

Stearman PT-17 15e ARF

Assembly Manual



Specifications

Wingspan	44 in (1117mm)
Length	35 in (889mm)
Wing Area	608 sq in (37.5 sq dm)
Weight with Battery	3.5–3.8 lb (1.5–1.7 kg)
Weight without Battery	3.1–3.3 lb (1.4–1.5 kg)

Pilots not included (available separately)

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Product Registration

Registering your product will provide you the option to stay up-to-date on product information, new products, customization options and other information for E-flite owners. Register your product today at www.E-fliteRC.com/register.

Introduction

The Stearman PT-17 was a primary flight trainer used by the U.S. Army Air Corps (USAAC) during World War II. The PT-17 was a conventional biplane design with an open, two-place cockpit to accommodate a student and instructor, in tandem. The aircraft was constructed with wood wings and a welded steel fuselage, all covered with fabric. The plane became highly recognizable with its biplane design and exposed radial engine. The PT-17 was known as a rugged aircraft and an excellent trainer. The PT-17 was designed by the Stearman Aircraft Corporation and in 1934 Boeing purchased the company. Boeing manufactured over 10,500 PT-17s and when production ended it became known as the last production military biplane built in the United States.

Important Warranty Information

Please read our Warranty and Liability Limitations section on page 25 before building this product. 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.

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 its completion. Steps with a single circle (O) are performed once, while steps with two circles (O O) 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

Replacement Parts

EFL2951T	Top Outboard Wing Set
EFL2951C	Center Top Wing
EFL2951B	Bottom Wing Set
EFL2952	Fuselage with Hatch
EFL2953	Tail Set
EFL2954	Cowling with Dummy Motor
EFL2955	Wing Tube Set
EFL2956	N Wing Strut Set
EFL2957	Cabane Strut Set
EFL2958	Main Landing Gear Set
EFL2959	Tail Wheel Set
EFL2960	Windscreen Set
EFL2961	Pushrod Set
EFL2962	Wing Transport Jigs
EFL2963	Hatch
EFL2964	Hardware Pack



Recommended Radio Equipment

You will need a minimum of a 4-channel transmitter, receiver and four servos. You can choose to purchase a complete radio system, or if you are using an existing transmitter, just purchase the other required equipment separately. We recommend the crystal-free, interference-free Spektrum™ DX5e 2.4GHz DSM® 5-channel system. If using your own transmitter, we recommend the JR SPORT MN48 and MC35 servos.

If you own a Spektrum radio, just add a DSM2™ receiver, two JR SPORT MN48, and two JR SPORT MC35 servos. We show the installation of the AR500 receiver in this manual.

Radio System

SPM5500 DX5e DSM2 5CH system

Or Purchase Separately any of the Following Receivers

SPMAR500 AR500 DSM2 5-Channel Full-Range Receiver (for DX5e, DX6i, or DX7)

SPMAR6200 AR6200 DSM2 6-Channel Full Range Receiver (for DX5e, DX6i, or DX7)

And

JSP20040 MN48 Mini Servo (2)
JSP20030 MC35 Micro Servo (2)
JRPA096 9-inch Servo Extension (2)

Recommended Equipment

EFLM4015A Power 15 Brushless Outrunner 950Kv
EFLA1040 40A Pro Brushless ESC
EFLB32003S 3200mAh 3S 11.1V 20C Li-Po
APC12060E Electric Propeller 12 x 6E

Optional Accessories

EFLA110 Power Meter
EFLC3005 Celectra™ 1- to 3-Cell Li-Po Charger
EFLC505 Intelligent 1- to 5-Cell Balancing Charger
EFLA150 Military Pilot (1 or 2)

Required Tools and Adhesives

Tools & Equipment

Manila card stock	Pliers
Low-tack tape	Pencil
Pin vise	Clear tape
Ruler	Hook and loop tape
T-pins	Philips screwdriver: #0, #1
Felt-tipped pen	Hobby knife (#11 blade)
Mixing sticks	Toothpicks
1/16-inch drill bit	Sidecutters
Rubbing alcohol	Paper towels
Double-sided tape	Cable tie
Stick-on lead weight	Square
Mixing cups	
Allen wrench or balldriver: 3/32-inch, 7/64-inch	

Adhesives

Thin CA	Medium CA
Threadlock	6-minute epoxy (HAN8000)

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 away from the propeller, including loose clothing, or other objects such as pencils and screwdrivers. Especially keep your hands away from the propeller.



During the course of building your PT-17 ARF we suggest that you use a soft surface for the building surface. A foam stand, large piece of bedding foam or a thick bath towel will work well and help protect the model from damage during assembly.

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.

Rudder and Elevator Servo Installation

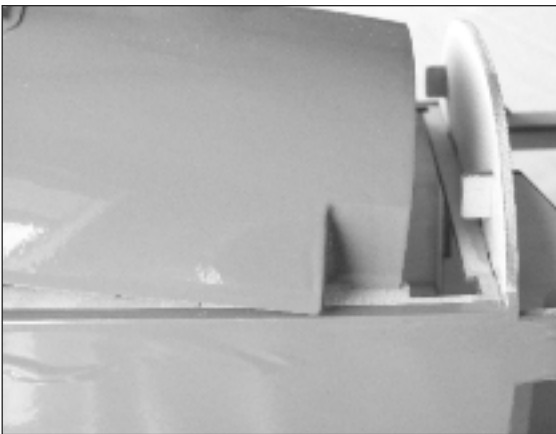
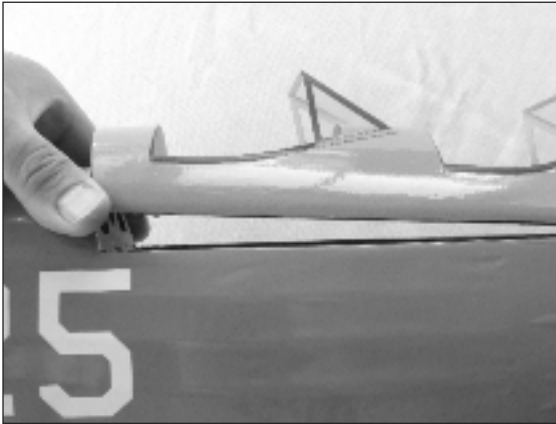
Parts Required

Fuselage assembly Mini servos with hardware (2)
Radio system JR MatchMaker

Tools Required

Pin vise 1/16-inch drill bit
Sidecutters Thin CA
Felt-tipped pen Philips screwdriver #0

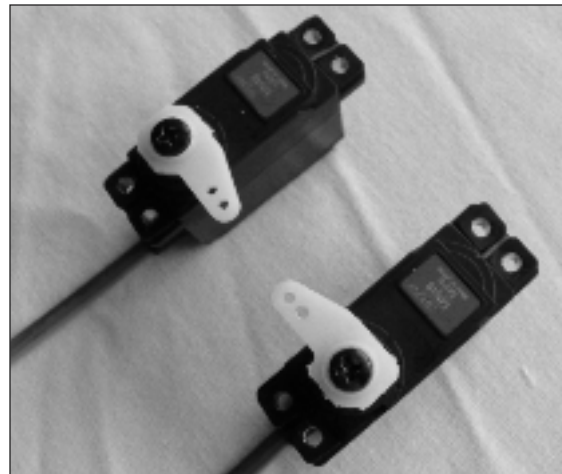
- 1. Remove the cockpit hatch by lifting at the rear then pulling aft to disengage the tabs at the forward end. Set the hatch aside.



- 2. Install the grommets and bushings in the rudder and elevator servos. Note that the bushing is installed from the bottom of the mounting lugs.



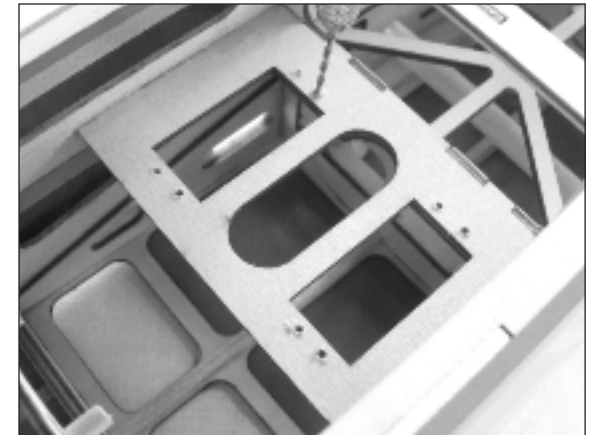
- 3. Center the servos using your radio or a JR MatchMaker. Using sidecutters, remove three of the arms from each standard servo horn, leaving one long arm on each as shown.



- 4. Place the rudder and elevator servos in the fuselage servo cutouts and mark the mounting holes with a felt-tipped pen.



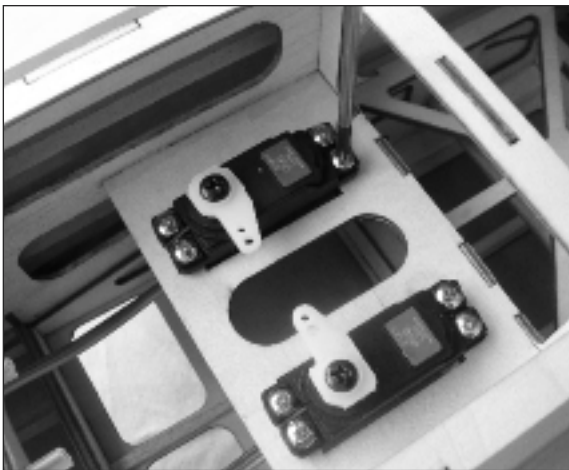
- 5. Remove the servos. Use a 1/16-inch drill bit in a pin vise to drill the mounting holes.



- 6. Apply 2-3 drops of thin CA to each mounting screw hole to strengthen the wood. This will make the servo mounting screws more secure when installed.



- 7. Using a #0 Philips screwdriver and the screws provided with the servos, install the rudder and elevator servos in the fuselage with the arms inboard and towards the rear of the fuselage.



Stabilizer and Fin Installation

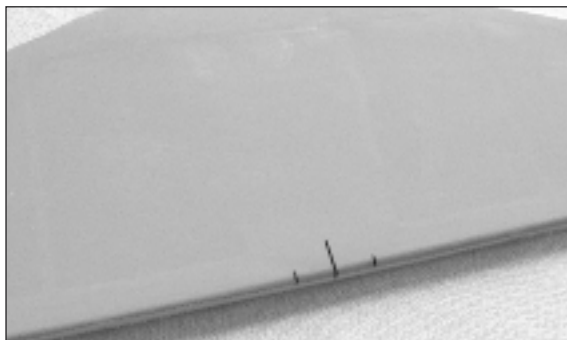
Parts Required

Fuselage	Stabilizer
Elevator	Rudder
CA hinges (8)	Tailwheel assembly

Tools Required

Felt-tipped pen	Thin CA	Ruler
Allen wrench	Square	Threadlock
Rubbing alcohol	Paper towels	T-pins
6-minute epoxy	Toothpicks	Mixing sticks
Mixing cups	Hobby knife (#11 blade)	

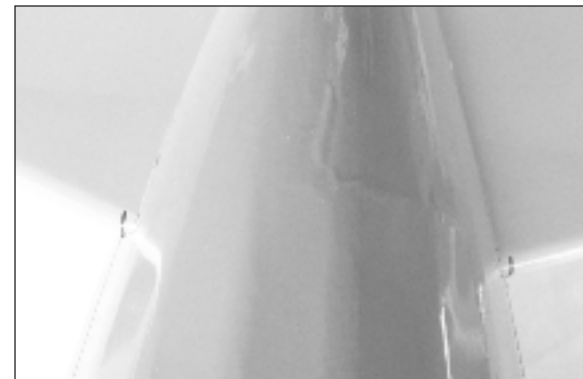
- 1. Use a ruler to mark the center of the trailing edge of the stabilizer. Measure 13/32-inch each side of center and make a mark using a felt-tip pen.



- 2. Use a square to transfer the centerline to the leading edge, then make a mark 1-1/8-inches each side of the center.



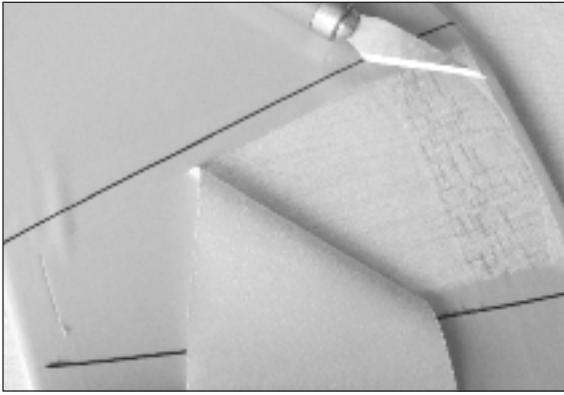
- 3. Slide the stabilizer into the fuselage and align the marks made with the fuselage sides.



- 4. Use a felt-tipped pen to mark the bottom of the stabilizer along the fuselage sides.



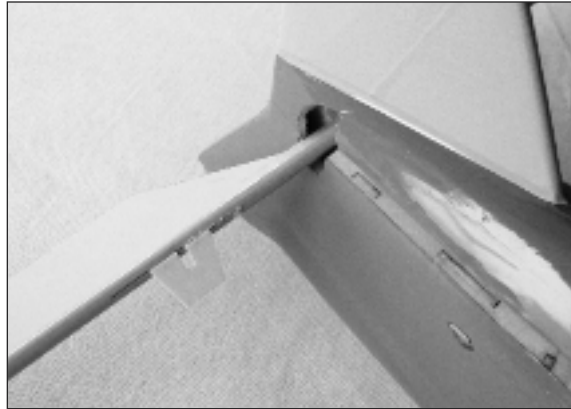
- 5. Remove the stabilizer and use a hobby knife with #11 blade to remove a section of covering approximately 1/4-inch inside the marked lines, and the leading and trailing edges.



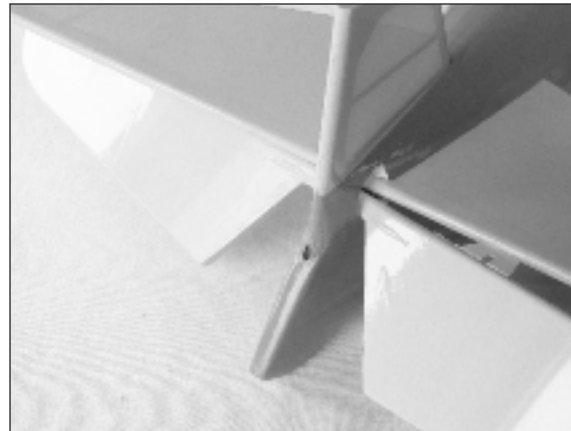
- 6. Prepare six elevator hinges by folding them in half to form a crease.



- 7. Slide the elevator into the fuselage and insert the six hinges.



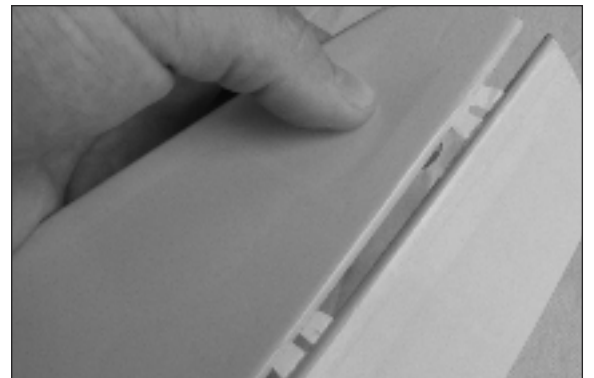
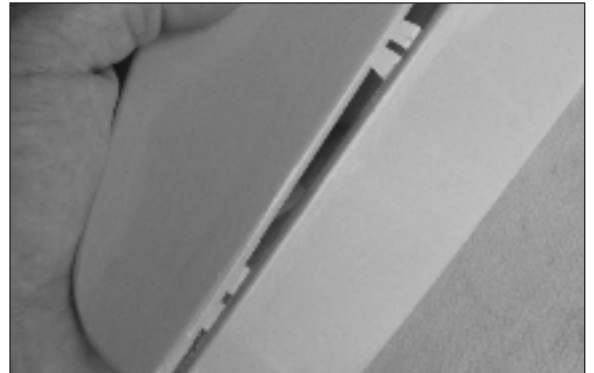
- 8. Slide the stabilizer into the fuselage. First install the right side inboard hinge, by angling the elevator as shown.



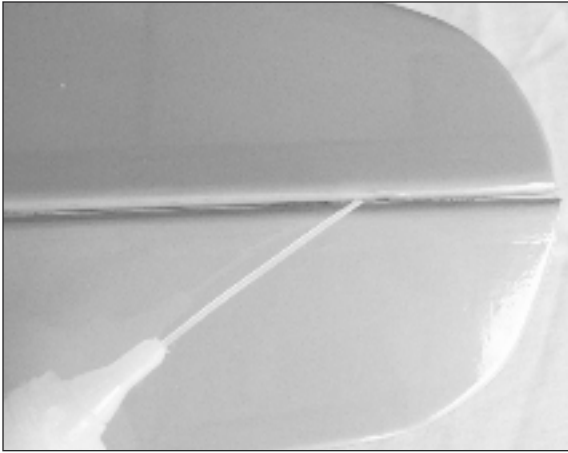
- 9. Then install the left inboard hinge by angling the elevator the opposite direction.



- 10. Next, insert the left and right center and outboard hinges in the stabilizer.



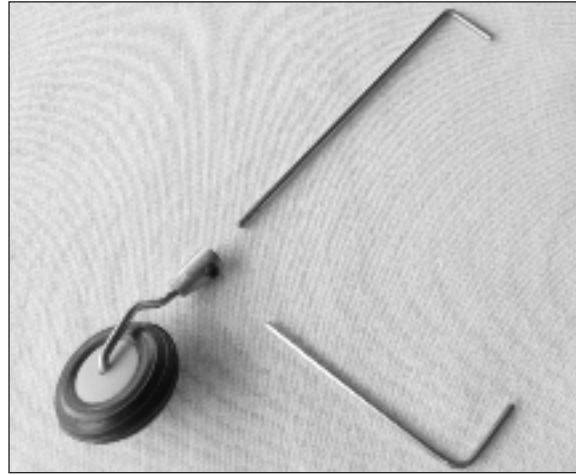
- 11. Align the elevator with the stabilizer and apply 2 - 3 drops of thin CA to each hinge. Do not use accelerator on the hinges as the CA needs to penetrate the hinge for a complete bond.



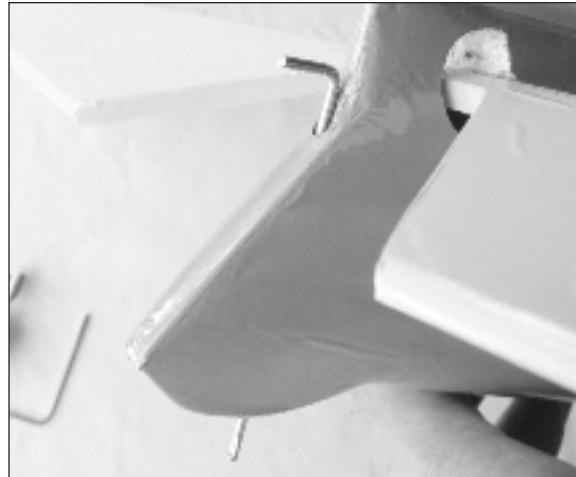
- 12. Using the marks made in steps 1, 2 and 4, check that the stabilizer is aligned with the fuselage. Apply several drops of thin CA to each side of the joint to glue the stabilizer in place.



- 13. Locate the tailwheel assembly. Using the supplied Allen wrench, separate the tailwheel shaft from the wheel assembly.



- 14. Install the tailwheel shaft in the fuselage.

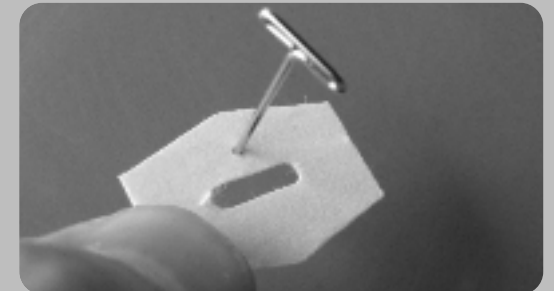


- 15. Install two hinges in the rudder. Mix a small amount of 6-minute epoxy and apply it to the tailwheel shaft hole in the rudder with a toothpick, then slide the rudder assembly on to the fin. Use rubbing alcohol to clean any excess epoxy.

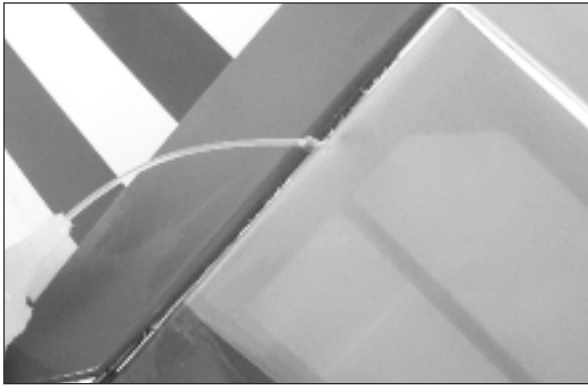


E-tips

Use a T-pin in the center of each hinge to ensure that it remains centered during installation.



- 16. Apply a few drops of thin CA to each rudder hinge. Do not use accelerator on the hinges so the CA can penetrate the hinges completely.



- 17. Install the tailwheel using the supplied 1.5mm Allen wrench. Apply a small amount of threadlock to the setscrew before installation to prevent it from vibrating loose.



E-tips

Use threadlock on all metal-to-metal fasteners to keep them from vibrating loose.

Rudder and Elevator Pushrod Installation

Parts Required

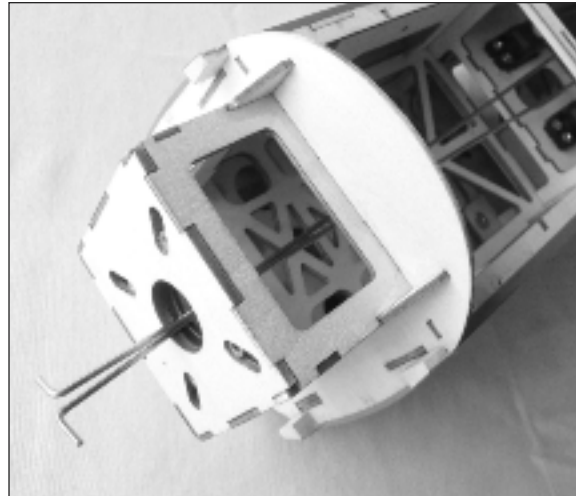
Fuselage assembly
 Elevator pushrod wire, 16-1/2-inch (419mm)
 Rudder pushrod wire, 17-3/4-inch (451mm)
 Nylon control horn backplate (2)
 2mm x 10mm machine screw (4)
 Nylon control horn (2) Nylon clevis (2)
 Nylon pushrod keeper (2) Silicone keeper (2)

Tools Required

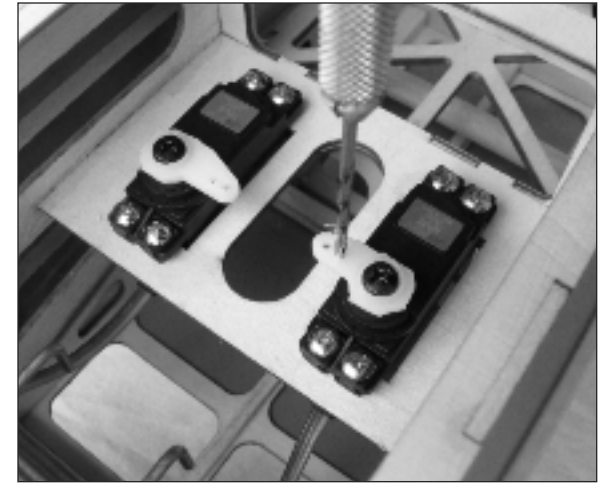
Pin vise 1/16-inch drill bit
 Pliers Ruler
 Felt-tipped pen Thin CA
 Philips screwdriver #0 Sidecutters

- 1. Locate the rudder and elevator pushrods. The longer pushrod is for the rudder and installed on the left hand side. The shorter pushrod is installed on the right hand side for the elevator.

Insert the pushrods in the guide tubes by feeding them into the fuselage through the opening in the center of the firewall.



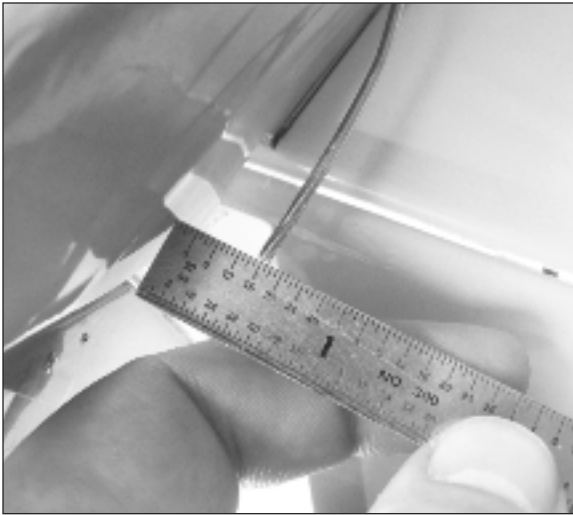
- 2. Use a 1/16-inch drill bit in a pin vise to enlarge the outer hole in the rudder servo arm and the inner hole in the elevator servo arm.



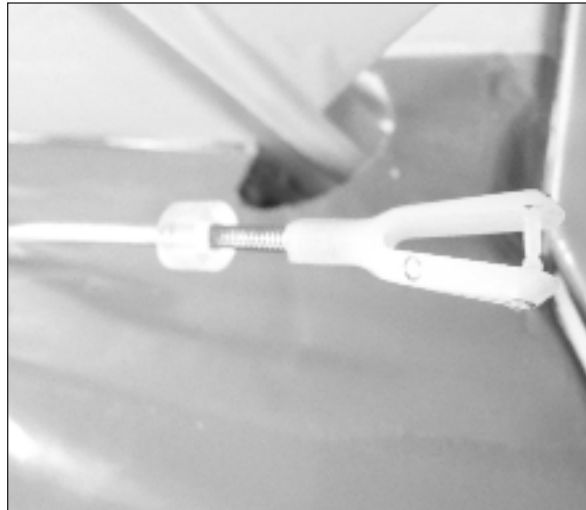
- 3. Fit the pushrods to the servo arms and secure with the pushrod keepers. Note that the elevator pushrod is installed inverted so that the bend in the wire does not contact the servo case.



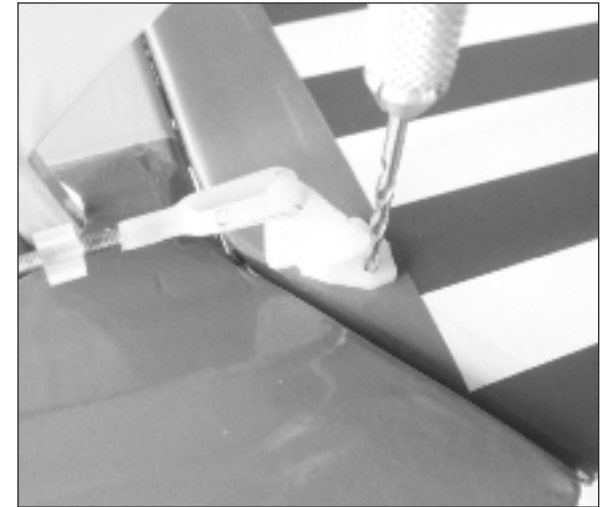
- 4. Use a pair of pliers to place a bend in the rudder pushrod so that the threaded end is 1/2-inch from the fuselage side.



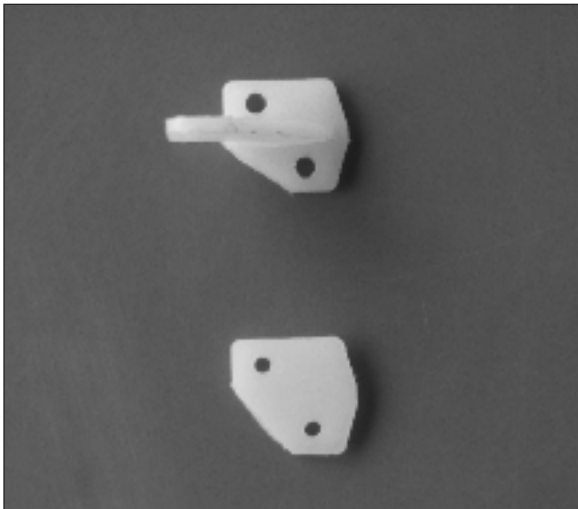
- 6. Install a silicone keeper and clevis on the rudder pushrod so that the clevis pin is aligned with the rudder hinge line.



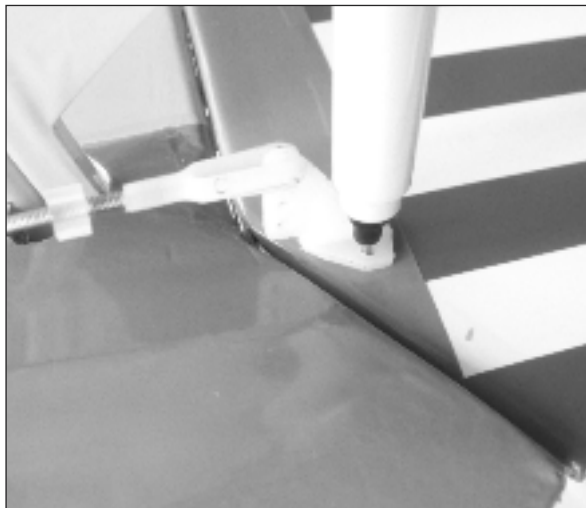
- 8. Use the marks and the control horn as reference to drill the mounting holes with a pin vise and 1/16-inch drill bit.



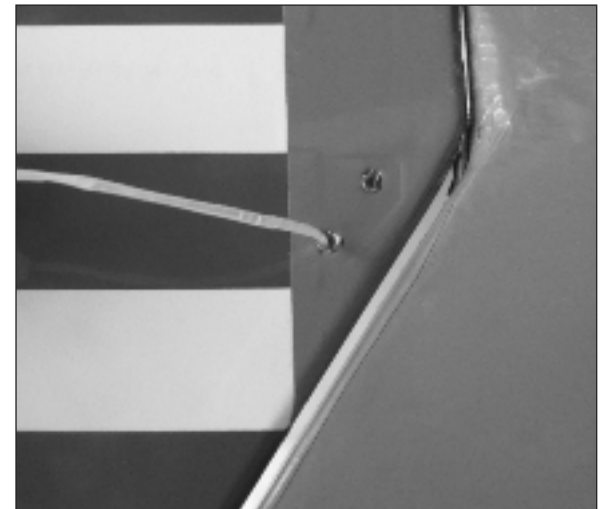
- 5. Use a pair of sidecutters to prepare a control horn for the rudder by cutting off one corner.



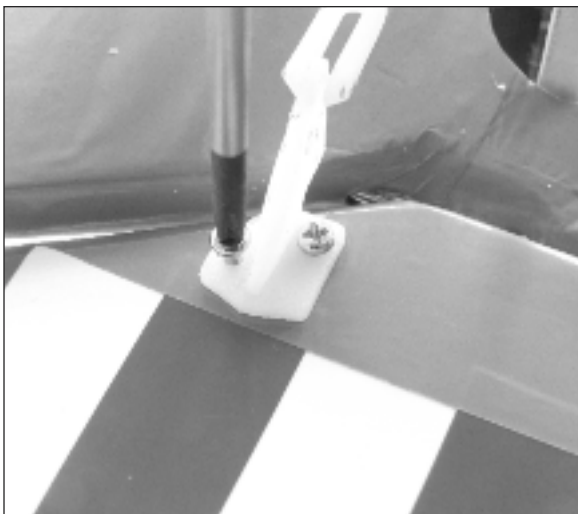
- 7. Connect the clevis to the control horn. Hold the control horn in position against the rudder and mark the screw locations with a felt-tipped pen.



- 9. Apply 1 - 2 drops of thin CA to each screw hole to strengthen the wood and stop it from crushing.



- 10. Install the rudder control horn and backing plate with two 2mm x 10mm machine screws using a #0 Philips screwdriver.



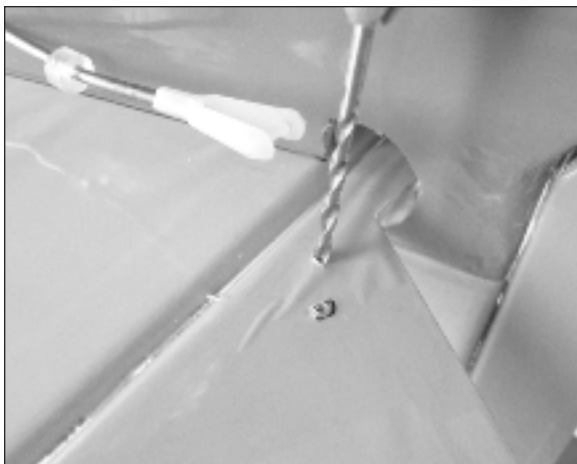
- 11. Place a silicone keeper on the elevator pushrod, then thread on a clevis until the clevis pin is aligned with the elevator hinge line.



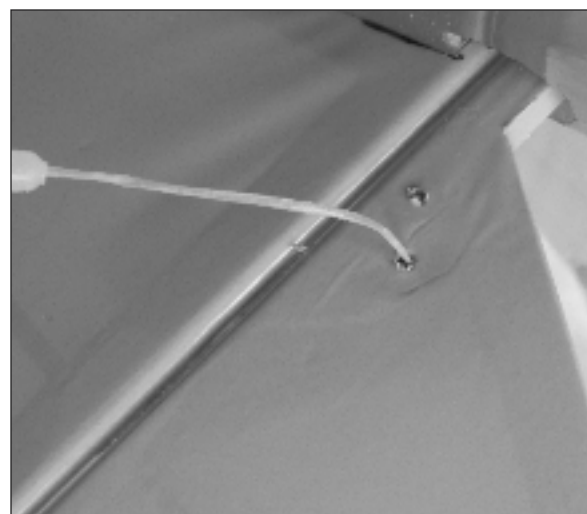
- 12. Connect a control horn to the clevis at the second hole from the bottom and mark the screw holes on the elevator with a felt-tipped pen.



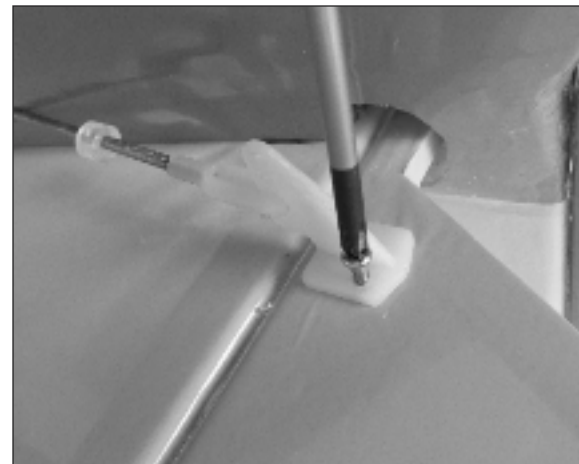
- 13. Use a 1/16-inch drill bit in a pin vise to make the holes for the control horn screws.



- 14. Apply 1 - 2 drops of thin CA to each screw hole to strengthen the wood and stop it crushing when the horn is installed.



- 15. Install the elevator control horn and backing plate with two 2mm x 10mm machine screws using a #0 Philips screwdriver.



Landing Gear Installation

Parts Required

Landing gear (left and right)
Fuselage assembly
6-32 x 3/8-inch Allen bolts (4)
#6 washers (4)

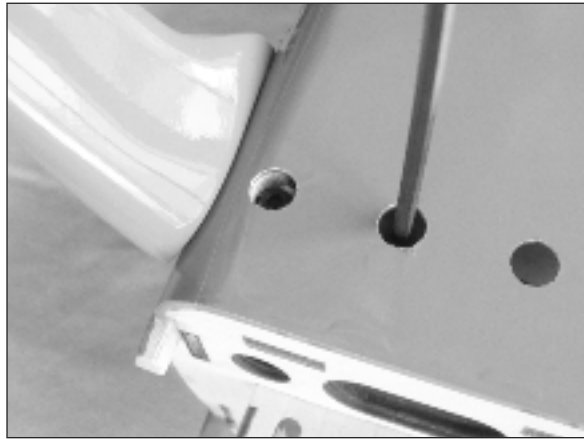
Tools Required

7/64-inch balldriver or Allen wrench
Threadlock

- OO 1. With the fuselage inverted, insert the landing gear into the fuselage until the mounting holes align with the holes in the fuselage.



- OO 2. Using a 7/64-inch balldriver, secure the landing gear with two 6-32 x 3/8-inch Allen bolts and #6 washers. Use threadlock on the bolts to prevent them from vibrating loose.



- O 3. Repeat steps 1 and 2 for the opposite side.



Cabane Strut and Center Section Installation

Parts Required

Cabane struts (4) Fuselage assembly
Wing center section #4 steel washers (4)
4-40 x 1/4-inch Allen bolts (8)
4-40 x 3/8-inch Allen bolts (4)

Tools Required

3/32-inch balldriver or Allen wrench
Threadlock

- O 1. Use a 3/32-inch balldriver to install each of the four cabane struts to the fuselage with 4-40 x 1/4-inch Allen bolts. Apply a small amount of threadlock to each bolt to prevent them from vibrating loose.

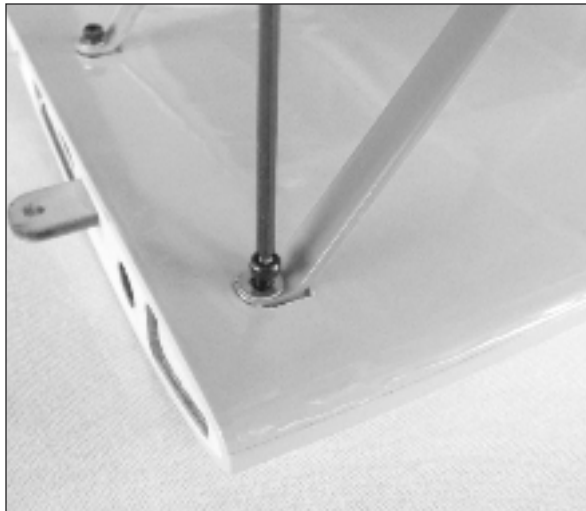


Note: All cabane struts are the same.

E-tips

Use threadlock on all metal-to-metal fasteners to keep them from vibrating loose.

- 2. Place the wing center section inverted on the work surface. Lower the fuselage onto the center section and align the upper ends of the cabane struts with the mounting locations. Use a 3/32-inch balldriver to install the four 4-40 x 3/8-inch Allen bolts and #4 washers. Apply a small amount of threadlock to the bolts to prevent them from vibrating loose.



Aileron Servo Installation

Parts Required

Lower wing panels (L and R)	
Micro servos with hardware (2)	
2mm x 10mm sheet metal screws (8)	
Servo mounting blocks (4)	Control horns (2)
Radio system	JR MatchMaker

Tools Required

Philips screwdriver #0	6-minute epoxy
Mixing cups	Mixing sticks
Paper towels	Rubbing alcohol
Thin CA	Medium CA
Pencil	Sidecutters
Pin vise	1/16-inch drill bit
Low-tack tape	

- 1. Prepare the aileron servos by installing the rubber grommets and bushings.



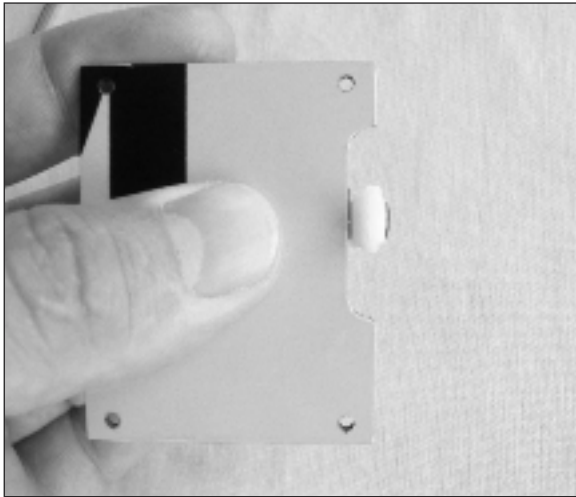
- 2. Use a #0 screwdriver to remove the small arms from the servos. Using sidecutters, remove three arms from a larger servo arm, leaving one long arm. Center the servos using your radio system or JR MatchMaker and install an arm on each servo, one opposite to the other.



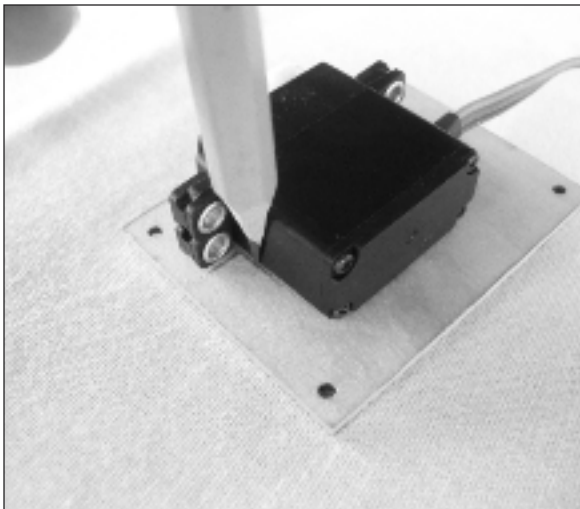
- 3. Remove the aileron hatch from the wing.



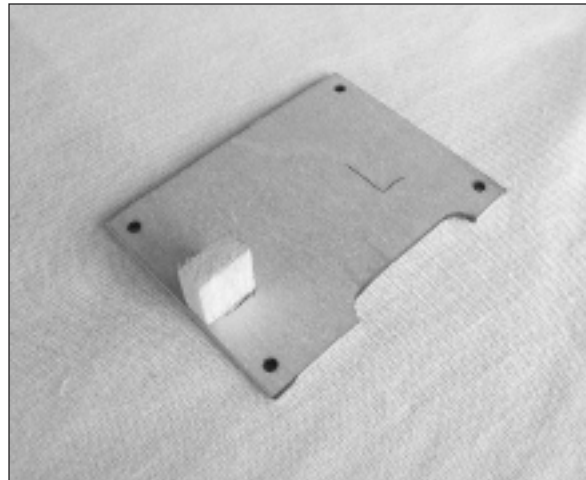
- OO 4. Hold the servo in place on the underside of the hatch with the arm centered in the opening and aligned with the edge of the hatch.



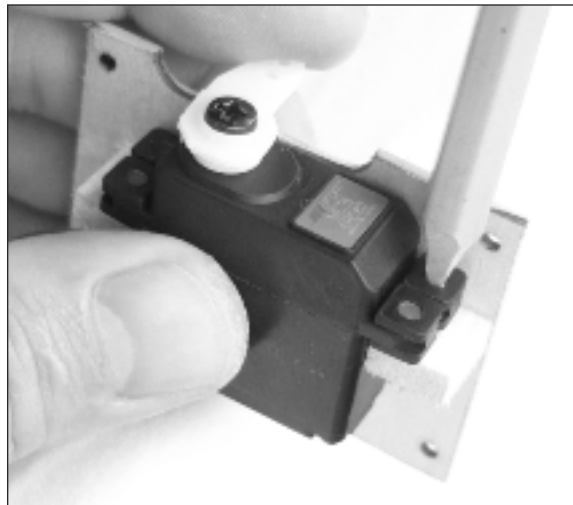
- OO 5. Use a pencil to mark the location of the servo mounting tabs.



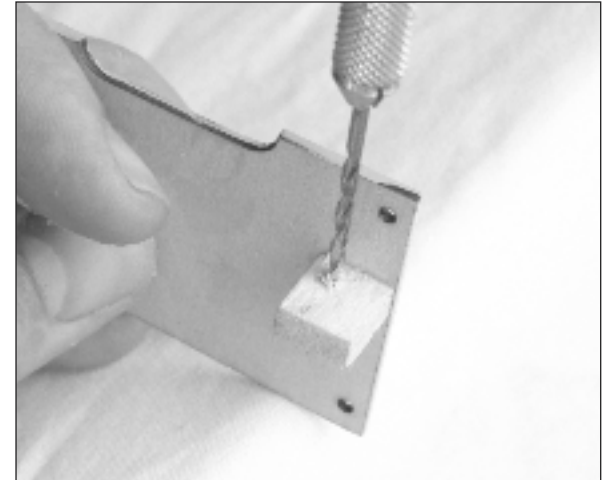
- OO 6. Use medium CA or 6-minute epoxy to glue the servo mounting blocks to the aileron hatch.



- OO 7. Place the servo on the hatch and use a pencil to mark the servo mounting holes.



- OO 8. Use a 1/16-inch drill bit in a pin vise to make the servo mounting holes.



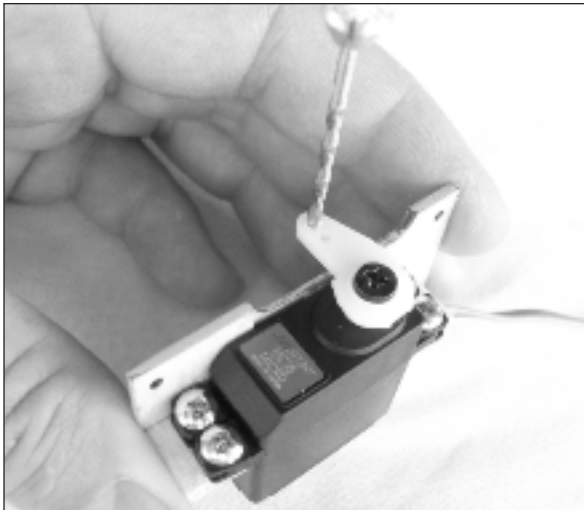
- OO 9. Apply 2-3 drops of thin CA to each hole to strengthen the wood.



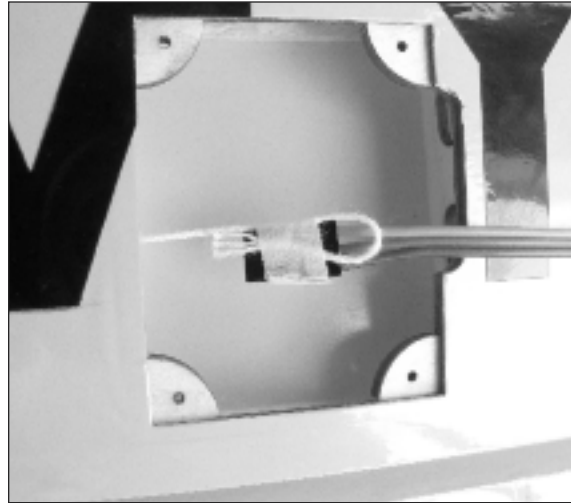
- OO 10. Using a #0 Philips screwdriver, install the aileron servo to the hatch with the screws provided with the servo.



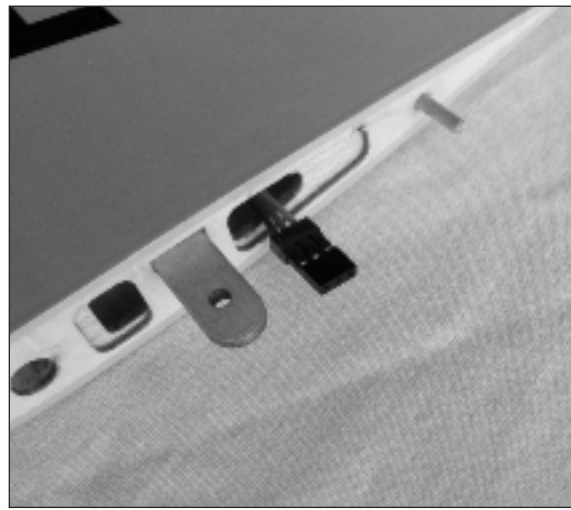
- OO 11. Use a 1/16-inch drill bit in a pin vise to enlarge the outer hole in the servo arm.



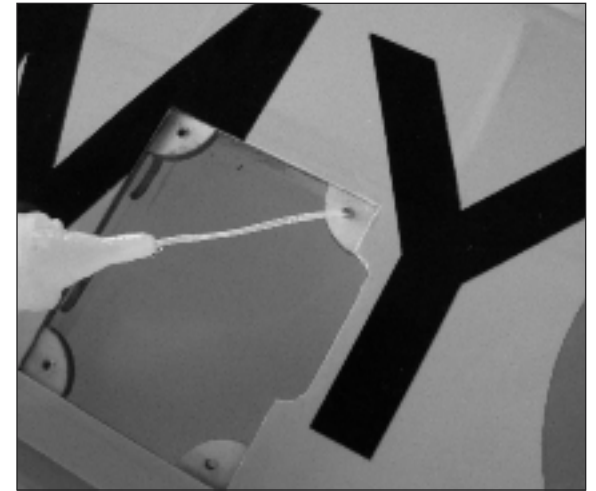
- OO 12. Remove the tape from the string near the aileron servo opening in the wing. Tape or tie the string to the aileron servo lead, and use it to pull the lead through the wing.



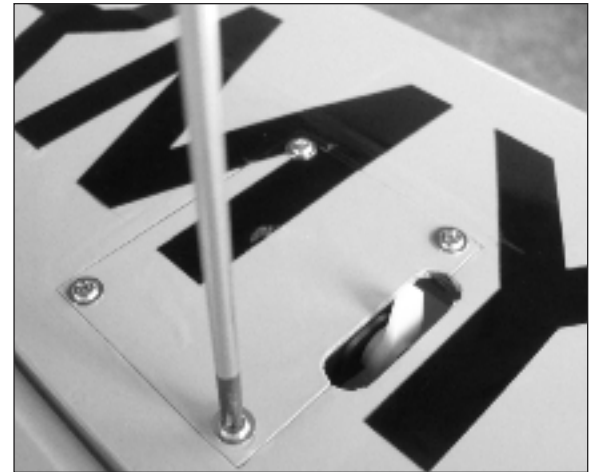
- OO 13. Use the string to pull the aileron servo lead through the wing.



- OO 14. Apply 1-2 drops of thin CA to each of the aileron hatch mounting holes in the wing.



- OO 15. Using a #0 Philips screwdriver, attach the aileron servo and hatch to the wing with four 2mm x 10mm sheet metal screws.



- O 16. Repeat steps 3 through 15 for the opposite wing.

Aileron Installation

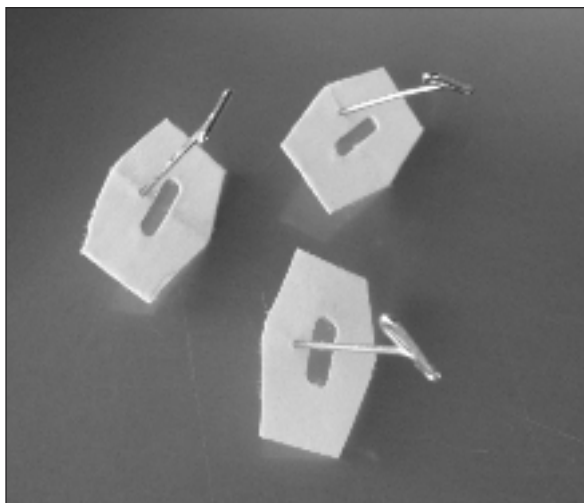
Parts Required

Lower wing panels w/ailerons (L & R)
CA hinges (6)

Tools Required

Thin CA
Felt-tipped pen

- OO 1. Prepare three CA hinges by inserting a T-pin in the center of each hinge.



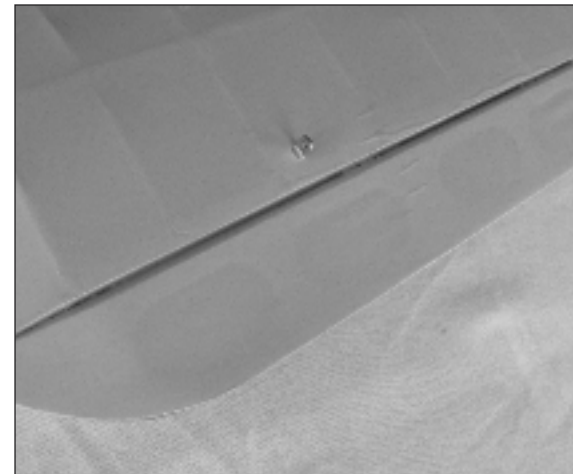
- OO 2. Remove the tape holding the aileron to the wing and separate the aileron. Insert a hinge into each of the hinge slots in the leading edge of the aileron.



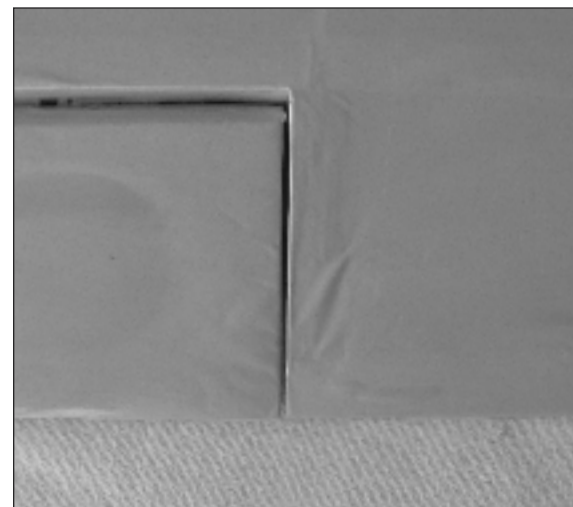
- OO 3. Slide the aileron hinges into the hinge slots in the trailing edge of the lower wing panel.



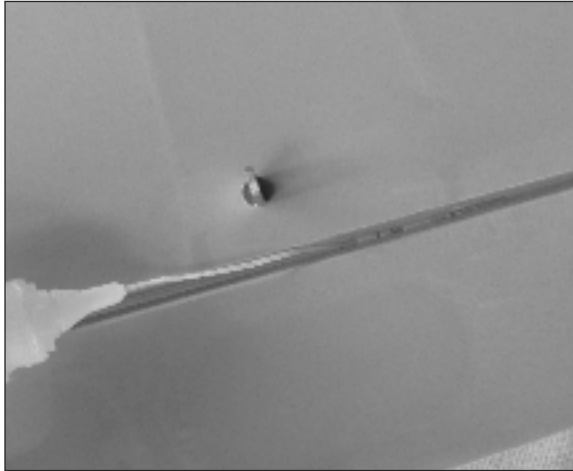
- OO 4. Slide the aileron and wing panel together on the hinges then remove the T-pins.



- OO 5. Align the trailing edge of the aileron with the trailing edge of the wing. Slide the aileron left or right as necessary to maintain an even gap at each end of the aileron.



- OO 6. Apply a few drops of thin CA to each of the three aileron hinges. Do not use accelerator as the CA needs to penetrate the hinges fully for a complete bond.



- O 7. Repeat steps 1 through 6 for the opposite lower wing panel.

Aileron Linkage Installation

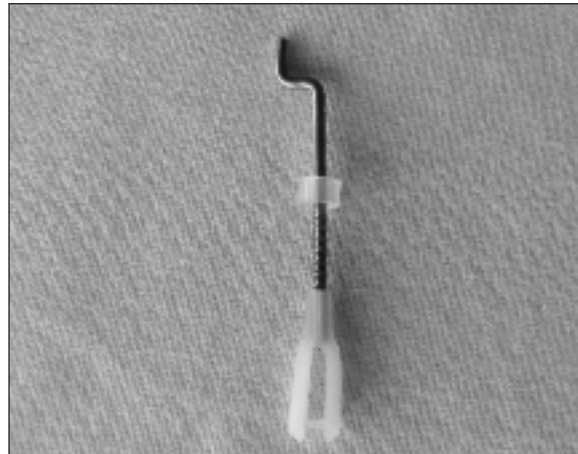
Parts Required

Lower wing panels w/ailerons (L & R)
 Aileron wire pushrods, 1-5/8-inch (41mm) (2)
 2mm x 10mm sheet metal screws (4)
 Nylon control horn (2) Nylon clevis (2)
 Silicone keeper (2)

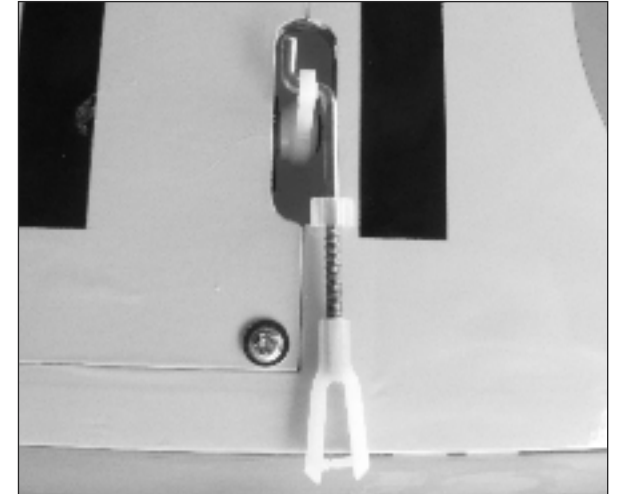
Tools Required

1/16-inch drill bit Pin Vise
 Felt-tipped pen Low-tack tape
 Philips screwdriver #0

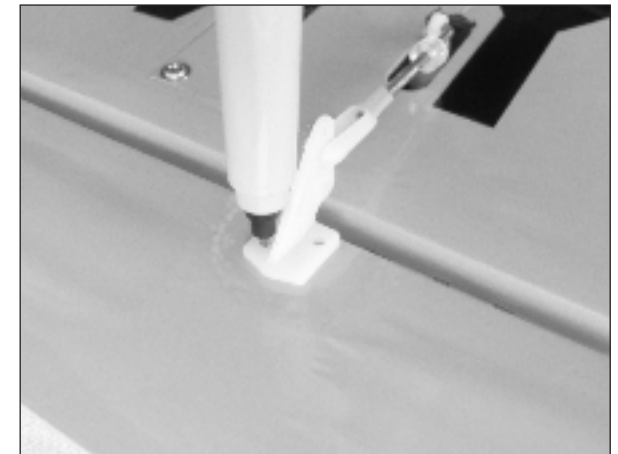
- OO 1. Install a silicone keeper and nylon clevis on to a 1-5/8-inch (41mm) aileron pushrod.



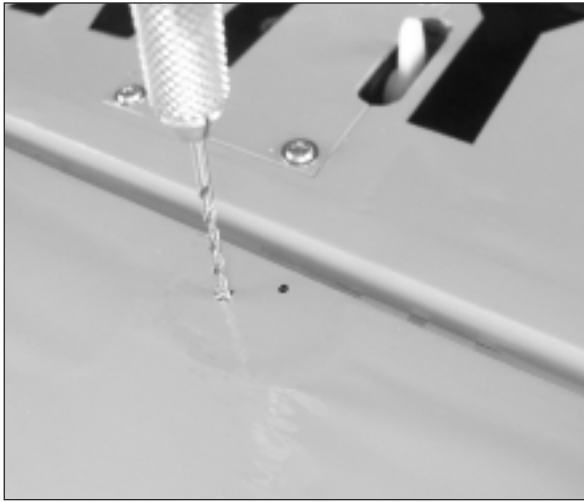
- OO 2. Insert the pushrod into the outer hole in the servo arm and adjust the clevis so that the clevis pin is aligned with the aileron hinge line.



- OO 3. Attach a control horn to the clevis and mark the mounting hole locations with a felt-tipped pen.

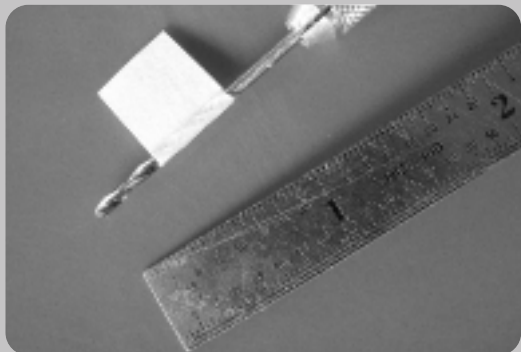


- OO 4. Use a 1/16-inch drill bit in a pin vise to drill the control horn mounting holes. Use care not to drill all the way through the aileron.



E-tips

Use a low-tack tape 'flag' on the drill bit to prevent drilling all the way through the aileron. For the PT-17 a depth of 3/8-inch works well.



- OO 5. Apply 2-3 drops of thin CA to each hole to strengthen the wood and prevent the screws vibrating loose.



- OO 6. Use a #0 Philips screwdriver to install the control horn to the aileron with 2mm x 10mm sheet metal screws.



- O 7. Repeat steps 1 to 6 for the opposite wing panel.

Motor and ESC Installation

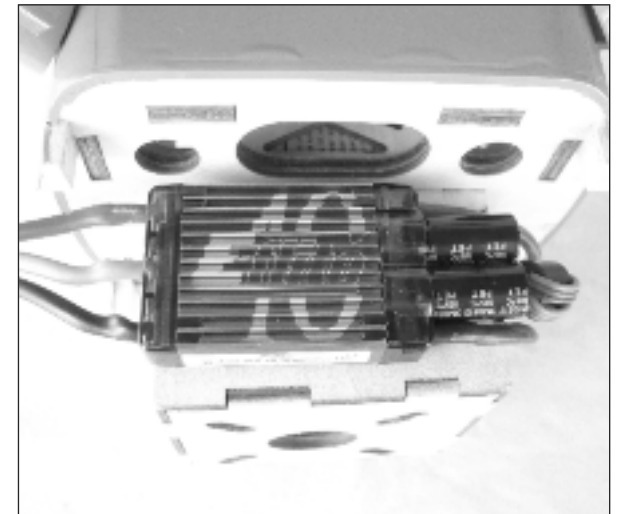
Parts Required

Motor with mounting hardware	Fuselage assembly
1/2-inch (13mm) spacers	ESC
4-40 x 1 inch Allen bolts (4)	#4 washers (4)
Cable tie (not included)	Hook and loop tape

Tools Required

Philips screwdriver #1	3/32-inch balldriver
Threadlock	

- O 1. Use hook and loop tape to attach the ESC to the lower side of the motor box.



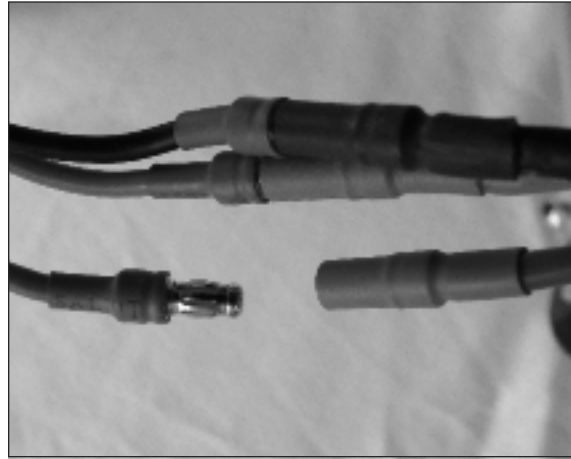
- 2. Using a #1 Philips screwdriver, install the motor mount using the screws supplied with the motor. Use threadlock on the screws to prevent them loosening due to vibration.



- 3. Using a 3/32-inch balldriver, install the motor and 1/2-inch (13mm) spacers on the firewall with four 4-40 x 1 inch Allen bolts and #4 washers. Use threadlock on the bolts to prevent them loosening due to vibration. The motor wires should exit towards the bottom of the fuselage.



- 4. Connect the three motor wires to the ESC wires.



- 5. Use a cable tie to organize the motor and ESC wires on the left side of the firewall.



Cowling Installation

Parts Required

Fuselage assembly	Cowling
2mm x 10mm sheet metal screws (4)	
Cockpit hatch	

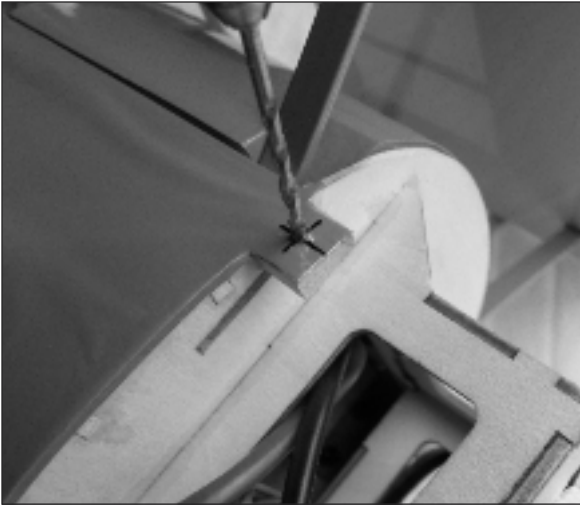
Tools required

Pin vise	1/16-inch drill bit
Manila card stock	Felt-tipped pen
Low-tack masking tape	Thin CA
Philips screwdriver #0	Punch or awl

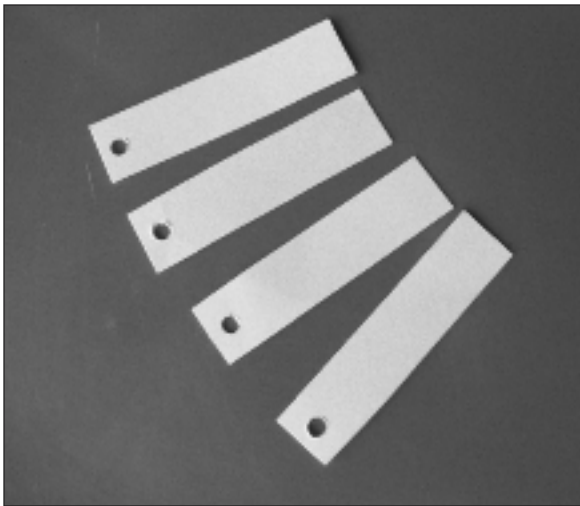
- 1. Replace the cockpit hatch on the fuselage. Use a felt-tipped pen to mark the center of each of the four cowl mounting blocks.



- 2. Use a 1/16-inch drill bit in a pin vise to drill a hole in the center of each cowl mounting block.



- 3. Prepare four 2" x 1/2-inch alignment tabs from manila card stock. At the end of each tab use a punch or an awl to form a hole.



- 4. Use low-tack masking tape to tape the alignment tabs to the fuselage with their holes centered over the holes in the cowl mounting blocks.



- 5. Install the cowling on the fuselage, making sure that the alignment tabs are on the outside of the cowl. Use the cowl opening as an alignment guide by centering it on the motor.



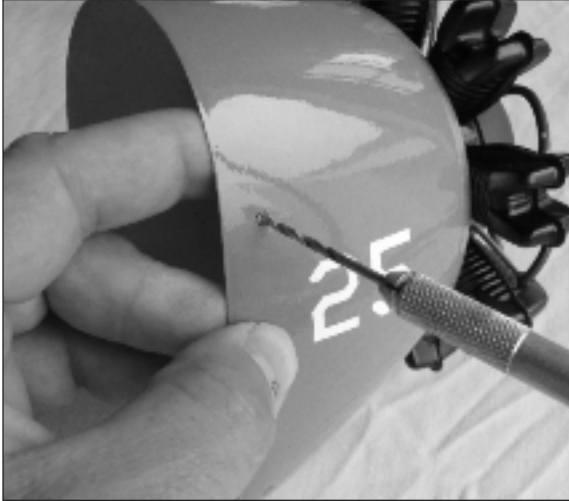
- 6. Verify that the motor can rotate without contacting the cowling, then secure the cowling to the fuselage with low-tack tape.



- 7. Use a felt-tipped pen to mark the mounting hole locations on the cowling.



- 8. Remove the cowling. Use a 1/16-inch drill bit in a pin vise to drill the mounting holes at the marked locations on the cowling.



- 9. Use a #0 Philips screwdriver to attach the cowling to the fuselage with four 2mm x 10mm sheet metal screws.



- 10. Remove the cowling and apply 1-2 drops of thin CA to each of the mounting holes.

We recommend that this be done after the cowl has been mounted and the screws have formed a thread in the blocks. This will prevent them from splitting.



Interplane Strut and Transport Jig Installation

Parts Required

Upper and lower wing panels (L & R)	
Upper carbon wing tube, 14-3/8-inch (365mm)	
Lower carbon wing tube, 10-5/8-inch (270mm)	
4-40 x 1/4-inch Allen bolts (8)	
4-40 x 3/8-inch Allen bolts (4)	
Fuselage assembly	Interplane struts (2)
Wing transport jigs	Rubber bands (4)
#4 washers (12)	

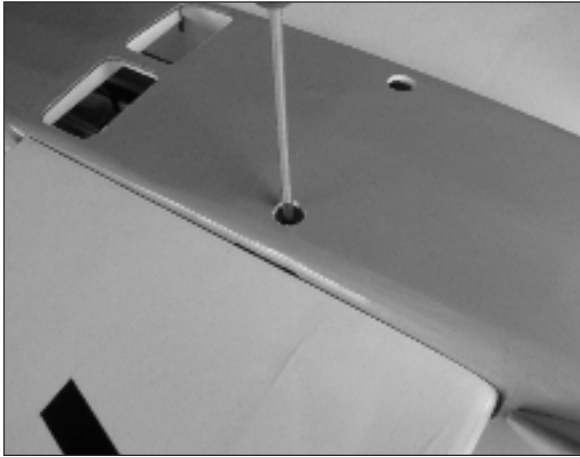
Tools Required

3/32-inch balldriver	Threadlock
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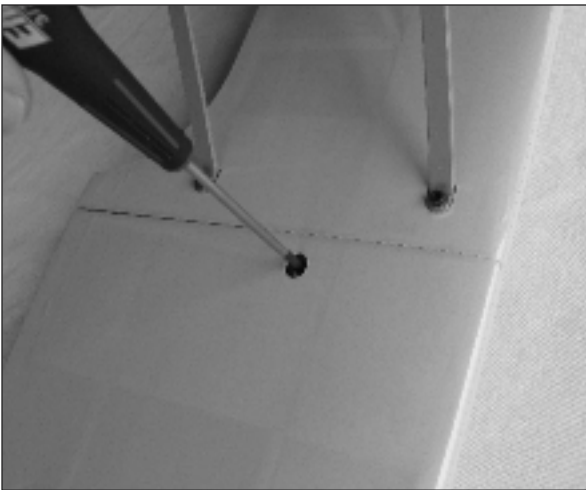
- 1. Install the upper and lower wing joiner tubes in the center section and fuselage. The upper tube is 14-3/8-inches (365mm) long. The lower is 10-5/8-inches (270mm).



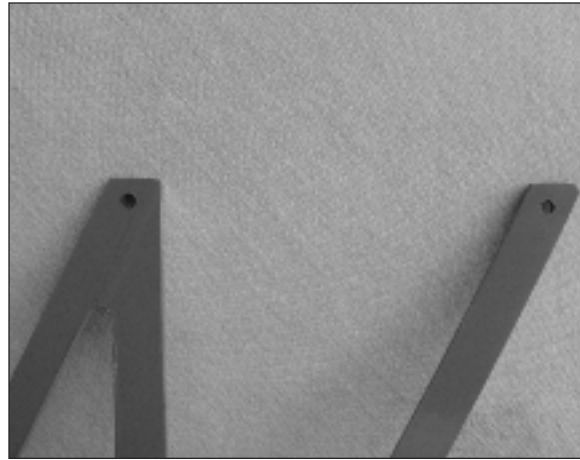
- 2. With the fuselage inverted, slide the lower wing panels on to the joiner tube and install the 4-40 x 3/8-inch retaining bolts and #4 washers with a 3/32-inch balldriver.



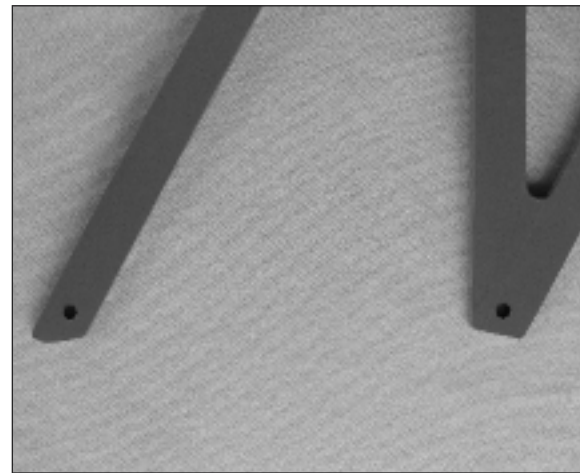
- 3. Repeat for the upper wing panels.



- 4. The interplane struts are installed so that they form an 'N' when viewed from the right side of the model. The upper strut ends have squared off ends.



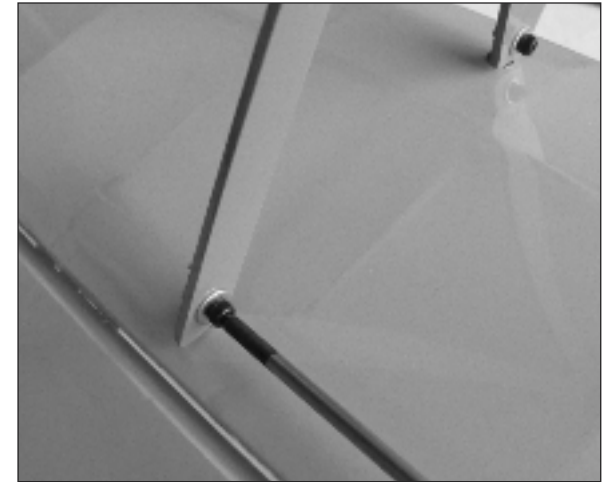
The lower ends are angled.



Etips

Use threadlock on all metal-to-metal fasteners to keep them from vibrating loose.

- 5. Using a 3/32-inch balldriver, install the interplane struts to the outboard side of the mounting lugs in the wing panels with 4-40 x 1/4-inch Allen bolts and #4 washers. Use threadlock on the bolts to prevent them from loosening due to vibration.



- 6. A set of wing transport jigs is provided so that the left and right wing assemblies can be transported and installed as complete units.



- OO 7. Insert the transport jig between the wing panels approximately 1/2-inch outboard of the upper panel separation point.



- OO 8. Secure the panels to the transport jig using a rubber band on the upper and lower panel.



- OO 9. Use a 3/32-inch balldriver to remove the wing retaining screws and remove the wing panel assembly from the fuselage.



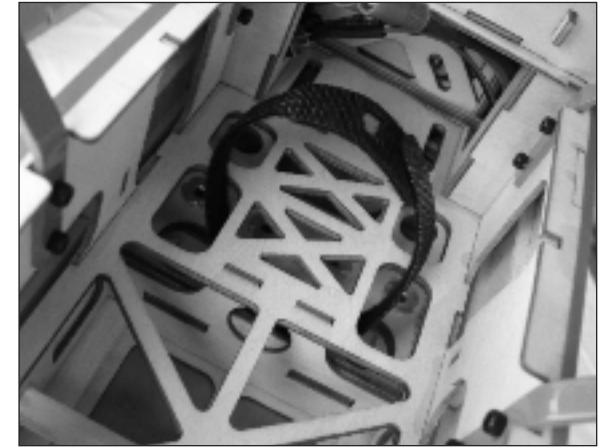
- O 10. Repeat Steps 7, 8, and 9 to remove the opposite wing panels.

Battery Installation

Parts Required

Fuselage assembly Battery strap
Hook and loop tape

- O 1. Remove the cockpit hatch. Install a battery strap around the battery tray in preparation for later mounting of the battery.



- O 2. Attach a piece of adhesive backed hook and loop tape to the battery and tray to help locate the battery and stop it moving in flight.



Receiver Installation

Parts Required

Fuselage assembly
9-inch servo extension lead (2)
Receiver

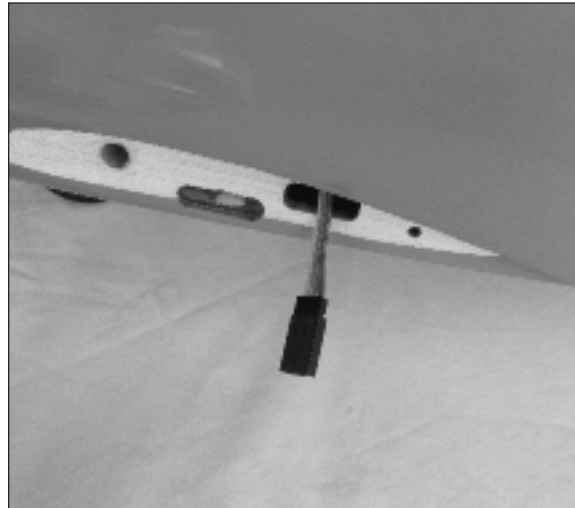
Tools Required

Clear tape Hook and loop tape
Double-sided adhesive tape

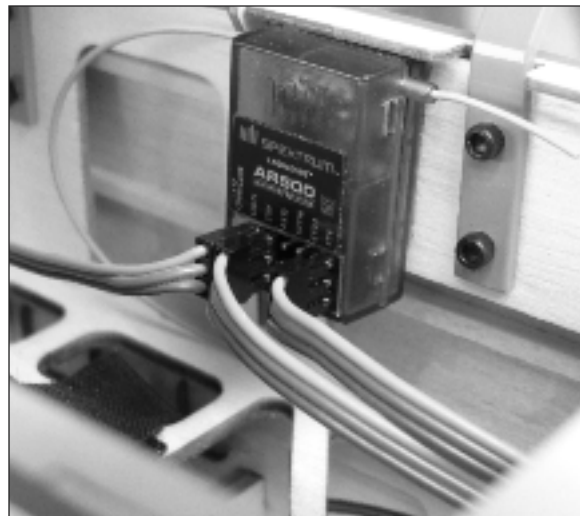
- 1. Attach the receiver to the right hand side of the battery compartment with double sided adhesive tape. Connect the throttle lead from the ESC.



- 2. Feed a 9-inch long servo extension lead from the aileron lead opening in the lower wing root to the receiver.



- 3. Repeat for the opposite side and connect the leads to the receiver.



- 4. Connect the rudder and elevator servo leads to the receiver.



- 5. Secure the long antenna to the front of the radio tray with clear tape.



Wing Installation

Parts Required

Fuselage assembly
Wing panels on transport jigs (L & R)
Upper carbon wing tube, 14-3/8-inch (365mm)
Lower carbon wing tube, 10-5/8-inch (270mm)
4-40 x 3/8-inch Allen bolts (4)
#4 washers (12)

Tools Required

3/32-inch balldriver

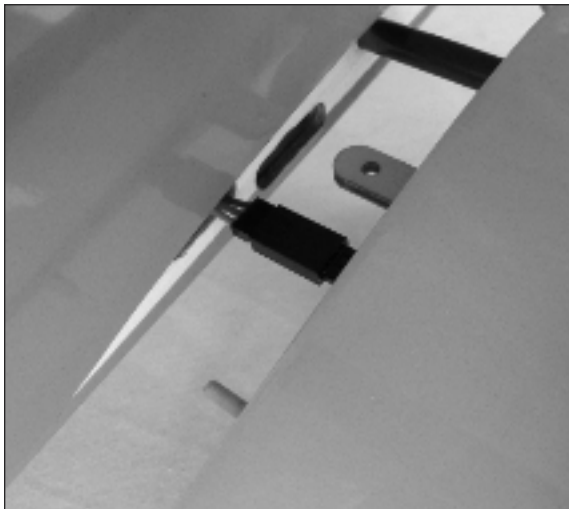
- 1. Install the upper and lower carbon wing tubes in the wing center section and fuselage.



- 2. Slide the left and right wing panel assemblies approximately half-way on to the wing tubes, leaving about a 1-1/2-inch gap between the wing and fuselage/center section.



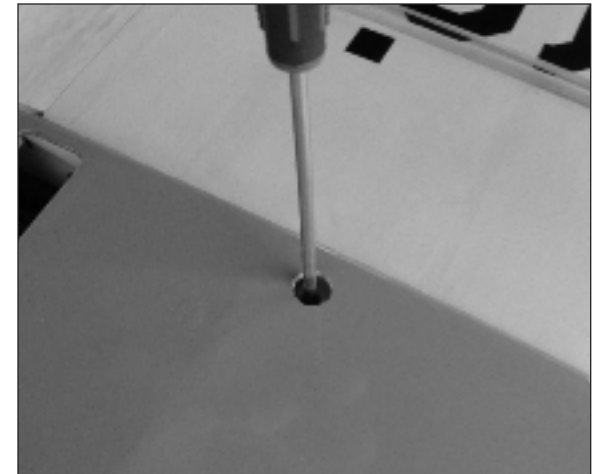
- 3. Connect the aileron servo lead to the extension lead coming out of the fuselage.



- 4. Slide the wing assemblies completely on to the wing tubes while feeding the aileron servo leads into the fuselage.



- 5. Use a 3/32-inch balldriver to secure the wing panels with one 4-40 x 3/8-inch Allen bolt and #4 washer per wing panel.



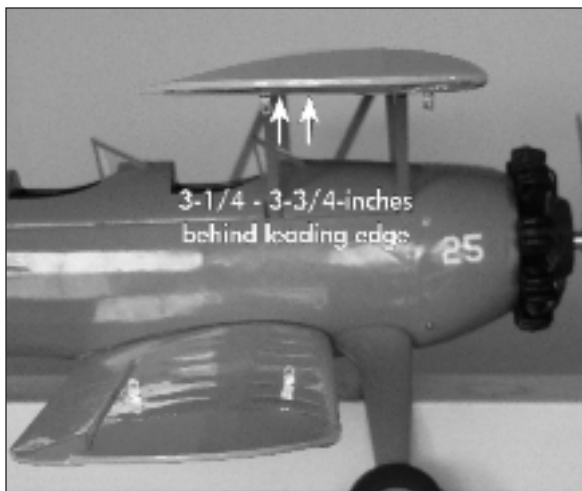
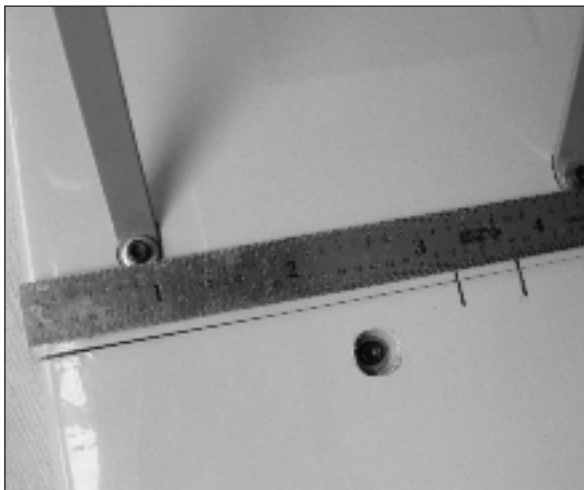
- 6. Remove the rubber bands and transport jigs before flight.

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 balance point for the PT-17 is 3-1/4 to 3-3/4 inches (82 to 95mm) behind the leading edge of the upper wing. Mark the range for the Center of Gravity on the underside of the upper wing as shown. Interplane strut removed for clarity.



It will be necessary to assemble the model to a flight ready state in order to check the center of gravity location.

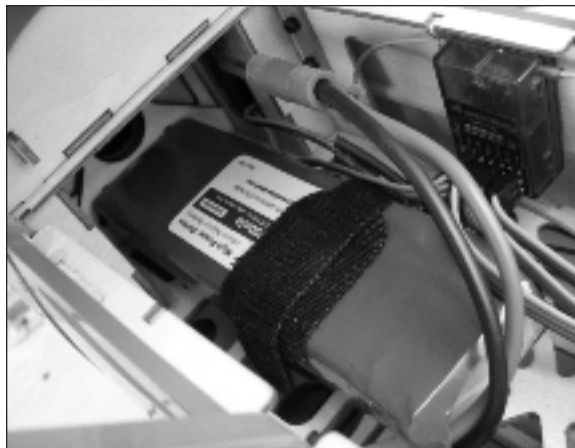
Parts Required

Assembled model	Propeller
Motor battery	

Tools Required

Felt-tipped pen	Ruler
Stick-on lead weight	

- 1. Install the motor battery.



- 2. Install the propeller adapter and propeller. The shaft of a screwdriver or Allen wrench can be used to tighten the propeller nut.

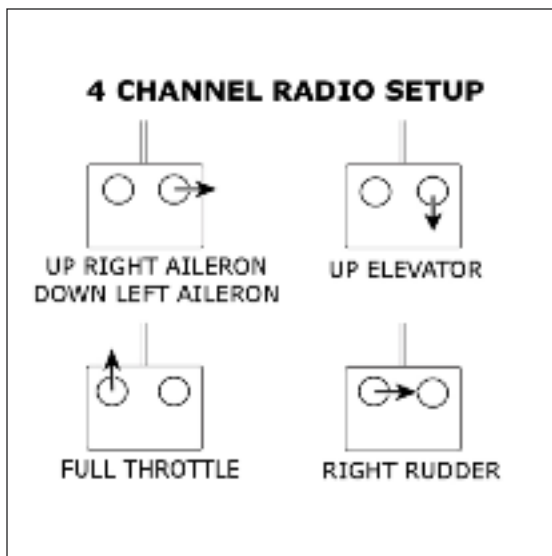


- 3. Use a commercial balancing device or suspend the model on fingertips within the recommended center of gravity range to check the balance.
- 4. Due to the short nose moment of the Stearman PT-17, between 2 to 4 ounces of nose weight will be required. Determine the amount by temporarily placing it on the dummy engine at the cylinder location. When the appropriate amount is known, remove the cowling and attach the weight inside at the base of the dummy engine cylinders. Form a curve in the weight prior to installation so that it conforms to the interior of the cowling and does not interfere with operation of the motor.



Control Throws

- 1. Turn on your transmitter, plug in the motor battery and switch on the receiver power. Make any clevis adjustments necessary to center the control surfaces, then secure all the clevises with the silicone keepers.
- 2. Check the movement of the rudder using the transmitter. When the stick is moved right, the rudder should also move right.
- 3. Check the movement of the elevator with the radio system. Moving the elevator stick toward the bottom of the transmitter will make the elevator move up.
- 4. 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.
- 5. Reverse the direction of the servos at the transmitter as necessary.



- 6. Use a ruler to adjust the throw of the elevator, ailerons and rudder. Adjust the travel volume or dual rate in your transmitter to achieve the following measurements when moving the sticks to their endpoints.

Aileron

Up	3/4-inch	(19mm)
Down	3/4-inch	(19mm)

Elevator

Up	1/2-inch	(13mm)
Down	1/2-inch	(13mm)

Rudder

Left	1-1/2-inch	(38mm)
Right	1-1/2-inch	(38mm)

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

Due to the lifting nature of the flat-bottomed airfoil, your PT-17 may require a few clicks of down trim for level flight, especially at higher power settings.

E-tips

Measurements are taken at the widest point on the control surface.

Travel Adjust, Sub Trim and Dual Rates are not listed and should be adjusted according to each individual model and preference.

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.

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 could mean the loss of your aircraft.

Flying Your Stearman PT-17 ARF

Flying the Stearman PT-17 ARF is a bunch of fun and will be enjoyable for all skill levels.

A very light wing loading and mild control throws make for some enjoyable evening flying. Verify that your CG is at the correct location as per the manual and that you have your rates set up to your liking. Verify all control throws are in the correct direction and the motor spins in the correct direction also.

Point the model into the wind and add some throttle trim until the motor begins to turn. This will be your flight idle. Now, apply power slowly, the model may swing slightly to the left so some right rudder may be needed on takeoff. You will find the model will become airborne very quickly and at a low speed. This model excels at flying slow and easy. Trim the model for level flight at half throttle. In most cases the PT-17 will require a few degrees of down trim. The Stearman PT-17 ARF has plenty of power with the E-flite Power 15 so you will only need to use full throttle for maneuvering.

To land the Stearman PT-17 ARF, just reduce the throttle to idle and feed in up elevator until the model settles into a slightly nose-high attitude. Gently fly the model down to the landing spot with a final flair at touchdown. You will find the model will have a very short roll out. Both wheel landings and 3 point landings are capable with this aircraft. We hope you enjoy the Stearman PT-17 ARF as much as we do.

Happy landings.

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.

- 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.

Age Requirements

Age Recommendation: 14 years or over. This is not a toy. This product is not intended for use by children without direct adult supervision.

Safety Do's and Don'ts for Pilots

- Check all control surfaces prior to each takeoff.
- Do not fly your model near spectators, parking areas or any other area that could result in injury to people or damage of property.
- Do not fly during adverse weather conditions. Poor visibility can cause disorientation and loss of control of your aircraft. Strong winds can cause similar problems.
- Do not take chances. If at any time during flight you observe any erratic or abnormal operation, land immediately and do not resume flight until the cause of the problem has been ascertained and corrected. Safety can never be taken lightly.
- Do not fly near power lines.

Warranty Information

WARRANTY PERIOD

Exclusive Warranty- Horizon Hobby, Inc., (Horizon) warrants 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 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.

United States:

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 or e-mail us at productsupport@horizonhobby.com with any questions or concerns regarding this product or warranty.

United Kingdom:

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

Horizon Hobby UK
Units 1-4 Ployters Rd
Staple Tye
Harlow, Essex
CM18 7NS
United Kingdom

Please call +44 (0) 1279 641 097 or e-mail us at sales@horizonhobby.co.uk with any questions or concerns regarding this product or warranty.

Germany:

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

Horizon Technischer Service
Hamburger Strasse 10
25335 Elmshorn
Germany

Please call +49 4121 46199 66 or e-mail us at service@horizonhobby.de with any questions or concerns regarding this product or warranty.

2009 Official Academy of Model Aeronautics Safety Code

GENERAL

1. A model aircraft shall be defined as a non-human carrying device capable of sustained flight in the atmosphere. It shall not exceed limitations established in this code and is intended to be used exclusively for recreational or competition activity.
2. The maximum takeoff weight of a model aircraft, including fuel, is 55 pounds, except for those flown under the AMA Experimental Aircraft Rules.
3. I will abide by this Safety Code and all rules established for the flying site I use. I will not willfully fly my model aircraft in a reckless and/or dangerous manner.
4. I will not fly my model aircraft in sanctioned events, air shows, or model demonstrations until it has been proven airworthy.
5. I will not fly my model aircraft higher than approximately 400 feet above ground level, when within three (3) miles of an airport without notifying the airport operator. I will yield the right-of-way and avoid flying in the proximity of fullscale aircraft, utilizing a spotter when appropriate.
6. I will not fly my model aircraft unless it is identified with my name and address, or AMA number, inside or affixed to the outside of the model aircraft. This does not apply to model aircraft flown indoors.
7. I will not operate model aircraft with metal-blade propellers or with gaseous boosts (other than air), nor will I operate model aircraft with fuels containing tetranitromethane or hydrazine.

8. I will not operate model aircraft carrying pyrotechnic devices which explode burn, or propel a projectile of any kind. Exceptions include Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight. Rocket motors up to a G-series size may be used, provided they remain firmly attached to the model aircraft during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code; however, they may not be launched from model aircraft. Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Air Show Advisory Committee Document.
9. I will not operate my model aircraft while under the influence of alcohol or within eight (8) hours of having consumed alcohol.
10. I will not operate my model aircraft while using any drug which could adversely affect my ability to safely control my model aircraft.
11. Children under six (6) years old are only allowed on a flightline or in a flight area as a pilot or while under flight instruction.
12. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

RADIO CONTROL

1. All model flying shall be conducted in a manner to avoid over flight of unprotected people.
2. I will have completed a successful radio equipment ground-range check before the first flight of a new or repaired model aircraft.
3. I will not fly my model aircraft in the presence of spectators until I become a proficient flier, unless I am assisted by an experienced pilot.
4. At all flying sites a line must be established, in front of which all flying takes place. Only personnel associated with flying the model aircraft are allowed at or in front of the line. In the case of airshows demonstrations straight line must be established. An area away from the line must be maintained for spectators. Intentional flying behind the line is prohibited.
5. I will operate my model aircraft using only radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
6. I will not knowingly operate my model aircraft within three (3) miles of any preexisting flying site without a frequency-management agreement. A frequency management agreement may be an allocation of frequencies for each site, a day use agreement between sites, or testing which determines that no interference exists. A frequency-management agreement may exist between two or more AMA chartered clubs, AMA clubs and individual AMA members, or individual AMA members. Frequency-management agreements, including an interference test report if the agreement indicates no interference exists, will be signed by all parties and copies provided to AMA Headquarters.
7. With the exception of events flown under official AMA rules, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and located at the flightline.
8. Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual.

9. Radio-controlled night flying is limited to low performance model aircraft (less than 100 mph). The model aircraft must be equipped with a lighting system which clearly defines the aircraft's attitude and direction at all times.

10. The operator of a radio-controlled model aircraft shall control it during the entire flight, maintaining visual contact without enhancement other than by corrective lenses that are prescribed for the pilot. No model aircraft shall be equipped with devices which allow it to be flown to a selected location which is beyond the visual range of the pilot.

PARK FLYER SAFE OPERATING RECOMMENDATIONS

- Inspect your model before every flight to make certain it is airworthy.
- Be aware of any other radio frequency user who may present an interference problem.
- Always be courteous and respectful of other users of your selected flight area.
- Choose an area clear of obstacles and large enough to safely accommodate your flying activity.
- Make certain this area is clear of friends and spectators prior to launching your aircraft.
- Be aware of other activities in the vicinity of your flight path that could cause potential conflict.
- Carefully plan your flight path prior to launch.
- Abide by any and all established AMA National Model Aircraft Safety Code.

Instructions for Disposal of WEEE by Users in the European Union

This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.





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