

# J-3 Cub 25 ARF



**E-flite**<sup>TM</sup>

Assembly Manual

Available from: [www.modelflight.com.au](http://www.modelflight.com.au)

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## Introduction

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The Piper J-3 Cub is an all-time favorite among aviation enthusiasts everywhere. Classic lines and predictable flight performance are just a few of the Cub's trademarks. The 25-size J-3 Cub from E-flite™ is the first of its size for E-flite. The name Piper J-3 Cub .25 ARF implies the power of a .25 glow engine, but it is designed specifically for electric operation. This aircraft has been designed from the start for the E-flite Power 25 Outrunner BL motor. It uses balsa and plywood construction and is covered with genuine UltraCote®. Using a scale of approximately 1/7, the J-3 Cub spans 62 inches delivering excellent presentation and performance to budget-minded pilots.

You can fly with either a 10-cell Ni-MH battery, or a 3-cell Li-Po for increased performance and duration. An optional set of scale fiberglass floats is also available (EFLA500). All it takes is five minutes to change from landing gear to floats to enjoy those afternoons on the lake. Change back to the standard landing gear and you can be shooting touch-and-go's at the local flying field, the choice is yours. Either way we believe you will fall in love with the relaxing flight performance of the E-flite J-3 Cub.

## Specifications

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Wingspan: 62 in (1575mm)  
Length: 35.5 in (900mm)  
Wing Area: 552 sq in (35.5 sq dm)  
Weight w/o Battery: 3.2 lb (1.45 kg)  
4.5 lb w/Floats (2.0 kg)  
Weight w/Battery: 4 lb (1.8 kg)  
5.3 lb w/Floats (2.4 kg)

## Covering Colors

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Cub Yellow	HANU884
Black	HANU874

## Contents of Kit/Parts Layout

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### *Large Replacement Parts:*

EFL4001	Wing w/Ailerons
EFL4002	Fuselage
EFL4003	Tail Set
EFL4004	Landing Gear
EFL4005	Cowling
EFL4009	Tailwheel Assembly

### *Small Replacement Parts:*

EFL4006	Windshield/Window Set
EFL4007	Pushrod Set
EFL4008	Main Wheels



Available from: [www.modelflight.com.au](http://www.modelflight.com.au)

## Required Electronics & Accessories

### *Complete Radio System*

JSP16000\*\* JR SPORT™ 6-Channel Radio System

### *Or Purchase Separately*

JSP30600 RS600 6-Channel Receiver w/o Crystal  
JRPXFR\*\* FM Receiver Crystal  
JSP20040 MN48 Mini Servo (4)  
JSP98020 6" Y-Harness  
JSP98110 6" Servo Extension (2)  
JRPA212 Long Servo Arm (2)

## Outrunner Motor Setup

EFLA4025A Power 25 BL Outrunner Motor, 870Kv  
EFLA312B 40-Amp Brushless Speed Control  
APC12060E Electric Propeller, 12 x 6E  
THP42003S2PPL 4200 3S2P, 11.1V Li-Po, 13 GA  
EFLC3005 Celectra™ 1–3 Cell Li-Po Charger

*Or*

EFLB4010 1800mAh Ni-MH. 10-Cell

## Required Tools and Adhesives

### *Tools*

Small Phillips Screwdriver  
(EFLA257 - included with EFLA250)  
Hex Wrench: 7/64"  
(EFLA251 - included with EFLA250)

Drill  
Ruler  
String  
Tape  
Hobby scissors  
Sandpaper  
Paper towel/tissue  
Petroleum jelly  
Drill bit: 1/16" (1.5mm), 5/64" (2mm),  
3/32" (2.5mm), 1/8" (3mm)

T-pins  
Felt-tipped pen  
Square  
Pliers  
Side cutters  
Rubbing alcohol  
Masking tape  
Hobby knife

### *Adhesives*

Thin CA  
Medium CA  
Canopy glue  
Threadlock

6-Minute Epoxy (HAN8000)  
30-Minute Epoxy (HAN8002)

## Optional Accessories

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EFLA110	Power Meter
EFLA500	Float Set, 25-Size

## Warning

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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.

## Before Starting Assembly

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Before beginning the assembly of your J-3 Cub, remove each part from its bag for inspection. Closely inspect the fuselage, wing panels, rudder and stabilizer for damage. If you find any damaged or missing parts, contact the place of purchase.

## Note on Lithium Polymer Batteries

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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.

## Using the Manual

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This manual is divided into sections to help make assembly easier to understand, and to provide breaks between each major section.

Remember to take your time and follow the directions.

## Limited Warranty Period

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Horizon Hobby, Inc. guarantees this product to be free from defects in both material and workmanship at the date of purchase.

## **Limited Warranty & Limits of Liability**

Pursuant to this Limited Warranty, Horizon Hobby, Inc. will, at its option, (i) repair or (ii) replace, any product determined by Horizon Hobby, Inc. to be defective. In the event of a defect, these are your exclusive remedies.

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 an authorized Horizon Hobby, Inc. service center. This warranty is limited to the original purchaser and is not transferable. In no case shall Horizon Hobby's liability exceed the original cost of the purchased product and will not cover consequential, incidental or collateral damage. Horizon Hobby, Inc. 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 Hobby, Inc. Further, Horizon Hobby reserves the right to change or modify this warranty without notice. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. HORIZON HOBBY, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

As Horizon Hobby, Inc. 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.

## **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 Hobby, Inc. directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance.

### **Questions or Assistance**

For questions or assistance, please direct your email to [productsupport@horizonhobby.com](mailto:productsupport@horizonhobby.com), or call 877.504.0233 toll free to speak to a service technician.

## **Inspection or Repairs**

If your 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 Hobby, Inc. is not responsible for merchandise until it arrives and is accepted at our facility. Include your complete name, address, phone number where you can be reached during business days, RMA number, and a brief summary of the problem. Be sure your name, address, and RMA number are clearly written on the shipping carton.

### **Warranty Inspection and Repairs**

To receive warranty service, you must include your original sales receipt verifying the proof-of-purchase date. Providing 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

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Should your repair not be covered by warranty and the expense exceeds 50% of the retail purchase cost, you will be provided with an estimate advising you of your options. You will be billed for any return freight for non-warranty repairs. Please advise us of your preferred method of payment. Horizon Hobby 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. Electronics and engines requiring inspection or repair should be shipped to the following address (freight prepaid):

Horizon Service Center  
4105 Fieldstone Road  
Champaign, Illinois 61822

All other products requiring inspection or repair should be shipped to the following address (freight prepaid):

Horizon Product Support  
4105 Fieldstone Road  
Champaign, Illinois 61822

## Landing Gear Installation

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### *Required Parts*

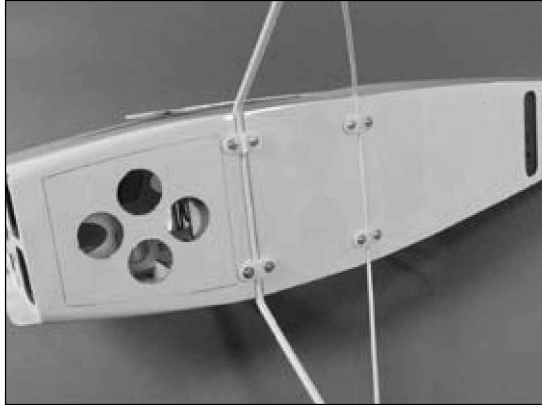
- Fuselage
- Hub cap (2)
- Inner wheel hub (2)
- 4mm wheel collar (2)
- Landing gear strap (4)
- Landing gear fairing (2)
- 2 1/2" (63mm) foam wheel (2)
- 2mm x 15mm sheet metal screw (8)
- 2mm x 10mm sheet metal screw (8)
- Landing gear
- Tie wrap (6)
- Outer wheel hub (2)
- 3mm setscrew (2)

### *Required Tools and Adhesives*

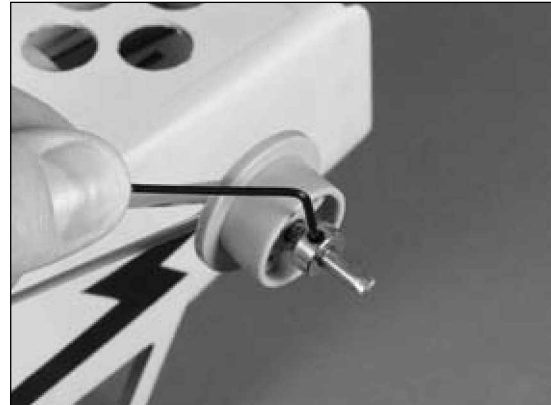
- Phillips screwdriver
- Hex wrench (included in kit)
- Side cutter

*Note:* The fuselage is designed to accept either the standard landing gear or optional floats. Changing from landing gear to floats requires less than 5 minutes. Refer to the manual included with your floats for proper installation.

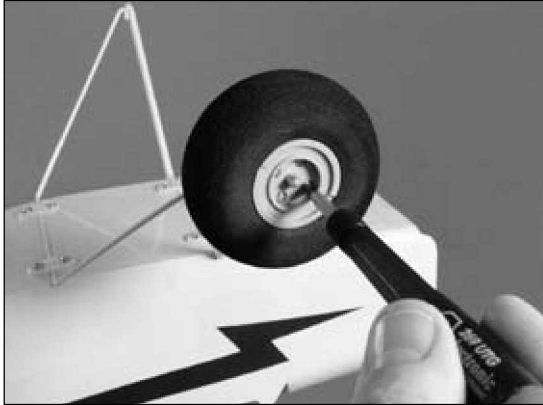
1. Place the landing gear in position with the larger diameter wire to the front of the fuselage. Secure the gear using four landing gear straps and eight 2mm x 10mm sheet metal screws.



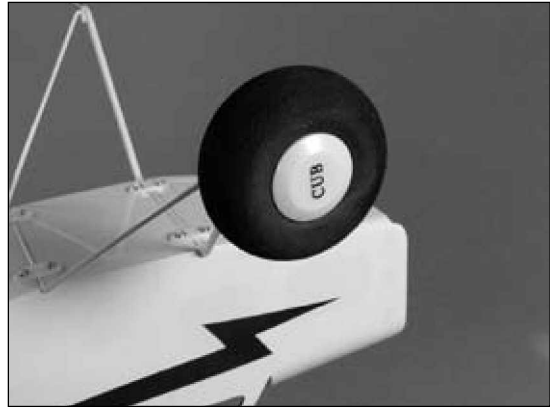
2. Slide the inner wheel hub onto the landing gear. (The holes in the inner hub do not go through the hub.) Slide a 4mm wheel collar onto the landing gear and secure it using a 3mm setscrew. Use threadlock when tightening the setscrew onto the flat spot of the landing gear.



3. Press the 2 1/2" (63mm) foam wheel onto the inner hub. Press the outer wheel hub into the wheel. Complete the assembly using four 2mm x 15mm sheet metal screws.



4. Press the hub cap into the outer wheel hub.



5. Attach the landing gear fairing to the landing gear using three tie straps. Trim the excess strap side cutters.



6. Repeat Steps 2 through 5 to complete the landing gear installation.

## Motor and Cowling Installation

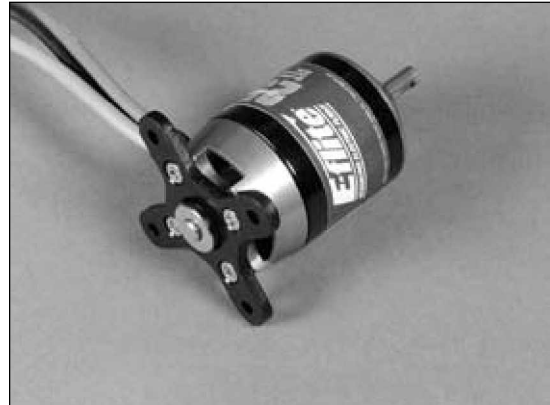
### Required Parts

- Fuselage
- Cowling
- Hook and loop straps (2)
- 6-32 x 1/2" socket head screw (4)
- 2mm x 10mm sheet metal screw (4)
- Propeller adapter
- 12 x 6 electric propeller (APC12060E)
- Brushless outrunner motor
- Electronic speed control
- Battery

### Required Tools and Adhesives

- Hex wrench: 7/64"
  - Drill
  - Drill bit: 1/16" (1.5mm), 1/8" (3mm)
- Note: .It.is.very.important.to.be.sure.the.  
propeller.is.balanced.before.installing.it.onto.  
the.motor.*

1. Prepare the outrunner motor by attaching the X-mount to the motor using screws supplied with the motor.



2. Attach the motor to the firewall using four 6-32 x 1/2" socket head screws included with the J-3 Cub.



*Note:* The firewall has been prepared to mount the E-flite™ Power 25 brushless motor. It may be necessary to remove the blind nuts and drill new mounting holes for other motor choices.

3. Attach the motor to the speed control. Secure the speed control in the fuselage using hook and loop material so it will not move during flight.



*Note:* Ensure you mount the speed control with the label towards the fuselage sidewall. This will assure maximum cooling for the speed control.

4. Use hook and loop material to secure the battery into the fuselage.



*Note:* Now would be a good time to plug the speed control into the receiver and check the operation of the motor. It should rotate counter-clockwise when viewed from the front of the fuselage. Once the operation of the motor has been checked, unplug the battery and attach the battery hatch.

5. Slide the cowling onto the fuselage. Place the propeller adapter onto the motor and attach the propeller using the adapter.



6. Position the cowling so it lines up with the propeller and adapter. Allow for 1/8" (3mm) clearance between the propeller and cowl. Drill four 1/16" (1.5mm) holes for the cowl mounting screws. Enlarge the holes in the cowling only using a 1/8" (3mm) drill bit. Secure the cowling using four 2mm x 10mm sheet metal screws.



## Radio Installation

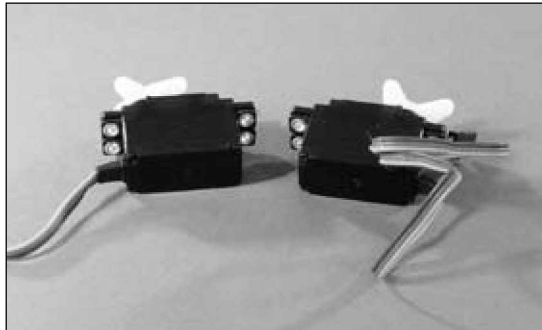
### Required Parts

- Fuselage
- Receiver
- Mini Servo (2)
- 6" Y-harness

### Required Tools and Adhesives

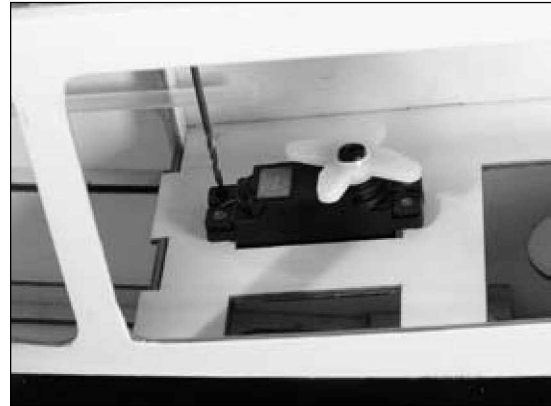
- Drill
- Drill bit: 1/16" (1.5mm)

1. Install the servo grommets and brass eyelets on the rudder and elevator servos following the instructions provided with the servos or radio system.

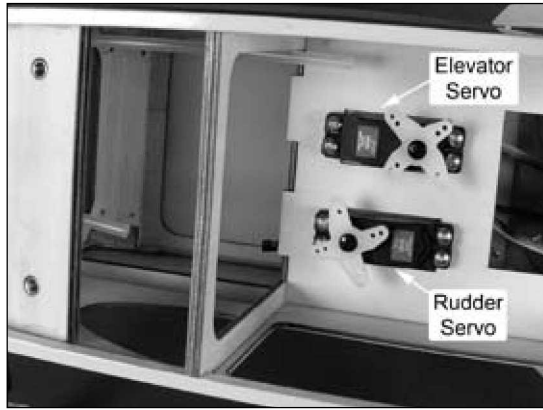


*Note:* The servo openings in the fuselage are set up for the JR.SPORT®.(MN48).Mini.Servos.

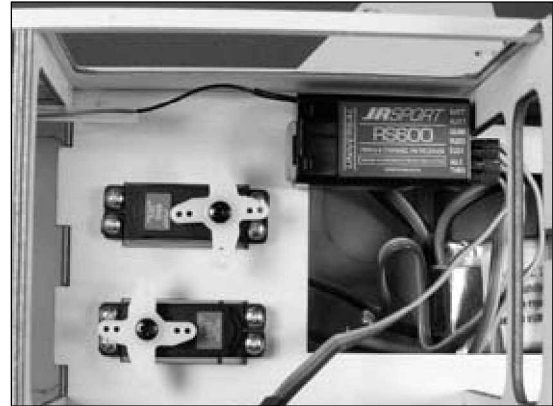
2. Center the servo in the servo opening. Use a 1/16" (1.5mm) drill bit to drill the locations for the servo mounting screws.



3. Secure the servo using the screws provided with the servo. Repeat Step 2 for the remaining servo.



4. Plug the rudder, elevator and speed control into the receiver, as well as the aileron Y-harness. Use hook and loop to secure the receiver in the fuselage. Route the antenna wire through the tube in the fuselage.



*Note:* Do not cut the receiver antenna wire, as it will greatly reduce the range of your radio system.

## Wing Assembly

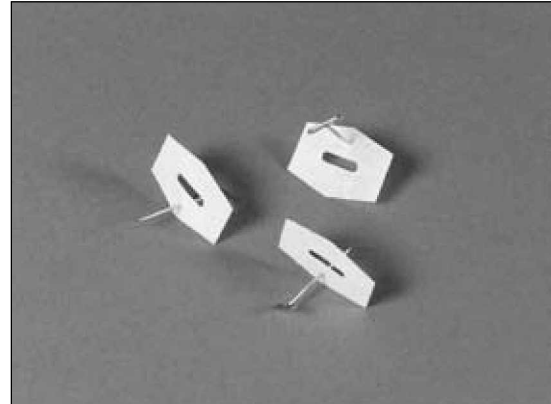
### Required Parts

- Clevis (2)
- Clevis retainer (2)
- Pushrod wire keeper (2)
- CA hinge (6)
- Mini Servo (2)
- 6" servo extension(2)
- Cub yellow covering strip
- Wing panel (left and right)
- Aileron (left and right)
- Plywood wing joiner (2)
- Aileron servo cover (left and right)
- 3/4" x 3/8" x 3/8"  
(19mm x 10mm x 10mm) servo block (4)
- Control horn w/backplate (2)
- 2mm x 20mm screw (4)
- 2mm x 10mm sheet metal screw (8)
- 4" (100mm) linkage wire (2)
- Long Servo Arm (JRPA212) (2)

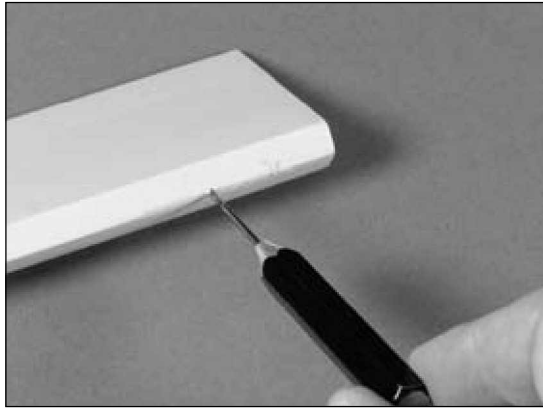
### Required Tools and Adhesives

- 6-minute epoxy
- Thin CA
- Drill
- 30-minute epoxy
- Drill bit: 1/16" (1.5mm), 5/64" (2mm)
- String
- Phillips screwdriver
- T-pins
- Felt-tipped pen
- Masking tape

1. Place a T-pin in the center of three hinges.



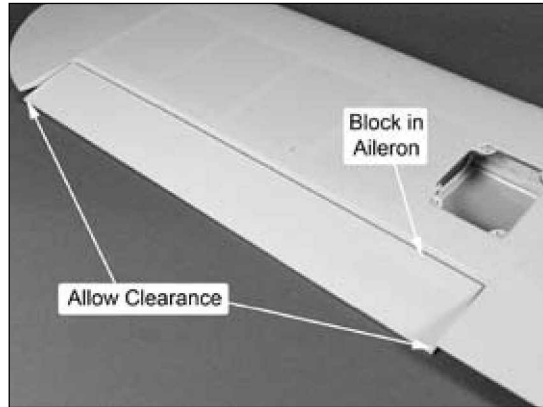
2. Drill a 1/16" (1.5mm) hole in the hinge center of both the aileron and wing.



3. Place the hinges in the aileron.

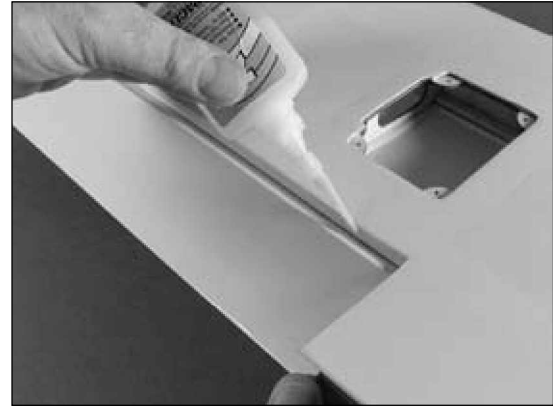


4. Slide the aileron and wing together. Remove the T-pins. There should be a 1/64" (.4mm) gap between the aileron and wing. Make sure the aileron can move freely without binding.



*Note:* The aileron has a block installed for the aileron control horn to mount to. Make sure this block is located on the inboard side of the wing.

5. Deflect the aileron and apply thin CA to each of the hinges. Make sure to saturate each hinge. Apply CA to both the top and bottom of the hinges.



*Note:* Do not use accelerator in the hinging process. The CA must be allowed to soak into each hinge naturally.