AT-6 25e Texan ARF

Assembly Manual

PLATINUM SERIES

Specifications

Wingspan:	54 in (1370mm)
Length:	39 in (990mm)
Wing Area:	455 sq in (29.35 sq dm)
Weight w/ Battery:	3.9–4.5 lb (1.8–2.0 kg)
Weight w/o Battery:	3–3.25 oz (1.4–1.5 kg)

E-flite®
ADVANCING ELECTRIC FLIGHT

Table of Contents

Introduction

E-flite's AT-6 25e ARF is a superb scale replica of the legendary "Texan" trainer used by the U.S.—and its allies—from WWII through the late 1960s. It features a level of scale detail that is exceptional for an ARF of this size. You get all this realism without having to spend weeks of building, covering and painting. Just about everything has been done for you before you even open the box. All that's left to do is a few hours of final assembly and radio installation. When you're done, you'll have a fantastic flying, scale warbird your friends will swear you scratch-built yourself.

Platinum Series Statement

Our Platinum Series delivers superior, enhanced features and meticulous attention to detail. The symbol on this kit is your assurance of excellence and one more way that E-flite brings you the most advanced electric flight experience.

Using the Manual

This manual is divided into sections to help make assembly easier to understand, and to provide breaks between each major section. In addition, check boxes have been placed next to each step to keep track of each step completed. Steps with a single circle (❍) are performed once, while steps with two circles (❍ ❍) indicate that the step will require repeating, such as for a right or left wing panel, two servos, etc.

Remember to take your time and follow the directions.

Contents of Kit/Parts Layout

EFL4501	Wing Set
EFL4501C	Main Wing
EFL4501L	Left Wing
EFL4501R	Right Wing
EFL4502	Fuselage
EFL4503	Tail Set
EFL4503D	Rudder
EFL4503L	Left Stab
EFL4503R	Right Stab
EFL4504	Landing Gear
EFL4505	Cowling
EFL4506	Canopy
EFL4507	Pushrod Set
EFL4508	Battery Hatch
EFL4509	Wing Tube
EFL4510	Stab Tube
EFL4511	Air Inlet Scoop Set
EFLA150	Pilot Figure

Required Radio Equipment

You will need a minimum 6-channel transmitter (for proper mixing and dual rate capabilities), crystals, micro receiver, and four micro servos. You can choose to purchase a complete radio system that includes all of these items or, if you are using an existing transmitter, just purchase the other required equipment separately. We recommend the crystal-free, interference-free Spektrum™ DX7 2.4GHz DSM® 7-channel system. If using your own transmitter, we recommend the JR SPORT™ MC35 Micro servos.

If you own the Spektrum DX7 radio, just add the AR7000 DSM2™ 7-channel receiver and seven of our JR SPORT MC35 Micro servos.

Complete Radio System

SPM2710	DX7 DSM 7CH system

Or Purchase Separately

Or Purchase Separately

JRPR720UL	UltraLite 7-Channel ScanSelect FM Receiver (72MHz)
JRP790UL	UltraLite 7-Channel ScanSelect PCM Receiver (72MHz)

Or

SPMAR6200	AR6200 DSM2 6-Channel Receiver Ultralite (for DX7 only)

Or

SPM6070	AR7000 DSM2 7CH Rx (for DX7 only)

And

JSP20030	MC35 Micro Servo (7)
JSP98100	3-inch Servo Extension (3)
JSP98110	6-inch Servo Extension (5)
JSP98020	Y-Harness (3)
JSP20080	RT88 retract Servo

Spektrum is used with permission of Bachmann Industries, Inc.

Important Information About Motor Selection

We recommend the E-flite® Power 25 Brushless Outrunner, 870Kv (EFLM4025A) for sport performance.

Outrunner Setup

EFLM4025A	Power 25 BL Outrunner, 870Kv
EFLA1060	60-Amp Brushless ESC
THP42003S2PPL	4200mAh 3-Cell 11.1V Li-Po
APC12080E	12 x 8 Electric Prop
EFLAEC303	EC3 Device & Battery Connector, Male/Female
EFLC3005	Celectra 1- to 3-Cell Li-Po Charger

Optional Accessories

EFLA110	Power Meter
EFL4515	Robart AT-6 Retracts
EFL4512	Cockpit kit
EFLA150	Military Pilot bust

Required Tools and Adhesives

Tools & Equipment

EFLA250	Park Flyer Tool Assortment, 5-piece

Or Purchase Separately

EFLA257	Screwdriver, #1 and #2 Phillips (or included with EFLA250)
EFLA251	Hex Wrench: 3/32-inch (or included with EFLA250)

6-minute epoxy
Canopy glue
Card stock
Covering iron
Drill
Drill bit: 1/16-inch (1.5mm), 5/64-inch (2mm), 1/8-inch (3mm)
Felt-tipped pen
File
Flat blade screwdriver
Hobby knife (#11 blade)
Low-tack tape
Medium CA
Pencil
Phillips screwdriver: #1, #2
Pin drill
Pliers
Rotary tool w/sanding drum
Ruler
Sandpaper
Side cutters
Thin CA
Threadlock

Notes Regarding Servos and ESC

WARNING: Use of servos other than those we recommend may overload the BEC of the recommended Electronic Speed Control (ESC). We suggest the use of only the servos we recommend when utilizing the recommended ESC's BEC, or the use of a separate BEC (like the UBEC) or receiver battery pack when using other servos.

Note on Lithium Polymer Batteries

Lithium Polymer batteries are significantly more volatile than alkaline or Ni-Cd/Ni-MH batteries used in RC applications. All manufacturer's instructions and warnings must be followed closely. Mishandling of Li-Po batteries can result in fire. Always follow the manufacturer's instructions when disposing of Lithium Polymer batteries.

Warning

An RC aircraft is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly only in open areas, preferably at AMA (Academy of Model Aeronautics) approved flying sites, following all instructions included with your radio.

Keep loose items that can get entangled in the propeller away from the prop, including loose clothing, or other objects such as pencils and screwdrivers. Especially keep your hands away from the propeller.

Warranty Period

Horizon Hobby, Inc., (Horizon) warranties that the Products purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase by the Purchaser.

Limited Warranty

(a) This warranty is limited to the original Purchaser ("Purchaser") and is not transferable. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. This warranty covers only those Products purchased from an authorized Horizon dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for warranty claims. Further, Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

(b) Limitations- HORIZON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCT. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

(c) Purchaser Remedy- Horizon's sole obligation hereunder shall be that Horizon will, at its option, (i) repair or (ii) replace, any Product determined by Horizon to be defective. In the event of a defect, these are the Purchaser's exclusive remedies. Horizon reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Horizon. This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than Horizon. Return of any goods by Purchaser must be approved in writing by Horizon before shipment.

Damage Limits

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCT, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability.

If you as the Purchaser or user are not prepared to accept the liability associated with the use of this Product, you are advised to return this Product immediately in new and unused condition to the place of purchase.

Law: These Terms are governed by Illinois law (without regard to conflict of law principals).

Safety Precautions

This is a sophisticated hobby Product and not a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the Product or other property. This Product is not intended for use by children without direct adult supervision. The Product manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or injury.

Questions, Assistance, and Repairs

Your local hobby store and/or place of purchase cannot provide warranty support or repair. Once assembly, setup or use of the Product has been started, you must contact Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please direct your email to productsupport@horizonhobby.com, or call 877.504.0233 toll free to speak to a service technician.

Inspection or Repairs

If this Product needs to be inspected or repaired, please call for a Return Merchandise Authorization (RMA). Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as *Horizon is not responsible for merchandise until it arrives and is accepted at our facility*. A Service Repair Request is available at www.horizonhobby.com on the "Support" tab. If you do not have internet access, please include a letter with your complete name, street address, email address and phone number where you can be reached during business days, your RMA number, a list of the included items, method of payment for any non-warranty expenses and a brief summary of the problem. Your original sales receipt must also be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

Warranty Inspection and Repairs

To receive warranty service, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be repaired or replaced free of charge. Repair or replacement decisions are at the sole discretion of Horizon Hobby.

Non-Warranty Repairs

Should your repair not be covered by warranty the repair will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for repair you are agreeing to payment of the repair without notification. Repair estimates are available upon request. You must include this request with your repair. Non-warranty repair estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Please advise us of your preferred method of payment. Horizon accepts money orders and cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. If you choose to pay by credit card, please include your credit card number and expiration date. Any repair left unpaid or unclaimed after 90 days will be considered abandoned and will be disposed of accordingly. *Please note: non-warranty repair is only available on electronics and model engines.*

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Service Center
4105 Fieldstone Road
Champaign, Illinois 61822

All other Products requiring warranty inspection or repair should be shipped to the following address:

Horizon Product Support
4105 Fieldstone Road
Champaign, Illinois 61822

Please call 877-504-0233 with any questions or concerns regarding this product or warranty.

Safety, Precautions, and Warnings

As the user of this product, you are solely responsible for operating it in a manner that does not endanger yourself and others or result in damage to the product or the property of others.

Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) that you use.

This model is controlled by a radio signal that is subject to interference from many sources outside your control. This interference can cause momentary loss of control so it is necessary to always keep a safe distance in all directions around your model, as this margin will help to avoid collisions or injury.

- Always operate your model in an open area away from cars, traffic, or people.

- Avoid operating your model in the street where injury or damage can occur.

- Never operate the model out into the street or populated areas for any reason.

- Never operate your model with low transmitter batteries.

- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) that you use.

- Keep all chemicals, small parts and anything electrical out of the reach of children.

- Moisture causes damage to electronics. Avoid water exposure to all equipment not specifically designed and protected for this purpose.

Stabilizer Installation

Required Parts

Stabilizer (right and left) (2)	3mm x 10mm self-tapping screw
Stabilizer tube	Nylon clevis (3)
Clevis retainer (3)	1-inch (25mm) tail wheel
1/16-inch wheel collar w/setscrew	
$20\,^{7}/_{8}$-inch (530mm) pushrod wire (2)	
$21\,^{3}/_{4}$-inch (553mm) pushrod wire	

Required Tools and Adhesives

Drill	Drill bit: 5/64-inch (2mm)
Phillips screwdriver: #1	Threadlock
Hex wrench (included with kit)	

❍   1. Slide the stabilizer tube all the way into the stabilizer.
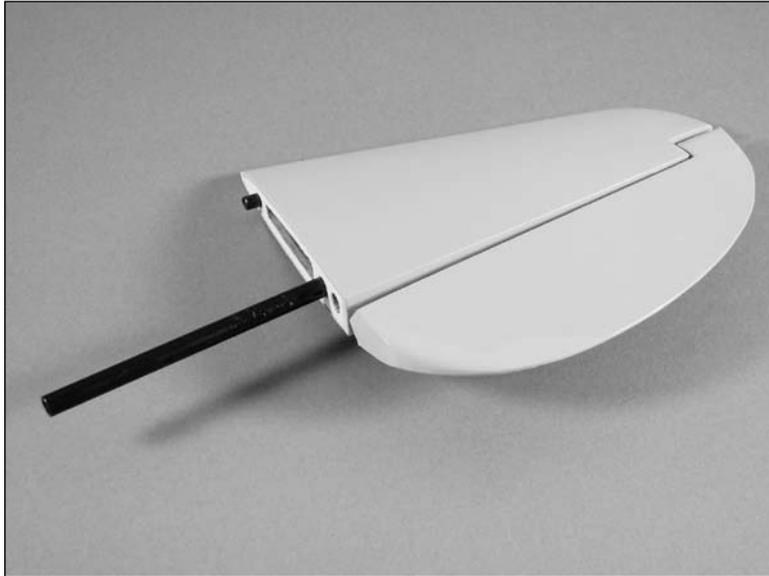
❍   2. Use a drill and 5/64-inch (2mm) drill bit to drill through the hole in the bottom of the stabilizer and into the stabilizer tube.
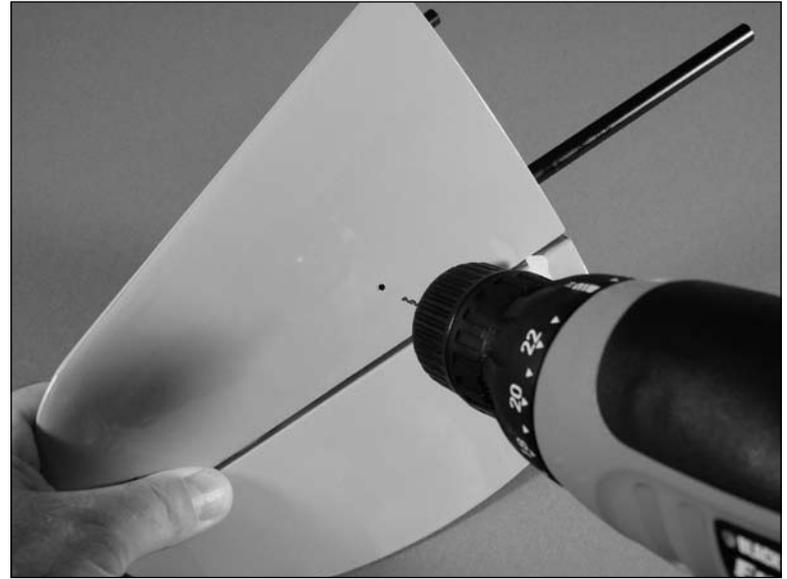
❍   3. Secure the tube using a 3mm x 10mm self-tapping screw and #1 Phillips screwdriver.
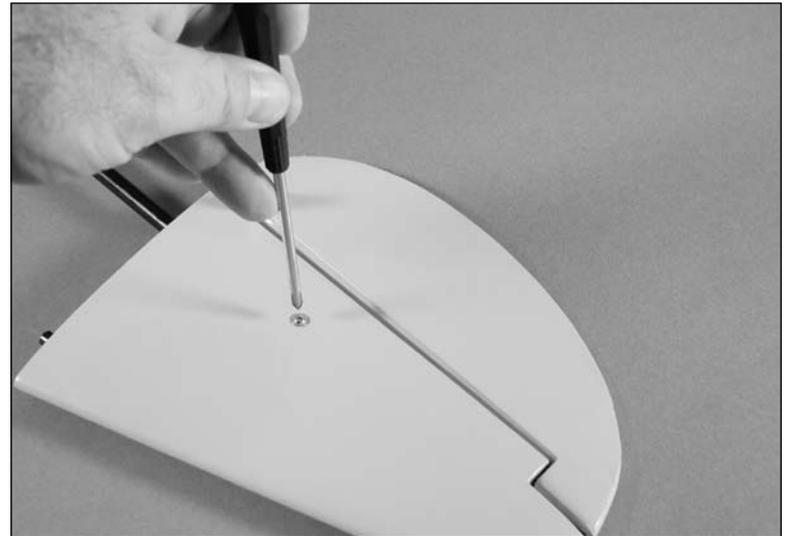
○ 4. Slide the stabilizer and tube in position in the fuselage. Note the direction of the control horn and that it faces the bottom of the fuselage. Slide the remaining stabilizer onto the tube. With both stabilizer halves tight against the fuselage, use a drill and 5/64-inch (2mm) drill bit to drill through the hole in the stabilizer and into the stabilizer tube.
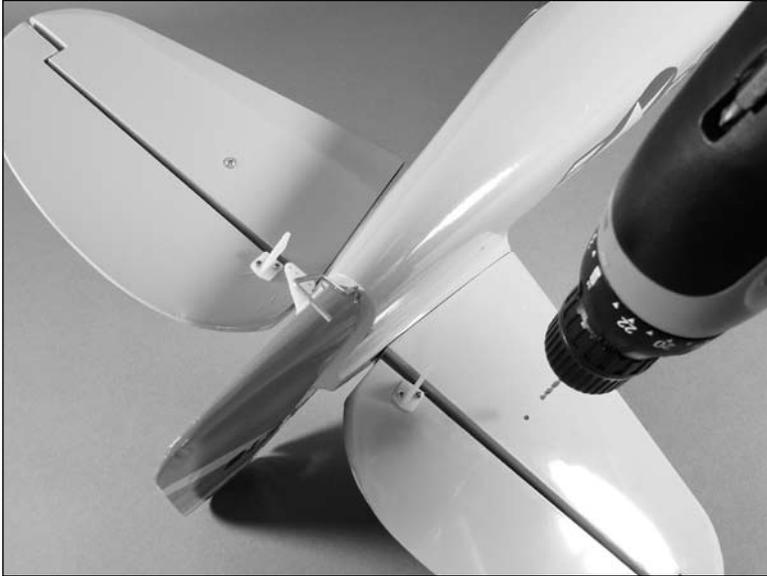
○ 5. Secure the remaining stabilizer onto the tube using a 3mm x 10mm self-tapping screw and #1 Phillips screwdriver.

❍❍ 6. Slide a clevis retainer onto a nylon clevis. Thread the clevis onto one of the 20$\frac{7}{8}$-inch (530mm) pushrod wires.
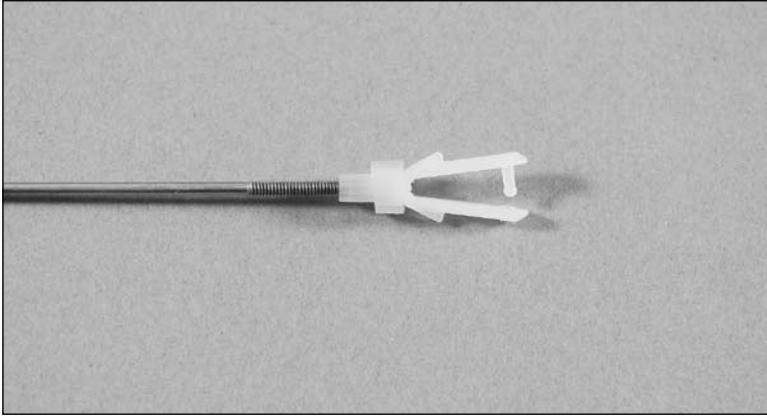
❍❍ 7. Slide the pushrod wire into the opening in the fuselage that aligns with the stabilizer control horn. Snap the clevis onto the elevator control horn.


❍ 8. Repeat Steps 6 and 7 for the remaining elevator pushrod installation

9. Slide a clevis retainer onto a nylon clevis. Thread the clevis onto the 21 $^3/_4$-inch (553mm) pushrod wire. Slide the pushrod wire into the opening in the fuselage that aligns with the stabilizer control horn. Snap the clevis onto the elevator control horn.

10. Slide the tail wheel onto the tail gear wire. Use a 1/16-inch wheel collar., setscrew and the included hex wrench to secure the wheel. Remember to use threadlock on the setscrew to prevent it from vibrating loose.
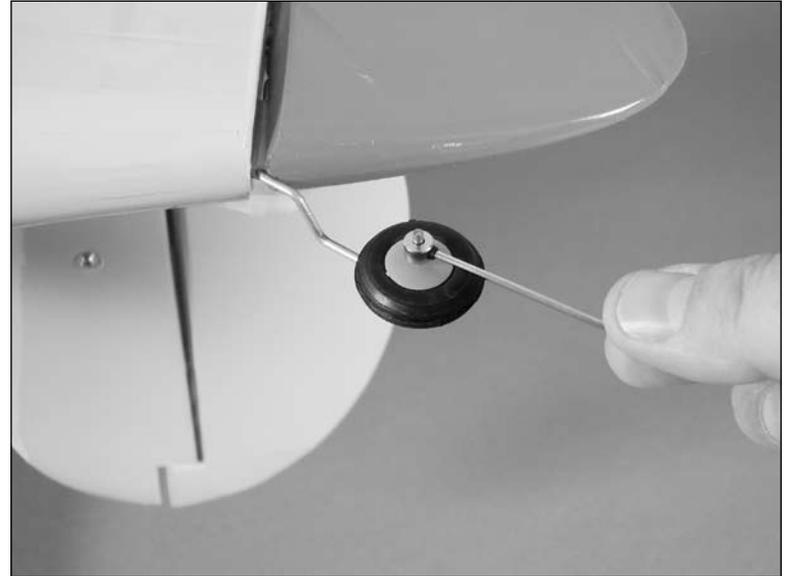
Motor Installation

Required Parts

Fuselage	Motor w/mount and accessories
#4 washer (4)	Cowling
Dummy radial engine	Radiator scoop (red)
Propeller	
4-40 x 1/2-inch socket head screw (4)	
4-40 x 1/4-inch socket head screw (4)	

Required Tools and Adhesives

Rotary tool w/sanding drum	Ball driver: 3/32-inch
Hobby knife	6-minute epoxy
Card stock	Low-tack tape
Felt-tipped pen	Pin drill
Drill bit: 1/8-inch (3mm)	Threadlock
Medium CA	Phillips screwdriver: #2

❍ 1. Attach the X-Mount to the motor using the screws provided with the motor and a #2 Phillips screwdriver. Make sure to use threadlock on all four screws so they do not vibrate loose.

❍ 2. Attach the motor to the firewall using four 4-40 x 1/2-inch socket head screws, four #4 washers and a 3/32-inch ball driver. Make sure to use threadlock on the four screws to prevent them from vibrating loose.


Note: The blind nuts in the fuselage for mounting the motor can be positioned for a variety of motors. Position them so they are aligned with your particular motor before mounting it to the firewall.

Note: You may paint your dummy motor to simulate the engine found in most full size AT-6's. It is better and easier to paint it at this time before it is installed in the cowling. Please refer to our Scale Accessories section beginning on Page 43 for the correct color choices for the motor.

○ 3. Use a hobby knife and rotary tool to remove the area in the center of the dummy radial engine.
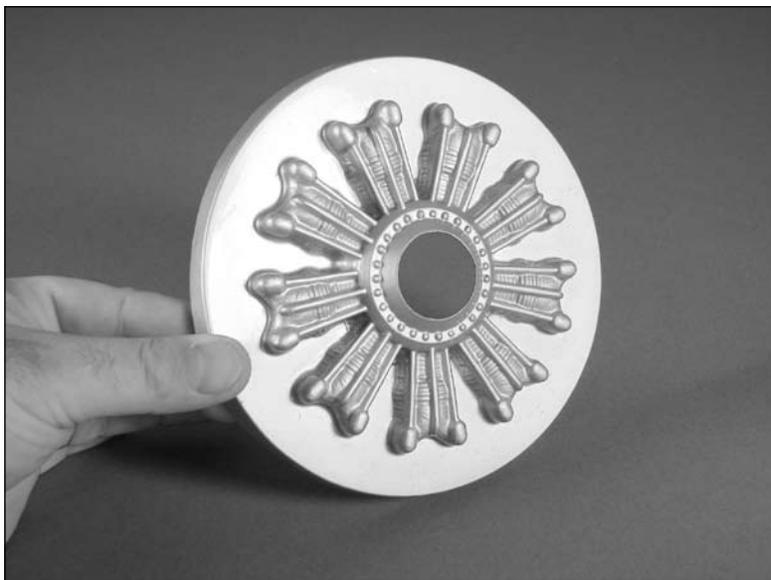
○ 4. Use a hobby knife to remove the area between each of the cylinders to allow cooling air to pass through the cowling and over the motor.
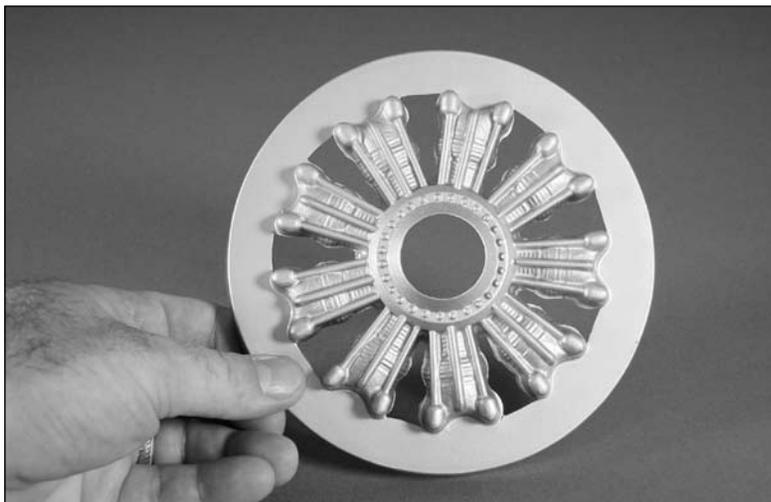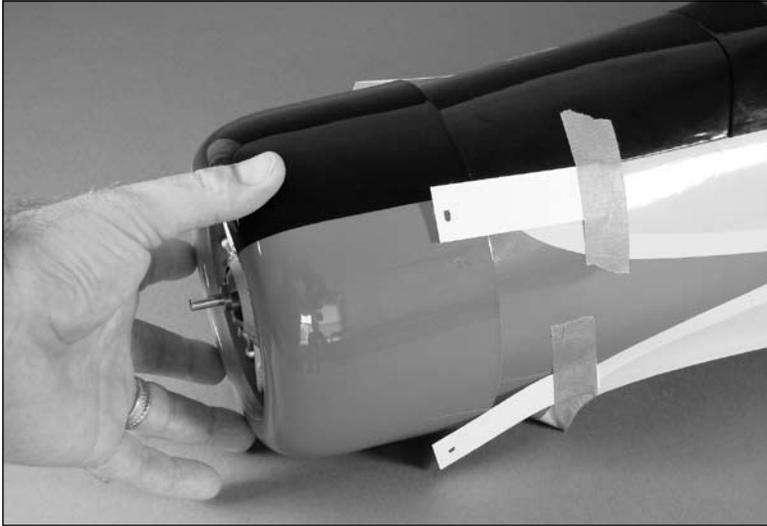

○ 5. Use 6-minute epoxy to glue the dummy radial engine inside the cowling.

○ 6. Cut four strips of card stock. Make a 1/8-inch (3mm) hole in the end of each strip. Align the hole with the blind nut and use low-tack tape to hold the card stock to the fuselage.
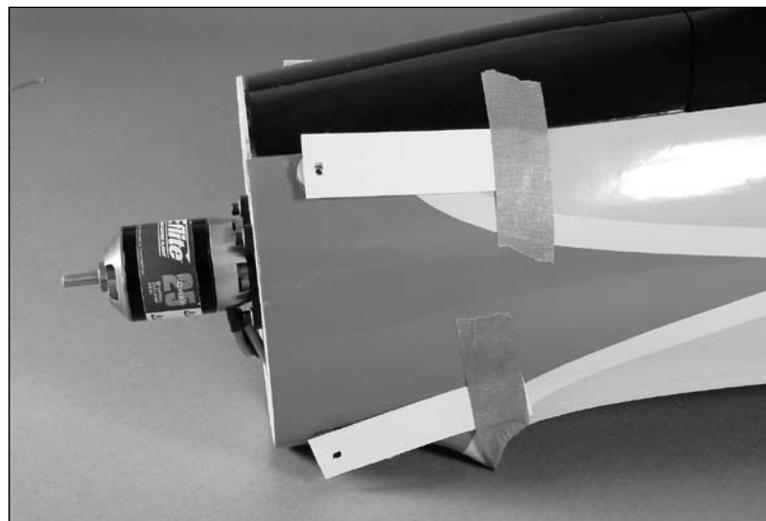
7. Slide the cowling onto the fuselage. The card stock will be on the outside of the cowling.

Important Information About Your Propeller

It is also very important to check to be sure the propeller is balanced before installing onto the shaft. An unbalanced propeller may strip the gears or cause poor flight characteristics.

Note: If it is necessary to enlarge the hole in the propeller, make sure to check the balance of the propeller afterwards.

8. Slide the propeller and adapter onto the motor shaft. Position the cowling so it will not be rubbing on the propeller when the motor is running. Tape the cowling in position on the fuselage.

9. Use a felt-tipped pen to transfer the locations for the 4-40 socket head screws onto the outside of the cowling.

❍ 10. Use a pin drill and 1/8-inch (3mm) drill bit to drill the four holes in the cowling for the mounting screws.

❍ 11 Slide the cowling back onto the fuselage and secure it using four 4-40 x 1/4-inch socket head screws and a 3/32-inch ball driver. Make sure to use threadlock on the screws to prevent them from vibrating loose.

❍ 12. Use medium CA to glue the radiator scoop to the side of the fuselage behind the cowling. A felt-tipped pen can be used to color in the scoop to give that open look.

Main Radio Installation

Required Parts

Fuselage   Receiver
Servo w/hardware (3)   Pushrod connector (3)
Hook and loop material

Required Tools and Adhesives

Thin CA   Felt-tipped pen
Side cutters   Pliers
Pin drill   Phillips screwdriver: #1
Drill bit: 1/16-inch (1.5mm), 5/64-inch (2mm)

Note: The installation of the elevator servos will require either of the following options, as using a standard Y-harness for the servos will result in the servos moving the control surfaces in the opposite directions.

Option 1: Use a computer radio to mix the elevator servos together using two separate channels. Ensure you use a correct mix in your radio that has an active trim to trim both elevators in flight.

Option 2: Use a reversing Y-harness (EXRA320) between the two servos and the receiver.

❍   1. Turn on your radio system and select a new model if using a computer radio. Make sure all the sub trims have been set to 0 and no mixing functions are turned on. Center the trim levers and stick at this time as well. Plug the servos into the radio system and make sure all servos operate and are centered as well.

❍   2. Prepare the rudder and elevator servos for installation by removing any unnecessary arms from the servo horns as shown using side cutters. Install any grommets and brass eyelets at this time as well.

Rudder Servo   Elevator Servos
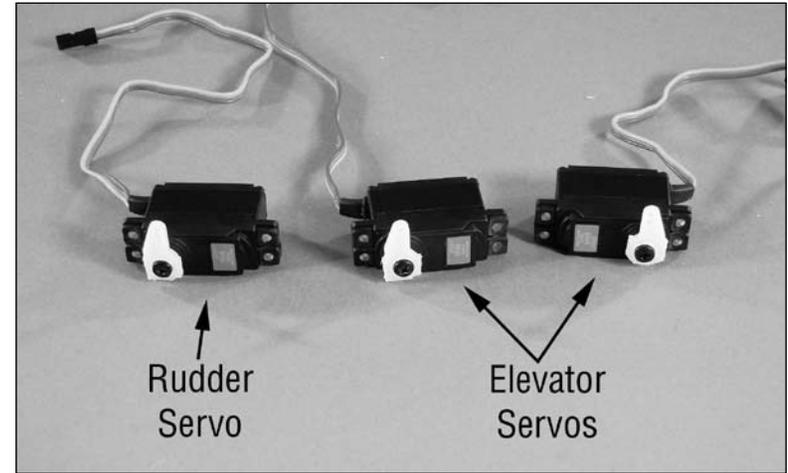
❍❍❍ 3. Position the elevator servo in the fuselage, aligning the outer hole in the servo arm with the elevator pushrod. Mark the locations for the servo mounting screws on the servo mounting rails using a felt-tipped pen.

❍❍❍4. Use a pin drill and 1/16-inch (1.5mm) drill bit to drill the four holes for the servo mounting screws.

❍❍❍5. Apply a few drops of thin CA to each of the holes drilled in the previous step to harden the surrounding wood.


❍❍❍6. Mount the servo using the screws provided with the servo and a #1 Phillips screwdriver.


❍   7. Repeat Steps 3 through 6 to install the remaining elevator servo and rudder servo.

❍ 8. Use hook and loop tape to install the receiver in the fuselage following the manufacturer's instructions. A tube has been installed inside the fuselage to route the antenna wire. *Do not* cut the receiver wire if it extends excessively outside the fuselage as this will greatly reduce the range of your radio system.
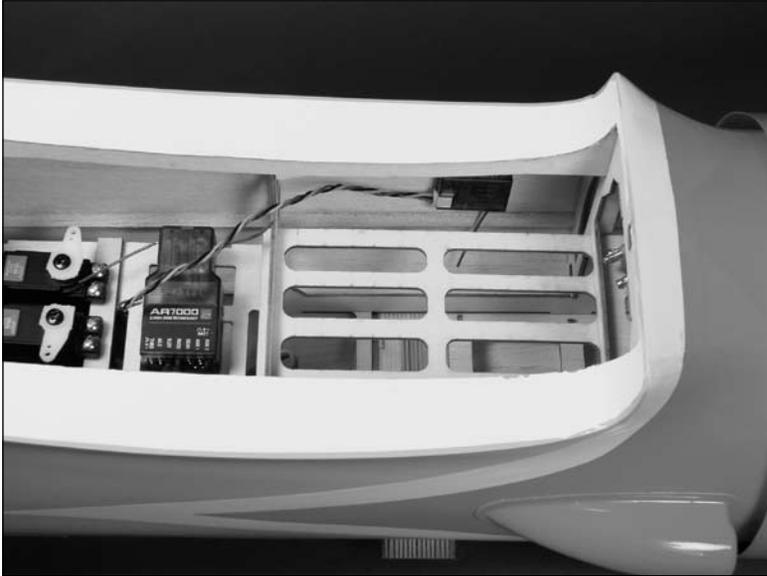
❍❍❍9. Physically center the rudder. Use a felt-tipped pen to mark the rudder pushrod where it crosses the outer hole of the rudder servo arm.
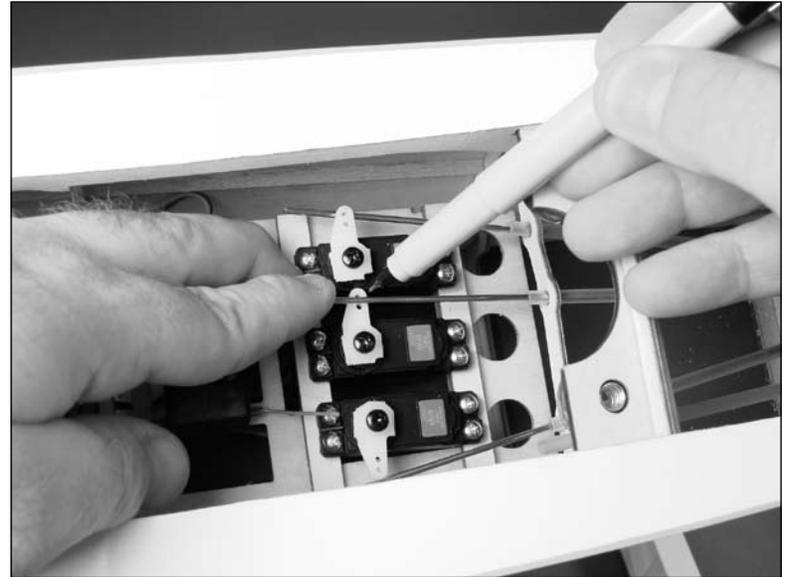

❍❍❍10. Remove the rudder pushrod from the fuselage and make a 90-degree bend in the pushrod at the mark made in the previous step using pliers. You will also have to remove the clevis at this time as well to reinstall the pushrod.
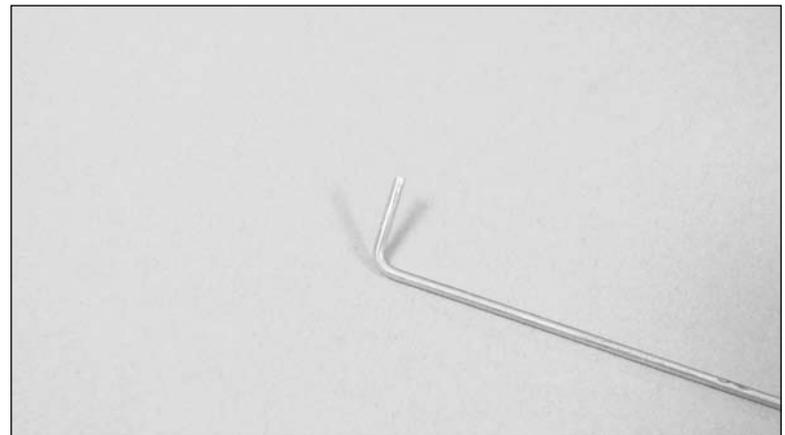
○○○11. Use a 5/64-inch (2mm) drill bit to enlarge the outer hole in the rudder servo arm. Use a #2 Phillips screwdriver to remove screw and the arm from the servo.


○○○12. Slide the bend in the pushrod through the hole in the servo horn from the topside of the horn. Use a pushrod connector to secure the pushrod to the horn.
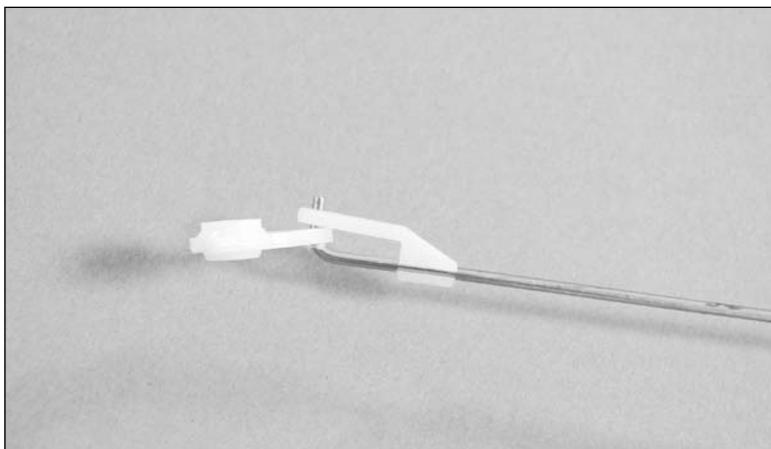
○○○13. Slide the pushrod back into the pushrod tube and thread the clevis back onto the pushrod. With the radio on and the rudder stick and trim centered, secure the servo arm to the servo. Center the rudder by threading the clevis in or out as necessary.
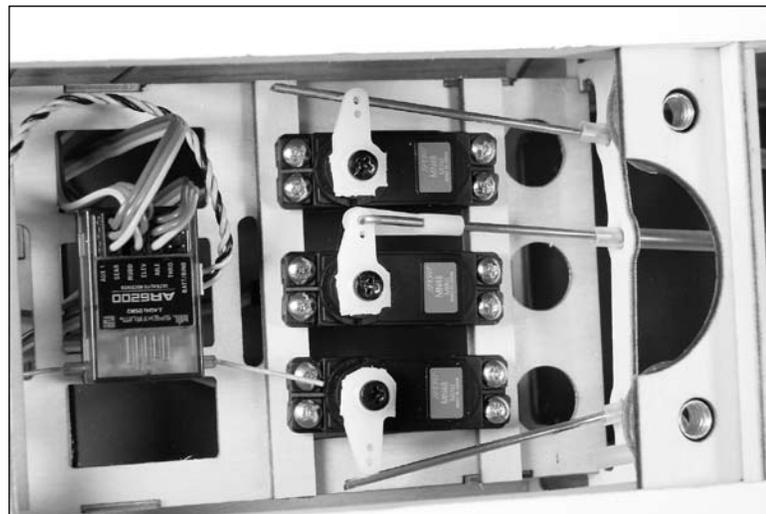
○ 14. Repeat Steps 9 through 13 to connect the two elevator pushrods to the elevator servos.
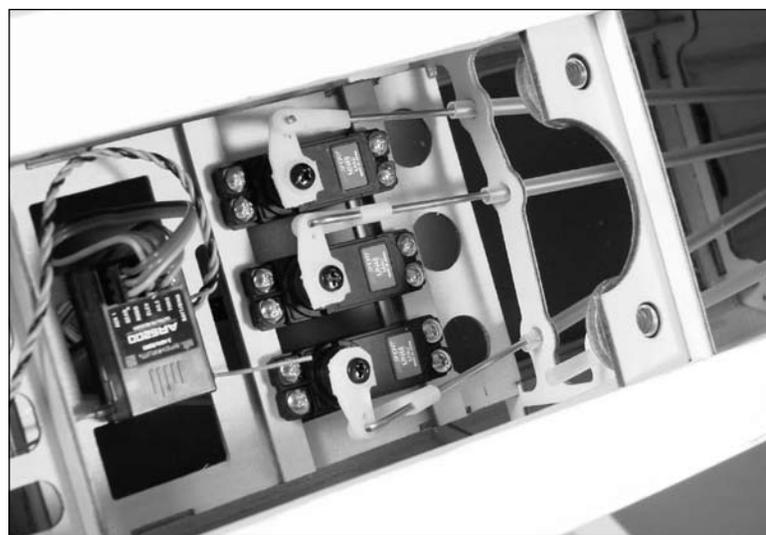
Aileron Servo Installation

Required Parts

|	
Outer wing panels (right and left)	Servo w/hardware (2)
3mm x 10mm self-tapping screw (8)	Clevis retainer (2)
2 $\frac{1}{2}$-inch (64mm) pushrod wire	Clevis (2)
Pushrod connector (2)	
6-inch (152mm) servo extension (2)	
Servo mounting block	
3/4 x 3/8 x 3/8-inch (19 x 9.5 x 9.5mm) (4)	

Required Tools and Adhesives

|	
Drill	Drill bit: 1/16-inch (1.5mm)
6-minute epoxy	Pencil
Phillips screwdriver: #1	Felt-tipped pen
Side cutters	Pliers
Thin CA	

❍ 1. Plug the aileron servos into the radio system and make sure they operate and are centered as well.

❍ 2. Prepare the aileron servos for installation by removing any unnecessary arms from the servo horns as shown using side cutters. Install any grommets and brass eyelets at this time as well. The servos will have the arms installed opposite of each other as shown in the photo.
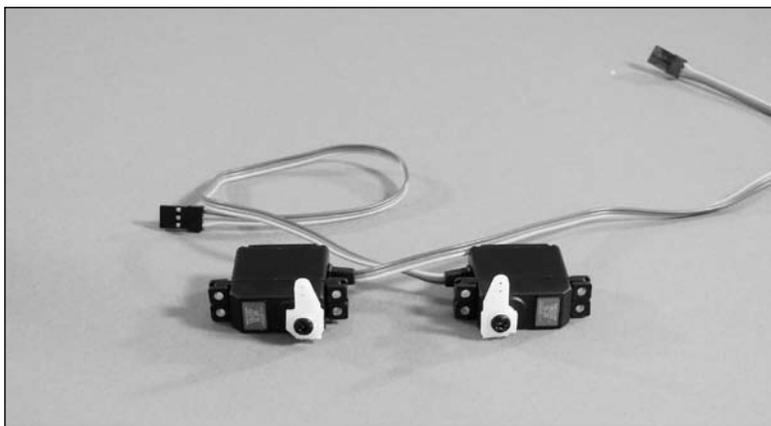
❍❍ 3. Position the aileron servo on the servo cover so the arm is centered lengthwise in the cutout. The arm will align with the edge of the servo cover as well. Use a pencil to mark the position of the servo on the cover.
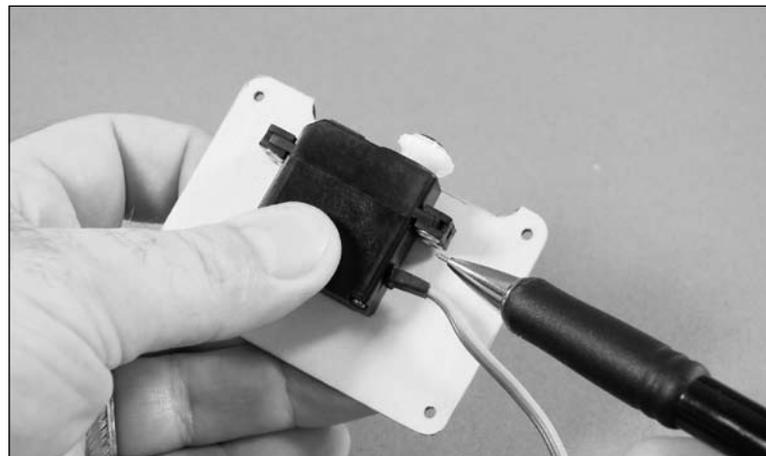
❍❍ 4. Use 6-minute epoxy to glue the servo mounting block to the servo cover as shown. Allow the epoxy to fully cure before proceeding.
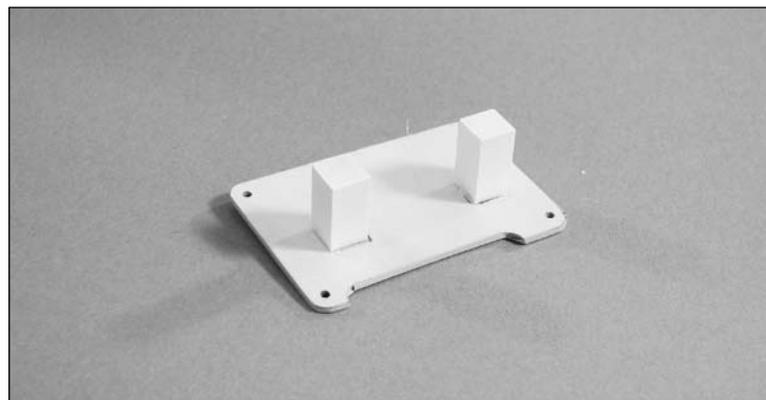

Note: You will find the servo mounting blocks in your kit to vary in length from the measurements listed above. They have been cut to the correct length from the manufacturer.

○○ 5. Position the servo between the servo mounting block. Use a pencil to mark the locations for the servo mounting screws on the blocks. The servo should not touch the cover to prevent it from absorbing vibrations from the airframe. You may have to notch the servo block to allow access for the servo wire.
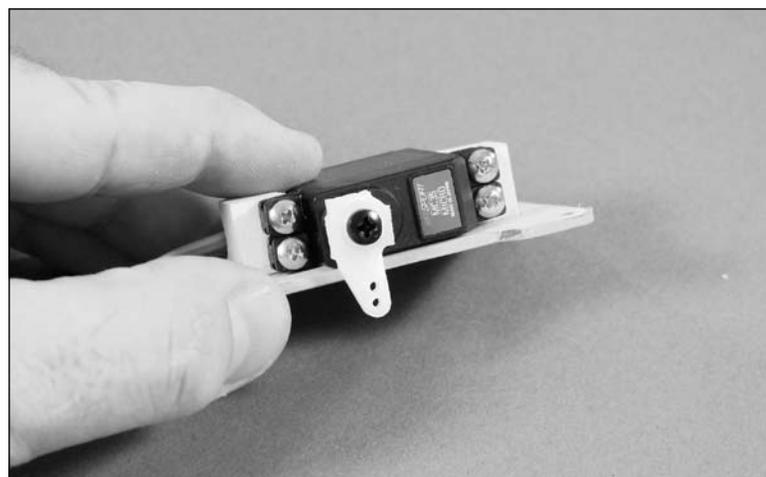

○○ 6. Use a drill and 1/16-inch (1.5mm) drill bit to drill the holes for the servo mounting screws.
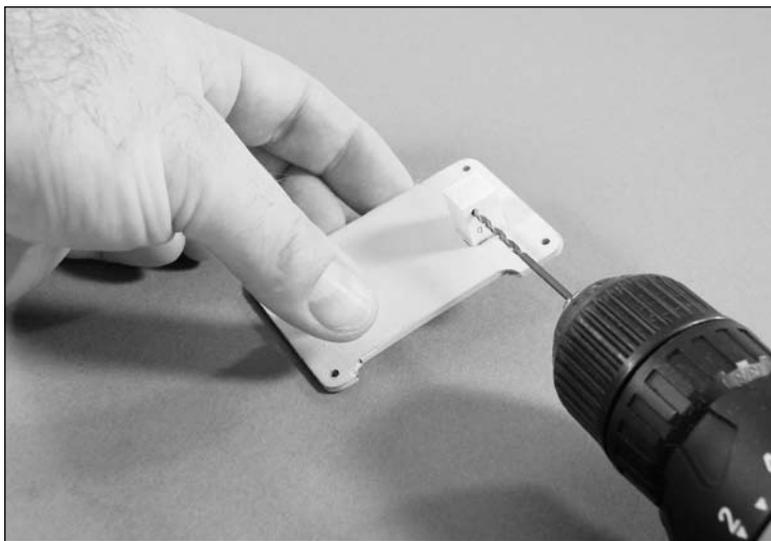

○○ 7. Apply a few drops of thin CA to each of the holes drilled in the previous step to harden the surrounding wood.
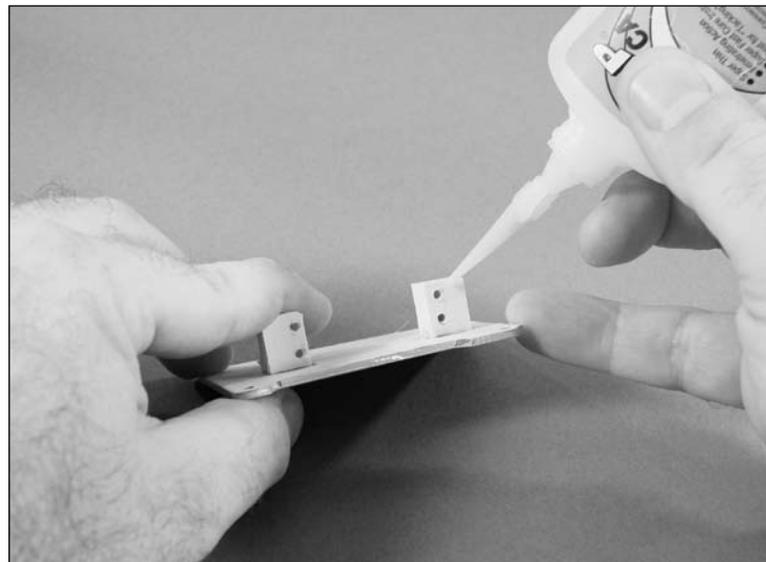

○○ 8. Use a #1 Phillips screwdriver to install the screws provided with the servos to attach the servo to the servo mounting blocks.

○○ 9. Route the lead from the servo to the opening for the flap servo. Use four 3mm x 10mm self-tapping screws and #1 Phillips screwdriver to secure the servo cover to the wing.
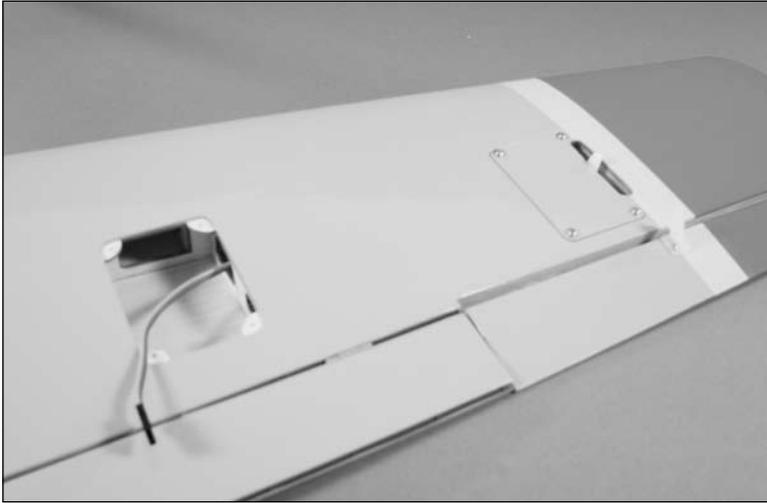
○○ 10. Slide a clevis retainer onto a nylon clevis. Thread the clevis onto one of the 2 $\frac{1}{2}$-inch (64mm) pushrod wires.
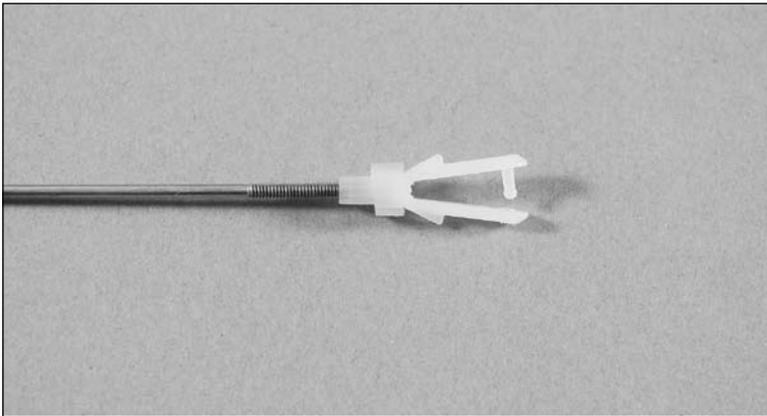
○○ 11. Attach the clevis to the control horn of the aileron. Center the aileron and aileron servo and use a felt-tipped pen to mark where the pushrod crosses the outer hole of the servo horn.
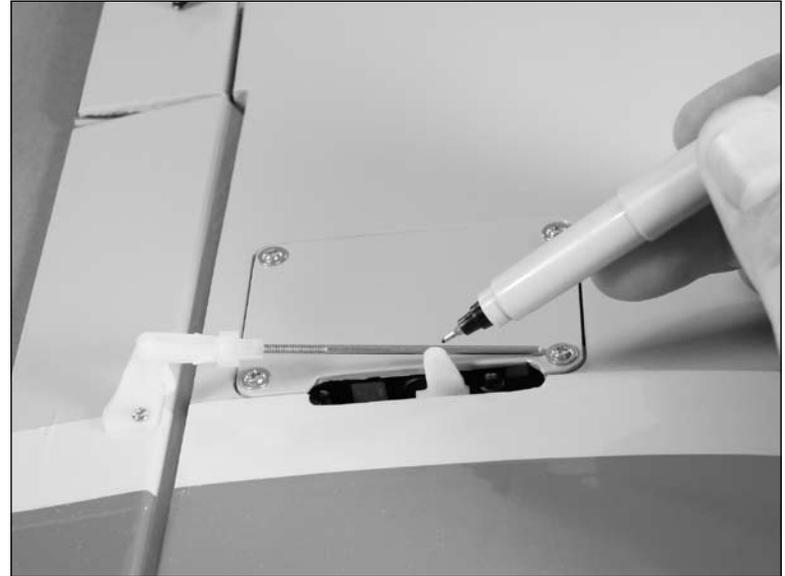
○○ 12. Use pliers to bend the pushrod 90 degrees at the mark. Use a pushrod connector to secure the pushrod wire to the servo arm. Use side cutters to remove any excess wire.

○○ 13. Secure a 6-inch (152mm) servo extension to the aileron servo lead and route it out the end of the wing panel.
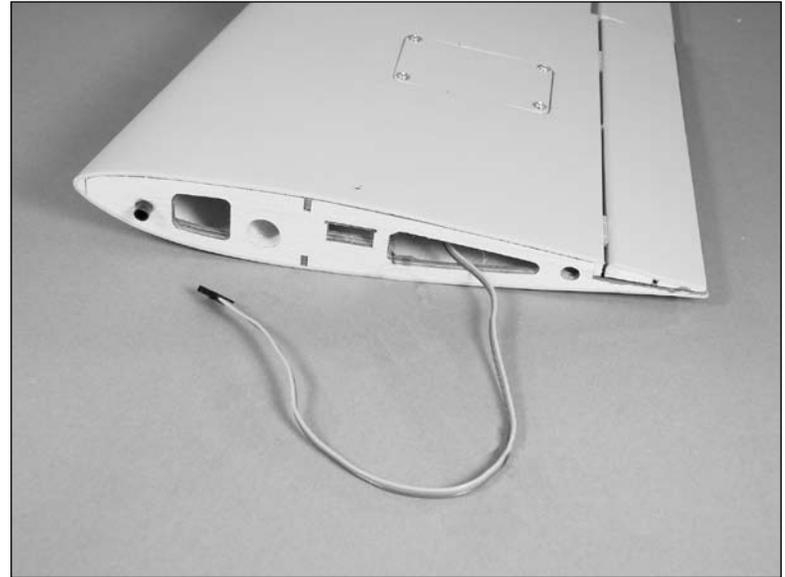
○ 14. Repeat Steps 3 through 14 for the remaining aileron servo installation.

Flap Servo Installation

Outer wing panels (right and left)   Servo w/hardware (2)
3mm x 10mm self-tapping screw (8)   Clevis retainer (2)
2⁷/₈-inch (73mm) pushrod wire   Clevis (2)
Pushrod connector (2)
Servo mounting block
     3/4 x 3/8 x 3/8-inch (19 x 9.5 x 9.5mm) (4)

Required Tools and Adhesives

Drill   Side cutters
6-minute epoxy   Pencil
Phillips screwdriver: #1   Felt-tipped pen
Ruler   Pliers
Thin CA
Drill bit: 1/16-inch (1.5mm), 5/64-inch (2mm)

❍   1. Plug the flap servos into the radio system and make sure they operate and are centered as well.

❍   2. Prepare the flap servos for installation by removing any unnecessary arms from the servo horns as shown. You will also need to clean up the cuts to prevent any portion of the removed arm from rubbing against the servo cover when the servos are installed. Install any grommets and brass eyelets at this time as well. The servos will have the arms installed to match each other as shown in the photo.
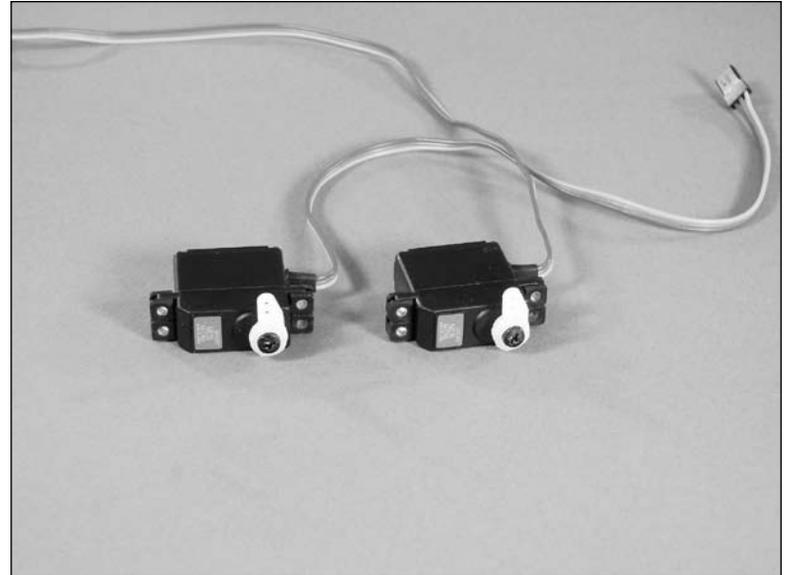
Note: The arms are shown in the center position (which will be the mid flap position) if you are using three-position flaps. Make sure when using proportional flaps that the control has been centered before installing the servo horns.

○○ 3. Using a ruler, mark the servo cover as shown using a pencil.
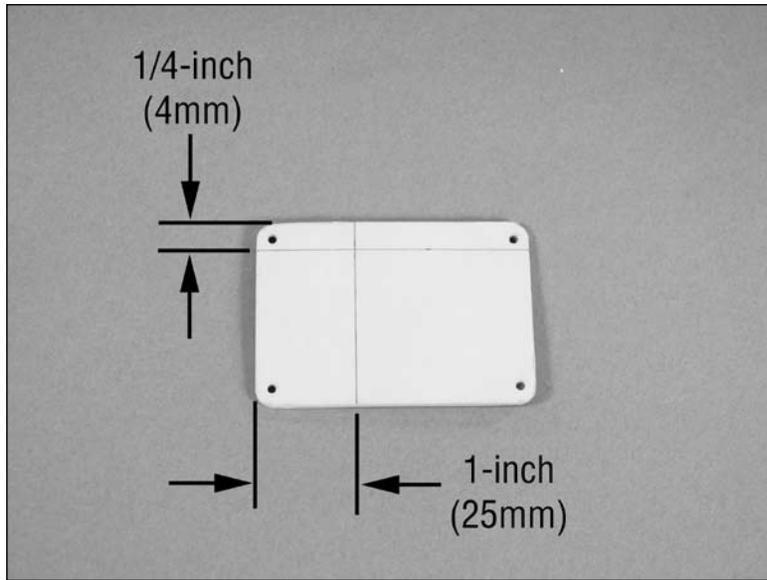
○○ 4. Position the servo so the arm is centered at the intersection of the lines drawn in the previous step. Use a pencil to mark the cover for the servo mounting blocks.
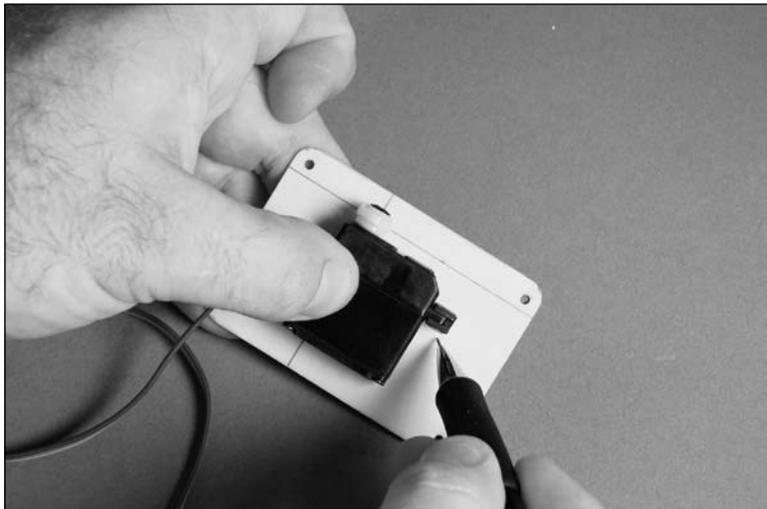
○○ 5. Use 6-minute epoxy to glue the servo mounting block to the servo cover as shown. Allow the epoxy to fully cure before proceeding.
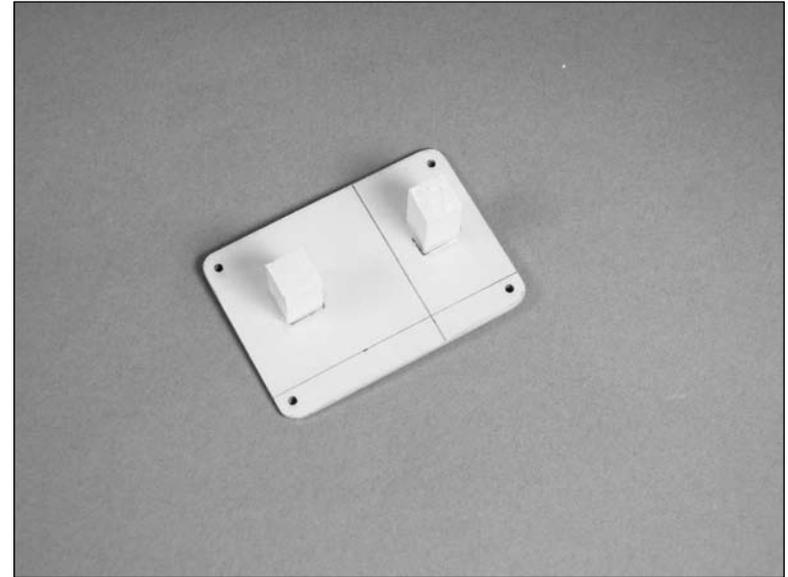
Note: You will find the servo mounting blocks in your kit to vary in length from the measurements listed above. They have been cut to the correct length from the manufacturer.

○○ 6. Position the servo between the servo mounting blocks. Use a pencil to mark the locations for the servo mounting screws on the blocks. The servo should not touch the cover to prevent it from absorbing vibrations from the airframe. Use a drill and 1/16-inch (1.5mm) drill bit to drill the holes for the servo mounting screws. Apply a few drops of thin CA to each of the holes to harden the surrounding wood. Use a #1 Phillips screwdriver to install the screws provided with the servo to attach it to the servo mounting blocks.
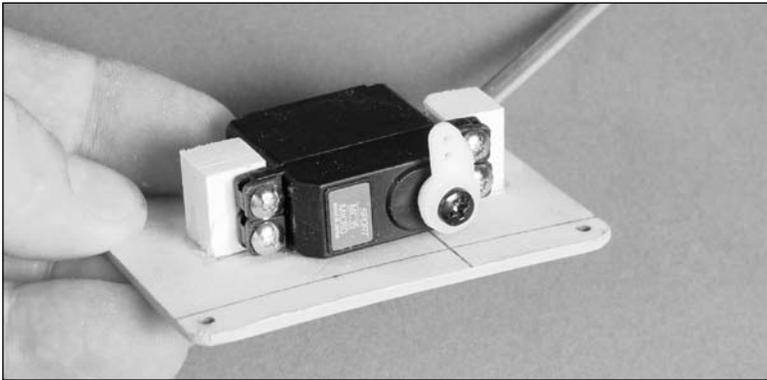

○○ 7. Slide a clevis retainer onto a nylon clevis. Thread the clevis onto one of the $2^7/_8$-inch (73mm) pushrod wires. Measure back $2^7/_8$-inch (73mm) from the pin in the clevis and mark the pushrod wire. Make a 90-degree bend at the mark. This will give you a good starting length for the installation of the flap linkage.

$2^7/_8$-inch (73mm)
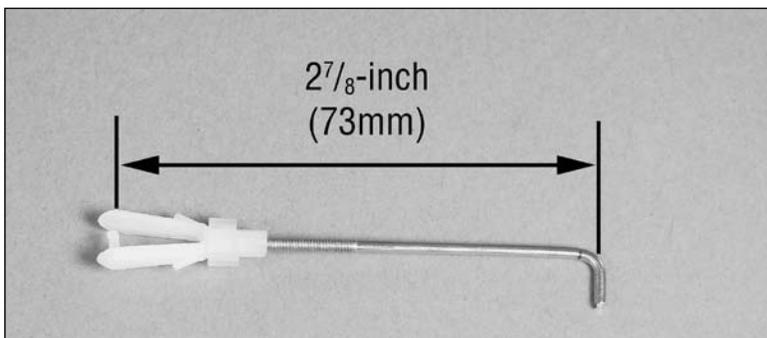
○○ 8. Use a pin drill and 5/64-inch (2mm) drill bit to enlarge the outer hole in the servo arm.
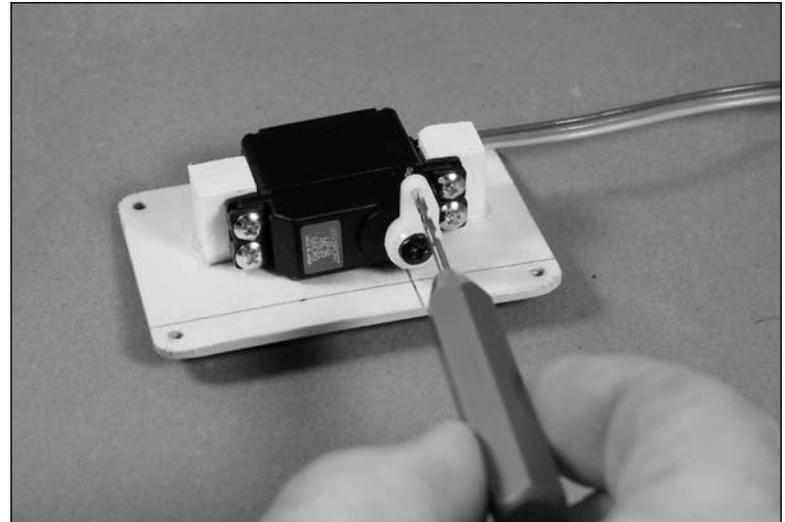
○○ 9. Attach the pushrod to the flap servo using a pushrod connector.
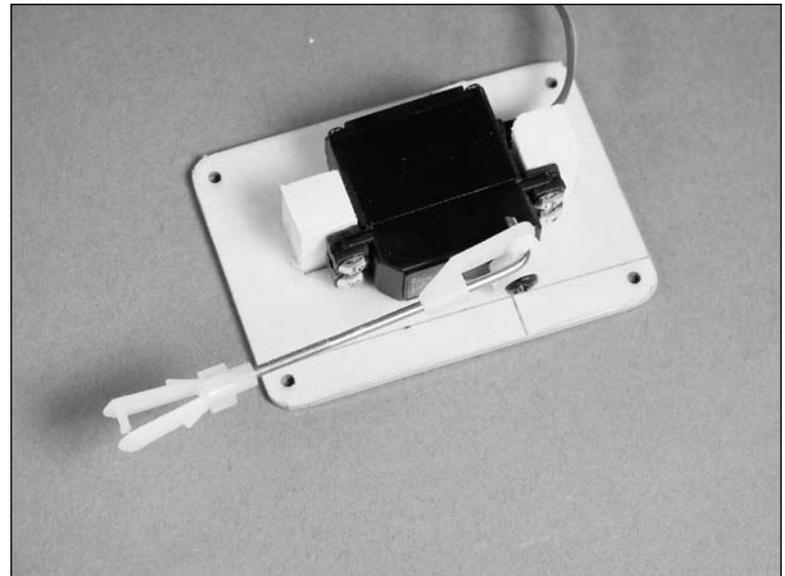
❍❍ 10. Position the flap servo partially in the wing. Connect the clevis to the flap control horn. Plug the flap servo into the receiver and power up the radio system.
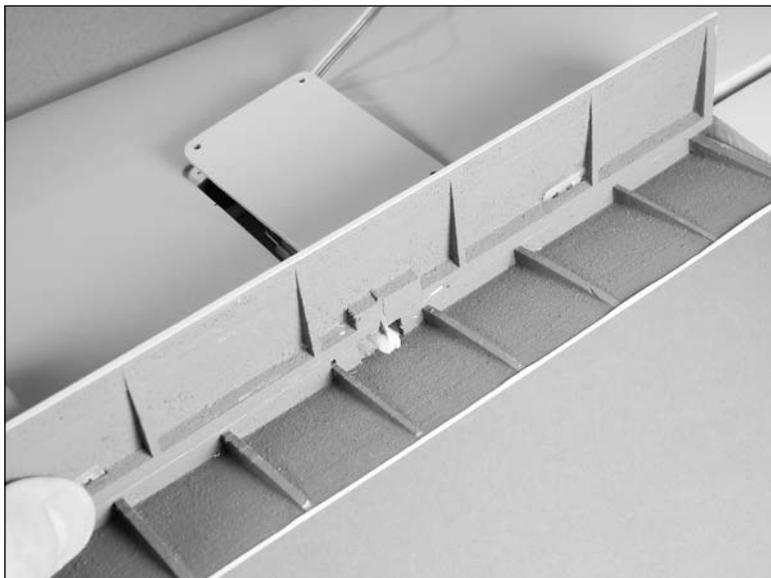
Note: **Do not** place or secure the flap servo cover in position before turning on the radio and checking the operation of the flap. Doing so could damage the flap control horn or quite possibly the flap servo. Check the length of the linkage as follows BEFORE installing the flap servo cover.

❍❍ 11. With the radio system on, move the control on the radio to the "Up Flap" position and test fit the cover. If the cover does not fit without binding the flap or flap servo, adjust the length of the linkage or change the end points at the radio system to eliminate any binding. Repeat the process for "Down Flap" and check that the full throw is adjusted as noted in the "Control Throw" section of this manual.

❍❍ 12. Route the servo lead for the flap to the end of the wing panel. Use four 3mm x 10mm self-tapping screws and a #1 Phillips screwdriver to secure the flap servo cover to the wing.
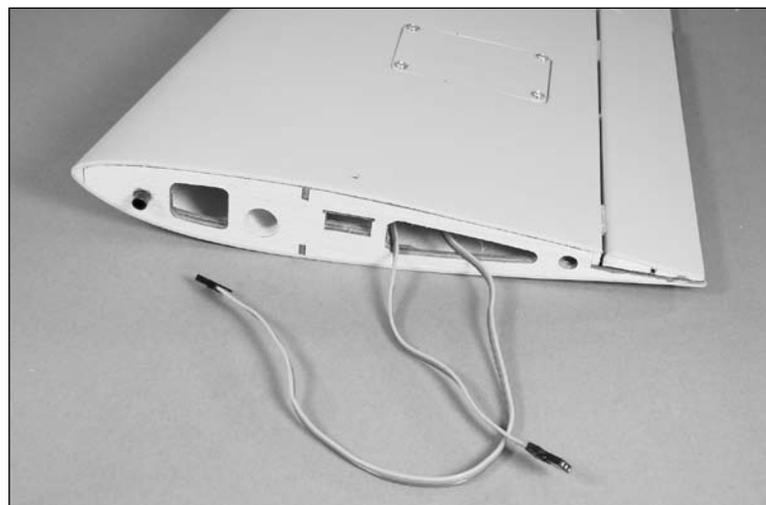
❍ 13. Repeat Steps 3 through 12 for the remaining aileron servo installation.

Fixed Landing Gear Installation

Required Parts

Wing center section	Landing gear (right and left)
1/8-inch wheel collar (4)	3mm x 4mm machine screw (2)
3mm x 10mm self-tapping screw (8)	

Required Tools and Adhesives

Drill	Drill bit: 5/64-inch (2mm)
Thin CA	File
Phillips screwdriver: #1, #2	Pencil
Threadlock	

Note: The main wire struts included with your kit have been upgraded from the preproduction versions shown in this manual. Please note your wire struts will have the main wire yoke offset as per the real AT-6 landing gear.

○○ 1. Position the main gear on the rails of the wing center section. Use a pencil to transfer the locations for the four mounting screws through the gear and onto the rails.

○○ 2. Use a drill and 5/64-inch (2mm) drill bit to drill the four holes for the mounting screws. Use care not to accidentally drill through the top of the wing.

○○ 3. Apply a few drops of thin CA to each of the holes to harden the surrounding wood.

○○ 4. Use a #2 Phillips screwdriver and four 3mm x 10mm self-tapping screws to secure the gear in the wing center section.

○○ 5. Use a file to create a flat on the bottom of the landing gear wire. This provides a place to tighten the screws for the wheel collars, making them more secure on the wire.

○○ 6. Slide one of the wheel collars on the landing gear wire.

7. Slide the wheel onto the landing gear wire, then a final wheel collar. Use a 3mm x 4mm machine screw and #1 Phillips screwdriver to secure the wheel collar. Use threadlock on the screw to prevent it from vibrating loose.

8. Repeat Steps 1 through 7 for the remaining landing gear and wheel.

Retractable Landing Gear Installation

Required Parts

Wing center section	Retract servo w/hardware
Retracts w/hardware	Retract linkage (2)
Nylon clevis (2)	Clevis retainer (2)

Required Tools and Adhesives

Thin CA	Pencil or felt-tipped pen
Covering iron	Hobby knife
Drill	File
Phillips screwdriver: #1	Threadlock
1/16-inch wheenl collar w/setscrew (2)	
Drill bit: 1/16-inch (1.5mm), 5/64-inch (2mm)	

Optional Parts

Robart 2 $1/2$-inch (63mm) wheels

1. Position the retract servo in the opening, guiding the servo lead under the servo mounting rail at the rear and out the hole in the wing center section. Mark the location of the servo mounting screws using a pencil or felt-tipped pen.

2. Remove the servo and drill the four locations for the servo mounting screws with a drill and 1/16-inch (1.5mm) drill bit.
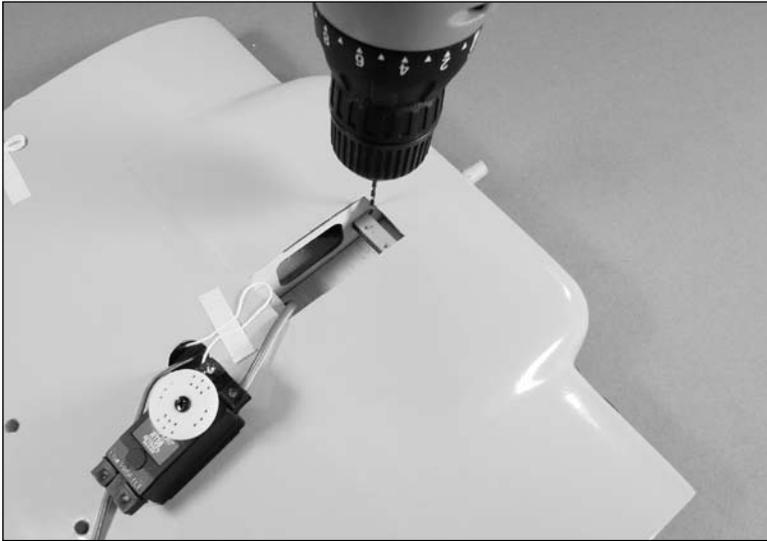
3. Apply a few drops of thin CA to each hole to harden the surrounding wood.

4. Remove the servo horn from the servo. Use a #1 Phillips screwdriver to install the screws provided with the retract servo to secure it in the wing center section.

5. Using a hobby knife, cut a cross in the covering over the opening for the wheel. Use a covering iron to seal the covering tight against the wing before removing the covering.

❍ 6. Remove the covering to expose the entire opening for the retract.

Hint: Trim the covering about 1/16-inch (1.5mm) from the inside edge of the opening and use a covering iron to seal the covering into the opening for a super clean retract installation.

❍❍ 7. Position the main gear on the rails of the wing center section. Use a pencil to transfer the locations for the four mounting screws through the gear and onto the rails.
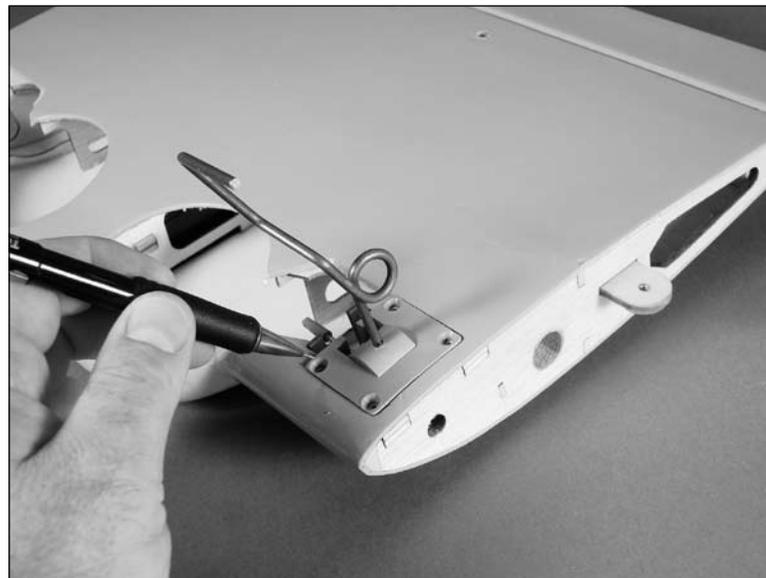
❍❍ 8. Use a drill and 5/64-inch (2mm) drill bit to drill the four holes for the mounting screws. Use care not to accidentally drill through the top of the wing.

○○ 9. Apply a few drops of thin CA to each of the holes to harden the surrounding wood.

○○ 10. Use a #1 Phillips screwdriver and the four self-tapping screws included with the retracts to secure the gear in the wing center section.

○○ 11. Slide a clevis retainer onto a nylon clevis. Thread the clevis onto one of the retract pushrod wires.
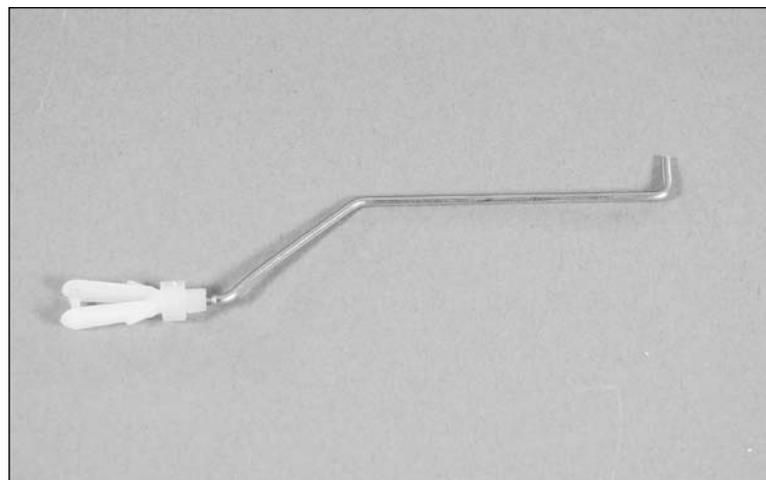
○○ 12. Attach the clevis to the actuator arm of the retract.

○ 13. Repeat Steps 7 through 12 for the remaining retract.

❍ 14. Check that both linkages are an equal distance from the output of the retract servo. Adjust the linkages as necessary.

Equal distances
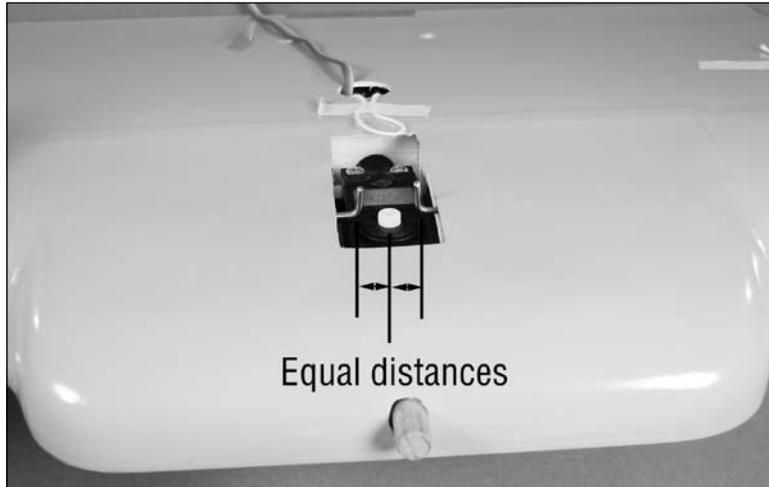
❍ 15. Install a servo arm that aligns with the position of the linkages when installed. Secure the horn using the screw from the servo. The position of the linkages will be fine-tuned in the following step. Secure the wires using two 1/16-inch wheel collars to the top of the servo pushrods to work as keepers.

Servo travel is important when installing retracts.

❍ 16. Check the operation of the retracts using the radio system at this time, without the wheels installed. Too much travel can create binding, resulting in a retract mechanism that will not operate, cause excessive loads on the retract servo, and possibly drain the flight battery prematurely. Too little travel will result in a retract that will not lock in the up or down positions. Test the operation of the gear and locking mechanism by cycling the gear using the radio system. Simulate a load on the locking mechanism by pushing or pulling on the wire strut in both the up and down positions. If the gear does not lock, or becomes unlocked during the testing, the travel at the servo must be adjusted either mechanically or at the radio system using the endpoint adjustments of the retract channel. Readjust as necessary and re-check the operation until the retracts lock in both the up and down positions and that the servo is not stalled in either position as well. Take your time to get the operation of the retracts correct before continuing.

○○ 17. Use a file to create a flat on the bottom of the landing gear wire. This provides a place to tighten the screws for the wheel collars, making them more secure on the wire.
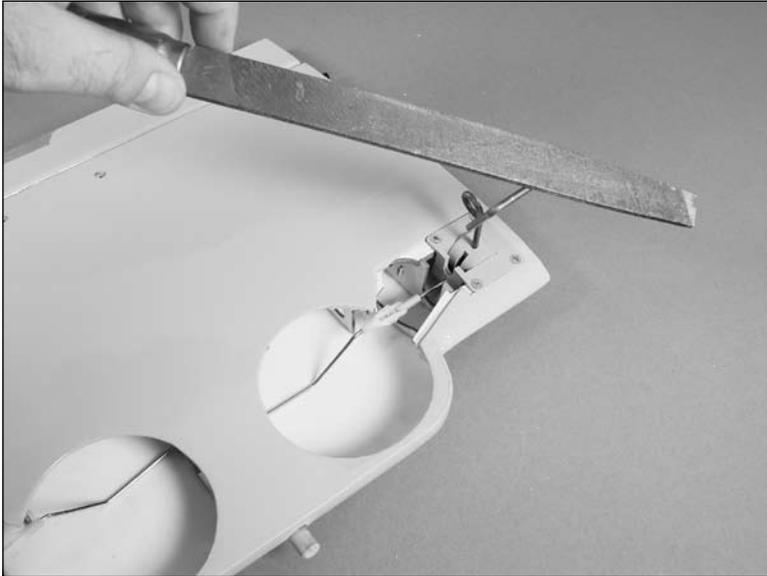
○○ 18. Slide one of the wheel collars on the landing gear wire. Slide the wheel onto the landing gear wire, then another wheel collar. Use a 3mm x 4mm machine screw and #1 Phillips screwdriver to secure the wheel collar, with the edge of the collar aligned with the end of the landing gear wire. Use threadlock on the screw to prevent it from vibrating loose.

○○ 19. Slide the collar on the backside of the wheel up against the wheel and tighten the 3mm x 4mm machine screw in the wheel collar with a #1 Phillips screwdriver. Use threadlock prevent the screw from vibrating loose.

○○ 20. Check that the wheel is centered in the wheel well. Either bend the strut or change the position of the strut in the retract mechanism until the wheel is centered in the wheel well.

○ 21. Repeat Steps 17 through 20 to install the remaining wheel.

Power System Installation

Required Parts

Fuselage   Hook and loop strap
Hook and loop tape

❍   1. Make the connections between the motor and speed control. Secure the speed control inside the fuselage using hook and loop tape.

Note: The photo shows the older E-flite 40-amp speed control unit. All of our prototypes used the new E-flite 60 and 40-amp Switching BEC ESC's.

❍   2. Remove the battery hatch by pushing it forward and lifting it upwards at the rear next to the canopy.

○ 3. Use a hook and loop strap to secure the battery inside the fuselage. Use hook and loop tape between the battery and fuselage to prevent the battery from moving forward or rearward in flight. The battery will need to be installed as far forward as you can install it to help get the CG correct.
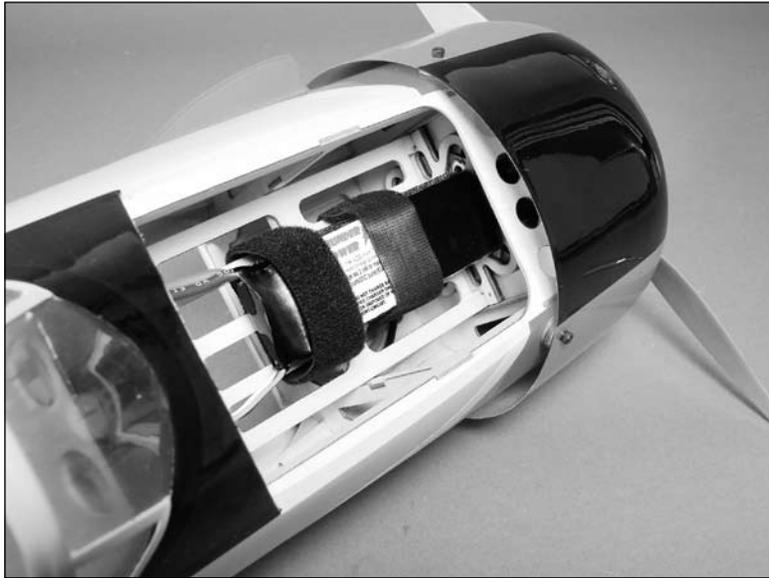
Important Information About Your Brushless ESC

Make sure your ESC brake is programmed to Off. Also, be sure to use an ESC with the proper 9V cutoff when using 3-cell Li-Po packs, or 6V cutoff when using 2-cell Li-Po packs.

○ 4. Turn on the radio system and plug the battery into the speed control. Use the throttle to check that the motor rotates counterclockwise when viewed from the front. If not, follow the directions included with your speed control to change the direction of the motor rotation.

Note: Never check the motor rotation on the bench with the propeller installed. The plane could move and cause serious injury. Always check the motor without the propeller to avoid injury.

Important Information About Your Propeller

It is also very important to check to be sure the propeller is balanced before installing onto the shaft. An unbalanced propeller may strip the gears or cause poor flight characteristics.

Note: If it is necessary to enlarge the hole in the propeller, make sure to check the balance of the propeller afterwards.

○ 5. Install the propeller using the adapter provided with your motor.

Wing Installation

Required Parts

Wing panel (left and right)   Wing center section
Wing tube (2)   1/4-20 x 2-inch nylon bolt (2)
Y-harness (2)
3-inch (76mm) servo extension (3)
4-40 x 3/4-inch socket head screw (2)

Required Tools and Adhesives

Ball driver: 3/32-inch   Threadlock
Flat blade screwdriver

❍   1. Secure a Y-harness to both the flap and aileron
        extensions in one wing panel.
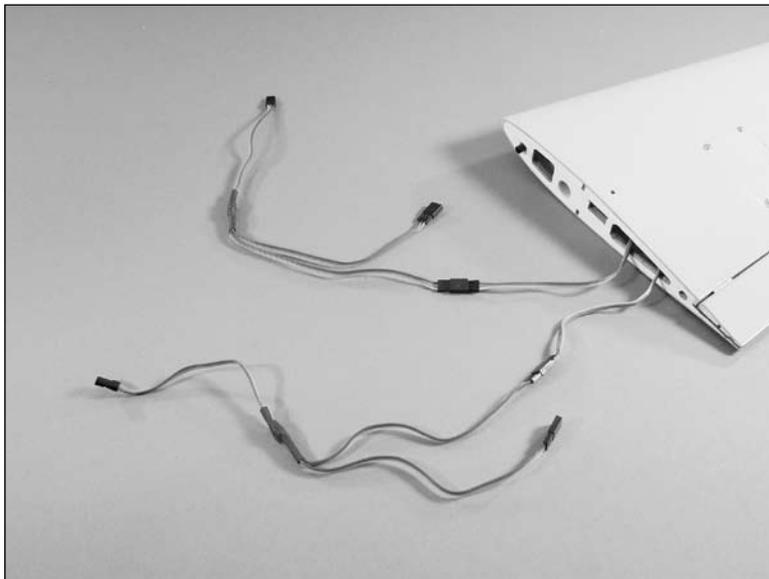
❍❍   2. Slide one of the wing tubes into the wing center
      section that corresponds to the wing panel from Step 1.
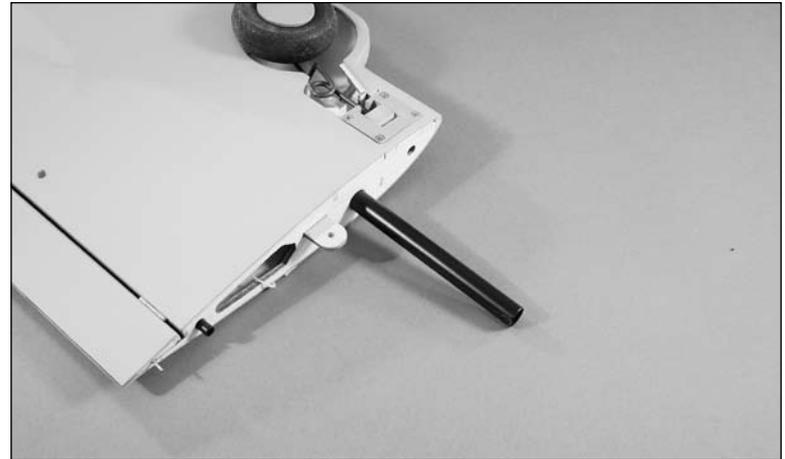
❍   3. Tie the string from the center section to the ends of the
        Y-harness that will plug into the receiver.

❍ 4. Carefully use the string to pull the Y-harnesses through the center section and out the opening in the center of the center section.
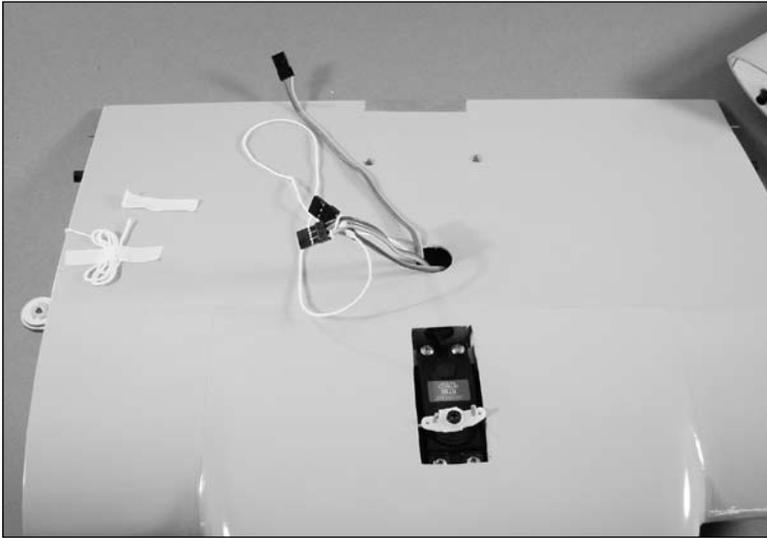
❍❍ 5. Slide the wing panel onto the wing tube. Guide the servo leads into the center section while sliding the wing panel in position.
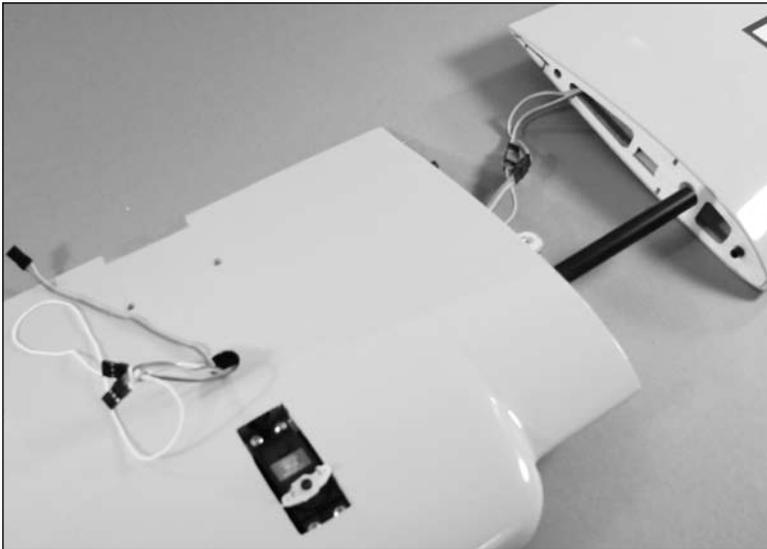
❍❍ 6. While sliding the panel on, make sure to align the tab in the center section into the outer panel. Also use care when sliding the pin on the center flap with the appropriate hole in the outer flap as not to damage the pin.
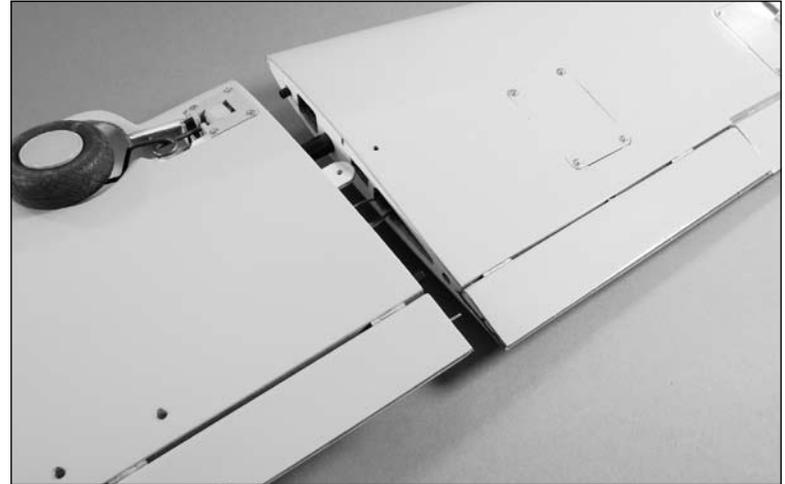
❍❍ 7. Use a 4-40 X 3/4-inch socket head screw and 3/32-inch ball driver to secure the wing panel to the center section. Use threadlock on the screw to prevent it from vibrating loose.

❍   8. Untie the string from the plug ends of the Y-harness and tie it around the ends that will lead to the remaining wing panel.
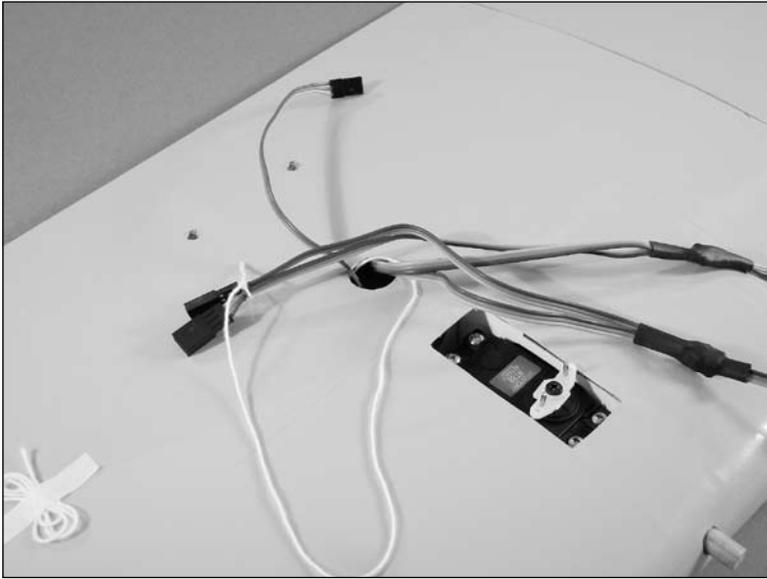
❍   9. Carefully pull the ends from the Y-harness to the outer edge of the center section.
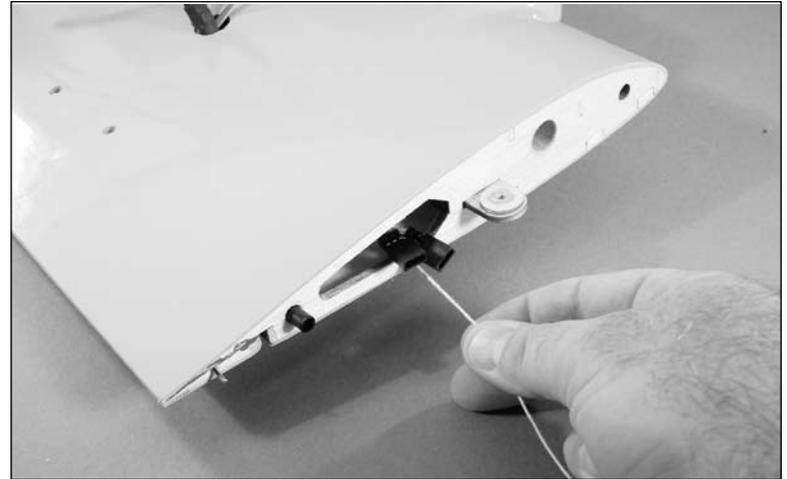
❍   10. Secure the leads from the remaining wing panel to the Y-harness. Repeat Steps 2, 5, 6 and 7 to secure the wing panel.
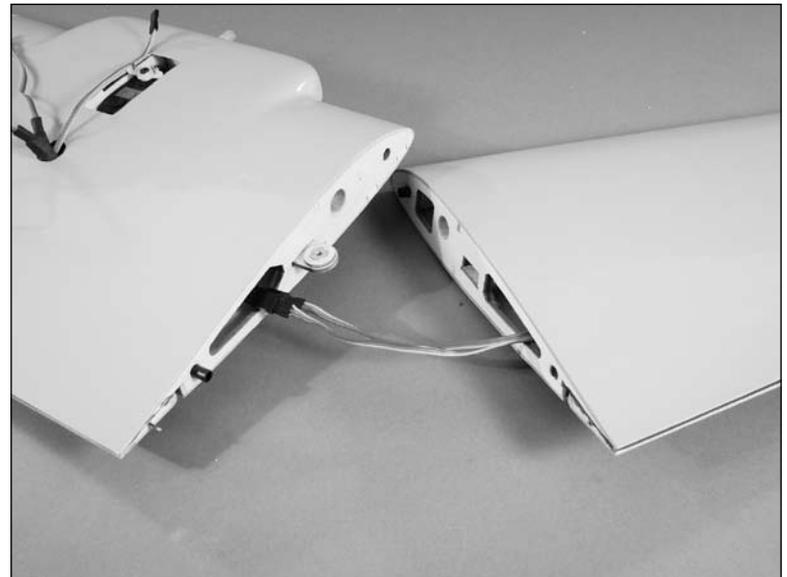
❍ 11. Add (3) three inch extensions to the aileron, flap, and retract ports of the receiver. Plug the Y-harnesses and retract servo leads into the three inch long extensions.

❍ 12. Secure the wing to the fuselage using the two 1/4-20 x 2-inch nylon bolts and flat blade screwdriver.

Basic Cockpit and Accessories

Required Parts

Assembled airframe	Canopy
Pilot figure	Radiator scoop (grey)
Landing gear fairing (2)	

Required Tools and Adhesives

Medium CA	RC-56 canopy glue
Felt-tipped pen	Tie wrap (4)
Side cutters	Low-tack tape

❍ 1. Use medium CA to glue the pilot figure in the fuselage as shown.

2. Use RC-56 canopy glue to attach the canopy to the fuselage. Use low-tack tape to hold the canopy in position until the glue fully cures. Note that the front of the canopy has a black strip that aligns with the anti-glare panel on the front of the fuselage.

3. Position the radiator scoop on the bottom of the wing center section. A felt-tipped pen can be used to color in the scoop to give that open look. Trim the radiator scoop as necessary for a perfect fit and glue it only to the wing using medium CA.

4. Attach the landing gear fairings to the wheel struts using two tie wraps per fairing. Use side cutters to remove the excess material from the tie wraps. Once the fairings have been attached with the tie straps, you can add a small drop of Medium CA to the inside to help secure it so it will not move in flight.

○ 5. Use the following to paint the dummy radial engine.

Silver:
Rocker Covers and
Pushrod Housings

Light Gray:
Center Housing

Cylinders:
Flat Black

Silver:
Rivets on
Center Housing
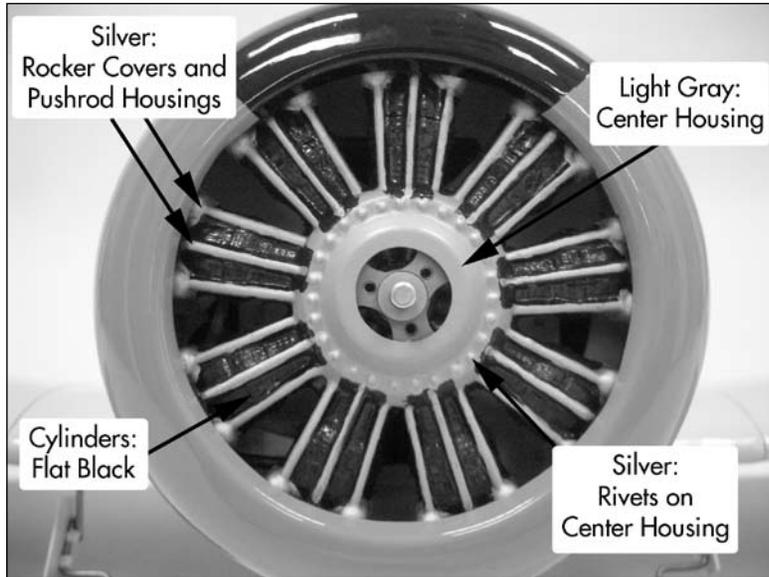
Optional Scale Cockpit Installation

Required Parts

(Included with kit)
Assembled airframe   Pilot figure
Canopy

(Available separately)
Cockpit Kit (EFL4512)   Pilot Figure (EFLA150)

Required Tools and Adhesives

Medium CA   RC-56 canopy glue
Hobby knife   Low-tack tape
Sandpaper   Testors Model Master Paints

Note: The cockpit kit comes prepainted from our vendor. Our first samples were not painted and were painted in the following colors for those who would like to duplicate the model as shown on the box.

Floor:
Gun Ship Gray

Instrument hood:
Flat Black

Roll over support structure:
Flat Black for the main support rods and leather for the top cushion.

Seat backs:
Olive Drab for the seat bars and leather for the inside seat area.

❍ 1. Remove covering over the cockpit area and sand the base until smooth.

Note: You may want to tape off the fuselage around the cockpit opening for the next few steps to help protect the fuselage during the floor installation.

❍ 2. Glue the floor assembly to the fuselage using medium CA.

○ 3. Glue the aft structure in place using Medium CA. You will want to make sure the canopy will fit on over the aft structure once in place and not cause any height issues.
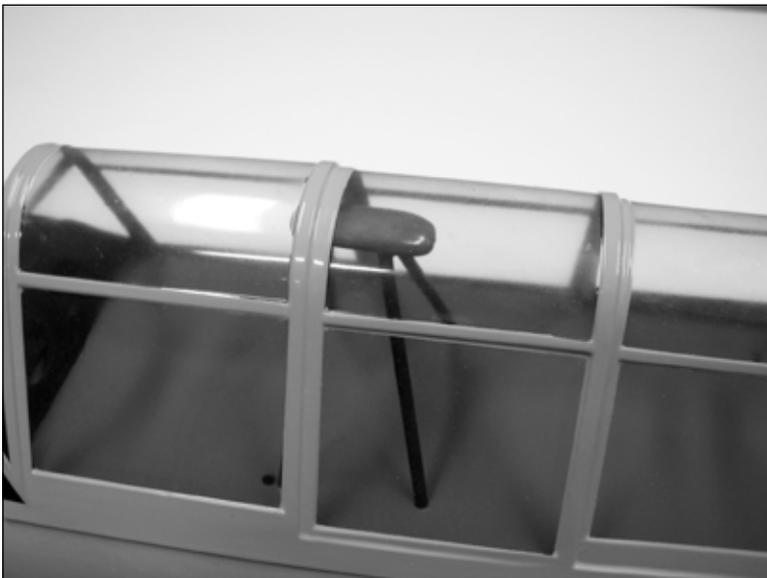
○ 4. Glue the two seat backs in place using Medium CA. The seat backs should rest on the floor.

○ 5. Glue the aft instrument hood in place using Medium CA. You will want to place the aft instrument decal from your kit on the panel at this time. Place the front instrument panel decal in place at this time.
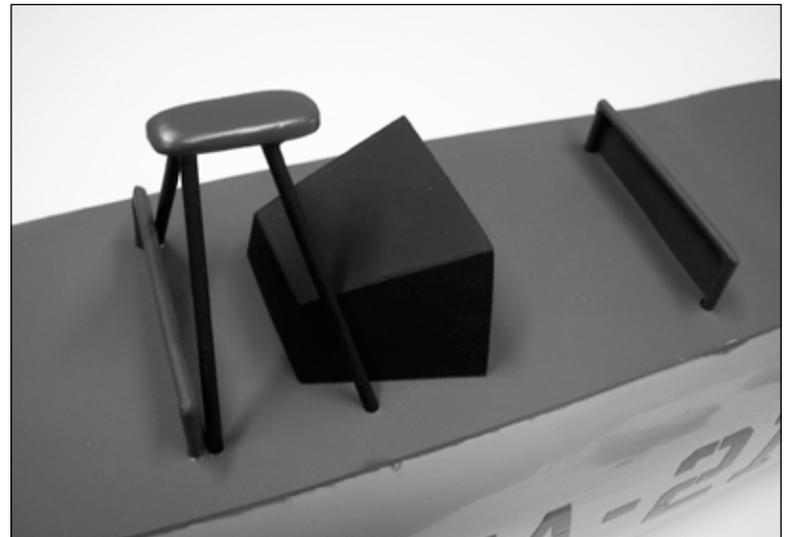
❍ 6. Glue the two pilots in place using Medium CA. They should be placed all the way back, almost against the seat backs.

❍ 7. Use RC-56 canopy glue to attach the canopy to the fuselage. Use low-tack tape to hold the canopy in position until the glue fully cures. Note that the front of the canopy has a black strip that aligns with the anti-glare panel on the front of the fuselage.

Control Throws

❍ 1. Turn on the transmitter and receiver of your AT-6. Check the movement of the rudder using the transmitter. When the stick is moved right, the rudder should also move right. Reverse the direction of the servo at the transmitter if necessary.

❍ 2. Check the movement of the elevator with the radio system. Moving the elevator stick down will make the airplane elevator move up.

❍ 3. Check the movement of the ailerons with the radio system. Moving the aileron stick right will make the right aileron move up and the left aileron move down.

❍ 4. Use a ruler to adjust the throw of the elevator, ailerons and rudder. Adjust the position of the pushrod at the control horn to achieve the following measurements when moving the sticks to their endpoints.

Note: Measurements are taken at the widest point on the surface.

Ailerons
High Rate: 5/8-inch (16mm) (Up/Down)

Low Rate: 3/8-inch (10mm) (Up/Down)

Elevator
High Rate: 1-inch (25mm) (Up/Down)

Low Rate: 1/2-inch (13mm) (Up/Down)

Rudder
High Rate: 1 3/4-inch (44mm) (Right/Left)

Low Rate: 1-inch (25mm) (Right/Left)

These are general guidelines measured from our own flight tests. You can experiment with higher rates to match your preferred style of flying.

Once all the control throws have been set, make sure to slide the clevis retainers over the clevises to prevent them from opening accidentally.
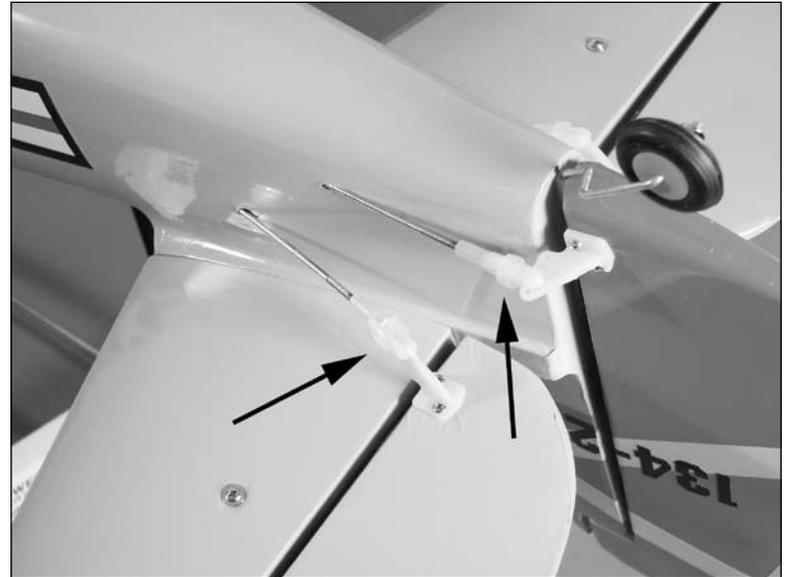
Range Test Your Radio

❍ 1. Before each flying session, be sure to range check your radio. This is accomplished by turning on your transmitter with the antenna collapsed. Turn on the receiver in your airplane. With your airplane on the ground and the engine running, you should be able to walk 30 paces (approximately 100 feet) away from your airplane and still have complete control of all functions.

If not, don't attempt to fly! Have your radio equipment checked out by the manufacturer.

❍ 2. Double-check that all controls (aileron, elevator, rudder and throttle) move in the correct direction.

❍ 3. Be sure that your transmitter batteries are fully charged, per the instructions included with your radio.

Center of Gravity

An important part of preparing the aircraft for flight is properly balancing the model.

Caution: Do not inadvertently skip this step!

The recommended Center of Gravity (CG) location for the AT-6 Texan ARF is $4\frac{1}{8}$– $4\frac{1}{4}$-inch (105–108mm) back from the leading edge of the wing wheel fairing. Please balance your model upside down with the battery installed. Gear placement of up or down does not matter.
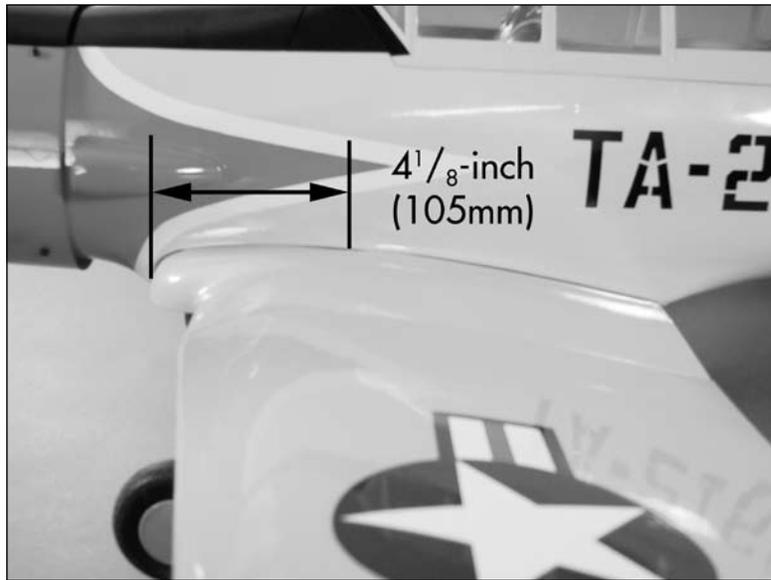
After the first flights, the CG position can be adjusted for your personal preference.

You may need to add some weight to the nose of your model to achieve the desired CG. We had to add 2 ounces to the inside of the cowling on our prototypes. Use commercially available stick-on weights for this.

Preflight

Check Your Radio

Before going to the field, be sure that your batteries are fully charged per the instructions included with your radio. Charge both the transmitter and receiver pack for your airplane. Use the recommended charger supplied with your particular radio system, following the instructions provided with the radio. In most cases, the radio should be charged the night before going out flying.

Before each flying session, be sure to range check your radio. See your radio manual for the recommended range and instructions for your radio system. Each radio manufacturer specifies different procedures for their radio systems. Next, start the motor. With the model securely anchored, check the range again. The range test should not be significantly affected. If it is, don't attempt to fly! Have your radio equipment checked out by the manufacturer.

> Note: Keep loose items that can get entangled in the propeller away from the prop. These include loose clothing, or other objects such as pencils and screwdrivers. Especially keep your hands away from the propeller.

Double-check that all controls (aileron, elevator, rudder and throttle) move in the correct direction.

Check the radio installation and make sure all the control surfaces are moving correctly (i.e. the correct direction and with the recommended throws). Test run the motor and make sure it transitions smoothly from off to full throttle and back. Also ensure the engine is installed according to the manufacturer's instructions, and it will operate consistently.

Check all the control horns, servo horns, and clevises to make sure they are secure and in good condition. Replace any items that would be considered questionable. Failure of any of these components in flight would mean the loss of your aircraft.

Flying Your AT-6 Texan ARF

Ensure you have set the model up correctly and have the CG where it is stated in the instructions. Taxi into the wind and set the throttle trim to where the motor idles with the prop spinning. You will need about 200 feet to take off so ensure you have plenty of room. We like to fly at the local club field instead of at a park with the AT-6. It is a substantially larger model than a park flyer and has much more mass. Do not use flaps for your first takeoff. Power up slowly but smoothly while steering the model with the rudder and begin your takeoff roll. You will find the AT-6 accelerates out quickly and the tail will come up when it is ready. After about 100 feet and while at full power apply up elevator in a smooth motion until the model lifts from the ground. Once airborne and climbing out, retract the landing gear if you installed the optional retracts.

Once in the air you will find the AT-6 is a true warbird in its element. Straight line flight is easy as well as high banked turns. This plane grooves like no other 25-size electric on the market today. Aileron rolls are smooth and precise. Loops are strong and large. The AT-6 will pick up speed very quickly and can fly at a brisk pace if you so choose. It is very leisurely in the air at around 5/8 throttle. Once you are up and have the model trimmed out, climb to a safe altitude and put the flaps down. Set them for both the mid and full rate and note any trim changes. Have your helper make note of any significant trim changes to the elevator and then set up to land.

To set up to land, put the gear down on the downwind leg and select full flaps. You will find you will need to carry a small amount of power when the flaps are deployed. I like to come around from base leg to final with the nose pointing down at the runway, flaps full down, and landing gear out. Adjust power as needed as you fly towards your touchdown point. Once you are about 2 feet above the ground and beginning to feel ground effect, you can reduce power and maintain a flat glide slope until touchdown on the main wheels occurs. The model enjoys tail high landings with full flaps all day long. You will be looking like a pro in no time. If you elect to land without the flaps deployed, I recommend a flared three-point landing as your best approach.

We hope you enjoy many happy flights with your new E-flite AT-6 Texan.

2007 Official AMA National Model Aircraft Safety Code

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 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 or deliberately fly my models in a careless, reckless and/or dangerous manner.
4) The maximum takeoff weight of a model is 55 pounds, except models flown under Experimental Aircraft rules.
5) I will not fly my model unless it is identified with my name and address or AMA number on or in the model. (This does not apply to models while being flown indoors.)
6) I will not operate models with metal-bladed propellers or with gaseous boosts, in which gases other than air enter their internal combustion engine(s); nor will I operate models with extremely hazardous fuels such as those containing tetranitromethane or hydrazine.

RADIO CONTROL

1) I will have completed a successful radio equipment ground range 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 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. (Only properly licensed Amateurs are authorized to operate equipment on Amateur Band frequencies.)
5) Flying sites separated by three miles or more are considered safe from site-to-site interference, even when both sites use the same frequencies. Any circumstances under three miles separation require a frequency management arrangement, which may be either an allocation of specific frequencies for each site or testing to determine that freedom from interference exists. Allocation plans or interference test reports shall be signed by the parties involved and provided to AMA Headquarters.

Documents of agreement and reports may exist between (1) two or more AMA Chartered Clubs, (2) AMA clubs and individual AMA members not associated with AMA Clubs, or (3) two or more individual AMA members.

6) For Combat, distance between combat engagement line and spectator line will be 500 feet per cubic inch of engine displacement. (Example: .40 engine = 200 feet.); electric motors will be based on equivalent combustion engine size. Additional safety requirements will be per the RC Combat section of the current Competition Regulations.
7) At air shows or model flying demonstrations, a single straight line must be established, one side of which is for flying, with the other side for spectators.
8) With the exception of events flown under AMA Competition rules, after launch, except for pilots or helpers being used, no powered model may be flown closer than 25 feet to any person.
9) Under no circumstances may a pilot or other person touch a powered model in flight.

E-flite®
ADVANCING ELECTRIC FLIGHT

HORIZON
H O B B Y

11067