

RV-9 450

Assembly Manual



Specifications

Wingspan:	50 in (1270mm)
Length:	38 in (920mm)
Wing Area:	385 sq in (24.8 sq dm)
Weight w/o Battery:	31-34 oz (875-965 g)
Weight w/Battery:	36-40 oz (1020-1135 g)



Pilot figure sold separately (EFLA156)

RV-9 is a trademark of Van's Aircraft and is used with permission.

Table of Contents

Introduction	2
Important Warranty Information	2
Using the Manual	2
Product Registration	2
Contents of Kit/Parts Layout	2
Recommended Radio Equipment	3
Recommended Standard Setup	3
Recommended High Power Setup	3
Optional Accessories	3
Note on Lithium Polymer Batteries	3
Required Tools and Adhesives	3
Landing Gear Installation	4
Tail Installation	4
Main Radio Installation	7
Rudder and Elevator Linkage Installation	9
Aileron Servo and Linkage Installation	11
Joining the Wing Panels	16
Fixed Flap Linkage Installation	18
Operational Flap Linkage Installation	20
Motor Installation	23
Cowling Installation	25
Wheel and Wheel Pant Installation	26
Canopy Detail Installation	28
Wing Installation	29
Control Throws	30
Center of Gravity	30
Preflight	31
Range Test Your Radio	31
Flying Your RV-9	31
Safety Do's and Don'ts for Pilots	32
Age Requirements	32
Safety, Precautions and Warnings	32
Warranty Information	32
Instructions for Disposal of WEEE by Users in the European Union	34
2008 Official Academy of Model Aeronautics Safety Code	34

Introduction

Thank you for purchasing the E-flite® RV-9 450. The sporty lines and spirited performance of the Van's Aircraft RV-9 has made it one of general aviation's most popular homebuilt aircraft. E-flite has perfectly captured the spirit of this plane with this outstanding ARF that boasts true-to-scale lines and, like its inspiration, is an absolute joy to fly. To keep the scale lines unspoiled, E-flite has designed the RV-9 with internal servo mounts that are concealed from view. A classy red, yellow and blue UltraCote® trim scheme, cockpit details and factory painted fiberlass cowl further enhance the realism. You even have the option of adding functioning flaps for exciting short field takeoffs and landings.

In the air, the RV-9 450 offers a nice balance between maneuverability and stability that will please both intermediate and experienced pilots.

The RV-9 450 ARF is another addition to E-flite's outstanding line of electric RC aircraft and accessories. E-flite uses top-quality engineering and materials in everything they make, so you always get the maximum level of value and fun. And E-flite backs all of its products with the best customer service and support in the hobby so your electric flight experience is always a positive one.

IMPRESSIVE SCALE DETAILS

Along with the true-to-scale outline of the wings and fuselage, the RV-9 450 includes other scale touches such as a detailed instrument panel, molded seatbacks and room for two pilot figures (sold separately).

OPTIONAL FLAPS

For the ultimate in realism, you can add the optional flaps and enjoy short field takeoff and landing performance. They're already cut and hinged for you. Just add the servo.

Important Warranty Information

Please read our Warranty and Liability Limitations section on Page 32 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 (○) 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.

Product Registration

Register your product online at:
www.e-fliterc.com/register/

Contents of Kit/Parts Layout

EFL2776	Fuselage
EFL2777	Hatch
EFL2778	Wing Set (Left and Right)
EFL2779	Tail Set
EFL2780	Cowl
EFL2781	Canopy
EFL2782	Spinner
EFL2783	Landing Gear (Left and Right)
EFL2784	Wheels and Axles
EFL2785	Wheel Pants (Left and Right)
EFL2786	Hardware Set
EFL2787	Pushrod Set



Recommended Radio Equipment

You will need a minimum 4-channel transmitter, receiver, and four servos. You can also choose to purchase a complete radio system. If you are using an existing transmitter, just purchase the other required equipment separately. We recommend the crystal-free, interference-free Spektrum™ DX6i 2.4GHz DSM® 6-channel system. If using your own transmitter, we recommend the S75 Sub-Micro Servos from E-flite.

If you own the Spektrum DX6i radio, just add the AR6200 DSM2™ 6-channel receiver and four (or five if using flaps) E-flite S75 Sub-Micro Servos.

Transmitter and Receiver

SPM6600 DX6i 6-Channel DSM2 without Servos, Mode 2

Or Purchase Separately

SPMAR6200 AR6200 AR6200
6-Channel Receiver Air

And

EFLRS75 S75 Sub Micro Servo
(4 required, 5 if using flaps)
EFLREX12L 12-inch Lightweight Servo
Extension (2)
EFLRYH3 3-inch Y-harness, Lightweight
EFLREX3L 3-inch Lightweight Servo
Extension (for optional flaps)

Recommended Standard Setup

Motor Park 450 Brushless Outrunner
Motor, 890Kv (EFLM1400)
ESC 30-Amp Pro Switch-Mode BEC
Brushless ESC (EFLA1030)
Batteries 1800 3S 11.1V Li-Po battery
(EFLB18003S)
Propeller Electric Propeller, 10 x 7E
(APC10070E)

Recommended High Power Setup

Motor Park 480 Brushless Outrunner
Motor, 1020Kv (EFLM1505)
ESC 40-Amp Lite Pro Switch-Mode BEC
Brushless ESC (EFLA1040L)
Batteries 2100 3S 11.1V Li-Po battery
(EFLB21003S)
Prop Electric Propeller, 12 x 6E
(APC12060E)

Optional Accessories

EFLA110 Power Meter
EFLC3005 Celectra™ 1-3 Cell
Li-Po Charger
EFLC505 Intelligent 1- to 5-Cell
Balancing Charger

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.

Required Tools and Adhesives

Tools & Equipment

Epoxy brush	Felt-tipped pen
Low-tack tape	Medium grit sandpaper
Mixing cup	Mixing stick
Paper towel	Pencil
Pin drill	Pliers
Rubbing alcohol	Ruler
Scissors	Side cutters
Threadlock	Waxed paper
Adjustable wrench	
Phillips screwdriver: #00, #1	
Drill bit: 1/16-inch (1.5mm)	
Hobby knife with #11 blade	
Nut driver or box wrench: 1/4-inch, 7mm	
Hex wrench or ball driver: 1.5mm, 3/32-inch, 5/64-inch	
String, dental floss or commercially available servo connector (2)	

Adhesives

30-minute Epoxy	(HAN8002)
Canopy Glue	(PAAPT56)
Medium CA	(PAAPT02)
Thin CA	(PAAPT08)
Threadlock	
Thick CA	

E-tips

During the course of building your model we suggest that you use a soft base for the building surface. Such things as 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.

Landing Gear Installation

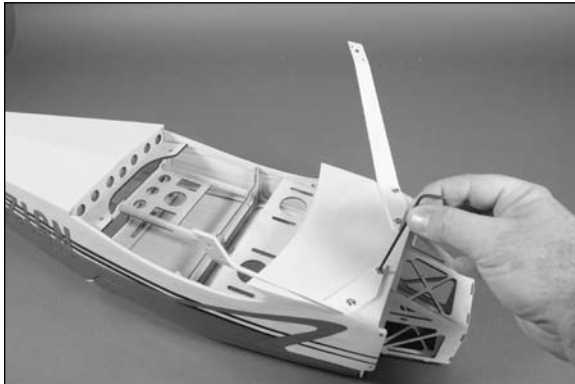
Required Parts

Fuselage assembly Landing gear (left and right)
4-40 x 1/2-inch button head machine screw (4)
#4 washer (4)

Required Tools

Hex wrench or ball driver: 5/64-inch
Threadlock

- 1. Attach the main landing gear to the fuselage using four 4-40 x 1/2-inch button head machine screws and four #4 washers. Use a 5/64-inch hex wrench or ball driver (not included) to tighten each of the screws. Make sure to use threadlock on all four screws so they do not vibrate loose.



E-tips

The main gear will angle back when installed as shown in the photo.

Tail Installation

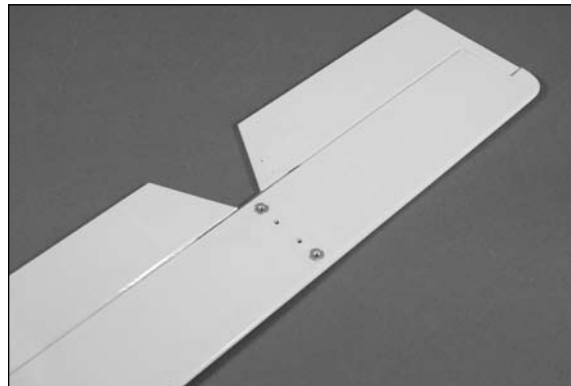
Required Parts

Fuselage assembly Vertical fin
Horizontal stabilizer 4-40 lock nut (2)
4-40 x 1/2-inch socket head bolt (2)
#4 washer (4) Control horn (2)
Control horn backplate (2)

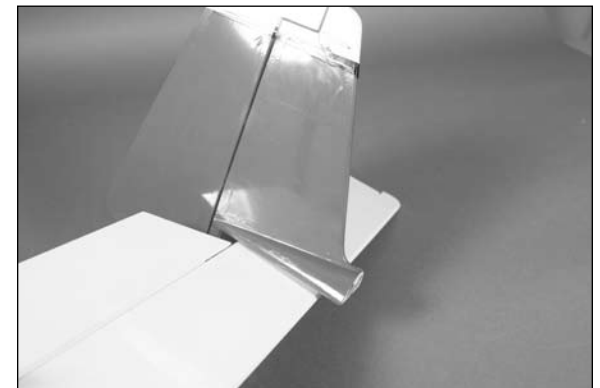
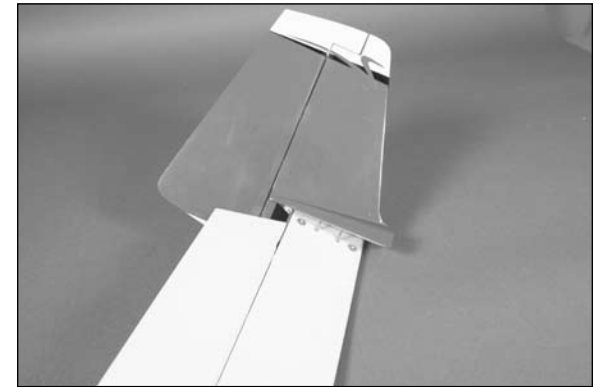
Required Tools

Hex wrench or ball driver: 3/32-inch
Nut driver: 1/4-inch Threadlock
Thin CA Thick CA
Rubbing alcohol Paper towel
Felt-tipped pen
Hobby knife with #11 blade
Medium grit sandpaper

- 1. Locate the horizontal stabilizer. The top of the stabilizer has the blind nut for attaching it to the fuselage on the top side of the stabilizer.



- 2. Slide the stabilizer onto the threaded studs of the vertical fin. Make sure the stabilizer is installed in the correct direction by noting the position of the blind nuts as described in the previous step. The stabilizer should fit tightly against the vertical fin when installed.



- 3. Use two 4-40 lock nuts and two #4 washers to secure the stabilizer to the vertical fin. Use a 1/4-inch nut driver to tighten the nuts.



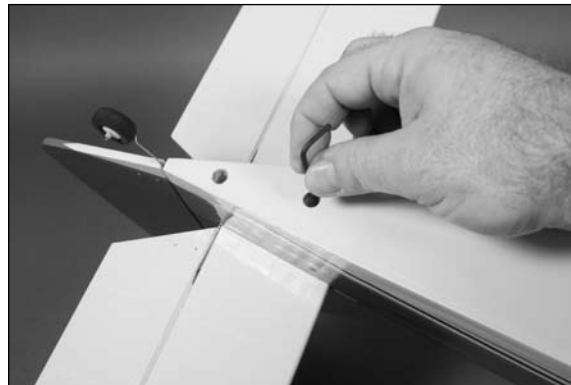
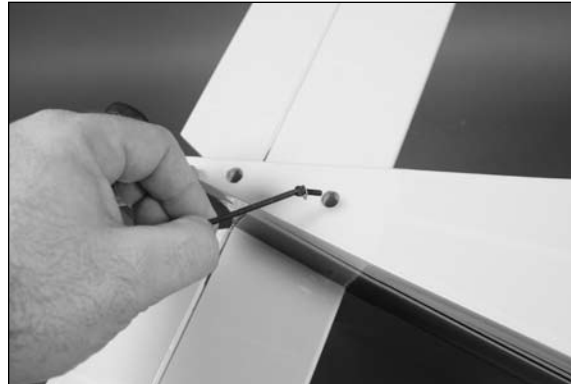
E-tips

Make sure not to over-tighten the nuts, damaging the stabilizer.

- 4. Fit the tail assembly to the fuselage. Make sure to slide the tail post of the vertical fin into the slot at the aft end of the fuselage. The assembly should fit tightly in against the fuselage as shown.



- 5. Use two 4-40 x 1/2-inch socket head bolts and two #4 washers to secure the tail assembly to the fuselage. Make sure to use threadlock on both screws before tightening them with a 3/32-inch ball driver or hex wrench.



- 6. Insert the control horn into the pre-drilled holes in the bottom of the elevator. Use a felt-tipped pen to trace the outline of the control horn onto the elevator.



- 7. Remove the control horn. Use a hobby knife with a new #11 blade to remove the covering from inside the outline of the control horn drawn in the previous step. Use care not to cut into the elevator and damage the underlying wood.

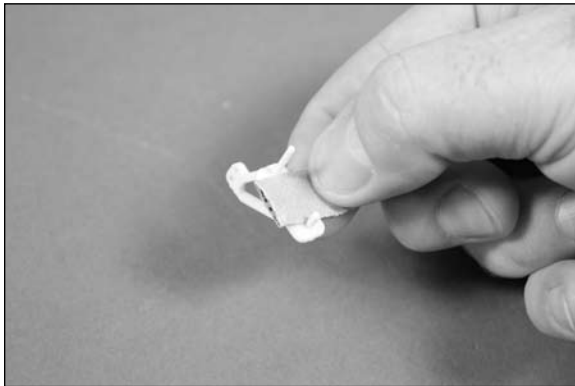




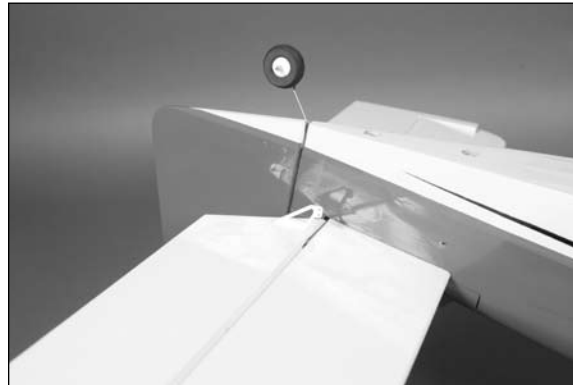
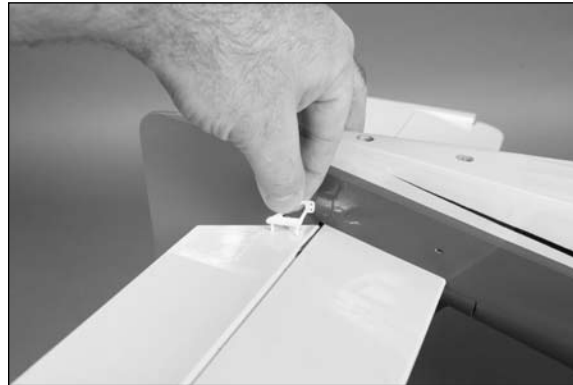
Etips

Use rubbing alcohol and a paper towel to remove the line drawn on the bottom of the aileron before installing the control horn permanently.

- 8. Use medium grit sandpaper to roughen the surface of the control horn that will fit against the elevator. Use rubbing alcohol and a paper towel to remove any residue to provide the best possible bond between the control horn and bare wood.



- 9. Apply a small amount of thick CA to the base of the control horn. Insert the control horn in the pre-drilled holes of the elevator as shown. Press the control horn tight against the elevator.



- 10. Apply 2-3 drops of thin CA to each of the control horn posts from the top of the control horn. Make sure to apply the CA as close to the control surface as possible while holding the control horn tight against the elevator.



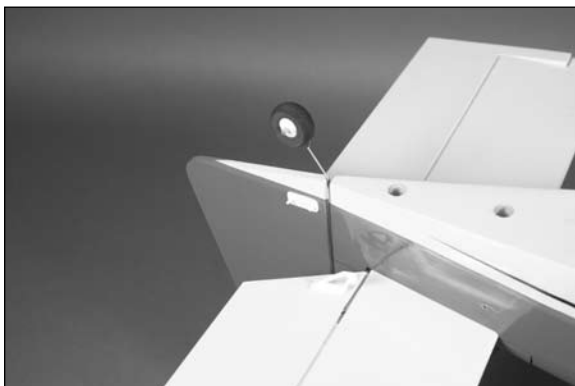
- 11. Before sliding the control horn backplate, make sure the CA has fully cured or it may not slide tight against the top of the stabilizer. After sliding the backplate into position, apply 2-3 drops of thin CA to each of the control horn posts as they protrude through the backplate.



Etips

The control horn and backplate must be tight against the control surface or there will be play between the servo and surface. Use care when installing the control horn to make sure it is done correctly.

- 12. Repeat Steps 6 through 11 to install the rudder control horn. Note that the rudder control horn will be on the opposite side, away from the elevator control horn, when installed.



Main Radio Installation

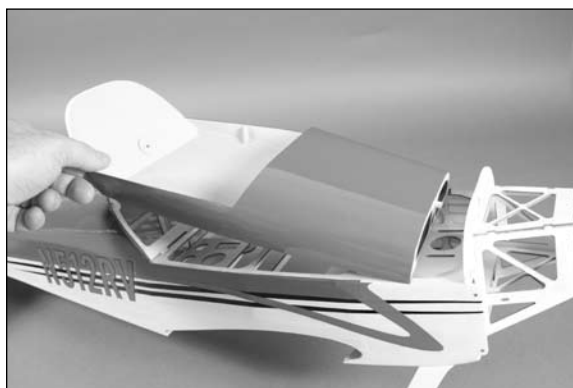
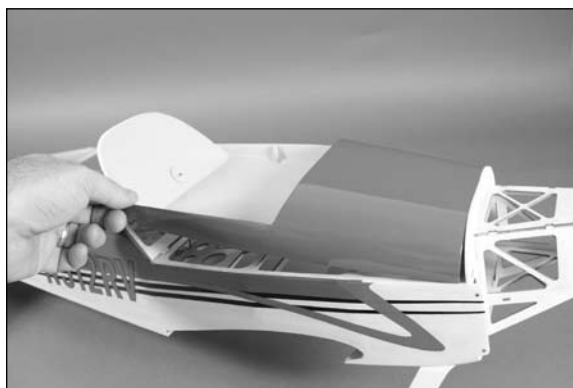
Required Parts

Fuselage assembly	Servo with hardware (2)
Receiver	Hook and loop material

Required Tools

Pin drill	Drill bit: 1/16-inch (1.5mm)
Pencil	Phillips screwdriver: #1
Scissors	Thin CA

- 1. Remove the canopy hatch from the fuselage by lifting up at the rear of the fuselage. A magnet holds the hatch to the fuselage at the rear. Slide the hatch rearward to release the pin that holds the hatch at the front. Set the canopy hatch aside.



- 2. Position the elevator servo in the servo tray with the output of the servo facing the front of aircraft. Use a pencil to mark the location for the two servo mounting screws on the servo tray.



- 3. Remove the servo from the servo tray. Use a pin drill and 1/16-inch (1.5mm) drill bit to drill two holes in the servo tray as marked in the previous step.



- 4. Apply 2-3 drops of thin CA in each hole to harden the surrounding wood. This creates a harder surface for the screws to bite into, making them more secure when holding the servo in position.



- 5. Use the screws provided with the servo to secure it in the servo tray. Tighten the screws using a #1 Phillips screwdriver.



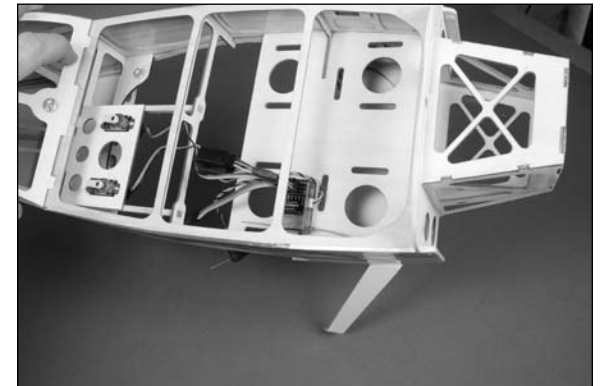
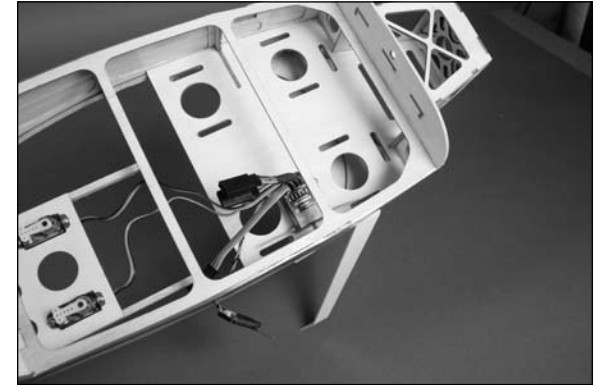
- 6. Repeat Steps 2 through 5 to install the rudder servo in the servo tray.



- 7. Plug the rudder and elevator servos into the receiver. Plug a Y-harness into the aileron port of the receiver. If you are installing the operational flaps, you will also want to plug a 3-inch (76mm) servo extension in the flap (or AUX) port of the receiver.



- 8. Use scissors to cut a small piece of hook and loop material. Use the hook and loop to mount the receiver on the battery tray as shown. Make sure to position the receiver far enough forward that the speed control can be plugged in during the motor installation.



- 9. Use scissors to cut another small piece of hook and loop material to mount the remote receiver in the fuselage as shown.



Rudder and Elevator Linkage Installation

Required Parts

Fuselage assembly	Nylon pushrod connector (2)
Transmitter	Flight Battery
Speed control or separate Receiver battery	
16 ¹ / ₂ -inch (420mm) elevator pushrod	
17 ³ / ₄ -inch (450mm) rudder pushrod	
Pushrod connector backplate (2)	
2mm x 5mm machine screw (2)	

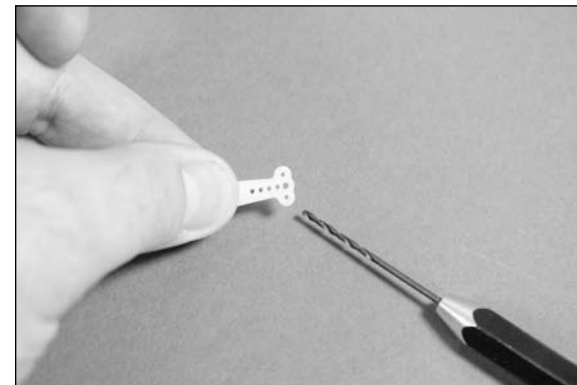
Required Tools

Pin drill	Drill bit: 1/16-inch (1.5mm)
Ruler	Phillips screwdriver: #00, #1

- 1. Use a #00 Phillips screwdriver to remove the servo horns from the rudder and elevator servos.



- 2. Use a pin drill and 1/16-inch (1.5mm) drill bit to enlarge the outer hole that is 1/2-inch (13mm) from the center of the servo horn. Secure the pushrod connector using a pushrod connector backplate.



- 3. Insert the nylon pushrod connector in the hole enlarged in the last step. Use pliers to press the backplate onto the connector.



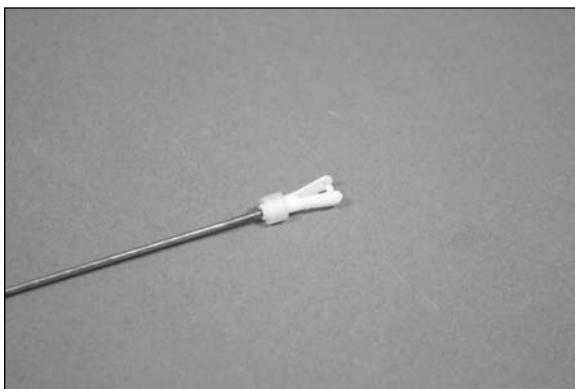
- 4. Repeat Steps 2 and 3 to prepare a second servo horn.

- 5. Use the radio system to check the operation of the rudder and elevator servos. It may be necessary to bind the transmitter and receiver if you are using a new receiver. Always select a blank model and reset it to remove any programming or trim settings when using a computer radio before starting the linkage installation.

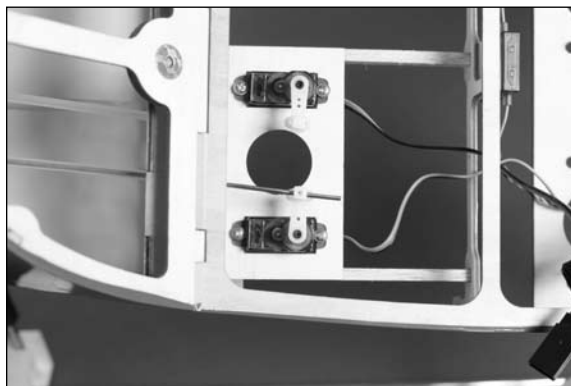
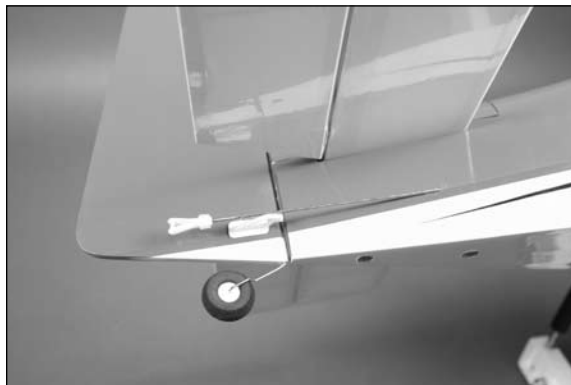
- 6. Use a #00 Phillips screwdriver to install the servo horns to the servos. Make sure to position the horns so they face each other as shown in the photo.



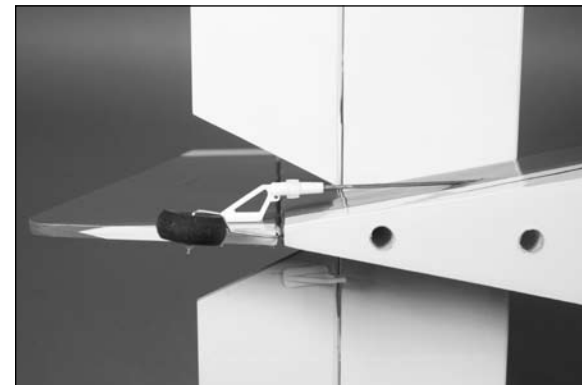
- 7. Slide a clevis retainer onto a clevis. Thread the clevis 16-turns onto the 17³/₄-inch (450mm) rudder pushrod.



- 8. Slide the pushrod wire into the tube in the fuselage that exits the same side as the rudder control horn. Guide the wire through the pushrod connector for the rudder servo inside the fuselage.



- 9. Connect the clevis to the outside hole of the rudder control horn. Slide the clevis retainer over the forks on the clevis to keep it from opening accidentally.



- 10. Use a ruler to align the rudder with the fin. With the radio system on and the rudder servo centered, use a #1 Phillips screwdriver and a 2mm x 5mm machine screw to secure the pushrod to the pushrod connector. Use caution not to over-tighten the screw and damage the pushrod connector.





- ○ 11. Use a 16 1/2-inch (406mm) elevator pushrod wire and repeat Steps 7 through 10 for the elevator linkage.



Aileron Servo and Linkage Installation

Required Parts

- Wing panel (left and right)
- Servo with hardware (2)
- Nylon pushrod connector (2)
- Pushrod connector backplate (2)
- 2mm x 5mm machine screw (2)
- Aileron servo cover (right and left)
- 12-inch (305mm) servo extension (2)
- 2mm x 6mm sheet metal screw (8)
- Speed control or separate receiver battery
- Transmitter Flight battery
- Control horn (2) Clevis (2)
- Clevis retainer (2)
- 2 3/8-inch (60mm) aileron pushrod (2)

Required Tools

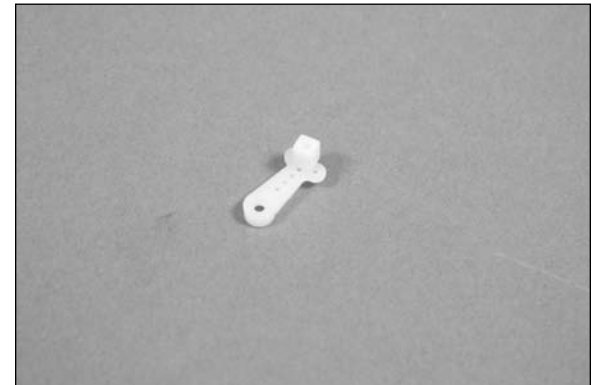
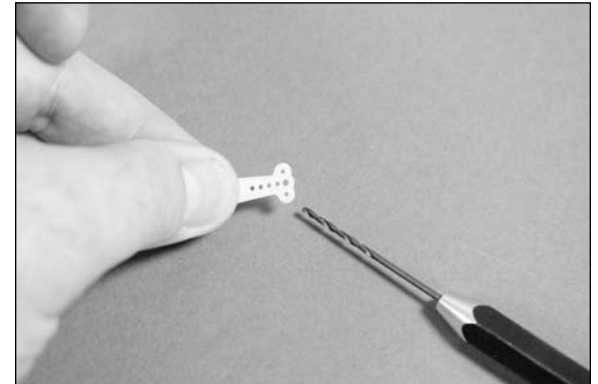
- Pin drill Drill bit: 1/16-inch (1.5mm)
- Pencil Phillips screwdriver: #00, #1
- Medium CA Thin CA
- Side cutters Hobby knife with #11 blade
- Felt-tipped pen Rubbing alcohol
- Paper towel Medium grit sandpaper
- String, dental floss or commercially available servo connector (2)

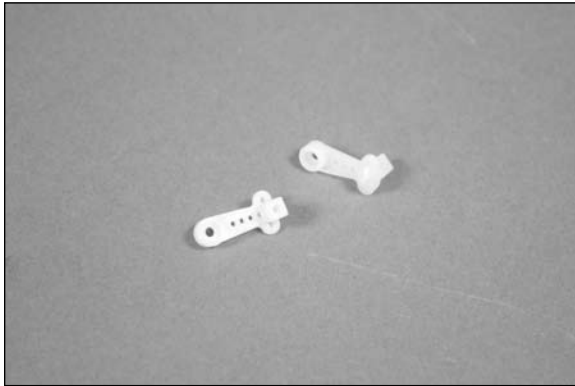
Etips

Before starting the aileron servo installation, make sure to set aside the covers for the flap servo installation (both operational and fixed) as shown in the photo below. It is possible that you could accidentally prepare two identical aileron servos using the flap servo cover.

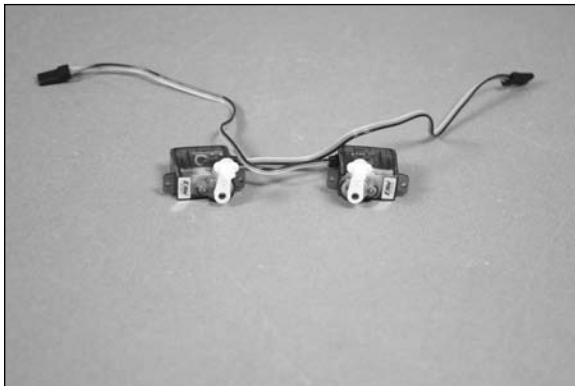


- 1. Use a #00 Phillips screwdriver to remove the servo horns from the aileron servos. Use a pin drill and 1/16-inch (1.5mm) drill bit to enlarge the outer hole that is 1/2-inch (13mm) from the center of the servo horn. Secure the pushrod connector using a pushrod connector backplate. Insert the nylon pushrod connector in the hole enlarged in the last step. Use pliers to press the backplate onto the connector. Prepare both aileron servo horns at this time.

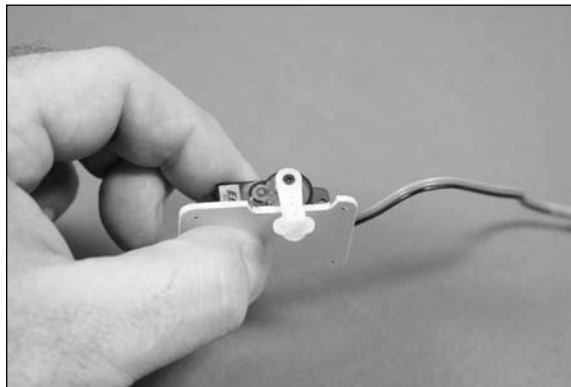
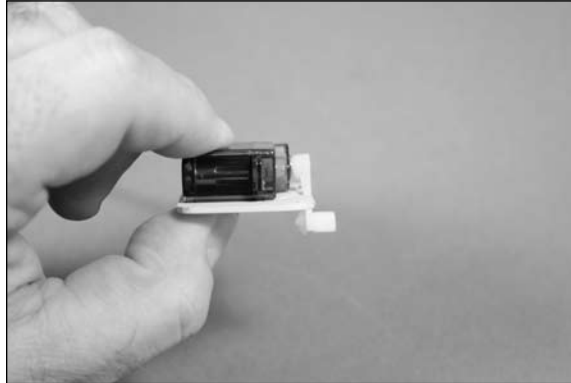




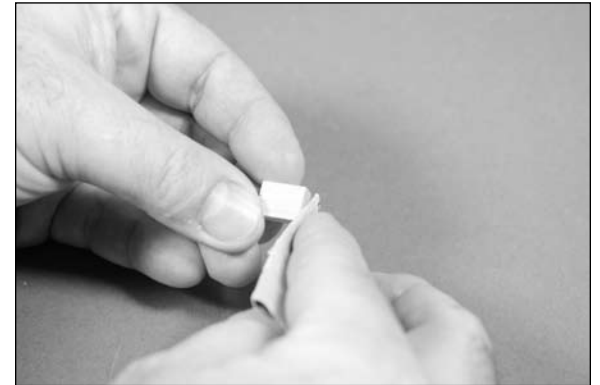
- 2. Plug the aileron servos into the Y-harness. Use the radio system to center the servos. Use a #00 Phillips screwdriver to install the servo horns back on the aileron servos. Prepare a right and left aileron servo at this time as shown.



- 3. Place the servo on the aileron servo cover. Align the servo horn with the edge of the cover as shown in the first photo. The horn should also be centered in the notch as shown in the second photo. Once positioned, make sure the servo is not hanging over the edge of the cover at the front or rear. Use a pencil to mark the location of the two servo mounting tabs on the servo cover.



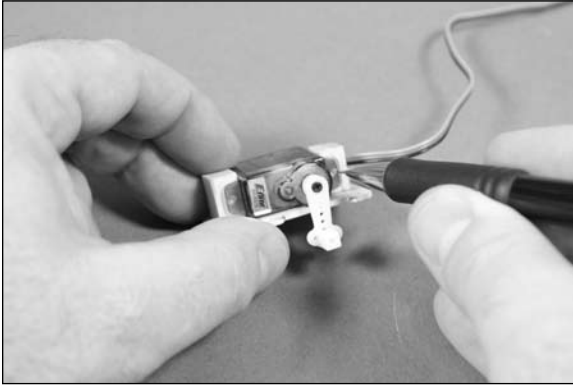
- 4. Use medium grit sandpaper to scuff the two servo mounting blocks as shown. This allows a better bonding surface when gluing them to the servo cover.



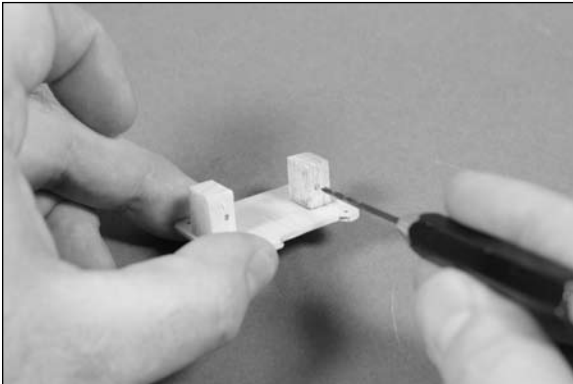
- 5. Use medium CA to glue the two blocks to the servo cover as shown.



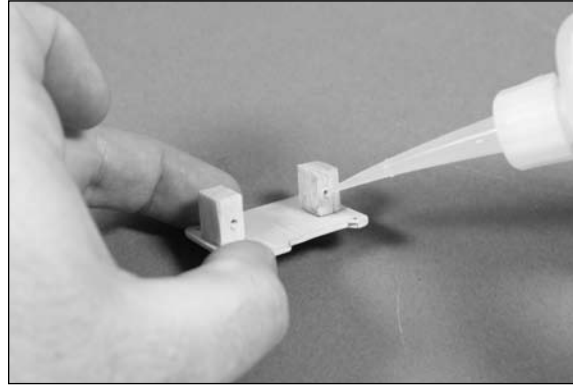
- 6. Position the servo back between the blocks. Use a pencil to mark the mounting locations for the servo screws through the tabs on the servo and onto the blocks.



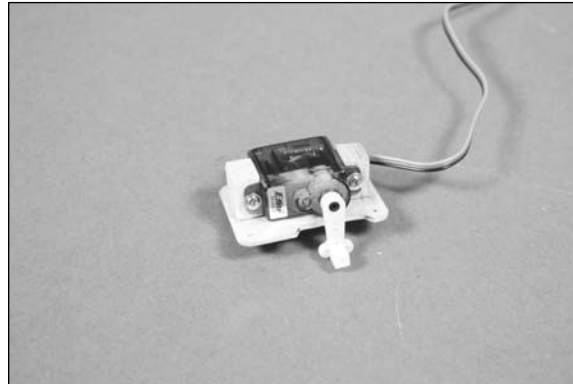
- 7. Remove the servo and use a pin drill and 1/16-inch (1.5mm) drill bit to drill the holes for the servo mounting screws.



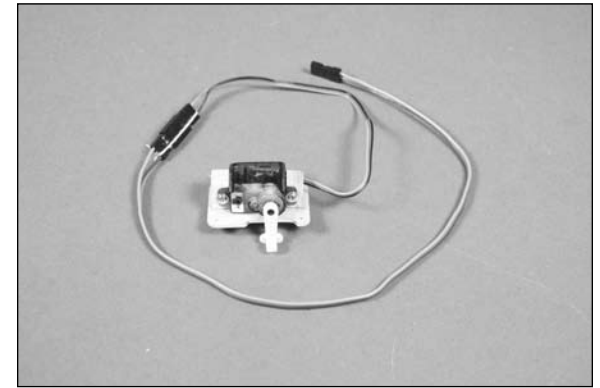
- 8. Apply 2–3 drops of thin CA into each hole to harden the surrounding wood. This provides a harder surface, making the screws more secure when installed.



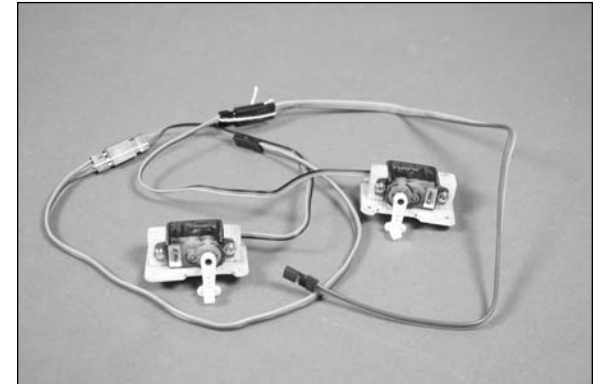
- 9. Use a #1 Phillips screwdriver and the screws provided with the servo to secure it to the servo mounting blocks.



- 10. Secure a 12-inch (305mm) servo extension to the lead coming from the servo. Use string, dental floss or a commercially available connector to keep the extension and lead from unplugging accidentally inside the wing.



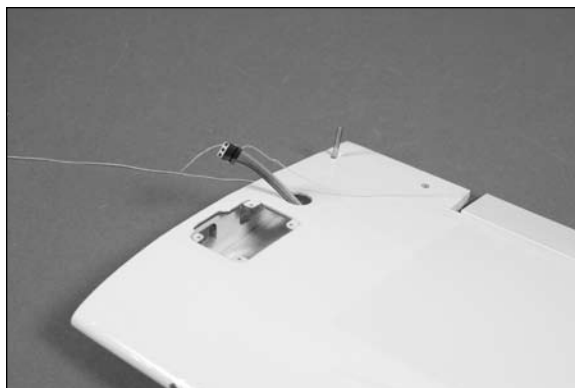
- 11. Repeat Steps 3 through 10 to prepare the second aileron servo.



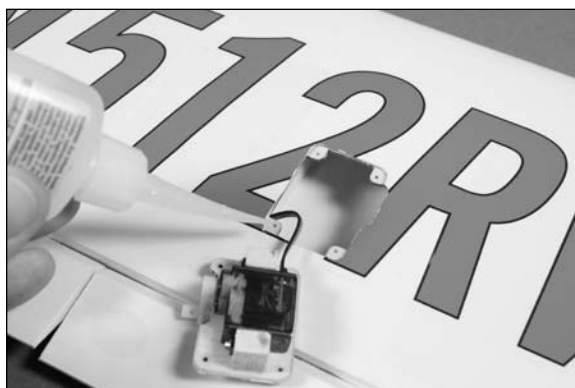
- 12. Check that you have a matching wing panel and servo. The easiest way is one wing panel has a "N" number, and the servo cover has the matching text.



- 13. Tie the string that exits the wing at the servo opening around the end of the servo extension. Use the string to pull the extension through the wing and through the hole at the center of the wing as shown.



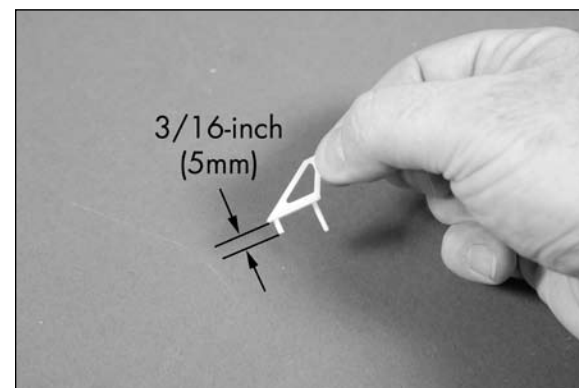
- 14. Apply 2-3 drops of thin CA in each of the four pre-drilled holes to harden the surrounding wood for the servo cover screws.



- 15. Secure the servo cover to the wing using four 2mm x 6mm sheet metal screws. Use a #1 Phillips screwdriver to tighten the screws.



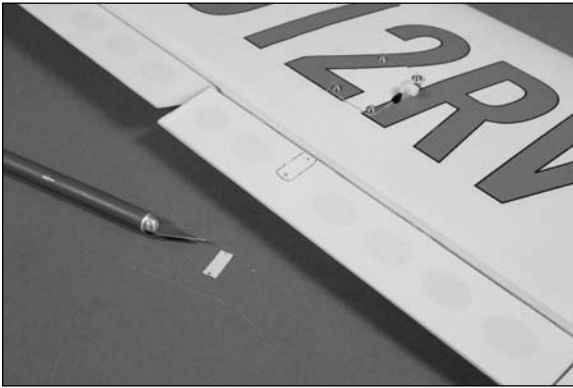
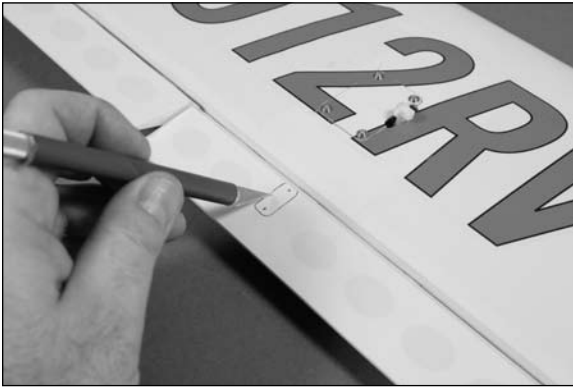
- 16. Use side cutters to trim the rear leg of a control horn down to 3/16-inch (5mm).



- 17. Insert the control horn into the pre-drilled holes in the bottom of the aileron. Use a felt-tipped pen to trace the outline of the control horn onto the aileron.



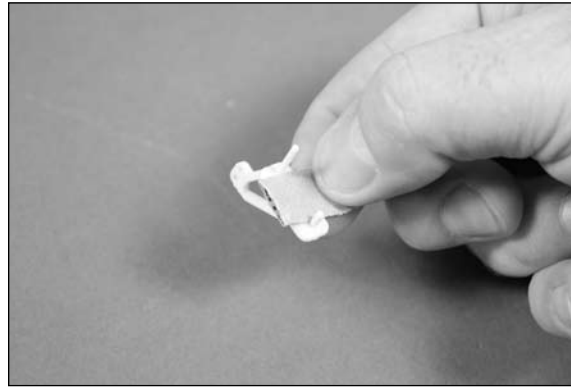
- 18. Remove the control horn. Use a hobby knife with a new #11 blade to remove the covering from inside the outline of the control horn drawn in the previous step. Use care not to cut into the aileron and damage the underlying wood.



E-tips

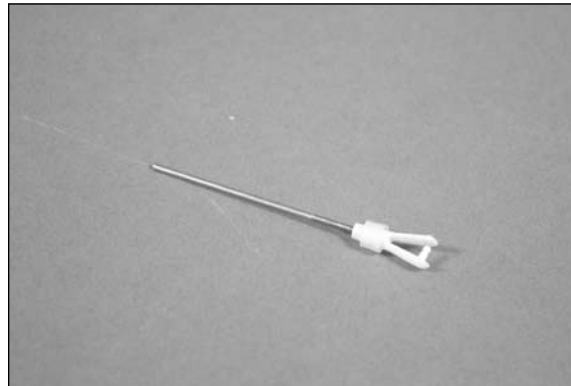
Use rubbing alcohol and a paper towel to remove the line drawn on the bottom of the aileron before installing the control horn permanently.

- 19. Use medium grit sandpaper to roughen the surface of the control horn that will fit against the aileron. Use rubbing alcohol and a paper towel to remove any residue to provide the best possible bond between the control horn and bare wood.



- 20. Use medium CA to glue the control horn to the aileron. Make sure to apply CA to both the exposed wood on the aileron and to the legs of the control horn. Press the horn tight against the wing until the CA cures. Allow the CA to fully cure before proceeding to the next step.

- 21. Slide a clevis retainer on a clevis, then thread the clevis 16-turns onto a $2\frac{3}{8}$ -inch (60mm) aileron pushrod wire.

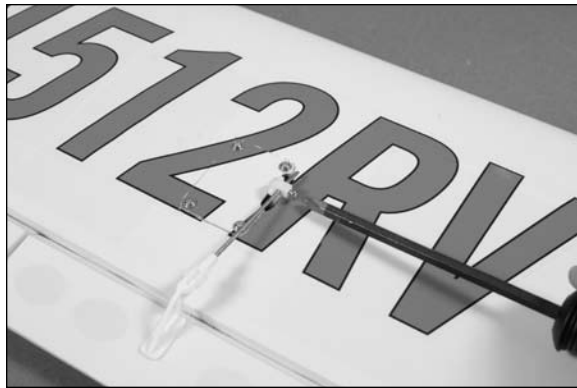


- 22. Slide the pushrod wire through the connector on the servo. Attach the clevis to the outer hole of the control horn and slide the clevis retainer over the forks of the clevis to keep it from opening accidentally.

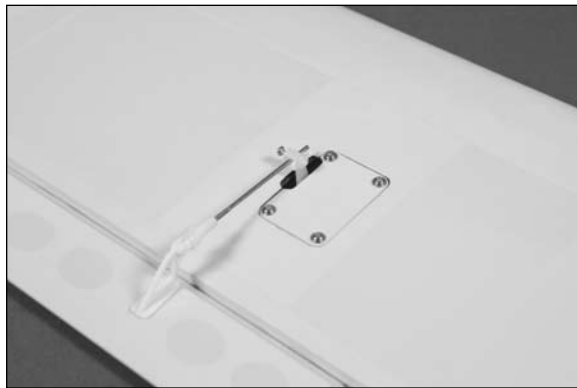


- 23. Align the aileron with the wing tip. With the servo centered (you can use the radio to verify the servo is still centered) use a 2mm x 5mm machine screw and #1 Phillips screwdriver to secure the pushrod wire to the pushrod connector.





- 24. Repeat Steps 13 through 23 to install the remaining aileron servo and linkage.



Joining the Wing Panels

Required Parts

Wing panel assembly (left and right)
 Wing joiner Wing bolt plate
 Wing dowel (2)

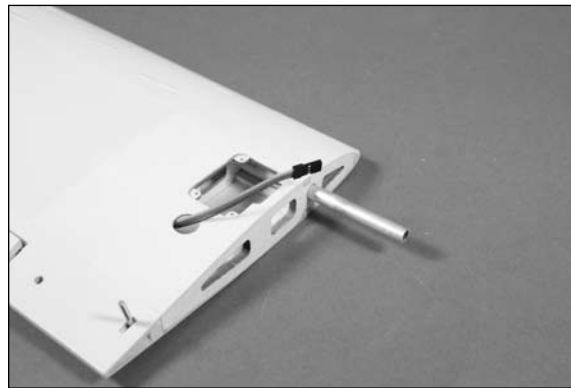
Required Tools

30-minute epoxy Rubbing alcohol
 Mixing stick Mixing cup
 Epoxy brush Paper towel
 Low-tack tape Medium CA
 Felt-tipped pen
 Hobby knife with #11 blade

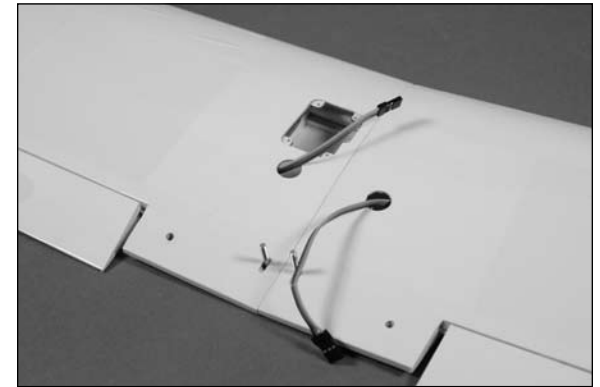
Etips

Please read through this section before mixing any epoxy. You must be able to complete all the steps before the epoxy begins to cure or you may end up with a wing that will require replacing.

- 1. Locate the aluminum wing joiner. Slide the joiner into one of the wing panels.



- 2. Slide the remaining wing panel on the wing joiner. It should slide up tight against the first wing panel with no gaps between them.



- 3. Separate the wing panels. Mix 1/2 ounce (15mL) of 30-minute epoxy. Use a mixing stick to apply epoxy in the wing tube of one wing panel. Slide the joiner into the tube.



- 4. Use an epoxy brush to apply a thin layer of epoxy to the exposed wood on the root rib of the wing.



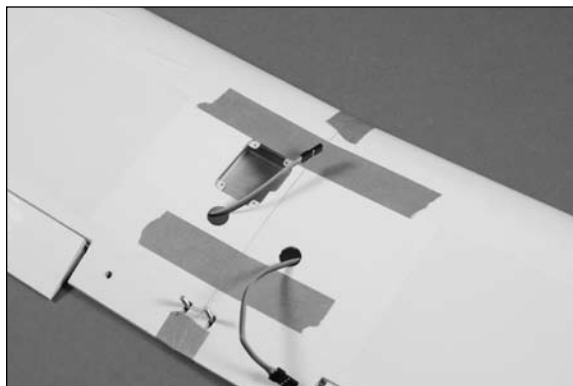
- 5. Use a mixing stick to apply epoxy in the tube of the remaining wing panel. Use an epoxy brush to apply a thin layer of epoxy to the exposed wood of the root rib of the remaining wing panel.



- 6. Slide the wing panels tightly together. Epoxy should ooze from the joint between the panels. If not, you have not used enough epoxy and need to apply more as described in Steps 3 through 5.
- 7. Use a paper towel and rubbing alcohol to remove excess epoxy from the outside of the joint between the two wing panels.



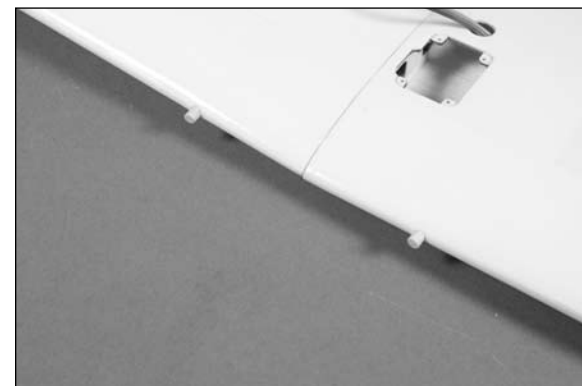
- 8. Use low-tack tape to hold the two wing panels together until the epoxy fully cures. Make sure to wrap a piece of tape around the joint at the leading and trailing edge to keep the panels in alignment with each other while the epoxy cures.



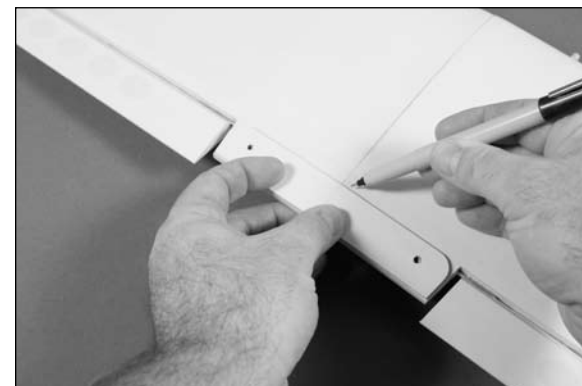
E-tips

Check the glue joint periodically while the epoxy is curing. It is possible that some excess will run out of the joint and will need to be wiped off with some alcohol.

- 9. Use medium CA to glue the wing dowels into the pre-drilled holes in the leading edge of the wing. Leave 1/4-inch (6mm) of the dowel exposed.



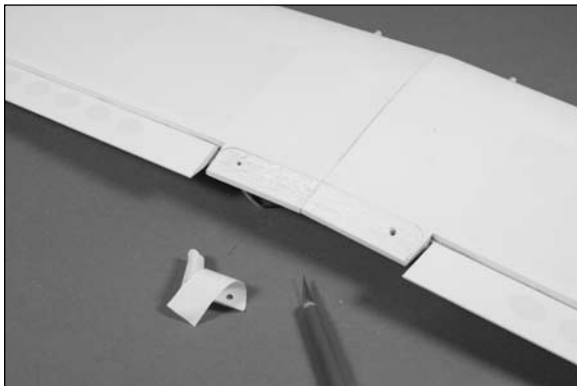
- 10. Position the wing bolt plate on the bottom of the wing. Make sure to align the holes in the plate with the holes in the wing. Use a felt-tipped pen to transfer the outline of the plate onto the bottom of the wing.



E-tips

Insert a 4-40 socket head bolt into each hole to keep the plate in position while tracing the outline.

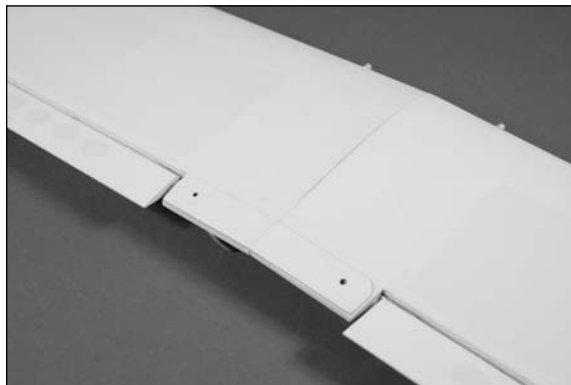
- 11. Use a hobby knife with a new #11 blade to remove the covering 1/16-inch (1.5mm) inside the line drawn in the last step.



E-tips

Use rubbing alcohol and a paper towel to remove the line drawn on the bottom of the wing before installing the wing bolt plate.

- 12. Use medium CA to glue the wing bolt plate to the bottom of the wing. Make sure the holes in the plate are aligned with the holes in the wing before the CA has cured.



You should now decide between fixed or operational flaps. If you will be using operational flaps then you should skip to that section on the next page.

Fixed Flap Linkage Installation

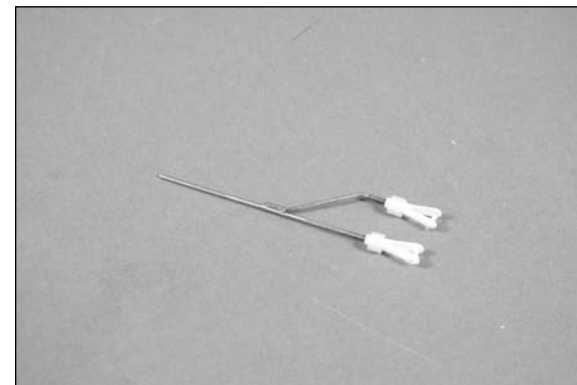
Required Parts

Wing assembly	Flap linkage
Clevis (2)	Clevis retainer (2)
Flap control horn (2)	Fixed flap servo cover
Connector backplate	Nylon pushrod connector
2mm x 5mm machine screw	
2mm x 6mm sheet metal screw (4)	

Required Tools

Pliers	Phillips screwdriver: #1
Thin CA	

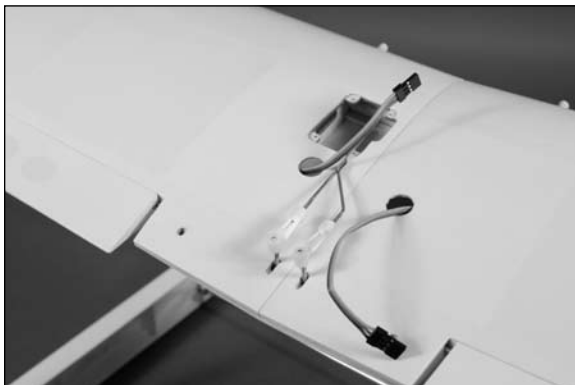
- 1. Locate two clevises and clevis retainers. Slide the retainers onto the clevises. Thread the clevises on the flap linkage 16 turns.



- 2. Thread the flap control horns on the flap control rods until the top of the horn is aligned with the top of the threaded rod.



- 3. Connect the clevises from the flap linkage to the flap control horns. Do not slide the clevis retainers into position as the clevises may require adjustment to position the flaps properly.



- 4. Apply 2-3 drops of thin CA into each hole to harden the surrounding wood. This provides a harder surface, making the screws more secure when installed.



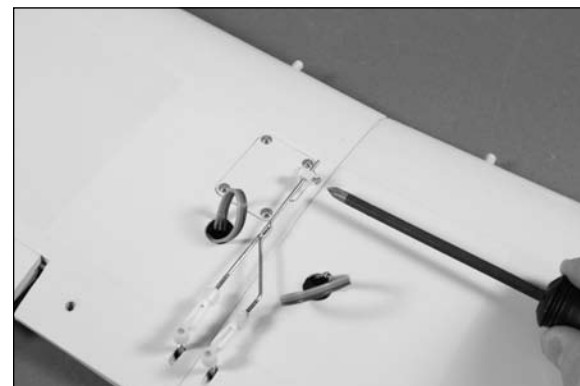
- 5. Prepare the fixed flap servo cover by inserting a nylon pushrod connector in the hole of the nylon horn on the cover. Use pliers to secure the connector using a connector backplate.



- 6. Slide the linkage through the pushrod connector. Position the servo cover and use a #1 Phillips screwdriver to install the four 2mm x 8mm sheet metal screws that secure the cover to the wing.



- 7. With the aileron in the neutral position, position the flap linkage so the flaps are aligned with the ailerons. Check both the left and right flap as it may be necessary to thread a clevis in or out to align both flaps at the same time. Once aligned, use a #1 Phillips screwdriver and a 2mm x 5mm machine screw to secure the linkage to the pushrod connector. Make sure to slide the clevis retainers over the forks of the clevises to prevent them from opening accidentally in flight.



Operational Flap Linkage Installation

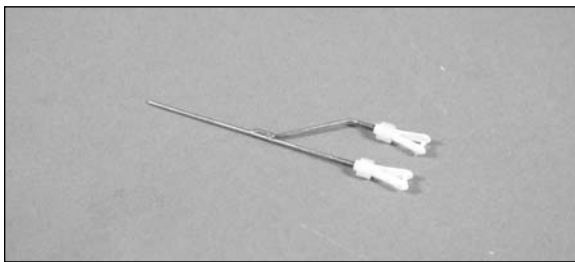
Required Parts

Wing assembly	Flap linkage
Clevis (2)	Clevis retainer (2)
Flap control horn (2)	Flap servo cover
Servo with hardware	2mm x 5mm machine screw
Transmitter	Fuselage assembly
Flight battery	
Speed control or separate receiver battery	
Connector backplate	
Nylon pushrod connector	
2mm x 6mm sheet metal screw (4)	

Required Tools

Pliers	Phillips screwdriver: #1
Pin drill	Drill bit: 1/16-inch (1.5mm)
Thin CA	

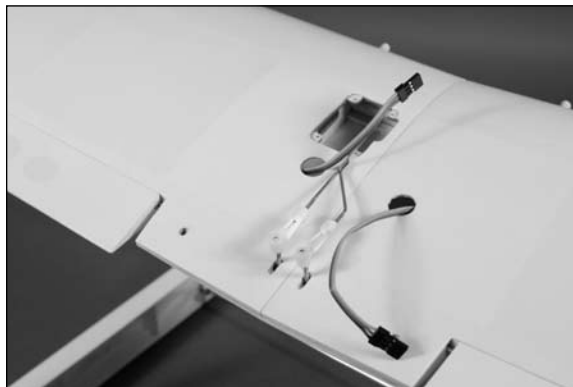
- 1. Locate two clevises and clevis retainers. Slide the retainers onto the clevises. Thread the clevises on the flap linkage 16 turns.



- 2. Thread the flap control horns on the flap control rods until the top of the horn is aligned with the top of the threaded rod.



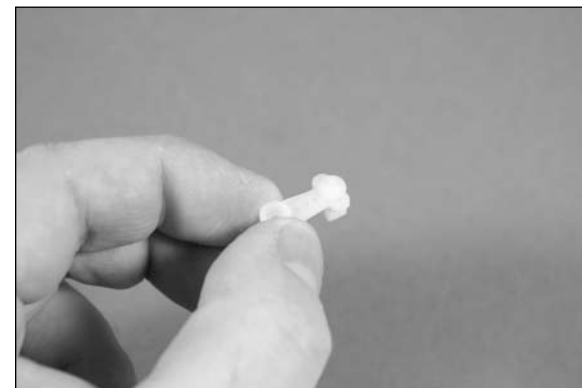
- 3. Connect the clevises from the flap linkage to the flap control horns. Do not slide the clevis retainers into position as the clevises may require adjustment to position the flaps properly.



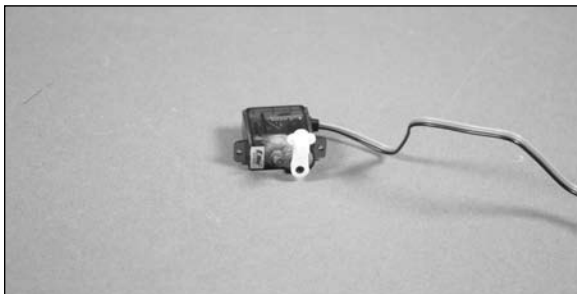
- 4. Apply 2-3 drops of thin CA into each hole to harden the surrounding wood. This provides a harder surface, making the screws more secure when installed.



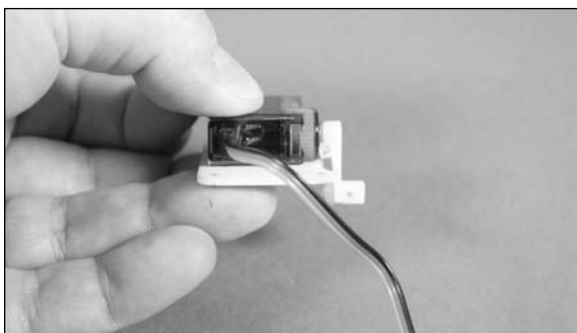
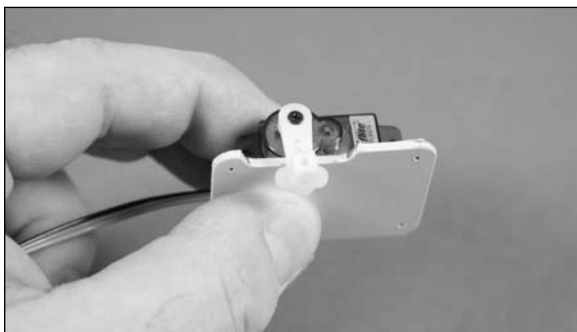
- 5. Use a #00 Phillips screwdriver to remove the servo horn from the flap servo. Use a pin drill and 1/16-inch (1.5mm) drill bit to enlarge the outer hole that is 1/2-inch (13mm) from the center of the servo horn. Secure the pushrod connector using a pushrod connector backplate. Insert the nylon pushrod connector in the hole enlarged in the last step. Use pliers to press the backplate onto the connector.



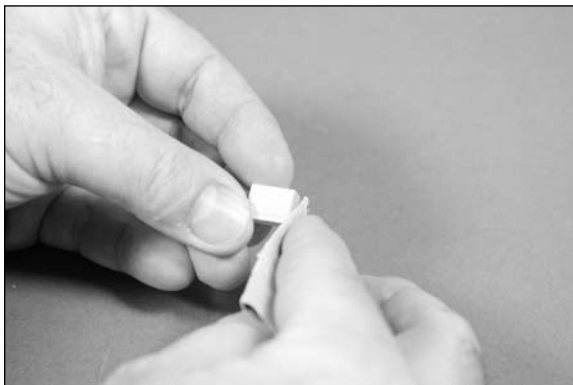
- 6. Plug the flap servos into the servo extension from the receiver. Use the radio system to center the servo. Use a #00 Phillips screwdriver to install the servo horn back on the flap servo.



- 7. Place the servo on the flap servo cover. Align the servo horn with the edge of the cover as shown in the first photo. The horn should also be centered in the notch as shown in the second photo. Once positioned, make sure the servo is not hanging over the edge of the cover at the front or rear. Use a pencil to mark the location of the two servo mounting tabs on the servo cover.



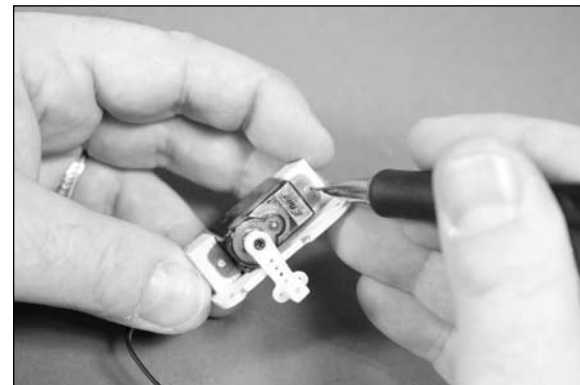
- 8. Use medium grit sandpaper to scuff the two servo mounting blocks as shown. This allows a better bonding surface when gluing them to the servo cover.



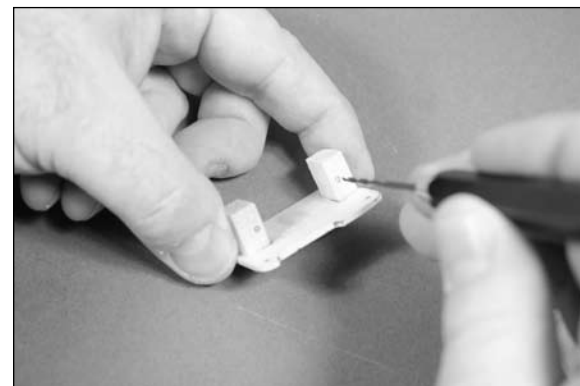
- 9. Use medium CA to glue the two blocks to the servo cover as shown.



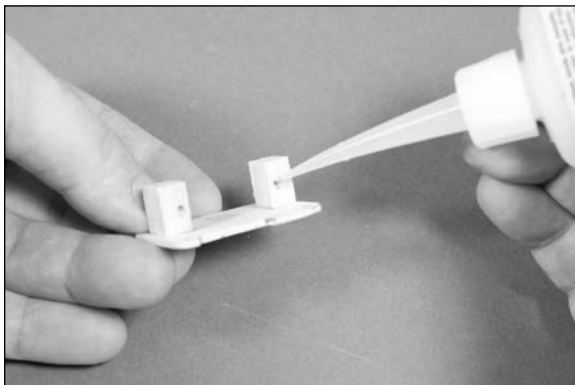
- 10. Position the servo back between the blocks. Use a pencil to mark the mounting locations for the servo screws through the tabs on the servo and onto the blocks.



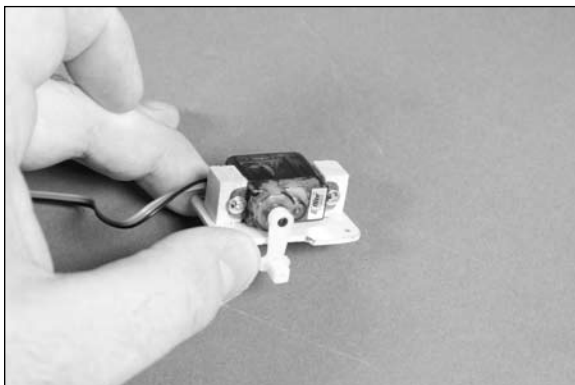
- 11. Remove the servo and use a pin drill and 1/16-inch (1.5mm) drill bit to drill the holes for the servo mounting screws.



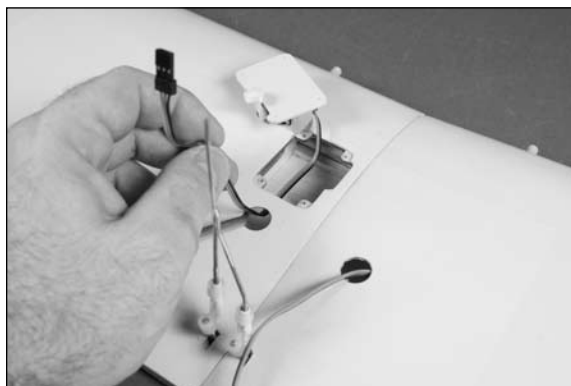
- 12. Apply 2–3 drops of thin CA into each hole to harden the surrounding wood. This provides a harder surface, making the screws more secure when installed.



- 13. Use a #1 Phillips screwdriver and the screws provided with the servo to secure it to the servo mounting blocks.



- 14. Pass the lead from the flap servo through the hole in the wing as shown.



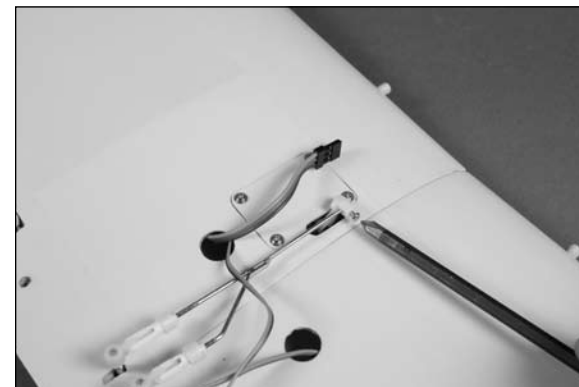
E-tips

Place a piece of tape on the flap servo lead so it can be easily differentiated from the aileron servo lead.

- 15. Slide the linkage through the pushrod connector. Position the servo cover and use a #1 Phillips screwdriver to install the four 2mm x 8mm sheet metal screws that secure the cover to the wing.

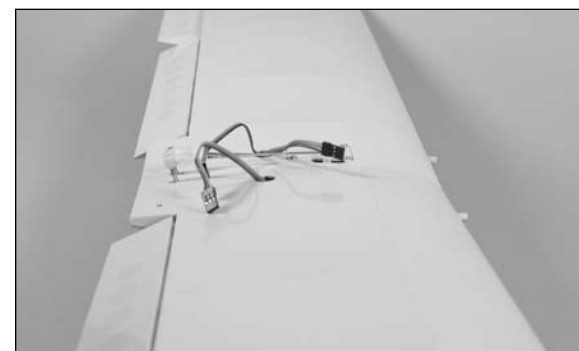


- 16. Use the radio to move the flap servo to the up flap position. With the aileron in the neutral position, place the flap linkage so the flaps are aligned with the ailerons. Check both the left and right flap, as it may be necessary to thread a clevis in or out to align both flaps at the same time. Once aligned, #1 Phillips screwdriver and a 2mm x 5mm machine screw to secure the linkage to the pushrod connector. Make sure to slide the clevis retainers over the forks of the clevises to prevent them from opening accidentally in flight.

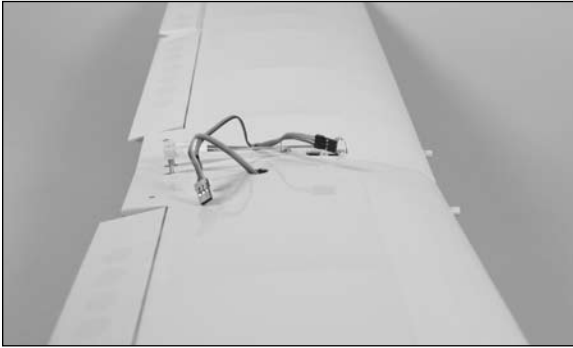


- 17. Check the operation of the flaps at up, half and down flap. You may need to use a computer radio to set the positions according to the throws listed in this manual.

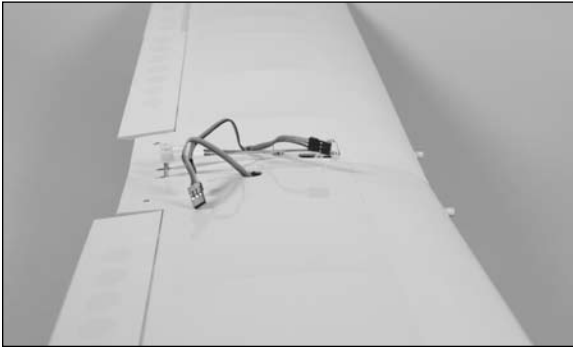
FULL FLAP



HALF FLAP



UP FLAP



E-tips

We have shown three positions for the flaps. If you are using a transmitter with only a 2-position switch, then the half flap position would not be used. Flap throws are covered at the end of the manual.

Motor Installation

Required Parts

Fuselage assembly Motor battery
#4 washer (4) Hook and loop material
Motor with hardware Transmitter
Speed control
Hook and loop strap
4-40 x 3/8-inch socket head screw (4)

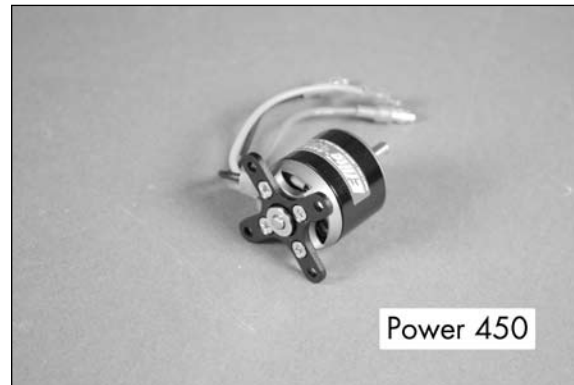
Required Tools

Threadlock Scissors
Phillips screwdriver: #1
Hex wrench or ball driver: 3/32-inch

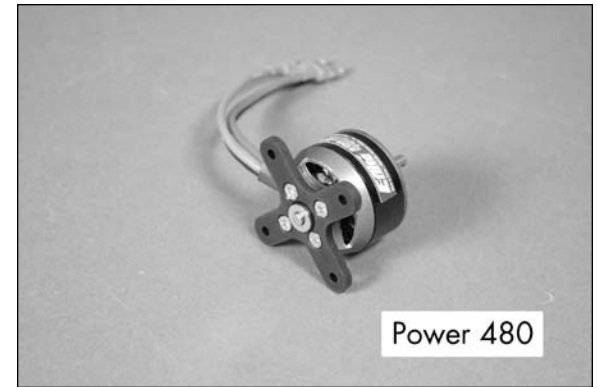
E-tips

The installation for the Power 450 and Power 480 motors follow the same procedure. Make sure to use a 30-amp speed control for the Power 450 and a 40-amp speed control for the Power 480.

- 1. Attach the X-mount to the motor using the screws provided with the motor. Use a #1 Phillips screwdriver to tighten the screws after placing a drop of threadlock on each screw to prevent it from vibrating loose.

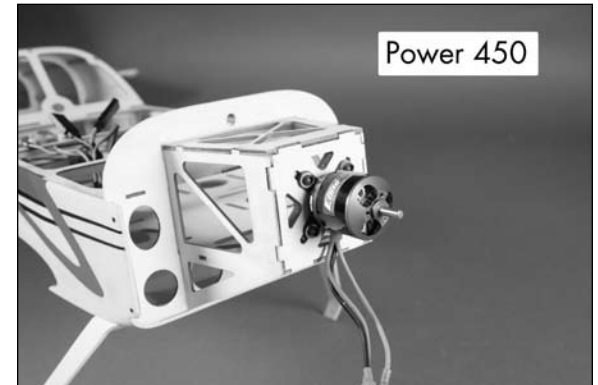


Power 450

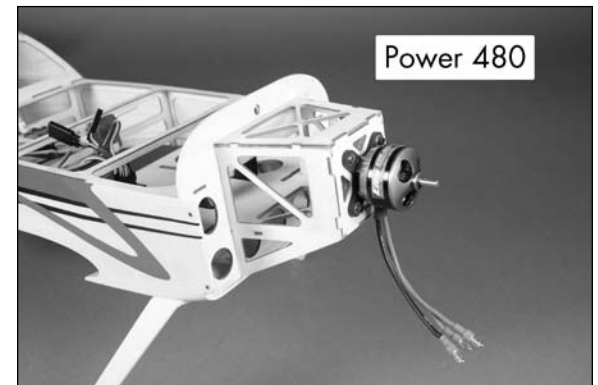


Power 480

- 2. Attach the motor to the firewall using four #4 washers and four 4-40 x 3/8-inch socket head screws. Use a 3/32-inch ball driver or hex wrench to tighten the screws. Make sure to use threadlock on the screws to prevent them from vibrating loose.



Power 450

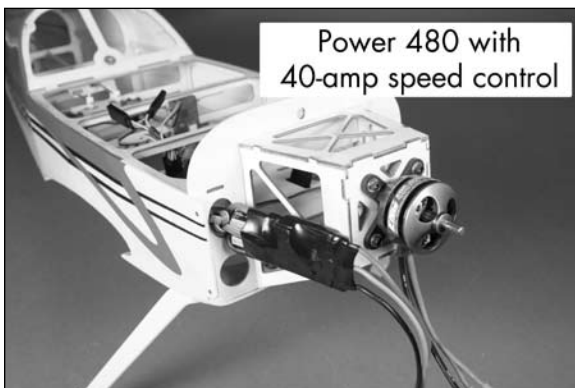


Power 480

E-tips

The blind nuts in the firewall can be positioned for a variety of motors. It may be necessary to adjust them to fit your particular motor.

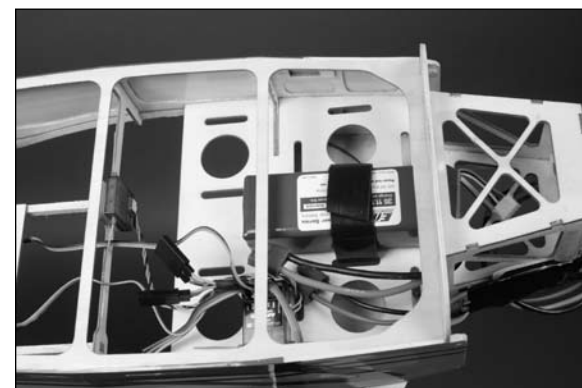
- 3. Pass the servo and battery leads from the speed control through the hole in fuselage as shown. The controller is held in place using hook and loop material. Use scissors to cut the hook and loop down to fit on the speed control. Plug the lead from the speed control into the receiver at this time.



- 4. Connect the leads between the motor and speed control. Make sure they are tucked away so they will not interfere with the operation of the motor.



- 5. Install the battery in the fuselage as shown. Use a hook and loop strap to secure the pack in the fuselage. A small strip of hook and loop between the battery and battery tray can be used to keep the battery from moving fore and aft in the fuselage during flight.



E-tips

Use the battery to correctly balance your model. It can be moved forward or rearward as necessary to make changes to the balance of your model.

- 6. Check the operation of your motor at this time using the radio system. The motor should spin counterclockwise when viewed from the front of the fuselage. If not, follow the speed control manufacturer's recommendations to reverse the direction if necessary.

Cowling Installation

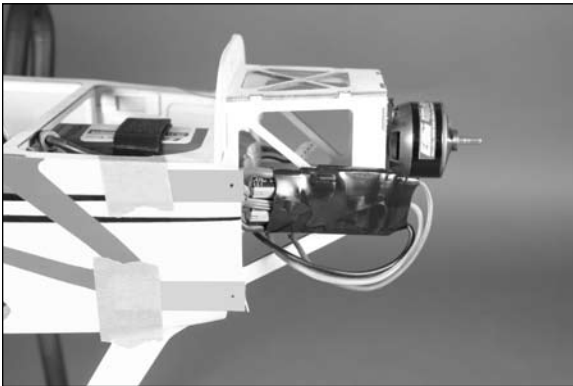
Required Parts

Fuselage assembly	Cowling
Spinner cone	Spinner backplate
Propeller	Propeller adapter
Spinner screw (2)	2mm washer (4)
2mm x 8mm machine screw (4)	

Required Tools

Low-tack tape	Hobby knife with #11 blade
Felt-tipped pen	Pin drill
Card stock	Phillips screwdriver: #0
Drill bit: 1/16-inch (1.5mm)	

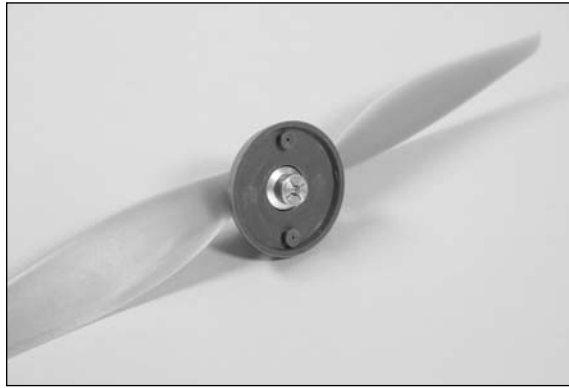
- 1. Use a hobby knife and #11 blade to cut four 3/8-inch (8mm) wide and 2-inch (52mm) long pieces of cardstock. Make a hole near the end of each piece. Align the hole with the insert in the fuselage and tape the cardstock to the fuselage using low-tack tape.



E-tips

Use a 2mm x 8mm machine screw to help in aligning the hole in the cardstock with the insert in the fuselage.

- 2. Slide the propeller adapter through the hole in the spinner backplate. The propeller is then placed on the adapter, then the propeller adapter nut threaded on. Do not tighten the nut: It only needs to hold the assembly together at this time.



- 3. Slide the cowling on the fuselage. Make sure it fits the outside of the fuselage. The propeller assembly from the previous step is then slid into position on the motor shaft.



- 4. Position the cowling so there is a 1/16- to 1/8-inch (2mm to 3mm) gap between the cowling and spinner backplate. Also make sure the cowling is aligned and centered with the backplate. Use a felt-tipped pen to mark the locations for the four cowl mounting screws on the cowl.





Etips

Make sure the trim on the cowl and fuselage are aligned before marking the cowl.

- 5. Remove the propeller assembly from the motor. Remove the cowling from the fuselage. Use a pin drill and 1/16-inch (1.5mm) drill bit to drill the four holes through the cowl for mounting screws.



- 7. Remove the tape and cardstock from the fuselage. Use four 2mm x 8mm machine screws and four 2mm washers to secure the cowl to the fuselage. Use your #0 Phillips screwdriver to tighten those screws.



- 8. Place the propeller adapter on the motor shaft. Follow the instructions provided with your motor to tighten the propeller adapter nut. Position the spinner cone on the backplate. The cone will key into the backplate when installed. Make sure there is clearance between the openings of the cone and propeller. If not it may be necessary to reposition the propeller by loosening the nut and moving the propeller. Use a #0 Phillips screwdriver to tighten the spinner mounting screws.



Wheel and Wheel Pant Installation

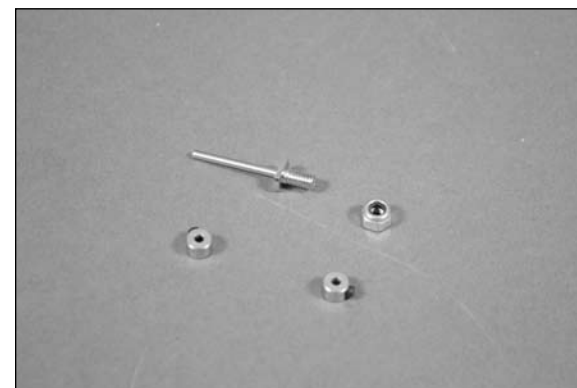
Required Parts

Fuselage assembly Wheel pant (right and left)
 Wheel axle with nut (2)
 Wheel, 1³/₄-inch (42mm) (2)
 5/64-inch (2mm) wheel collar with setscrew (4)
 2mm x 8mm sheet metal screw (4)

Required Tools

Adjustable wrench Phillips screwdriver: #1
 Hex wrench or ball driver: 1.5mm
 Nut driver or box wrench: 7mm

- 1. Remove the wheel collars and nut from the axle. You may need to use a 1.5mm hex wrench or ball driver to loosen the setscrews that keep the wheel collars attached to the axle.



- 2. Use an adjustable wrench and 7mm nut driver or box wrench to secure the axle to the landing gear.



- 3. Install the first wheel collar so it is 1/16-inch (1.5mm) away from the edge of the outer axle nut as shown.



- 4. Slide the wheel pant over the axle. The wheel will need to be placed on the axle, then a second wheel collar installed. Use a 1.5mm hex wrench or ball driver to lower the wheel collar into position. If you tighten the setscrew it will keep it from falling into the wheel pant accidentally. The position of the wheel collar will be adjusted once the wheel pant is secured to the landing gear.



- 5. Use two 2mm x 8mm sheet metal screws to secure the wheel pant to the landing gear. The screws will require the use of a #1 Phillips screwdriver to tighten them. Make sure the wheel pant is tight against the landing gear before starting the screws.



- 6. Use your 1.5mm hex wrench or ball driver to tighten the setscrew to secure the outer wheel collar. Make sure the wheel can rotate freely on the axle.



- 7. Repeat Steps 1 through 6 to install the remaining wheel and wheel pant.



Canopy Detail Installation

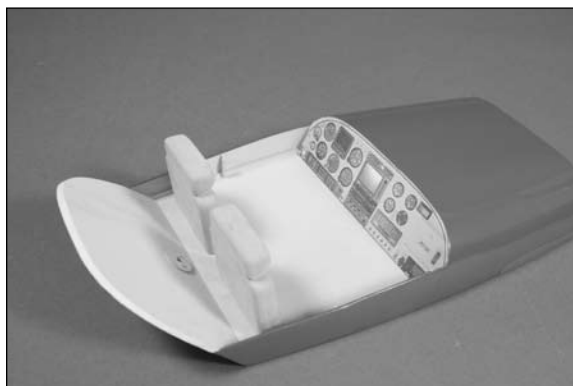
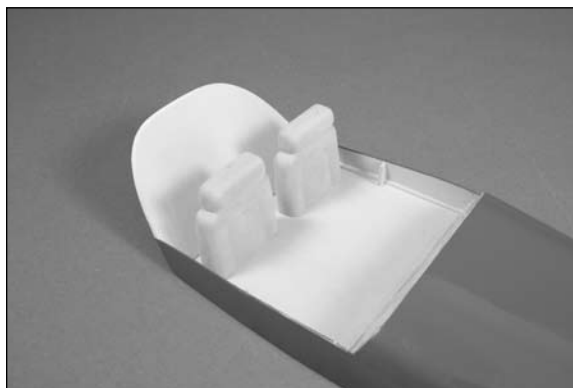
Required Parts

Fuselage assembly	Canopy hatch
Canopy	Seat back (2)
Pilot (optional) (EFLA156)	

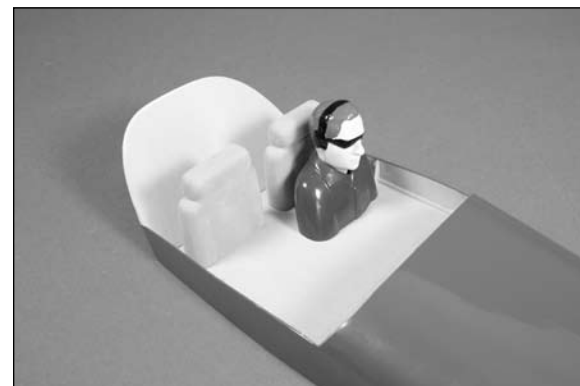
Required Tools

Canopy glue	Waxed paper
Medium CA	Low-tack tape

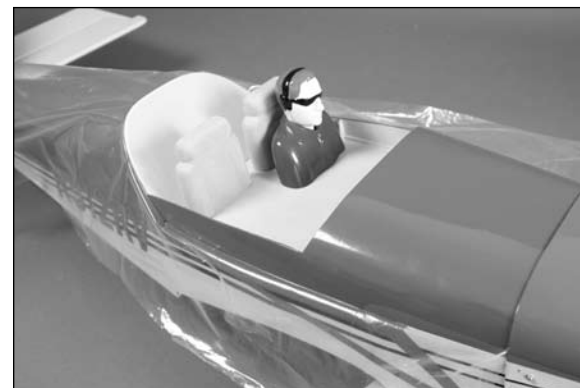
- 1. Locate the two seat backs. Use medium CA to glue the seat backs to the canopy hatch as shown in the photo below.



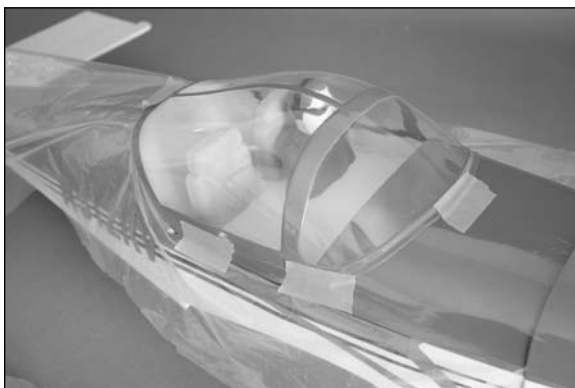
- 2. Use medium CA to glue the pilot (optional) to the canopy hatch as shown.



- 3. Place the canopy hatch on the fuselage. Make sure to place a piece of waxed paper or part of a bag from the packaging of your model between the hatch and fuselage so when the canopy is glued to the hatch it won't accidentally be glued to the fuselage. Make sure that the hatch is fully seated on the fuselage and the magnet is engaged during this step. If it is not seated and engaged it could cause your hatch to fit improperly or not engage once the canopy is glued on.



- 4. Use canopy glue to secure the canopy to the hatch. Use low-tack tape to keep the canopy in position on the fuselage until the glue fully cures.



Wing Installation

Required Parts

Fuselage assembly Wing assembly
#4 washer (2)
4-40 x 1-inch socket head screw (2)

Required Tools

Hex wrench or ball driver: 3/32-inch

- 1. Remove the hatch from the fuselage. Position the wing on the bottom of the fuselage. Slide the wing forward so the dowels in the leading edge go into the appropriate holes in the fuselage.



- 2. Check to make sure the leads for the aileron servos (and flap servo) are inside the fuselage. The wing is held in position using two 4-40 x 1-inch socket head screws and two #4 washers. Use a 3/32-inch ball driver or hex wrench to tighten the screws.



- 3. Plug the aileron servos into the Y-harness coming from the receiver. If you are using flaps, plug the flap servo lead into the 3-inch (76mm) extension coming from the receiver.



Control Throws

- 1. Turn on the transmitter and receiver of your model. 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 toward the bottom of the transmitter 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.

Aileron High Rate

Up	9/16-inch	(14mm)
Down	9/16-inch	(14mm)

Aileron Low Rate

Up	3/8-inch	(10mm)
Down	3/8-inch	(10mm)

Elevator High Rate

Up	3/4-inch	(20mm)
Down	3/4-inch	(20mm)

Elevator Low Rate

Up	5/8-inch	(15mm)
Down	5/8-inch	(15mm)

Rudder High Rate

Left	1 ⁹ / ₁₆ -inch	(40mm)
Right	1 ⁹ / ₁₆ -inch	(40mm)

Rudder Low Rate

Left	1-inch	(25mm)
Right	1-inch	(25mm)

Flap Throw

Up	Align with wing trailing edge
Center	5/16-inch (8mm)
Down	5/8-inch (15mm)

Exponential

15%
15%

10%
10%

15%
15%

10%
10%

15%
15%

10%
10%

E-tips

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

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

E-tips

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

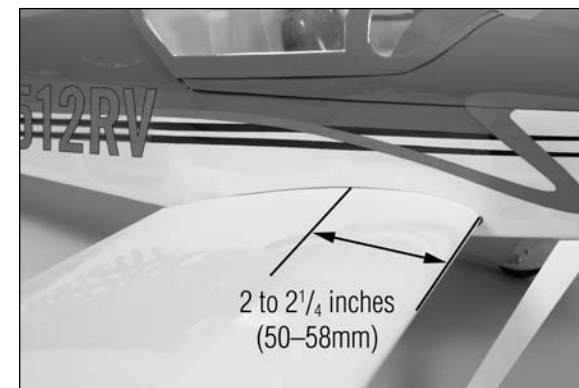
Center of Gravity

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 your model is 2- to 2¹/₄-inches (50–58mm) back from the leading edge of the wing at the center. Make sure to measure from the farthest point forward for accuracy. Mark the location for the Center of Gravity on the top of the wing next to the fuselage as shown.

Adjust components as necessary so the model hangs level or slightly nose down. This is the correct balance point for your model. You might find that you need to shift the battery slightly to either the front or back of the fuselage to achieve the correct balance.



After the first flights, the CG position can be adjusted for your personal 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.

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. Repair or replace any items that would be considered questionable. Failure of any of these components in flight would mean the loss of your aircraft.

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.

Flying Your RV-9

Flying the RV-9 is a pleasure. Takeoffs are easy as well as landings. Loops and rolls are as easy as pushing the control stick in the desired direction with the control throws listed in the manual. Flight times of 8–10 minutes with the recommended LiPo battery are common.

The RV-9 is capable of flying in light winds up to 10 mph, and can do just about any basic aerobatic maneuver you would like to accomplish. The RV-9 carries itself very well on final approach. A descending approach during final is all that is required to maintain airspeed. Touchdowns are easily accomplished in a three-point state. You will enjoy the added ability to vary the landing speed even more when using the optional flaps.

We hope you enjoy flying your RV-9 as much as we do.

Happy Landings!

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.

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, 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.

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 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 1/2 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.

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.



2008 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 full-scale 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.

RV-9 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.



© 2009 Horizon Hobby, Inc.
4105 Fieldstone Road
Champaign, Illinois 61822
(877) 504-0233
horizonhobby.com
E-fliteRC.com