PolyCharge4™ LiPo battery charger (GPMM3015)
- OR**
- ElectriFly PolyCharge™ DC LiPo battery charger (GPMM3010)

## Required Adhesive and Building Supplies

This is the list of adhesive and building supplies required to finish the Nieuport 11 EP.

- 1/2 oz. [15g] Thin Pro CA (GPMR6001)
- 1/2 oz. [15g] Medium Pro CA+ (GPMR6007)
- R/C-56 Glue 4oz (JOZR5007)
- Denatured alcohol
- Drill bits: #55 [1.3mm], #57 [1.1mm], 1/16" [1.6mm]
- #1 Hobby knife (HCAR0105)
- #11 blades (5-pack, HCAR0211)
- Hobbico® Steel T-Pins 1" (100) (HCAR5100)
- Great Planes Pro Thread Locker (GPMR6060)
- CA applicator tips (HCAR3780)
- 220 grit sandpaper
- Bru Line hemostat – curved 5-1/2" (BRUR1303)
- Retractable fabric tape measure (HCAR0478)

## Optional Supplies and Tools

Here is a list of optional tools mentioned in the manual that will help you build the Nieuport 11 EP.

- 21<sup>st</sup> Century® sealing iron (COVR2700)
- 21<sup>st</sup> Century iron cover (COVR2702)
- 2 oz. [57g] spray CA activator (GPMR6035)
- 4 oz. [113g] aerosol CA activator (GPMR634)
- Great Planes® Hook and Loop material (GPMQ4480)
- Great Planes Heat Shrink Tubing 3/8" x 3" [76mm] (GPMM1060)
- Electrical tape

- Masking tape
- CA debonder (GPMR6039)
- Great Planes Double-Sided Servo Tape 1" x 3' (GPMQ4442)
- Panel Line Pen (TOPQ2510)
- Rotary tool (Dremel®) with cutoff wheel
- Hobbico Flexible 18" Ruler Stainless Steel (HCAR0460)
- Builder's Triangle Set (HCAR0480)
- AccuThrow™ Deflection Gauge (GPMR2405)
- Hobbico 12 Volt DC power supply (HCAP0250)
- Green 3M® Scotch Brite™

## IMPORTANT BUILDING NOTES

- 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.
- **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 stabilizer, wing incidences, and motor 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](http://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.
- The Nieuport 11 EP 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.

Aluminum TOPQ0205	True Red TOPQ0227
Royal Blue TOPQ0221	Jet White TOPQ0204

## 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**

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

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

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](mailto:productsupport@greatplanes.com), or by telephone at (217) 398-8970.

**ORDERING REPLACEMENT PARTS**

Replacement parts for the Great Planes Nieuport 11 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 Great Planes web site at [www.greatplanes.com](http://www.greatplanes.com). Select "Where to Buy" in the menu across the top of the page and follow the instructions provided to locate a U.S., Canadian or International dealer.

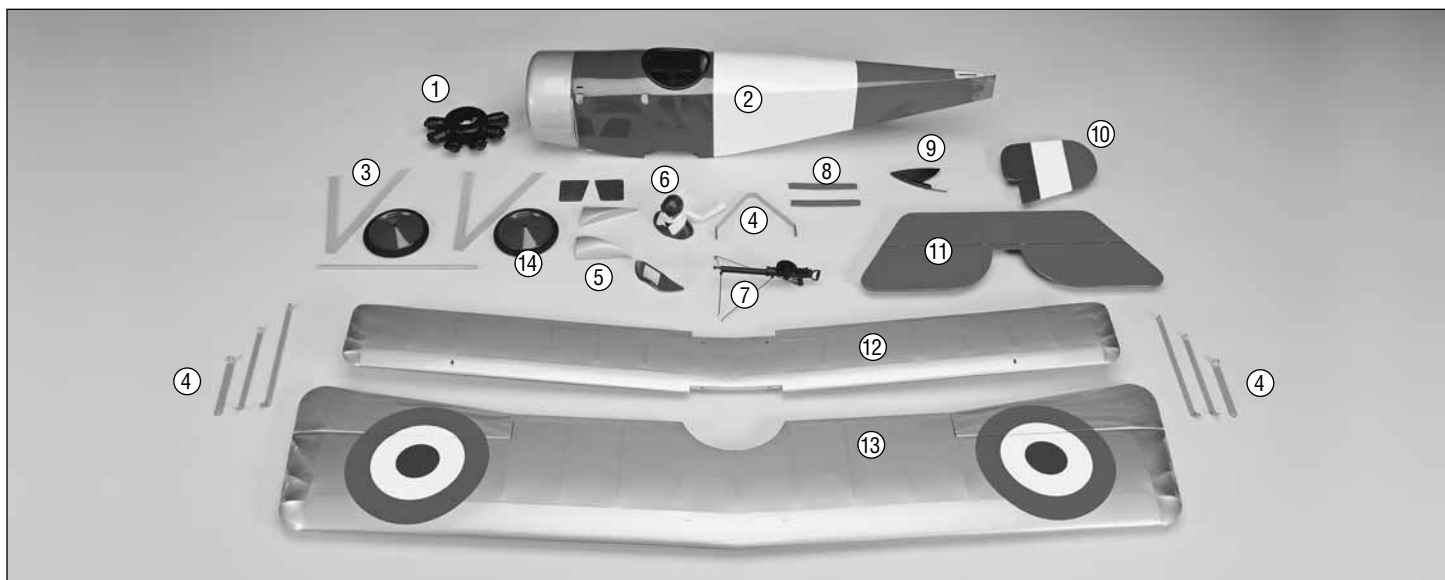
Parts may also be ordered directly from Hobby Services by calling (217) 398-0007, or via facsimile at (217) 398-7721, but full retail prices and shipping and handling charges will apply. Illinois and Nevada residents will also be charged sales tax. If ordering via fax, include a Visa® or MasterCard®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

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

**REPLACEMENT PARTS LIST**

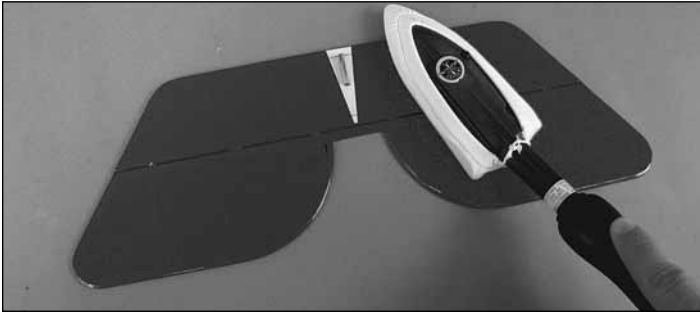
Order No.	Description	How to purchase
	Missing pieces	Contact Product Support
	Instruction manual	Contact Product Support
	Full-size plans	Not available
GPMA4006	Top Wing Set	Contact your hobby supplier to purchase these items
GPMA4007	Bottom Wing Set	
GPMA4008	Fuse Set	
GPMA4009	Tail Surface Set	
GPMA4010	Cowl/Cheek Vent Set	
GPMA4011	Dummy Engine	
GPMA4012	Cabanes Set	
GPMA4013	N Strut Set	
GPMA4014	Machine Gun	
GPMA4015	Landing Gear	
GPMA4016	Wheels (2)	
GPMA4017	Decal sheet	

**KIT CONTENTS**



- |  |                 |                     |
|--|-----------------|---------------------|
| 1. Dummy Engine                            | 5. Detail Parts | 10. Rudder          |
| 2. Fuselage & Cowl                         | 6. Pilot        | 11. Horizontal Tail |
| 3. Wing Struts                             | 7. Gun Assembly | 12. Bottom Wing     |
| 4. Metal Landing Gear Legs & Cabane Struts | 8. Coaming      | 13. Top Wing        |
|  | 9. Tailskid     | 14. Wheels          |

## BEFORE YOU BEGIN

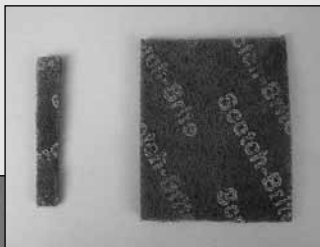


❑ 1. Before you begin assembling your model, inspect it for wrinkled covering and areas where the covering may not be tacked down adequately. The covering should be tacked down to the wood using just enough heat to soften the adhesive backing. **Low heat** (about 250° F [121° C]) should be enough to accomplish this. More heat may be required to begin to tighten the covering.

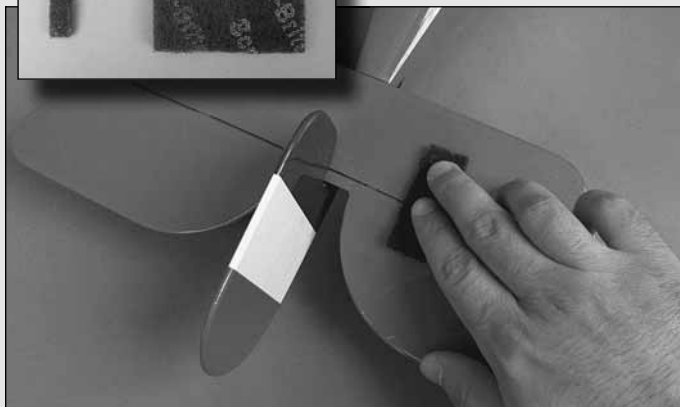
**Warnings:**

- Do not over-shrink the covering or it will cause the control surfaces or wings to twist.
- Do not iron over decals.
- Use only LOW heat over trim.

❑ 2. Deflect the prehinged elevator and ailerons several times. Check to see that the full control throw is easily achieved.



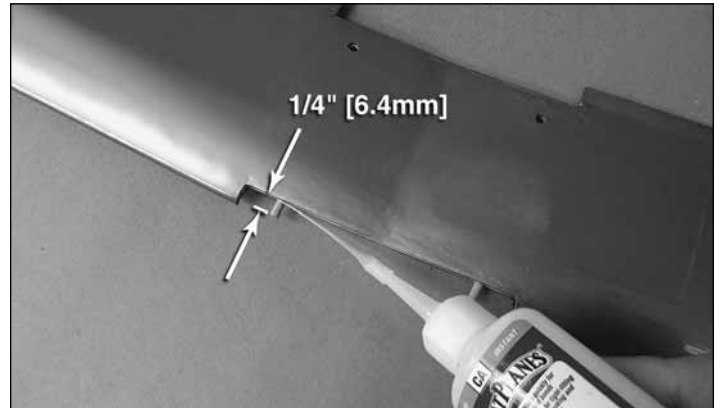
The actual Nieuport 11 was covered in fabric and had a "doped" finish brushed onto it. This gave it a semi-gloss or dull finish.



Depending on how much you care to detail or personalize your model, you may choose to replicate this finish. Use some green 3M® Scotch Brite™ to scuff the surface of the plastic film covering working in a fore-aft motion. This will dull the finish and simulate brush marks. It also gives your model a "weathered" look. Try working in an inconspicuous area first.

## INSTALL THE TAIL

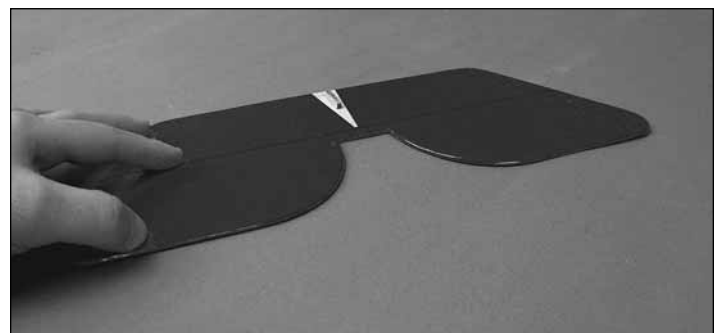
### Prepare for Tail Installation



❑ 1. Fit the two 15mm [9/16"] wood dowels in the pre-drilled holes in the lower wing LE so that they protrude 1/4" [6.4mm]. Glue them in place by wicking a few drops of thin CA into the joint.

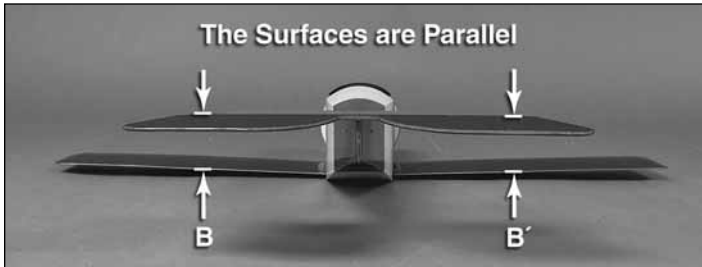
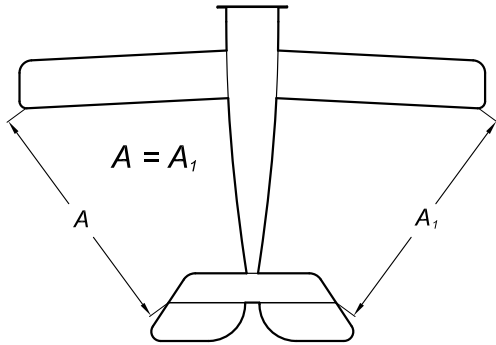


❑ 2. Temporarily fit the lower wing using two 3 x 20mm [3/4"] machine screws and two 3mm washers. This will help you align the tail.

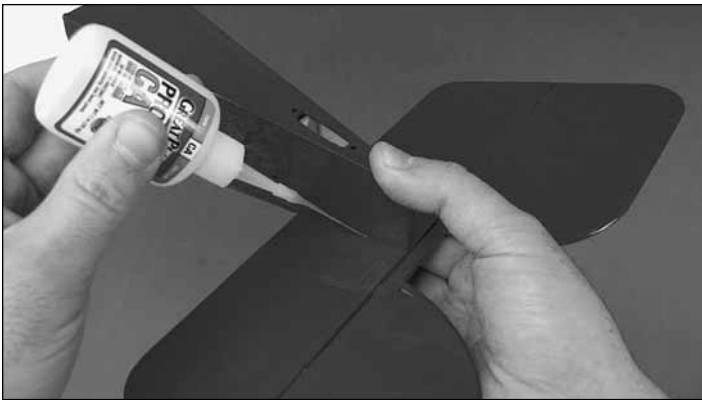


❑ 3. Set the horizontal tail on a flat surface. Check to see that there is no twist in the stabilizer or between the two elevators. Any twist can be easily corrected using a covering iron on a medium heat setting (around 300° F [149° C]). Twist the surface to the desired position and heat the covering until it begins to shrink.

## Install the Tail

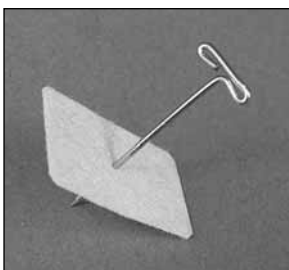


❑ 1. Test fit the tabbed portion of the horizontal stabilizer into the slot in the fuselage. Use a fabric tape measure to measure the distance from each stabilizer tip to each corresponding wing tip. Adjust the stabilizer so distance  $A = A_1$ . Set the fuse on a level surface and take a few steps back. Check to see that the stabilizer is correctly aligned in relation to the wing. If one side is higher than the other, lightly sand the fuselage side that is higher.



❑ 2. When you're satisfied with the fit of the horizontal tail, glue it in place using thin CA. Hold the joint tightly together as you wick a bead of CA into the length of the joint.

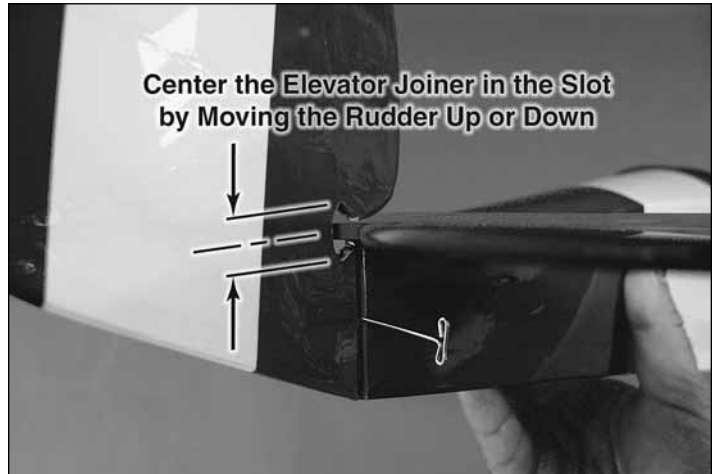
❑ 3. Remove the bottom wing from the fuselage and retain the screws and washers.



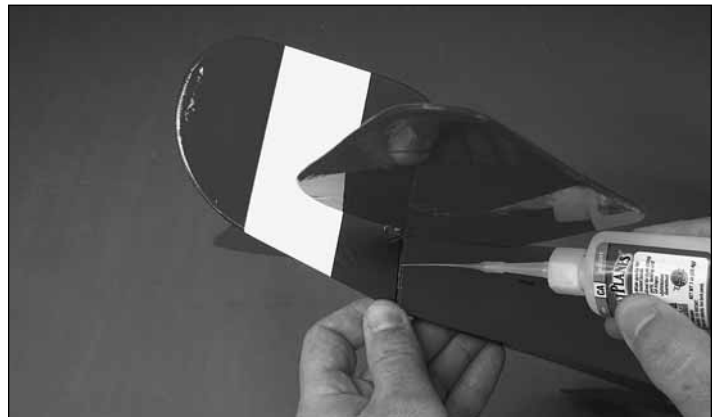
❑ 4. Push a T-pin through the center of the CA hinge as shown.



❑ 5. Test fit the hinge into the end of the fuselage and bottom of the rudder. The hinge should slide in as far as the T-pin allows. If the hinge doesn't fit well, use the back side of your hobby knife to dig out the hinge or make it deeper. Trim the covering back from the slot to allow the CA to wick better.

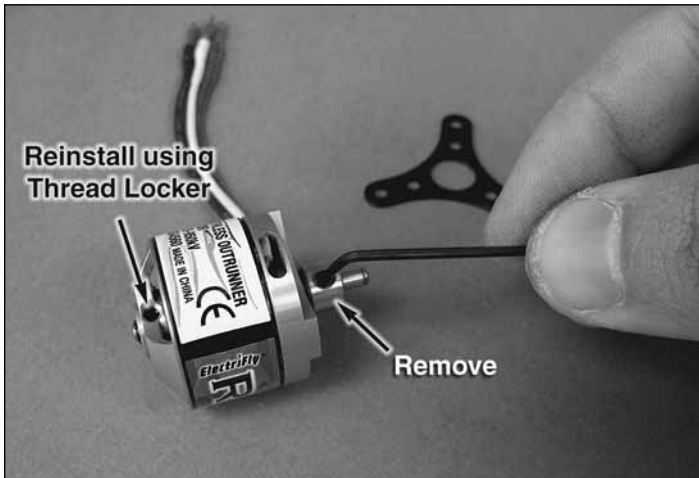


❑ 6. Fit the hinge to the fuselage, then fit the rudder. Slide the rudder up or down so that the elevator joiner is centered in the semi-circular clearance slot. Push the rudder up against the hinge line and deflect it left and right several times.



❑ 7. When you're satisfied with the fit of the rudder, apply 4-5 drops of thin CA to each side of the hinge to glue it in place. Have a paper towel handy with some CA debonder to clean up any runoff or excess glue.

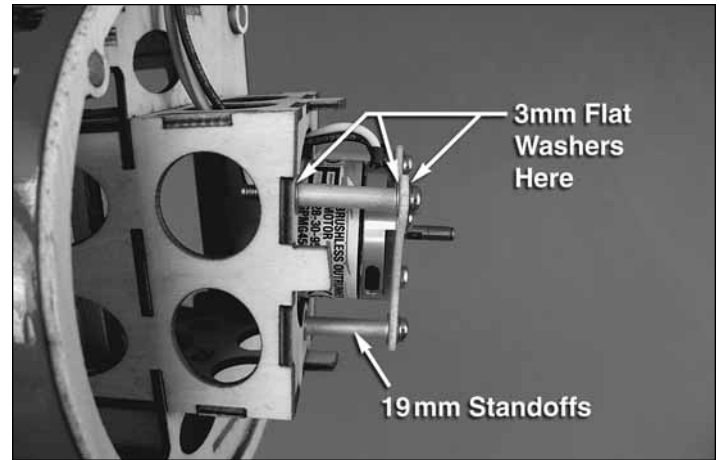
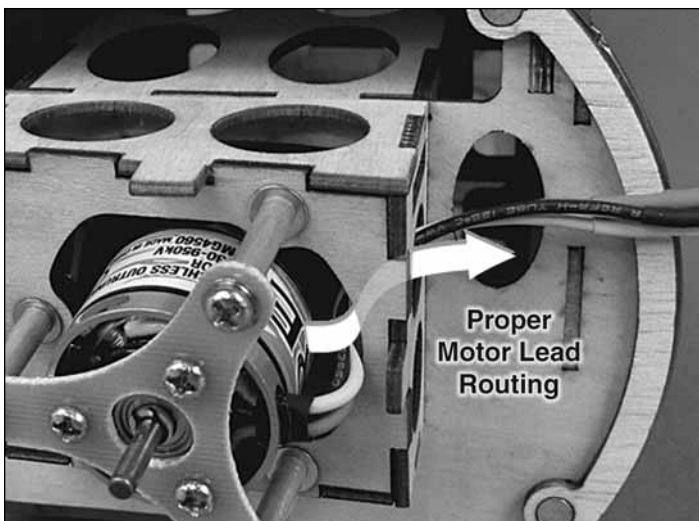
## INSTALL THE MOTOR & ESC



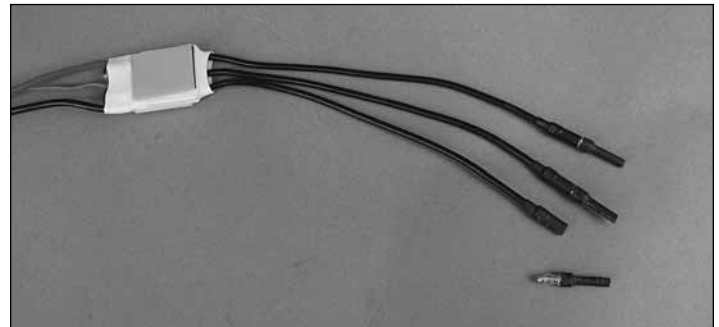
1. Remove the steel Y-mount and the brass collar from the motor. These will not be used. Remove the set screw from the nose of the motor and reinstall it using thread locking compound.



2. Apply thread locking compound to the three 3mm screws that came with your motor and install the supplied Y-mount as shown.



3. Install the motor to the fuselage using three 3 x 30mm [1-3/16"] machine screws, nine 3mm flat washers, and three 19mm [3/4"] aluminum standoff tubes. Apply thread locking compound to the screw threads and fit the motor so that the wires are routed as shown. Use the photo above to help you stack the washers.

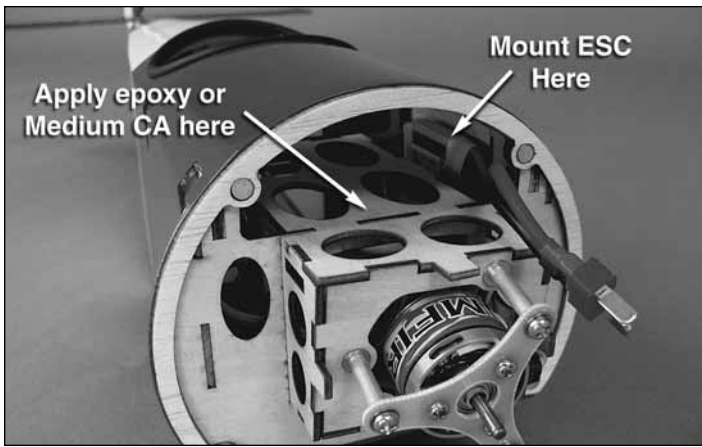


4. Install three 3.5mm male/2mm female bullet connector adapters onto the ESC motor leads (GPM3122). Cut a 25mm piece of double-sided foam tape and apply it to the back side of the ESC.

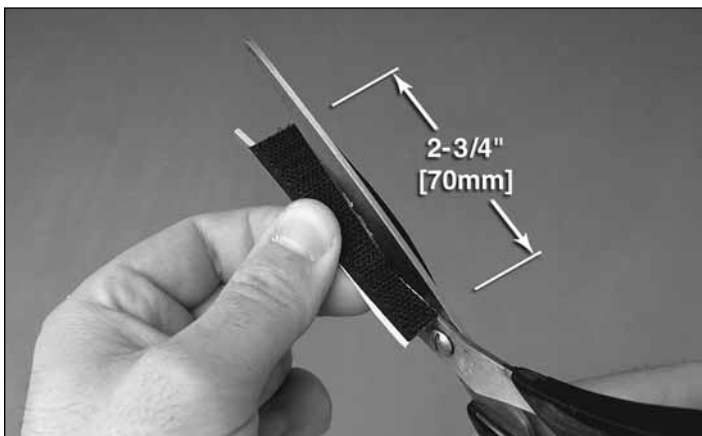


5. Apply a thin layer of 6-minute epoxy or medium CA to the upper right side of the fuselage as shown. Allow the glue to fully cure. **Note:** Use this method to help stick double-sided foam tape or hook and loop fastener material to wood parts.

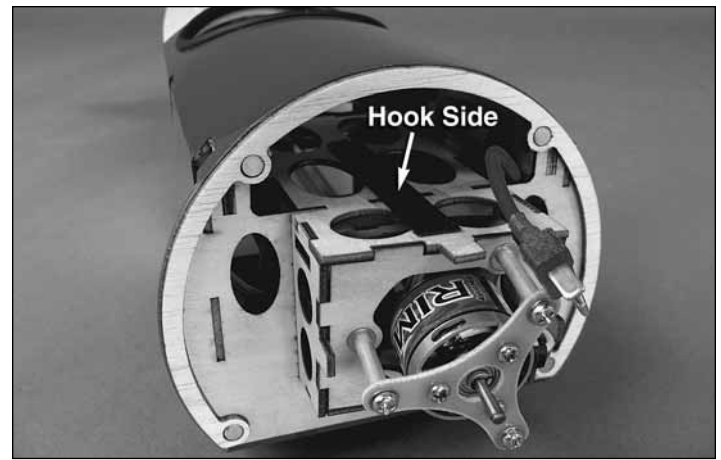




❑ 6. Route the ESC battery leads up so that they exit forward of the firewall as shown. The battery on this model is accessed by removing the cowl, so the ESC leads must be routed to make this as easy as possible. Route the ESC motor leads back and through the second former and connect them to the motor wires. Mount the ESC in the location shown.

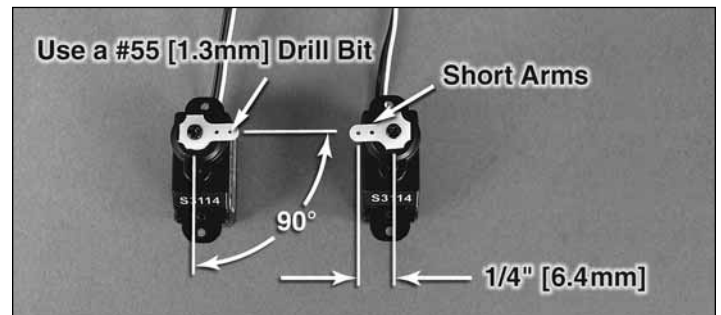


❑ 7. Cut a 2-3/4" [70mm] length strip from the adhesive-backed hook and loop material provided. Separate the hook side from the loop side. Cut the hook side down the middle to make a narrow strip. Leave the loop side full-width, and stick it to your battery. If you need more for spare battery packs, please purchase Great Planes® Hook and Loop material (GPMQ4480).



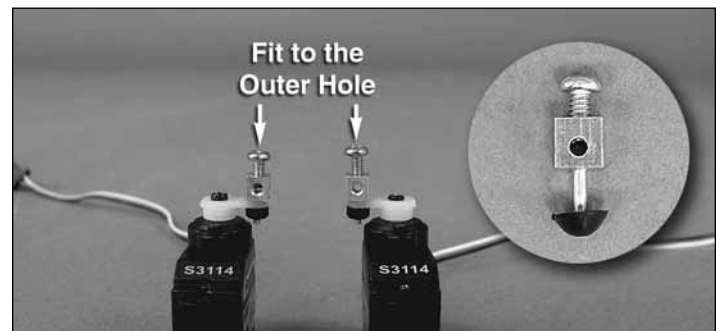
❑ 8. Stick the hook side to your battery tray as shown.

## INSTALL THE ELEVATOR & RUDDER SERVOS



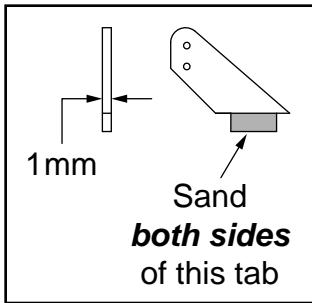
❑ 1. Use your radio to center two servos. With the servos centered, reposition each standard servo arm so that one of the two **short arms** is perpendicular to the servo case. **Note:** The short arms measure 1/4" [6.4mm] from the center to the outer hole. You will need one servo with an arm on the **left side** of the case and one with an arm on the **right side** of the case. Clip off the remaining unused arms. Install the servo arm retaining screws.

❑ 2. Use a #55 [1.3mm] drill bit to enlarge the outer servo arm holes. If you don't have a #55 drill bit, use your hobby knife to carefully enlarge the holes.

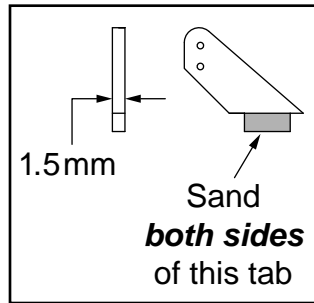


❑ 3. Locate two screw-lock pushrod connectors, two 2mm locking screws, and two plastic locking collars. Install these on the rudder and elevator servos in the outer holes of the short servo arms.

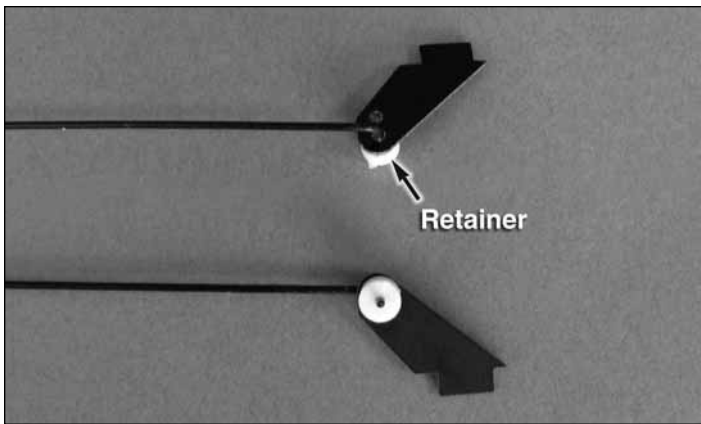
### Black Elevator & Rudder



### Yellow Ailerons



- ❑ 4. Four total control horns are supplied in this kit. Identify the thin control horns (1mm, black). Set the thicker horns aside for later. Roughen the surface of each side of the tabs using 150-grit or finer sand paper.



- ❑ 5. Fit the 1mm [1/32"] thick black control horns onto the L bends of the two 1mm x 500mm [19-11/16"] pushrods. Fit a plastic control horn retainer to each rod as shown. Both the elevator and the rudder horns are assembled the same way. Use the photo as a reference.

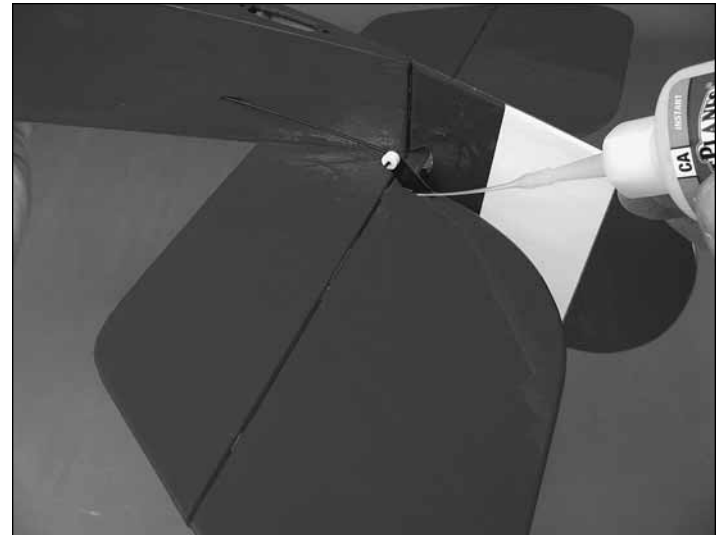
- ❑ 6. Insert the pushrods in the pushrod tubes from the tail end of the fuselage.



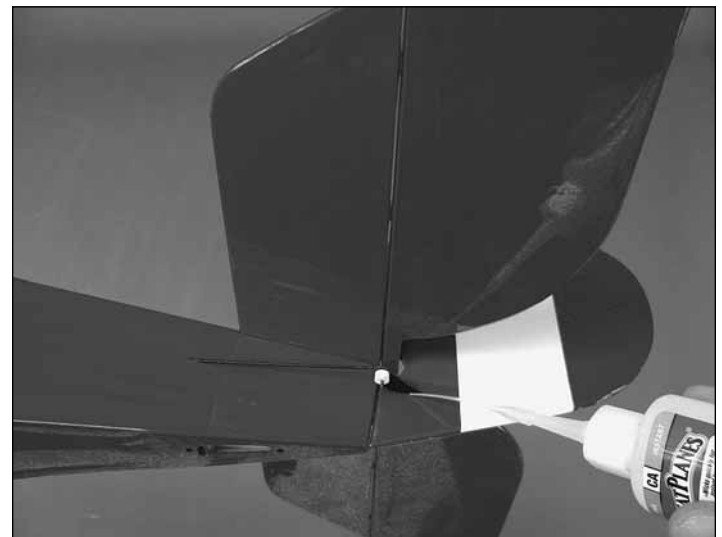
- ❑ 7. Fit one servo in place so that the servo arm is on the inboard side. Slide the servo along the rails so that it

lines up with the pushrod. Drill two 1/16" [1.6mm] holes and install the servo with two servo screws (FUTM2250). You should then remove the screws and harden the screw holes you just tapped in the wood with thin CA.

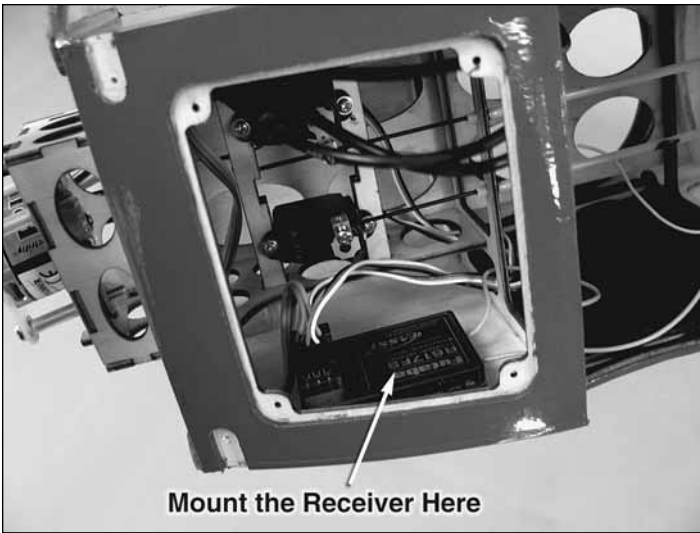
Repeat the last step to install the other servo.



- ❑ 8. Slide the elevator pushrod into the elevator screw-lock pushrod connector on the servo side. Fit the control horn in the pre-cut slot in the bottom of the right elevator. Make sure that the horn is perpendicular with the elevator (as viewed from behind the model). When you're satisfied with the fit of the horn, glue it in place with a bead of thin CA on each side of the horn. **Note:** If the pushrod slides out of the screw-lock connector, remove the servo arm and slide the arm onto the pushrod. Reinstall the servo arm and the retaining screw.

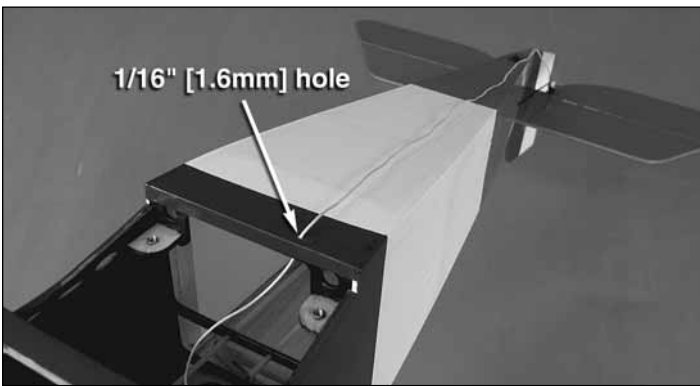


- ❑ 9. Fit the rudder control horn into the slot in the rudder. If the rudder hinge interferes with the horn, use your hobby knife to cut through the hinge. When you're satisfied with the position of the control horn, glue it in place.



Mount the Receiver Here

□ 10. Apply a piece of double-sided foam tape to the back side of your receiver and connect your servo and ESC leads to their proper channels on the receiver. Prepare the inner fuse side using 6-minute epoxy or a thin coat of medium CA as you did when you installed the ESC earlier. After the glue has fully cured, stick the receiver in place as shown.



□ 11. If you are using a 72MHz radio, drill a 1/16" [1.6mm] hole through the sheeting behind the TE of the lower wing and route your antenna out through the hole. Extend the antenna and tape it in place.



□ 12. With your throttle set to idle, turn on your transmitter. Plug a LiPo battery into the ESC. Arm the motor and throttle up very slowly. Check the direction of rotation of the motor. If the motor is not turning counter-clockwise (as viewed from the front), unplug the LiPo battery and switch the

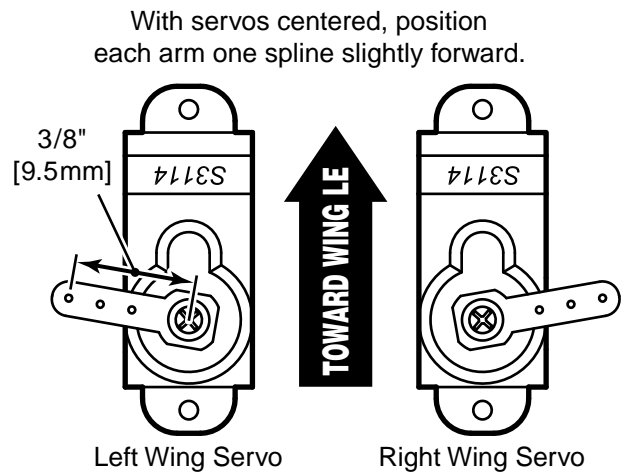
position of any two of the three motor leads. Re-check the motor rotation. **Note:** If you are using a Futaba radio system, reverse your throttle channel before plugging in the LiPo battery. **Do not attach a propeller yet!**

## PREPARE THE WINGS

### Install the Aileron Servos

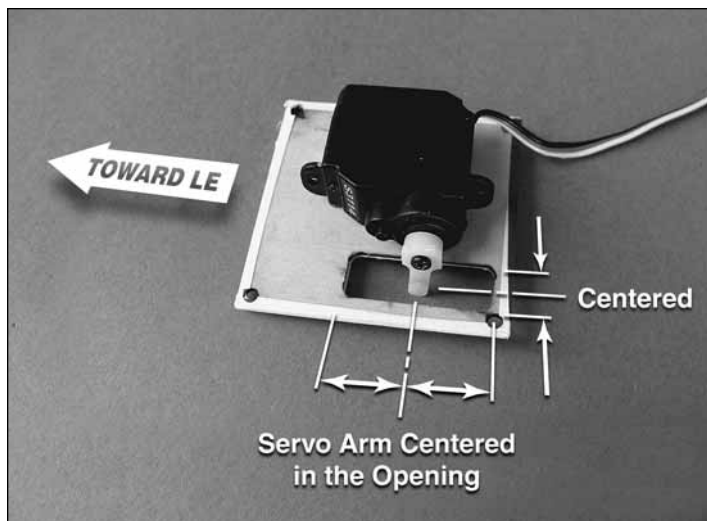


□ □ 1. Carefully enlarge the outer hole of the two large yellow control horns using a #55 [1.3mm] drill or your hobby knife. Glue the control horns to the bottom of the ailerons using thin CA.

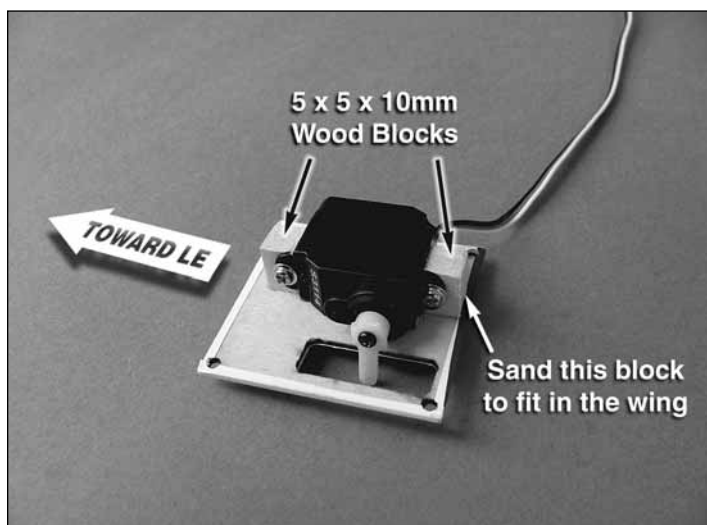


□ □ 2. Center both aileron servos. Reposition each standard servo arm so that the **long arm** is slightly forward from being perpendicular to the servo case. Clip off the remaining arms. Drill

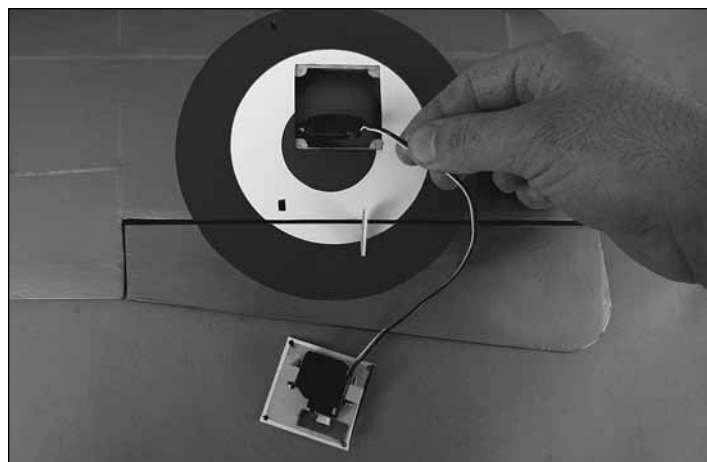
the outer-most hole using a #57 [1.1mm] drill bit or carefully enlarge the hole using your hobby knife. **Note:** The long arms measure 3/8" [9.5mm] from the center to the outermost hole. Install the servo arm retaining screw.



□ □ 3. Clean the servo case of each aileron servo with denatured alcohol. Remove any label that will prevent you from gluing the servo case directly to the servo bay cover, and scuff the surface of the case with some sand paper. To make it easier to remove in the future, you may wrap the case with electrical tape or heat shrink tubing before you glue it in. Use medium CA to glue a servo to the servo bay cover so that the tip of the servo arm is centered in the opening.



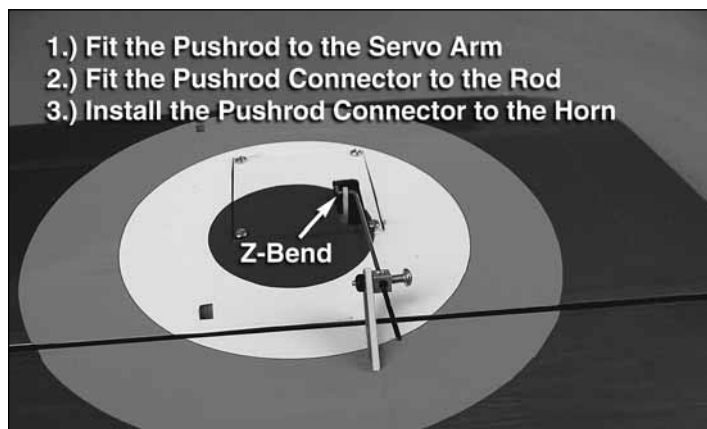
□ □ 4. As an alternative to gluing the servos in place, we have provided 5 x 5 x 10mm [3/8"] wood blocks that you may use to attach the servos to the servo bay covers. If you choose to use these, make sure that you align the servo as detailed in the previous step. Glue the blocks to the cover using medium CA. Drill the servo screw holes using a 1/16" [1.6mm] drill and harden the screw holes using thin CA. Install the servo screws.



□ □ 5. Connect the aileron servos to the servo lead extensions provided in the wing. Use a piece of 3/8" [9.5mm] diameter heat shrink tubing or electrical tape to secure the connectors. If you use heat shrink tubing, pull the extension out of the wing enough to heat the shrink tubing without damaging the covering. Use the string to pull the extension through the center of the wing. **Note:** There is a Y-connection inside the wing, so only one male connector exits the wing center section.



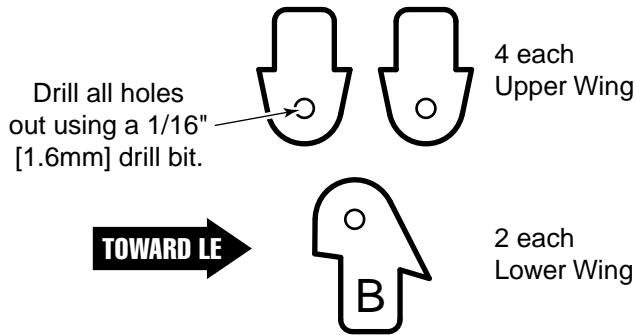
□ □ 6. Install the servo bay covers using eight 2 x 6mm [1/4"] sheetmetal screws. Remove the screws and the covers and harden the screw holes with thin CA.



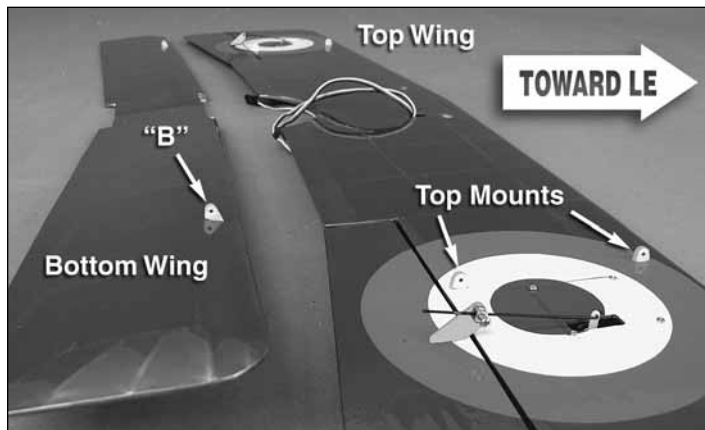
□ □ 7. Fit a 1 x 65mm [2-1/2"] Z-bend pushrod to the outer-most hole in each aileron servo arm. Slide a screw-lock

pushrod connector onto the end of the pushrod and install the pushrod connector in the outer-most hole of the aileron control horn using a plastic locking collar to secure it.

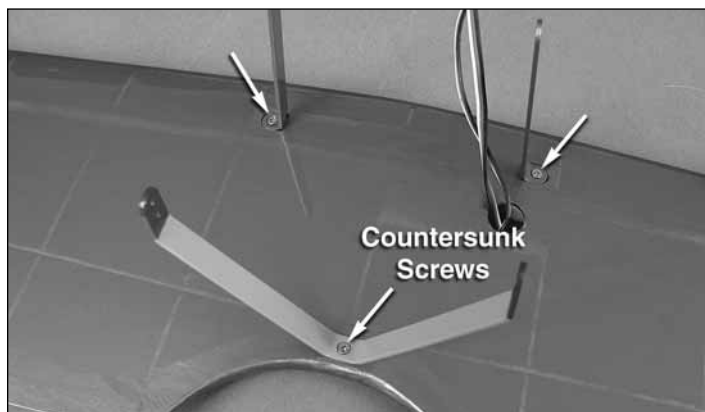
### Install the Strut Mounts & Cabane Struts



1. Identify the strut mounts. The two mounts that are labeled "B" are used on the bottom wing and are shaped accordingly. Enlarge the screw holes slightly with a 1/16" [1.6mm] drill. This will prevent them from cracking during normal use.



2. Install the four upper wing strut mounts as shown. **Note:** There is no front or rear side for the **top mounts**; they are symmetrical. Install the strut mounts in the wings using thin CA. Install the lower strut mounts so they match the curve of the lower wing.



3. Install the cabane struts to the wing center section using three countersunk 2 x 6mm [1/4"] sheetmetal screws. Remember to harden the screw holes with thin CA.

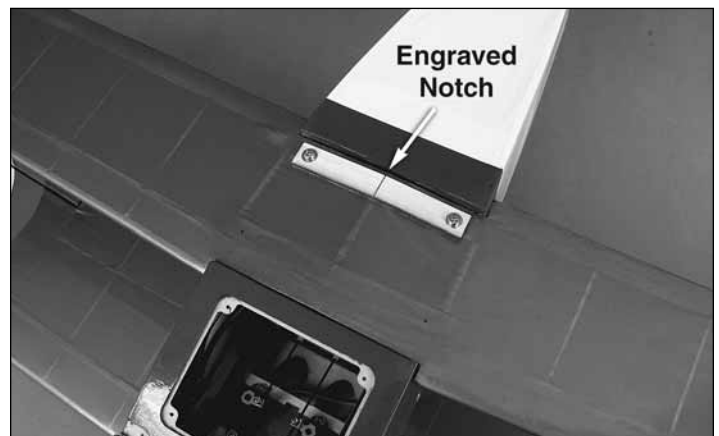
### INSTALL THE WINGS



1. Fit the upper wing to the fuselage. Attach the forward cabane struts to the fuselage using four 2 x 6mm [1/4"] sheetmetal screws. Attach the rear cabane strut with four countersunk 2 x 6mm [1/4"] sheetmetal screws. Route the aileron servo lead into the fuselage through the square hole near the front left cabane. Plug the aileron servo lead into your receiver. Harden the screw holes with thin CA.

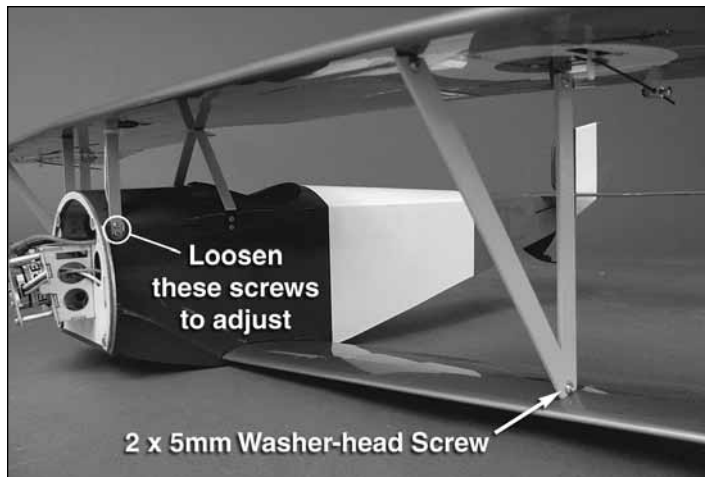


2. Attach the interplane wing struts to the upper wing using four 2 x 5mm [3/16"] washer-head screws. Remove the screws and struts and harden the screw holes with thin CA.



3. Install the lower wing using two 3 x 20mm [3/4"] machine screws, two 3mm washers and the pre-drilled wooden reinforcement plate. Fit the plate so that the engraved side is away from the wing surface. Apply thread locking compound to the screw threads and tighten the screws until the lower

wing fully seats. Do not over-tighten the lower wing screws – this distorts the wing and can cause damage. **Note:** You do not have to glue the reinforcement plate to the wing, but if you do, please use R/C-56 canopy glue (JOZR5007).



❑ 4. Attach the interplane struts to the lower wing using two 2 x 5mm [3/16"] washer-head screws. Harded the screw holes with thin CA. Note: If the wing struts do not align with the wing, loosen the four screws that attach the forward cabane struts to the fuselage and adjust the position of the upper wing until the interplane struts line up with the lower wing strut mounts. Install the struts and then tighten all of the screws.

## INSTALL THE LANDING GEAR

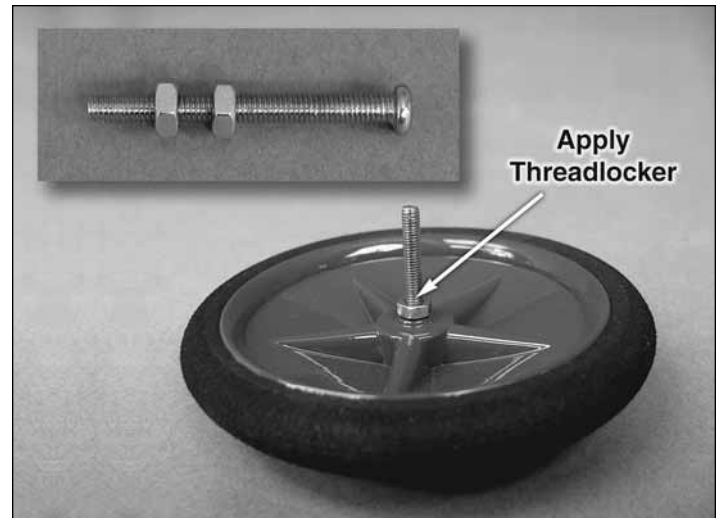


❑ 1. Install the tail skid to the fuselage as shown. Medium CA or R/C-56 glue is recommended.

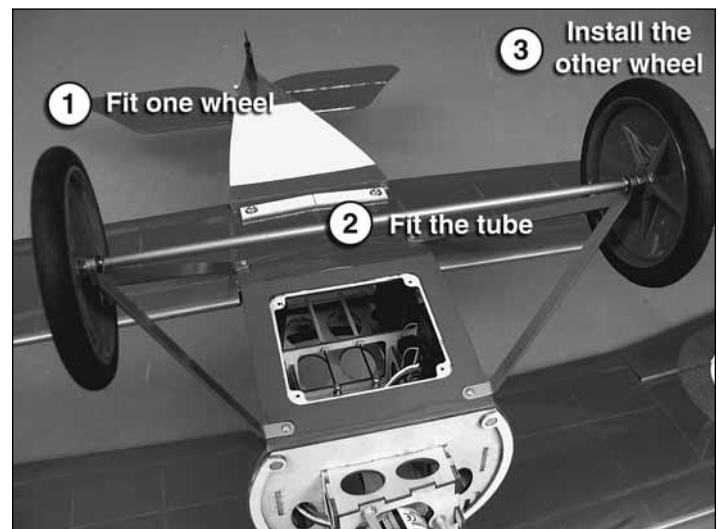


❑ 2. Attach the main landing gear legs to the fuselage using four 2 x 6mm [1/4"] sheetmetal screws. Pay attention to the

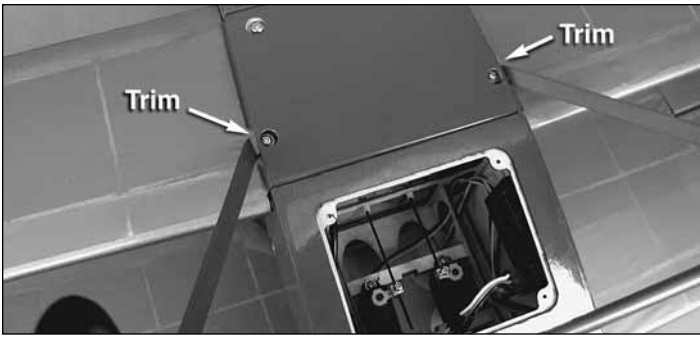
sweep angle of the front legs – they should be in line with the firewall and should not sweep forward.



❑ 3. Locate two 3 x 30mm [1-3/16"] machine screws and four 3mm hex nuts. Apply thread locking compound to each screw and install each to a wheel using one 3mm nut. To achieve the proper spacing, turn the nut until it contacts the wheel and then back it off 1/2 of a turn.



❑ 4. Install the wheels using the remaining two 3mm hex nuts. Fit one wheel to one side holding the outboard nut as you tighten the inboard nut. Slide the 185mm [7-5/16"] tube over the screw thread of the wheel you just installed, and then fit the other wheel through the gear and into the tube. Tighten the nut and check to see that both wheels rotate freely. If not, loosen the inboard nut and then loosen the outboard nut 1/2 of a turn. Re-tighten the inboard nut and check the wheel again. When you're satisfied with the operation of the wheels, apply a drop of medium CA to the inboard screw threads and glue the tube in place.



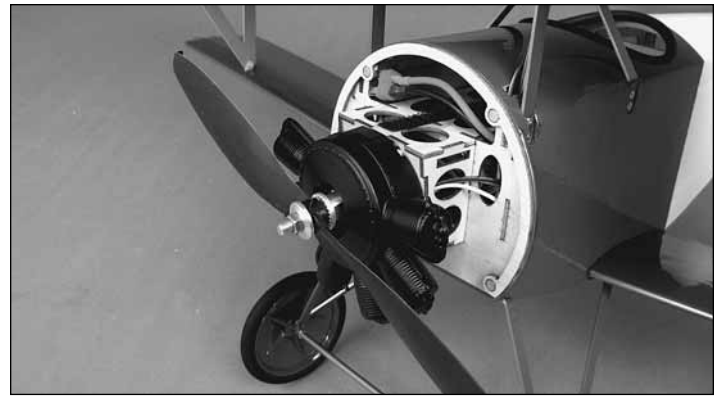
❑ 5. Glue the belly panel to the lower wing using R/C-56 glue or tape it in place. This will allow for easy removal if you have to remove the lower wing later. **Note:** You may have to trim more clearance to fit the landing gear legs. For the best results, use a Dremel® Tool (or similar rotary tool) with a small sanding drum.

## INSTALL THE DUMMY ENGINE, COWL & PROPELLER

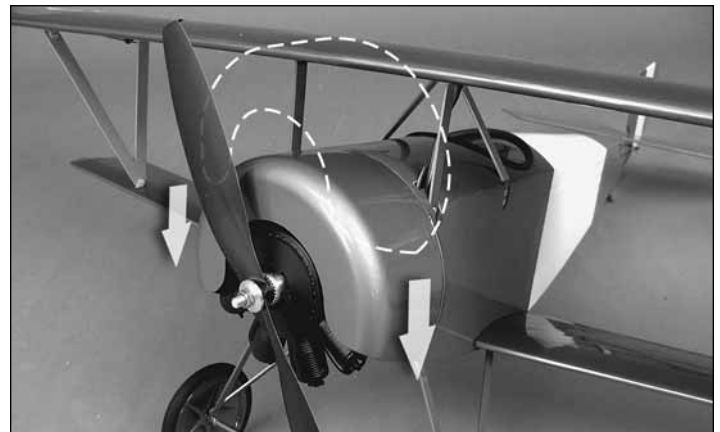


❑ 1. Make sure that the motor wires are routed properly and that they do not contact the motor case. Glue the dummy engine to the three tabs on the motor box. As an option, we have provided two 2 x 5mm [3/16"] washer-head screws to attach the dummy engine. Install the screws on the left and right side tabs by positioning the dummy engine and drilling a 1/16" [1.6mm] hole through the dummy engine and into each underlying tab.

❑ 2. Balance your propeller using the method described in the "**Balance Propellers**" section.

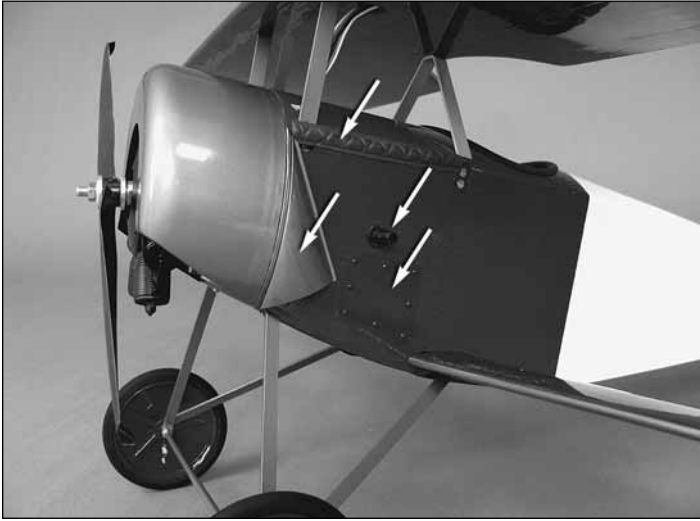


❑ 3. Fit a 3mm to 5mm collet prop adapter (GPMQ4959) to the motor shaft. Install the propeller, the prop washer, and the prop nut onto the prop adapter. With the prop adapter fully seated on the motor shaft, tighten the prop nut and lock the prop adapter in place.



❑ 4. Turn the prop so that it is horizontal. Fit the cowl to the firewall from the top. You will need to remove the cowl to access your battery. **Warning:** Always turn on your transmitter before you plug in the LiPo battery. When the battery is plugged in the motor is live, so please use caution when re-fitting the cowl. Stay behind the propeller at all times and always keep one hand on the model. An assistant is recommended.

## FINISH THE MODEL



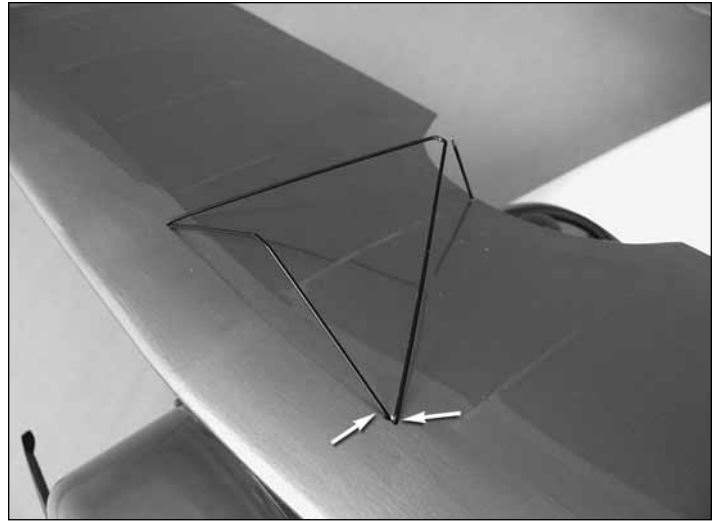
❑ 1. Install the cowl vents, carb tubes, access covers, and coaming as shown. You may use medium CA or R/C-56. Roughen the covering at the gluing surfaces using a 3M Scotch Brite™ pad or 220-grit or finer sandpaper.



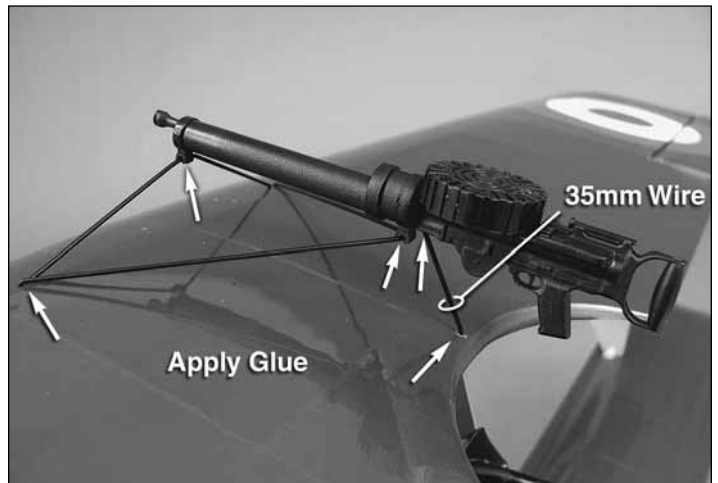
❑ 2. Install the pilot's windscreen, using R/C-56 glue. Install the pilot using a 40mm [1-5/8"] strip of hook and loop fastener material. Separate the material and attach the hook side to the bottom of the pilot bust. Attach the loop side to the cockpit floor.



❑ 3. Roughen the straight end of the 35mm [1-3/16"] wire using sand paper or your hobby knife. This portion will fit into the hole in the bottom of the gun.



❑ 4. Roughen the ends of the gun frame wires that fit into the wing. Install the gun frame as shown. The longer aft piece fits in the outboard holes in the wing, while the short front piece fits in the inboard holes.



❑ 5. Snap the gun into place and fit the 35mm [1-3/16"] wire into the hole near the TE of the wing. When you're satisfied with the position of everything, glue the frames in place by wicking thin CA into each leg joint.

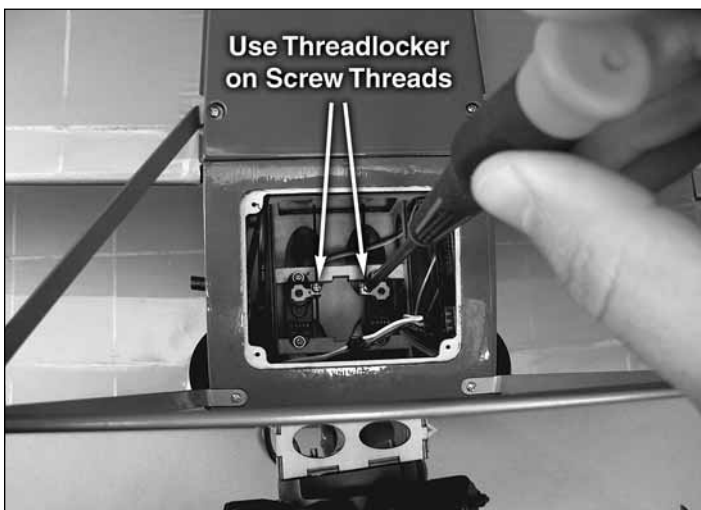


## GET THE MODEL READY TO FLY

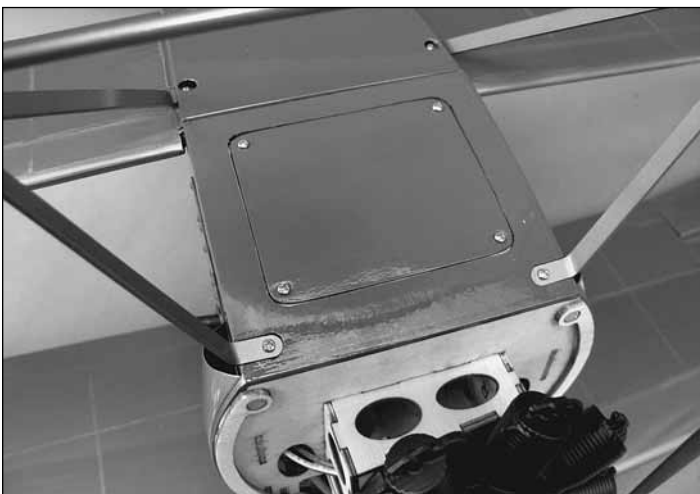
### Center the Controls & Check the Control Directions

**Warning:** Once the battery is connected to the ESC, stay clear of the propeller! Always stay behind the propeller!

1. Turn on the transmitter, center the trims, and move the throttle stick all the way down. Plug your airplane's battery into the ESC and check to see that all servo arms are positioned properly. 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.

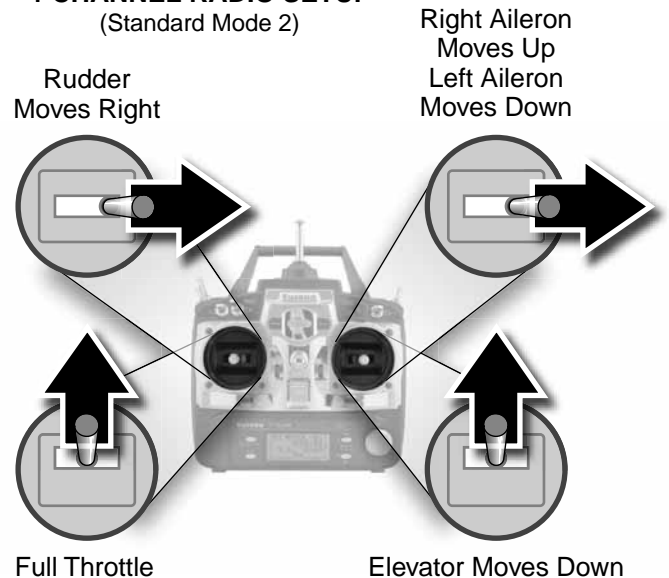


2. With the transmitter and receiver still on, center each of your control surfaces using a straight edge to align each surface. Apply thread locking compound to the locking screw threads and tighten all of the screw-lock pushrod connectors.



3. Install the servo bay hatch using four 2 x 6mm [1/4"] sheetmetal screws. Harden the screw holes and the holes in the hatch with thin CA.

### 4-CHANNEL RADIO SETUP (Standard Mode 2)

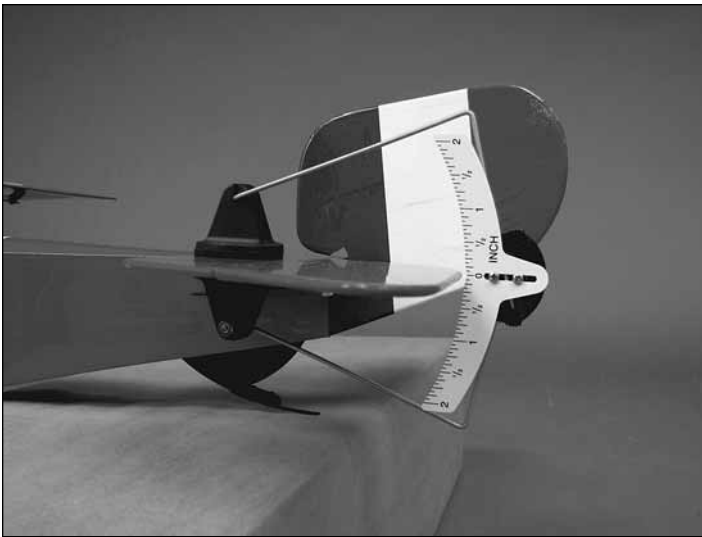


4. Make certain that the control surfaces and the throttle respond in the correct direction as shown in the diagram. If any of the controls respond in the wrong direction, use the servo reversing in the transmitter to reverse the servos connected to those controls. Be certain the control surfaces have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

### Set the Control Throws

1. To ensure a successful first flight, fly your Nieuport 11 set up only according to the C.G. and control surface throws specified in this manual. The throws and C.G. are not arbitrary, but have been determined through extensive testing and accurate record-keeping. This provides you with the best chance for success and enjoyable first flights that should be surprise-free. Additionally, the throws and C.G. shown are true, real data which will allow the model to perform in the manner in which it was intended when flown by a pilot of the skill level for which it was intended. **DO NOT OVERLOOK THESE IMPORTANT PROCEDURES.** A model that is not properly setup may be unstable and possibly unflyable.

2. The building steps earlier in this manual that show the mechanical setup for the elevator, rudder, and aileron linkages show you the best way to configure the linkages to achieve the proper throws using Futaba micro servos and a Futaba radio system. If you are using a different radio system or you cannot achieve the proper control throws using our suggested linkage configuration, you may have to install the pushrods in different holes on the servo arms or the control horns. Keep in mind that changing the throws mechanically is preferred to changing them using your radio's end-point adjustment. End points should be used to "fine-tune" to get the proper throws.



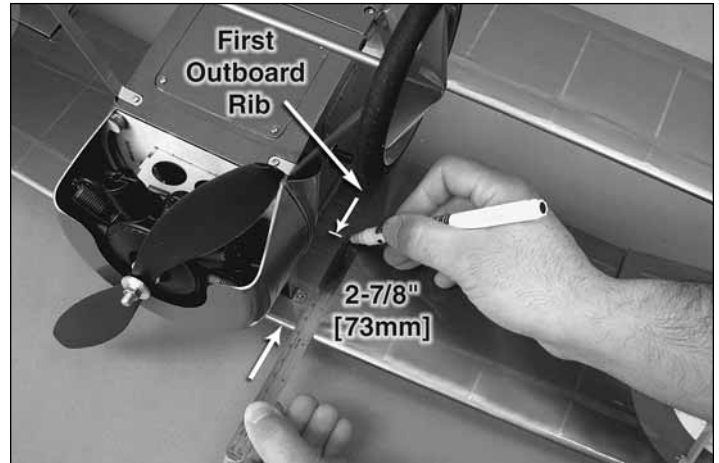
❑ 3. Use a Great Planes AccuThrow gauge or a ruler to accurately measure and set the control throw of each control surface as indicated in the chart that follows. If your radio does not have dual rates, we recommend setting the throws at the **HIGH** rate setting. **NOTE:** The throws are measured at the **widest part** of the elevators, rudder and ailerons.

❑ 4. If you wish to set the control throws using angles instead of linear measurements, you may cut out the paper templates that we have provided for you in the back of this manual.

These are the recommended control surface throws:				
	HIGH RATE		LOW RATE	
	Up	Down	Up	Down
ELEVATOR	5/8" [16mm]	5/8" [16mm]	1/2" [13mm]	1/2" [13mm]
	14 deg	14 deg	11 deg	11 deg
RUDDER	Right	Left	Right	Left
	1-1/2" [38mm]	1-1/2" [38mm]	1" [25mm]	1" [25mm]
	20 deg	20 deg	14 deg	14 deg
AILERONS	Up	Down	Up	Down
	3/4" [19mm]	3/4" [19mm]	5/8" [16mm]	5/8" [16mm]
	18 deg	18 deg	15 deg	15 deg

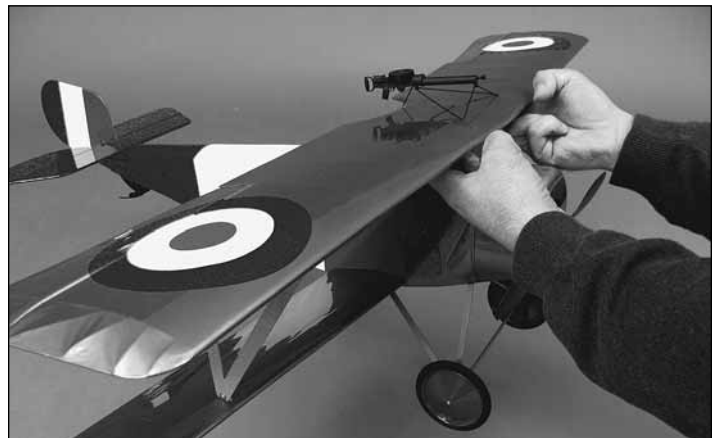
## Balance the Model (C.G.)

❑ 1. At this stage the model should be in ready-to-fly condition with all of the systems in place including the propeller, landing gear, radio system, battery, and all hatches. Place the battery in the battery compartment but **do not** connect it. Fit the cowl in place.



❑ 2. Use a felt-tip pen or 1/8" [3mm]-wide tape to accurately mark the C.G. on the **bottom of the top wing** on both sides of the fuselage. The C.G. is located 2-7/8" [73mm] back from the leading edge of the wing at the first rib outboard on each side of the center wing rib.

This is where your model should balance for the first flights. Later, you may wish to experiment by shifting the C.G. up to 1/4" [6mm] forward or 1/8" [3mm] 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.



❑ 3. With all parts of the model installed (ready to fly) and a battery pack in place (do not connect it), place your fingers on the marks you made and balance the model.

❑ 4. If the tail drops, the model is “tail heavy” and the battery pack 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 must be shifted aft or weight must be added to the tail to balance.

❑ 5. Using a felt-tip pen, mark the position of the battery pack in the battery compartment. This will help eliminate trim changes or unwanted surprises each time that you change the battery. When using different capacity batteries, you may have to re-balance your plane and place an additional mark in the battery compartment.

❑ 6. If additional weight is required, 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 increasing amounts of weight on the top 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.

**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, lift the model by the motor propeller shaft and the bottom of the fuse under the TE of the fuse. 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 23 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 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.

### ***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 and bolts loosen, possibly with disastrous effect, but vibration may also damage your radio receiver and radio gear.

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***

When you get to your flying site ground check the operational range of the 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 [30m] away from the model and still have control. 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 or battery connections, damaged wires or a damaged receiver crystal from a previous crash in another model. One other possible source of radio “noise” that could cause interference is the arrangement and relative location of the receiver, receiver antenna and motor wires. If possible, re-mount the receiver in a different location or re-route some of the wires then try the range check again.

## 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 electric motors.

Use safety glasses when operating electric motors.

Do not operate 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 operate 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.

Always use a charger designed to charge LiPo batteries for charging the LiPo flight battery.

Never leave the LiPo battery unattended while charging. If the battery becomes hot, discontinue charging.

## 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 [122m] within 3 miles [4.8km] 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 motor for secure attachment.
- 2. Check the cowl for secure attachment and proper alignment.
- 3. Balance your propeller (and spare propellers).
- 4. Tighten the propeller nut and check to make sure that a prop washer is in place.
- 5. Rotate the propeller a full turn. Check for free rotation of the prop.
- 6. Check the wheels for free rotation, the axles and landing gear for security, and add a drop of light machine oil to the axles.
- 7. Make sure all hinges are **securely** glued in place.
- 8. Check the control horns for secure attachment to the control surfaces.
- 9. Pull / push on each of the pushrods and check to see that the adjustable pushrod connectors do not slip.

- 10. Check the servo arms for secure attachment and make sure that the arm screws are in place and are tight.
- 11. Reinforce holes for wood screws with thin CA where appropriate (servo mounting screws, etc.).
- 12. Check that all servo connectors are fully plugged into their respective channels on the receiver.
- 13. Make sure any servo extension cords you may have used do not interfere with other systems (servo arms, pushrods, etc.).
- 14. Check the receiver for secure attachment. This must not be “stuffed into place.”
- 15. Balance your model *laterally* as explained in the instructions.
- 16. Set the C.G. according to the measurements provided in the manual.
- 17. Place your name, address, AMA number and telephone number on or inside your model.
- 18. Fully charge your transmitter battery and check the battery voltage after it is charged.
- 19. Range-check your radio at the flying field.
- 20. **Confirm that all controls operate in the correct direction** and the throws are set up according to the manual.
- 21. Take a picture of your finished model!

## FLYING

**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

The goals of your first flight should be to trim the airplane and familiarize yourself with the airplane’s flight and landing characteristics. You’ll want to perform a few tests at a safe altitude to see how the airplane reacts. Take an assistant with you or ask a friend at your flying field to help you spot other traffic, adjust your trim for you, and mind the time as you fly.

If you have access to a paved runway, we suggest using it to takeoff especially for the first few flights. Position the model onto the runway pointed into the wind. Slowly advance the throttle stick to half throttle, pulling back slightly on the elevator to keep from nosing over. As the tail rises off the ground, slowly increase throttle and apply a bit of up elevator to lift the model into the air.

If you do not have access to a smooth runway or short grass, the Nieuport 11 can be hand launched. For the first flight, have your assistant launch the plane for you. This allows you to keep your hands on the radio sticks and correct any trim problems that are present. Have the person launching the plane hold it by the fuselage just behind the lower wing. Throttle up to full power, and have your helper give the plane a gentle toss at about a 30-degree angle upward into the wind. Climb to a comfortable altitude and throttle back to a lower power setting.

## Flight

When you get up to a safe altitude and are throttled back to a comfortable flying speed, let go of the right stick and see if the plane dives or climbs. Have your assistant add some elevator trim and aileron trim if necessary. Fly the plane a bit more and further adjust your throttle. Make a few more trim changes while you fly your traffic pattern. Execute normal left and right aileron turns, watching the tail to see how it drops in each turn. Make a few more turns, adding a bit of rudder to coordinate your turns.

While still at a safe altitude slow your airplane down and execute a normal, straight-ahead, power-off stall. Hold full elevator and watch how the airplane breaks at the stall. If it “wing-walks,” keep in mind that rudder will have more effect than ailerons will at low power settings. Knowing your stall characteristics will prepare you to judge the airplane’s speed on landing, so pay special attention to how the airplane feels when it’s slowing down to a stall. If your plane enters a spin from a stall, neutralize your elevator and ailerons and add opposite rudder as you throttle up. The goal is to get the stalled wing flying again.

When you’re comfortable with stalls, try some slow speed maneuvering. Practice making shallow left and right banking turns at low power while holding your altitude. Pay attention to how the airplane tries to fall into the turn. At slow speeds you will find that you will initiate a banking turn with a little aileron, but to hold the turn you’ll need rudder and a little opposite

aileron to keep your bank angle. Try transitioning from left to right and making turns into the wind and with the wind.

Line yourself up for a few practice landing approaches. Slow down and line yourself up while practicing your descent. Establish a glide slope that the airplane likes and use power to adjust your descent rate while holding a constant pitch angle. Power up and go around. Remember that you have about 8 minutes of safe flying with the batteries we've recommended here.

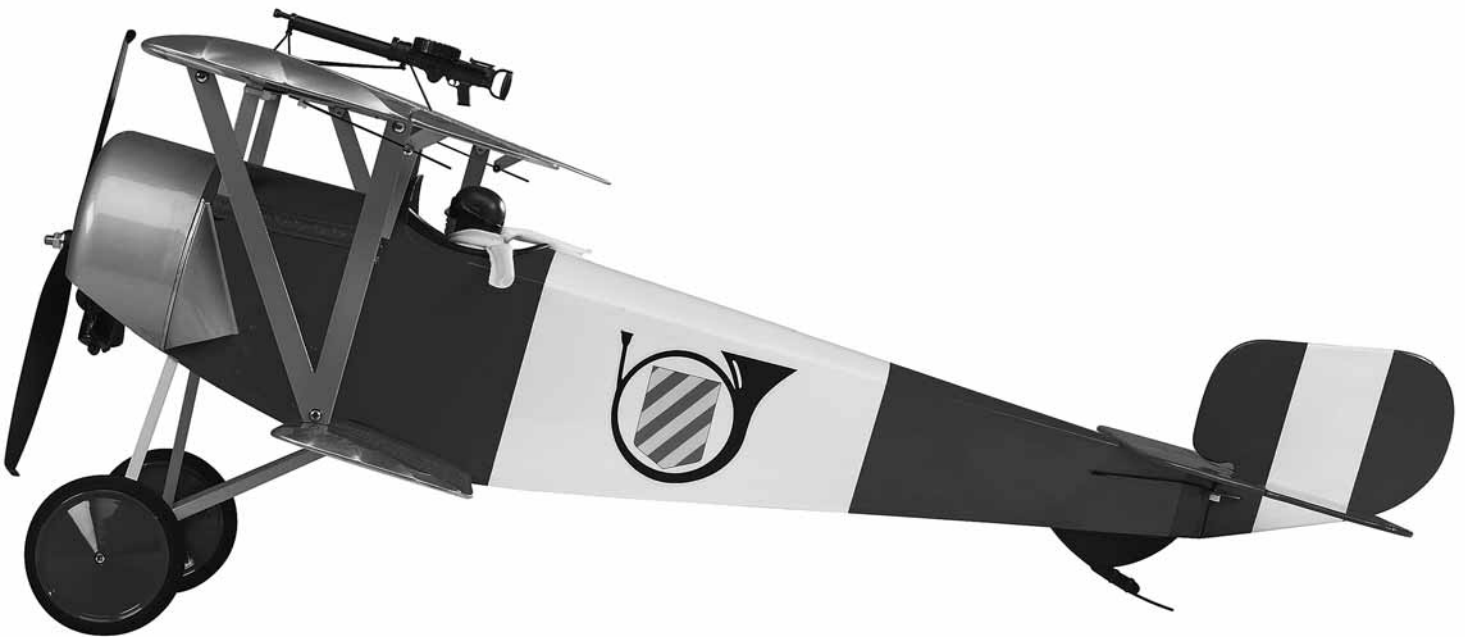
## ***Landing***

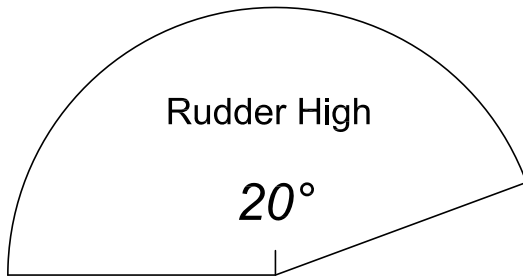
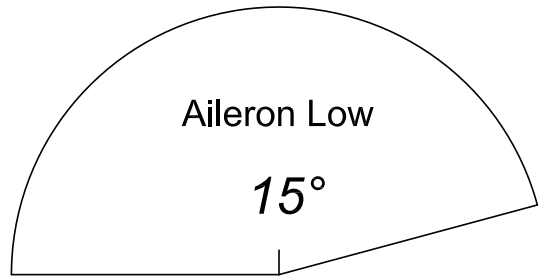
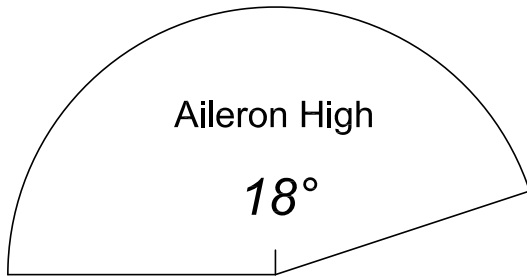
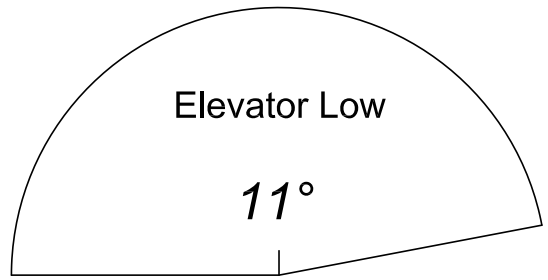
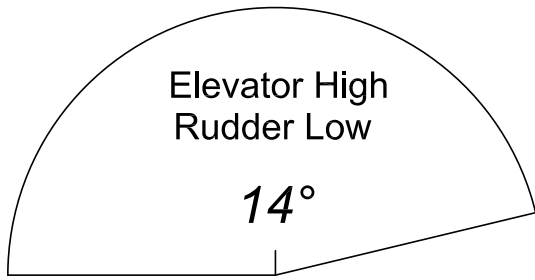
Respecting your flying field's current traffic pattern (landing into the wind), enter your downwind leg at half-throttle and maintain altitude as you set up for landing. You should anticipate at least a 200 foot [61m] final approach, so start your base leg turn with that in mind. Your base leg will start your descent. On base, reduce power to 1/4 throttle. Turn to final and power back. Establish a comfortable glide slope and use the power to control your descent rate. Blipping the throttle may help you get a feel for where your throttle should be. When you're over the runway, power off and settle into a flare. Remember that if it's going to be a bad landing, go around and try it again. When you land, rollout is short and should be performed "tail-low" to keep from nosing over.

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:

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Name

---

Address

---

City, State, Zip

---

Phone Number

---

AMA Number

