

T-34 Mentor 25e ARF

Assembly Manual



Specifications

Wingspan:	55.0 in (1575mm)
Length:	44.0 in (1110mm)
Wing Area:	545 sq in (34.9 sq dm)
Weight w/o Battery:	4.40–4.50 lb (1.90–2.00 kg)
Weight w/Battery:	5.00–5.25 lb (2.20–2.30 kg)



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Introduction

Introduced during the Cold War as an economical primary trainer for U.S. armed forces, the T-34 Mentor continues to be one of the most sought-after warbirds to this day. Its aerobatic ability and good-natured flying manners have endeared it to thousands of pilots, both civilian and military. E-flite's sport scale recreation of the Mentor perfectly replicates the easy-going flight characteristics of the full-scale version by virtue of a blended Selig airfoil design that yields impressive aerobatic capability without any surprises.

Assembly is simple and straightforward with plenty of details completed for you, right out of the box.

If you're an intermediate to advanced pilot wanting a good-looking, knock around plane for Sunday afternoons, the T-34 Mentor 25e has what it takes.

Important Warranty Information

Please read our Warranty and Liability Limitations section on Page 24 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

EFL4801	Wing Set
EFL4802	Fuselage with Hatch
EFL4803	Tail Set
EFL4804	Cowling
EFL4806	Pushrod Set
EFL4807	Landing Gear
EFL4808	Spinner
EFL4809	Aft Tail Cone
EFL4810	Hardware Pack



Covering Colors

HANU870	White
HANU883	Flame Red
HANU874	Black

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.

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. 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 JR SPORT™ ST47 servos.

If you own a Spektrum radio, just add a DSM2™ receiver and four (or five) JR SPORT ST47 Standard servos. We show the installation of the Spektrum AR6200 receiver in the manual.

Complete Radio System

SPM6600 DX6i 6-Channel Full Range w/o Servos

Or Purchase Separately

SPMAR6200 AR6200 6-Channel Receiver

And

JSP20050 ST47 Standard Servo (4)
(5 if using flaps)
JRPA215 HD Servo Horn (rudder)
EFLREX6L 6-inch Extension,
Lightweight (2)
EFLRYH3 3-inch Y-Harness, Lightweight

Optional Accessories

EFLA110 Power Meter
EFLC3005 Celecra™ 1- to 3-Cell
Li-Po Charger
EFLC505 Intelligent 1- to 5-Cell
Balancing Charger
EFLSP225 2 1/4-inch Aluminum Spinner

The Spektrum trademark is used with permission of Bachmann Industries, Inc.

Brushless Outrunner Setup - Power 25

EFLM4025A	Power 25 Brushless Outrunner Motor, 870Kv
APC11080E	11 x 8e Electric Propeller
EFLA1060	60-Amp Lite Switch-Mode BEC Brushless
EFLB32004S	3200mAh 4S 14.8V 20C Li-Po, 13AWG EC3

We have tested out T-34 25e ARF using the 4S Power 25 option listed above. Although this will push the motor out of the claimed parameters listed in the Power 25 instructions on the ground, our flight testing and Eagle Tree monitoring has shown this system to fall well within the specifications of the Power 25 and its limitations. This is the preferred power choice for this model due to a lighter weight and extreme power.

If you so choose, you can run the standard Power 25 setup with the following components.

EFLM4025A	Power 25 Brushless Outrunner Motor, 870 Kv
APC12080E	12x8e Electric Propeller
EFLA1040	40-Amp Pro Switch-Mode BEC Brushless
EFLB32003S	3200mAh 3S 11.1V 20C Li-Po, 13AWG EC3

Brushless Outrunner Setup - Power 32

EFLM4032A	Power 32 Brushless Outrunner Motor, 770Kv
APC12080E	12 x 8e Electric Propeller
EFLA1060	60-Amp Lite Pro Switch-Mode BEC Brushless
EFLB32004S	3200mAh 4S 14.8V 20C Li-Po, 13AWG EC3

Required Tools and Adhesives

Tools & Equipment

Ruler (EFLA264)	Hobby knife (#11 blade)
Nut driver: 1/4-inch	Pliers
Pin vise	String/dental floss
Tapered reamer	Phillips Screwdriver: #1
Low-tack tape	Flat blade screwdriver
Hex Wrench or Ball Driver: 2.5mm	
Drill bit: 1/16-inch (1.5mm), 5/64-inch (2mm)	

Adhesives

Thin CA
Medium CA
Threadlock

Optional Tools and Adhesives

Hex wrench or ball driver: 3/32-inch
Open end or box wrench: 12mm

Warning

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

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

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.

Horizontal and Vertical Fin Installation

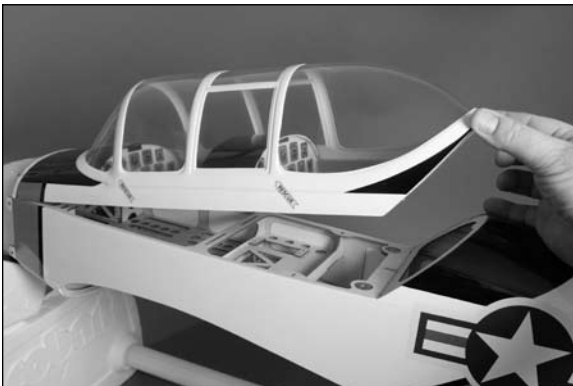
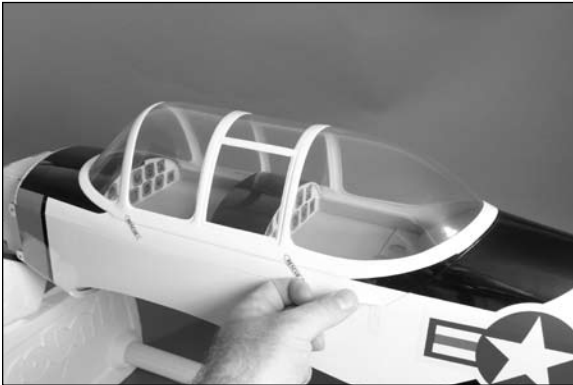
Required Parts

Fuselage assembly Horizontal stabilizer
Vertical stabilizer Nylon control horn (2)
4-40 locknut (2) #4 washer (2)
#2 x 1/2-inch self-tapping screw (2)
Aft tail cone

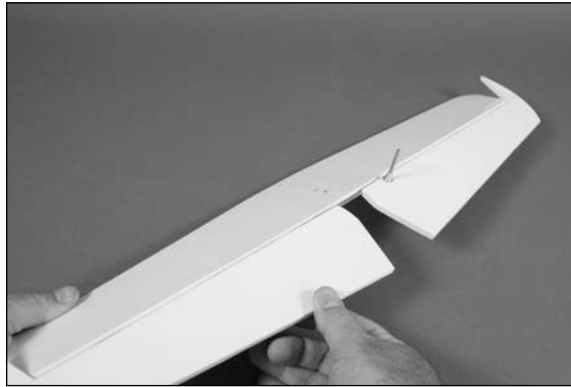
Required Tools and Adhesives

Ruler Phillips screwdriver: #1
Threadlock Low-tack tape
Box wrench or nut driver: 1/4-inch

- 1. Carefully remove the tape that holds the canopy hatch to the fuselage. Lift the hatch at the rear and slide it back to remove. Set it aside in a safe location.



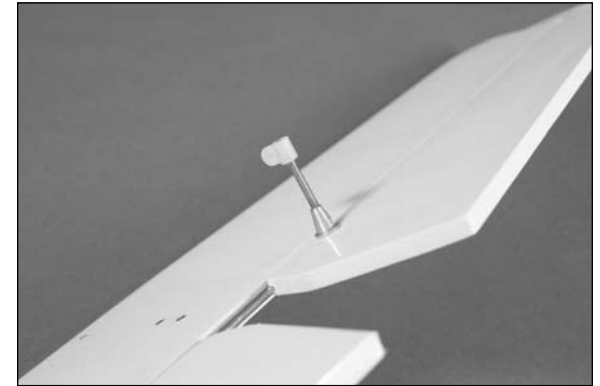
- 2. Break in the hinges for the stabilizer by flexing it through its range of motion a few times. This will make it easier for the servo to operate for your first flights.



E-tips

To save time, break in all the hinges at this time, including the rudder, ailerons and flaps.

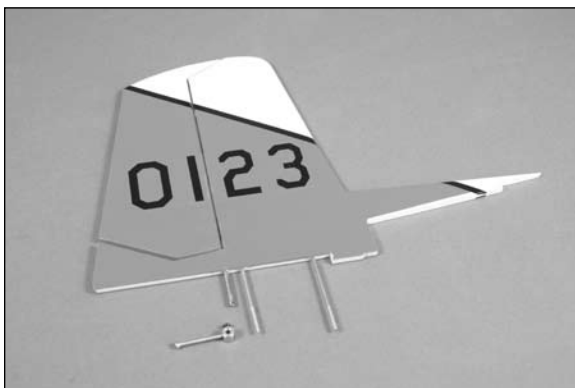
- 3. Thread a nylon control horn on the threaded control horn screw of the elevator. The top edge of the horn will be flush with the end of the screw as shown. The control horn is located on the bottom-side of the elevator. You might need to use a #1 Phillips screwdriver to hold the screw while you thread the nylon control horn on.



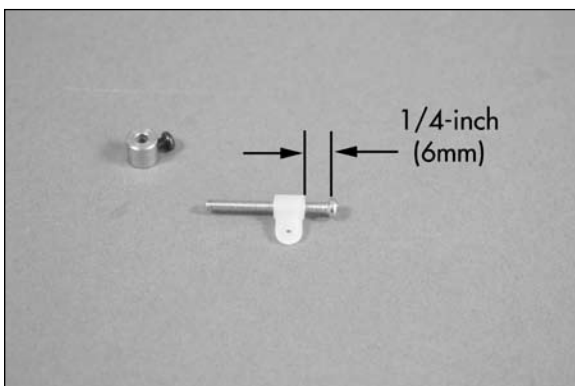
- 4. Slide the stabilizer in the slot at the rear of the fuselage. The control horn faces the bottom of the fuselage when installed.



- 5. Use a #1 Phillips screwdriver to remove the rudder control horn.



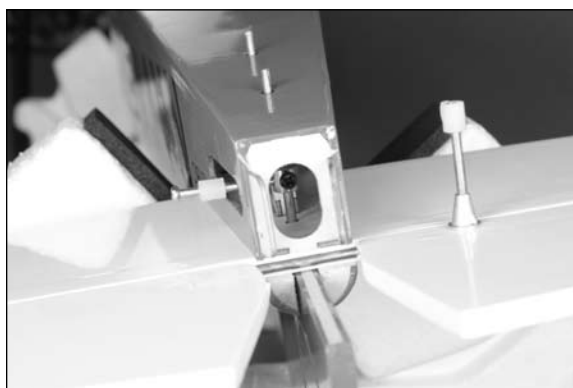
- 6. Using a #1 Phillips screwdriver, remove the long silver screw from the control horn collar. Thread a nylon control horn on the screw until it is 1/4-inch (6mm) from the head of the screw head as shown. Thread the screw back in the collar.



- 7. Insert the threaded rods from the fin through the holes in the fuselage and stabilizer. You may need to position the stabilizer to accomplish this step.



- 8. While sliding the fin in position, you will need to place the rudder control horn in position. Make sure the black screw faces to the rear of the fuselage so it can be tightened later.



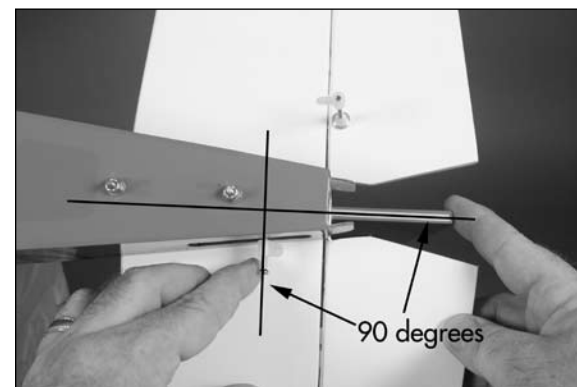
- 9. The fin is secured using two 4-40 locknuts and two #4 washers. Use a 1/4-inch box wrench or nut driver to tighten the nuts.



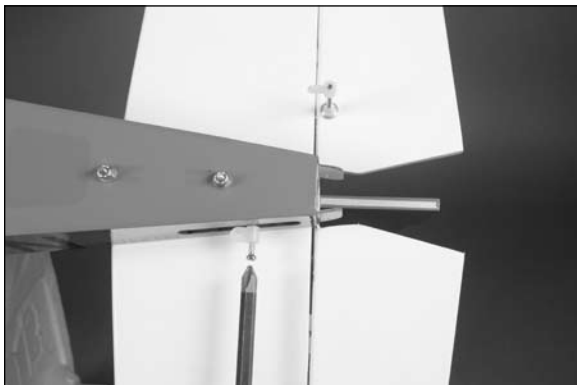
E-tips

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

- 10. Check that the rudder control horn is positioned 90 degrees to the rudder. If not, you will get unequal throw of the rudder from right to left. You can use a piece of low tack tape to tape the rudder in place.



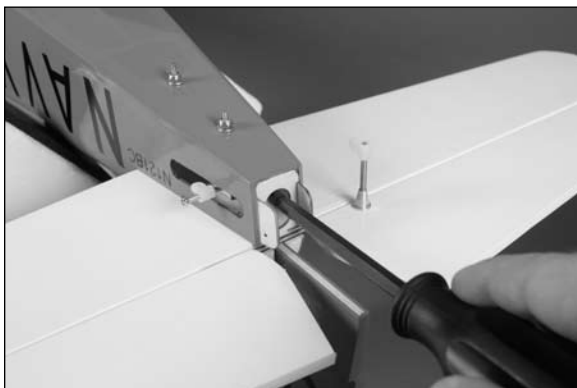
- 11. Use a #1 Phillips screwdriver to tighten the control horn screw. Reposition the nylon control horn if necessary so it faces the front of the fuselage so the rudder pushrod can be connected.



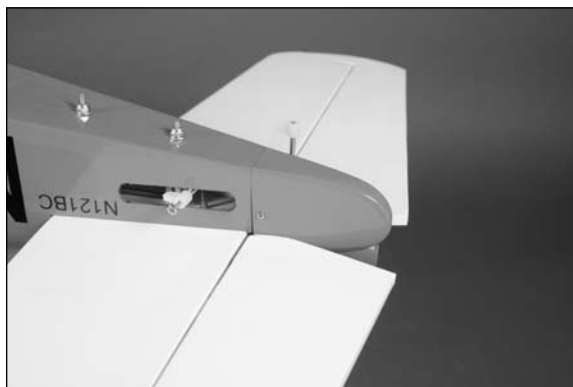
E-tips

Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

- 12. Tighten the black screw using a #1 Phillips screwdriver.



- 13. Use a #1 Phillips screwdriver to install the two #2 x 1/2-inch self-tapping screws that secure the aft tail cone to the rear of the fuselage.



Radio Installation

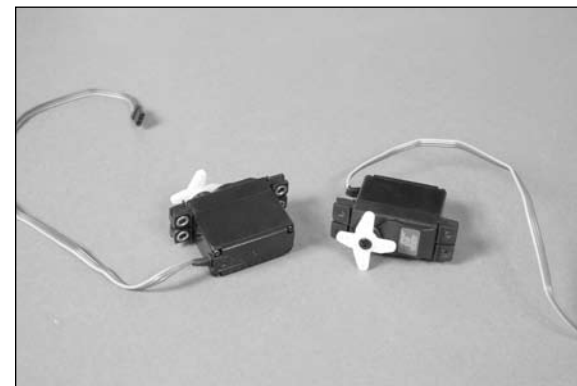
Required Parts

Fuselage assembly	Servo with hardware (2)
Receiver	Y-harness
HD servo horn	Hook and loop tape
Elevator pushrod wire, 23 ¹ / ₄ -inch (590mm)	
Rudder pushrod wire, 22 ⁷ / ₈ -inch (581mm)	
Pushrod keeper	Nylon clevis (2)
Silicone keepers (2)	Plywood servo plate (2)
Radio system	
Brass pushrod connector	
Nylon pushrod connector backplate	

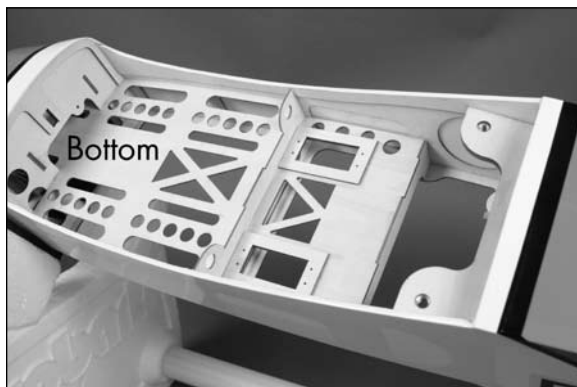
Required Tools and Adhesives

Pliers	Phillips screwdriver: #1
Thin CA	Pin vise
Medium CA	
Drill bit: 5/64-inch (2mm)	

- 1. Prepare the rudder and elevator servos by installing the grommets and brass eyelets as shown.



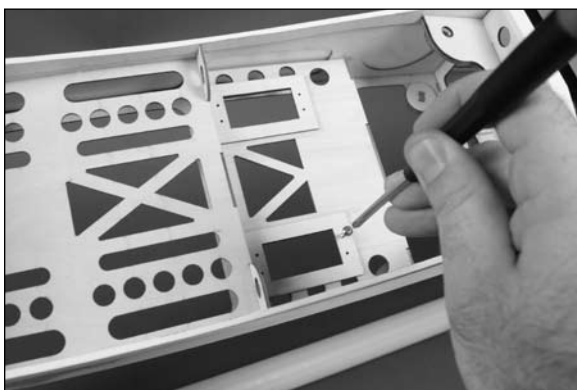
- 2. Use medium CA to glue the plywood servo plates in position for the rudder and elevator servos. Make sure to align the plates with the openings before the CA can cure.



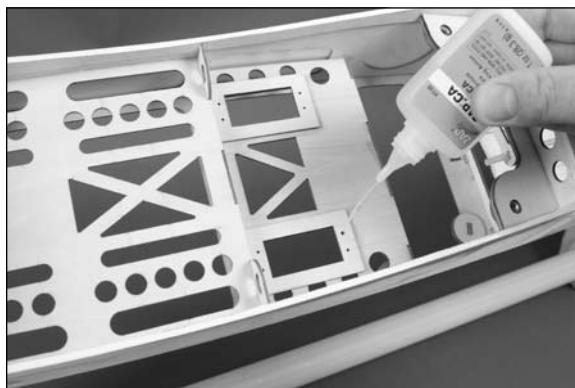
E-tips

The servo openings in the servo tray are designed to fit the E-flite servos that come with the RTF version of the model. The plywood plates are necessary for the installation of standard servos.

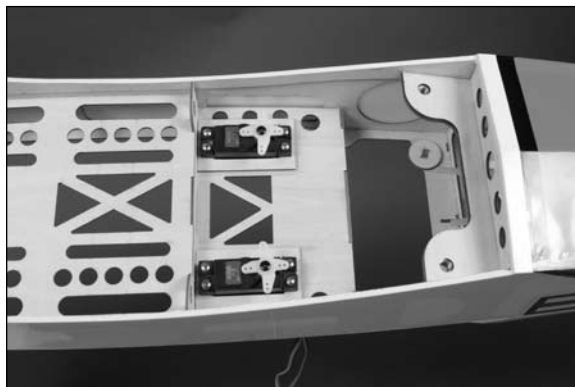
- 3. Use a #1 Phillips screwdriver to thread a servo mounting screw into each of the eight holes in the servo tray.



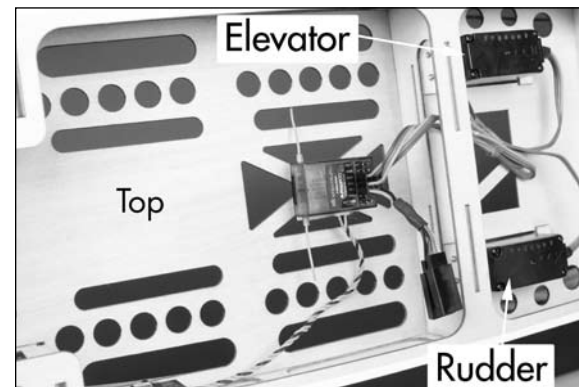
- 4. Apply 2–3 drops of thin CA in each of the eight holes. Steps 2 and 3 prepare the holes so the screws fit securely and won't vibrate loose in flight.



- 5. Install the elevator and rudder servos using the screws provided with the servo. Use a #1 Phillips screwdriver to tighten the screws. Note that the output of both servos face the rear of the fuselage.



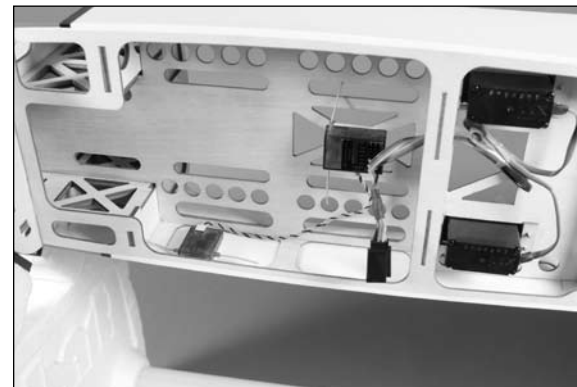
- 6. Use hook and loop tape to mount the receiver in the fuselage. Plug a Y-harness in the AIL port of the receiver. Also plug the rudder and elevator servos in the receiver as well.



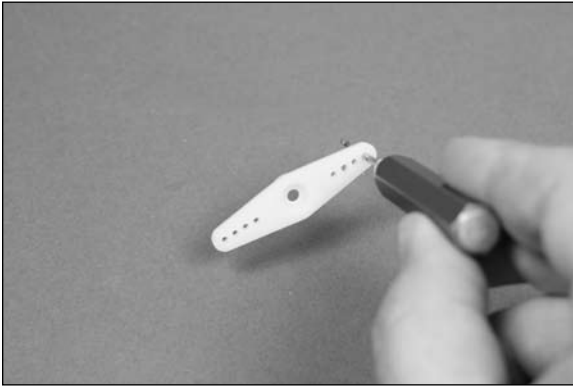
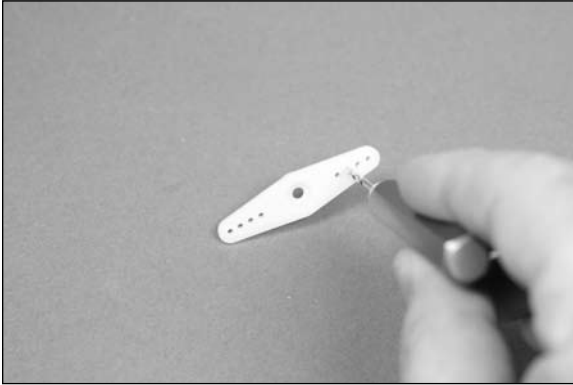
E-tips

Secure the excess from the servo leads so they do not interfere with the operation of the radio system.

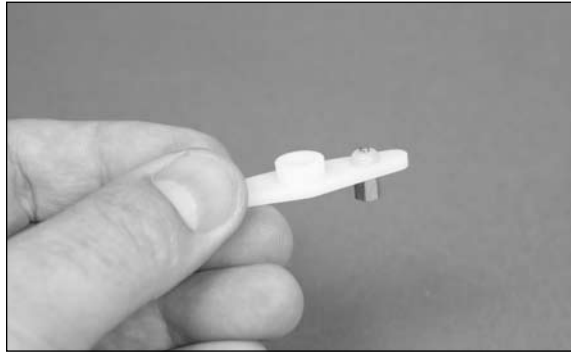
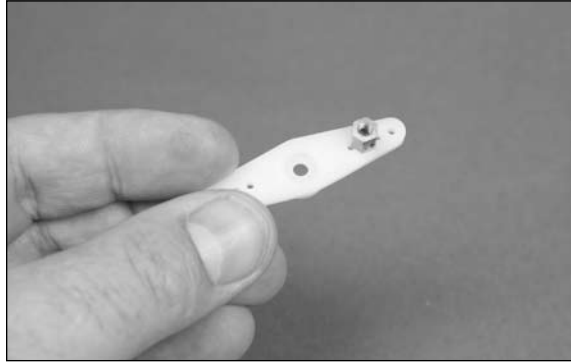
- 7. Mount the remote receiver to the side of the fuselage using hook and loop tape.



- 8. Use a pin vise and 5/64-inch (2mm) drill bit to enlarge the holes in the servo arm that are 1/2-inch (14mm) and 3/4-inch (20mm) from the center of the HD servo horn.



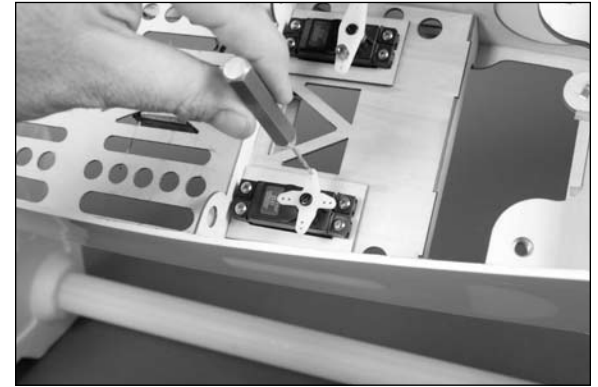
- 9. Insert the brass pushrod connector in the hole that is 1/2-inch (14mm) from the center of the servo horn. Use a nylon pushrod connector backplate to secure the connector.



- 10. Center the rudder servo using the radio system. Use a #1 Phillips screwdriver to install the servo horn prepared in the past few steps on the rudder servo.



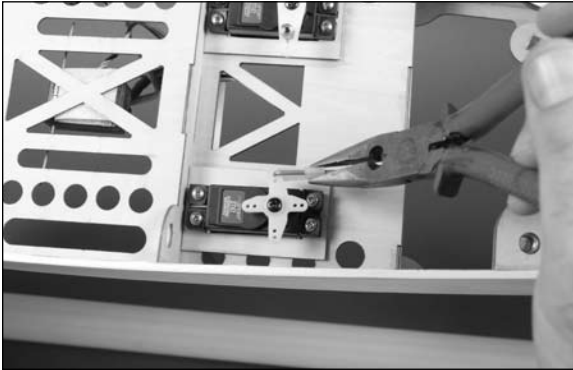
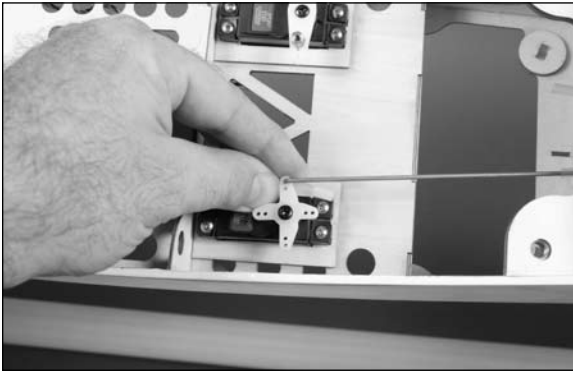
- 11. Use a pin vise and 5/64-inch (2mm) drill bit to enlarge the hole on the elevator servo horn that is 1/2-inch (13mm) from the center of the horn.



- 12. Slide the 23 1/4-inch (590mm) elevator pushrod wire into the tube in the fuselage. Insert the bend in the enlarged hole in the servo horn as shown.



- 13. Slide a pushrod keeper on the wire from the underside of the servo arm. Swing the connector around and snap it on the pushrod wire to secure the wire and servo horn. You may need to use pliers to snap the keeper on the wire.



- 14. Repeat Steps 12 and 13 to install the 22⁷/₈-inch (581mm) rudder pushrod wire.



- 15. Slide a silicone keeper on the clevis and thread the clevis on the elevator pushrod wire. With the elevator servo centered, connect the clevis to the nylon control horn. The elevator must align with the stabilizer. If not, adjust the clevis so it does.



- 16. Slide a silicone keeper on the clevis and thread the clevis on the rudder pushrod wire. With the rudder servo centered, connect the clevis to the nylon control horn. The rudder must align with the fin. If not, adjust the clevis so it does. You may find you need to remove the pushrod from the rudder servo to make adjustments on the clevis.



Nose Gear Installation

Required Parts

Fuselage assembly Nylon steering arm
 Nose gear assembly 3mm x 8mm socket head screw
 Nose gear pushrod wire, 11¹/₂-inch (292mm)
 3mm x 4mm machine screw
 Radio system Battery

Required Tools and Adhesives

Hex wrench or ball driver: 2.5mm
 Phillips screwdriver: #1
 Threadlock

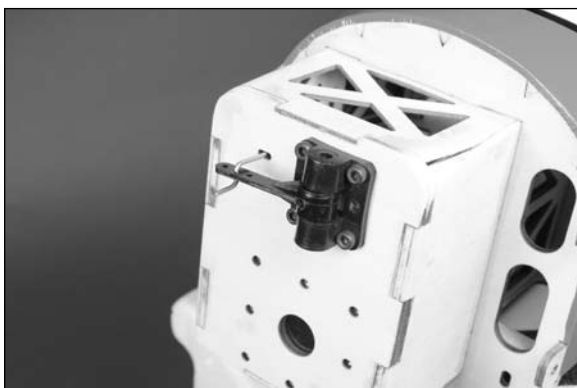
- 1. Insert the 11¹/₂-inch (292mm) nose gear pushrod wire in the slot near the nose gear mount in the firewall. Guide the wire through the fuselage formers and through the brass pushrod connector as shown.



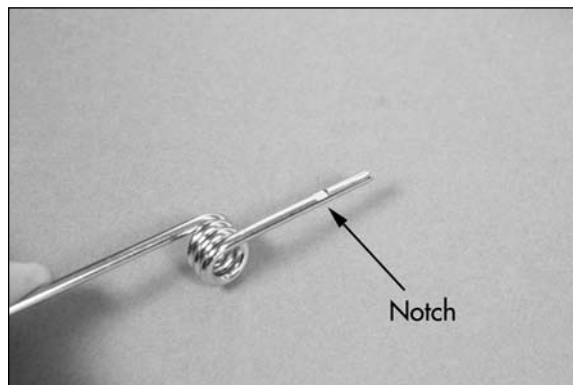
- 2. Attach the nylon steering arm to the nose gear wire. Insert the bend in the wire through the middle hole of the steering arm.



- 3. Position the steering arm in the nose gear mount. Make sure the hole for the screw in the arm faces forward so the nose gear can be installed.



- 4. The nose gear assembly has a flat area where the screw in the steering arm will rest. Make sure this faces forward when the nose gear assembly is installed.



E-tips

Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

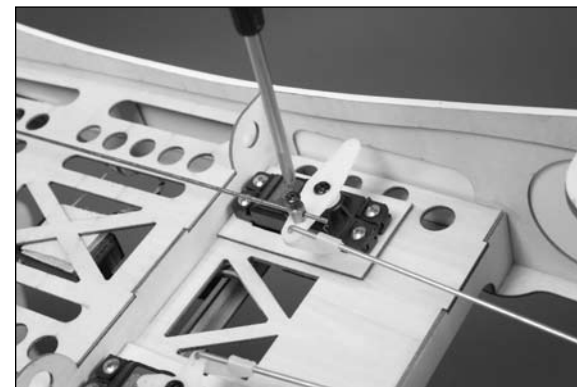
- 5. Slide the nose gear assembly through the nose gear mount and steering arm. Use a 3mm x 8mm socket head screw to secure the nose gear assembly. The screw is tightened on the flat area indicated in Step 4 using a 2.5mm hex wrench or ball driver.



E-tips

Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

- 6. With the rudder servo centered, align the nose wheel parallel to the fuselage center line. Use a 3mm x 4mm machine screw and #1 Phillips screwdriver to tighten the screw to secure the pushrod wire in the brass connector.



E-tips

If you find your model does not track straight on the runway, you may need to re-center the nose wheel. Do not use the rudder trim to correct a tracking problem with your aircraft. The rudder trim is used to trim the model in flight.

Motor and Speed Controller Installation

Required Parts

Fuselage assembly Motor with hardware
Speed control Hook and loop tape
Radio system Battery
3mm x 15mm socket head screw (4)
Motor standoff, 3/8-inch (5mm)

Required Tools and Adhesives

Phillips screwdriver: #1 Threadlock
Hex wrench or ball driver: 2.5mm

E-tips

Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

- 1. Attach the X-mount to the motor using the screws provided with the motor and a #1 Phillips screwdriver.

Power 25



Power 32



- 2. Attach the motor to the firewall using four 3mm x 15mm socket head screws. Use a 2.5mm hex wrench or ball driver to tighten the screws. Note the different position of the mount in relationship to the firewall for the Power 25 and Power 32.

Power 25



E-tips

When attaching the Power 32, you will need to use the four 3/8-inch (5mm) standoffs between the mount and firewall to set the correct motor spacing.

Power 32



E-tips

Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

- 3. Insert the wires for the motor from the speed control through the hole in the right-hand side of the fuselage as shown.



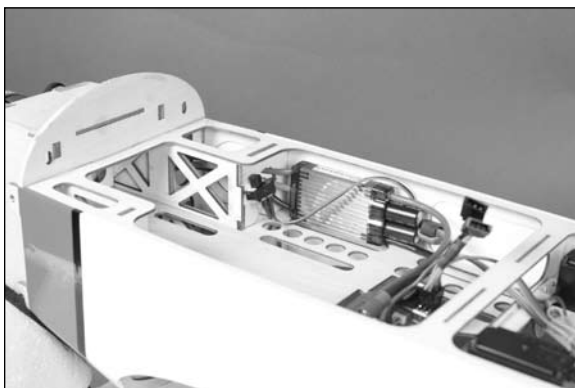
- 4. The motor wires will exit the hole near the motor box. Connect the wires from the motor to the wires from the speed control.



E-tips

If you use all E-flite components in the power system, you can connect the ESC and motor wires by matching the colors and the motor will spin in the correct direction.

- 5. Use hook and loop tape to secure the speed control to the side of the fuselage.



- 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 and Spinner Installation

Required Parts

Fuselage assembly	Cowling
3mm washer (4)	Propeller adapter
Propeller	Spinner cone
Spinner backplate	Motor battery
Hook and loop tape	
Hook and loop strap (2)	
3mm x 12mm self-tapping screw (2)	
3mm x 12mm socket head screw (4)	

Required Tools and Adhesives

Hex wrench or ball driver: 2.5mm
 Phillips screwdriver: #1
 Tapered reamer

Optional Items

12mm wrench
 Aluminum spinner assembly
 Hex wrench or ball driver: 3/32-inch

- 1. Use four 3mm x 12mm socket head screws and four 3mm washers to attach the cowl to the fuselage. Use a 2.5mm hex wrench or ball driver to tighten the screws.



- 2. Slide the propeller adapter on the motor shaft.



- 3. Slide the spinner backplate on the propeller adapter. It may be necessary to enlarge the hole in the spinner backplate using a tapered reamer if it does not fit on the propeller adapter.



- 4. Slide the propeller on the adapter. It may be necessary to enlarge the hole in the propeller using a tapered reamer if it does not fit on the propeller adapter.



E-tips

It is always a good idea to balance your propeller. An unbalanced propeller can cause vibrations to be transmitted into the airframe which could damage the airframe or other components as well as produce unwanted flight characteristics.

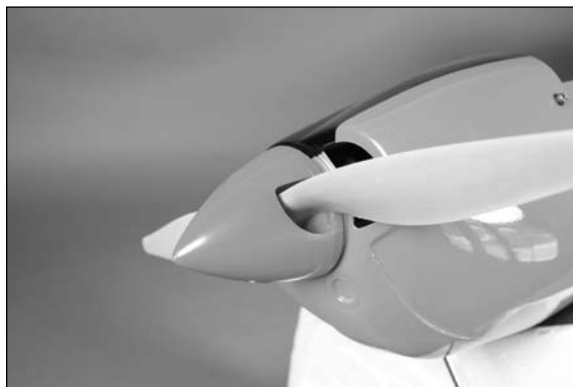
- 5. Use a hex wrench or ball driver to tighten the propeller adapter nut. The propeller should be positioned so it almost touches the small bumps on the spinner backplate.



E-tips

Before tightening the spinner nut, make sure there is a gap between the backplate and cowl so they do not rub when the motor is running.

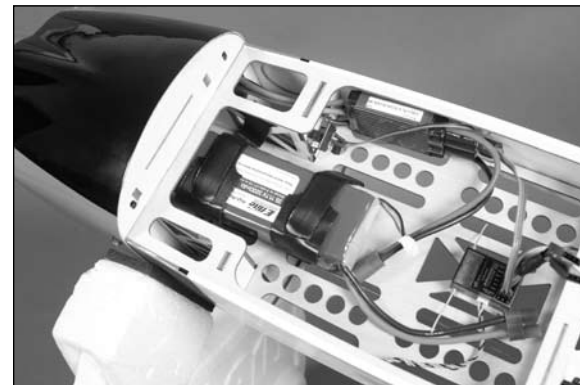
- 6. Check the fit of the spinner cone on the backplate. There should be an equal gap between the propeller and the opening for the propeller in the spinner backplate. If there is not, go back to Step 5 and reposition the propeller in relationship to the spinner backplate.



- 7. Use a #1 Phillips screwdriver and two 3mm x 12mm self-tapping screws to secure the spinner cone to the spinner backplate.



- 8. Use two hook and loop straps to secure the battery in the fuselage. Use hook and look tape between the battery and battery tray to keep it from sliding 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.

OPTIONAL ALUMINUM SPINNER INSTALLATION

- A. Slide the adapter and spinner backplate on the motor shaft.



- B. Slide the propeller on the adapter. It may be necessary to enlarge the hole in the propeller using a tapered reamer if it does not fit on the propeller adapter.



E-tips

It is always a good idea to balance your propeller. An unbalanced propeller can cause vibrations to be transmitted into the airframe which could damage the airframe or other components as well as produce unwanted flight characteristics.

- C. Use a 12mm wrench and the nut provided with the spinner to secure the propeller.



E-tips

Before tightening the spinner nut, make sure there is a gap between the backplate and cowl so they do not rub when the motor is running.

- D. Use the screw provided with the spinner to secure the spinner cone. Use a 3/32-inch hex wrench or ball driver to tighten the screw.



Aileron Servo Installation

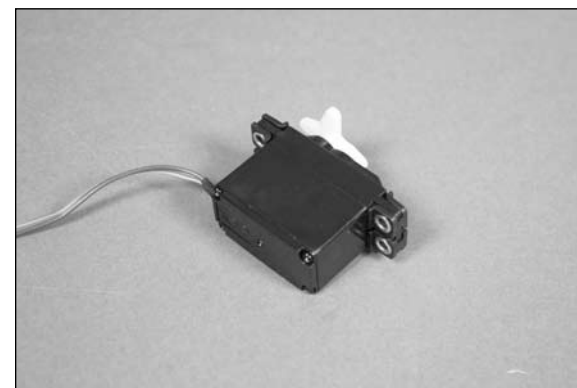
Required Parts

Wing panel (left and right)	Pushrod keeper (2)
Servo with hardware (2)	Nylon control horn (2)
Nylon clevis (2)	Silicone keeper (2)
Radio system	Battery
6-inch (152mm) servo extension (2)	
Aileron linkage wire, 3 1/2-inch (89mm) (2)	

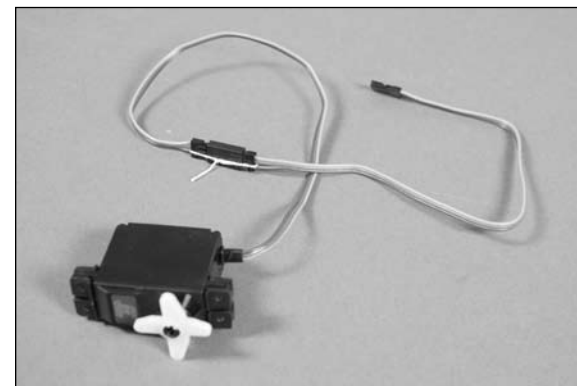
Required Tools and Adhesives

String or dental floss	Thin CA
Pin vise	Phillips screwdriver: #1
Drill bit: 1/16-inch (1.5mm)	

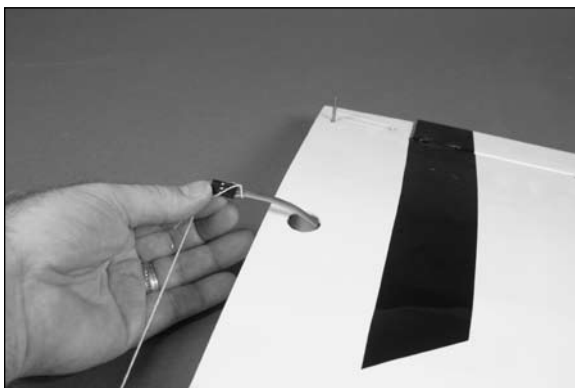
- 1. Prepare the aileron servo by installing the grommets and brass eyelets as described in the servo instructions.



- 2. Use string or dental floss to secure a 6-inch (152mm) servo extension to the aileron servo lead.



- 3. Tie the string located inside the wing to the end of the servo lead. Pull the servo lead through the wing and out the hole in the top sheeting.



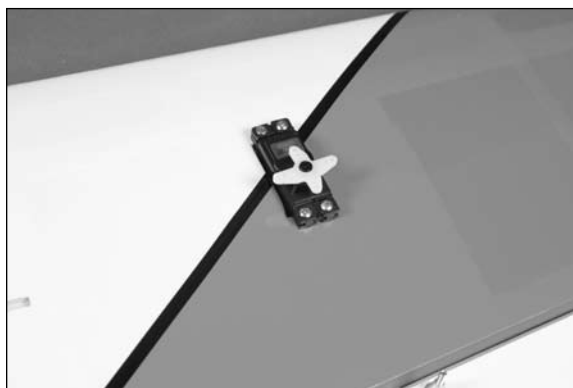
- 4. Use a pin vise and 1/16-inch (1.5mm) drill bit to drill the four holes for the servo mounting screws.



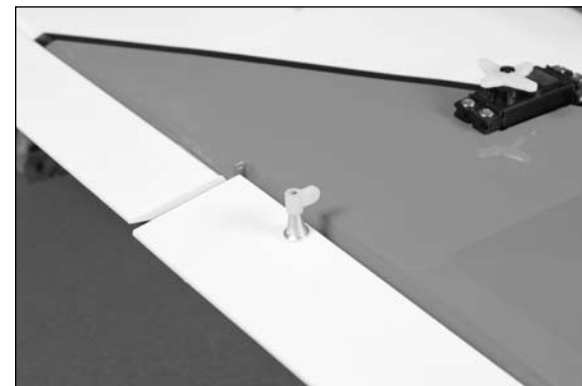
- 5. Use 2–3 drops of thin CA to harden the holes drilled in the previous step.



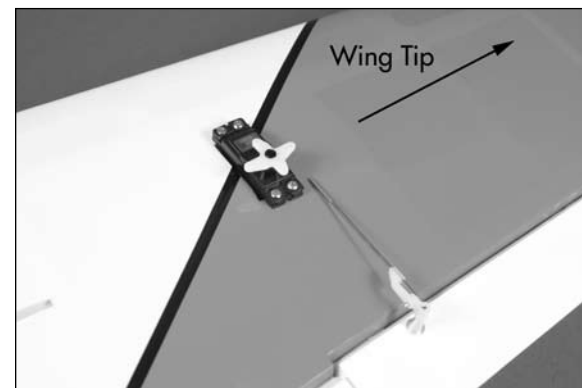
- 6. Use the screws provided with the servo and a #1 Phillips screwdriver to secure the servo in the wing. Make sure the output of the servo faces the aileron when installed.



- 7. Thread the nylon control horn on the aileron control screw. Thread the horn on so the top of the horn is flush with the end of the screw as shown. You may need to use a #1 Phillips screwdriver to hold the control horn screw while threading on the nylon control horn.



- 8. Use a pushrod keeper to secure the 3 1/2-inch (89mm) aileron linkage wire to the nylon control horn. The wire is inserted from the side of the horn closest to the wing tip.



- 9. Slide a silicone keeper on the clevis, then thread the clevis on the linkage wire. With the aileron servo centered, attach the clevis to a hole on the servo horn that is 1/2-inch (13mm) from the center of the horn. Adjust the linkage so the aileron is aligned with the wing tip when the aileron servo is centered.



- 10. Repeat Steps 1 through 9 to install the remaining aileron servo and linkage.

Fixed Flap Installation

Required Parts

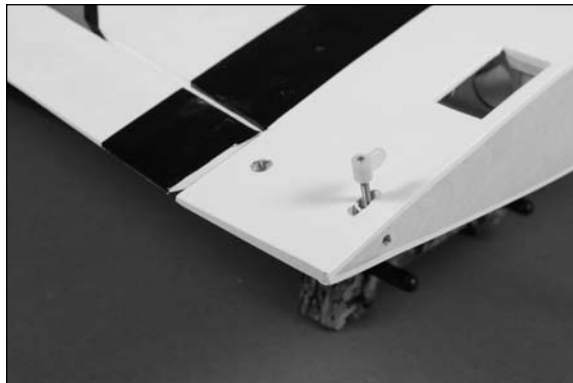
Wing panel (left)	Nylon control horn
Flap linkage	Nylon clevis (2)
Silicone keeper (2)	Flap stay

Required Tools and Adhesives

Medium CA

Note: If you are installing the operational flaps you can skip this section of the manual.

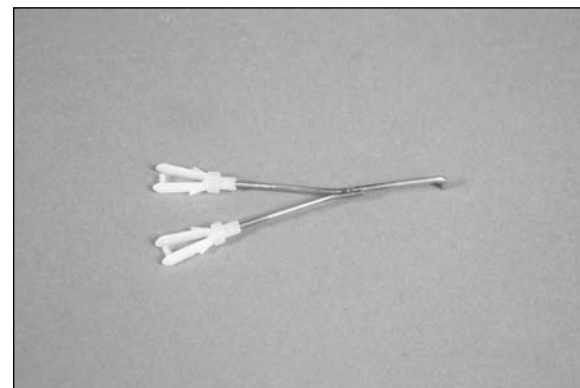
- 1. Thread the control horn on the flap linkage. The top of the horn will be flush with the top of the threads as shown.



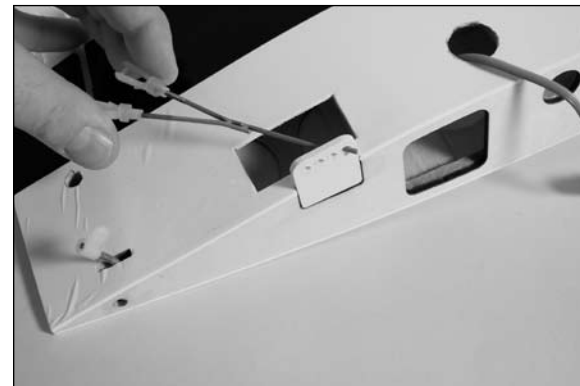
- 2. Use medium CA to attach the flap stay in the notch in the root of the right wing panel.



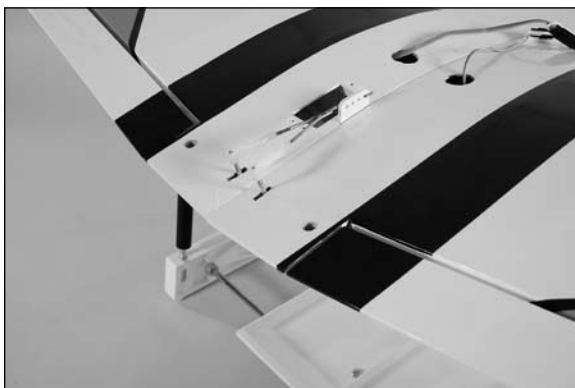
- 3. Slide on two silicone keepers and thread the two nylon clevises on the flap linkage. Thread each clevis 10 turns as a start.



- 4. Insert the flap linkage in the forward hole in the flap stay as shown.



- 5. Connect the linkage to the nylon control horn. Adjust the clevis so the flap is aligned with the trailing edge of the wing as shown.



E-tips

The wing is displayed joined to show that both flaps will need to be aligned when the wing is joined together.

Flap Servo Installation

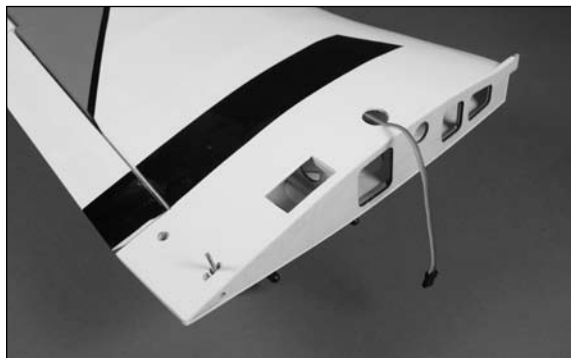
Required Parts

Wing panel (left)	Nylon control horn
Flap linkage	Nylon clevis (2)
Pushrod keeper	Servo with hardware
Radio system	Silicone keeper (2)
Battery	

Required Tools and Adhesives

Pin vise	Hobby knife with #11 blade
Thin CA	Phillips screwdriver: #1
Ruler	
Drill bit: 1/16-inch (1.5mm), 5/64-inch (2mm)	

- 1. Use a hobby knife and #11 blade to remove the covering from the opening from the wing for the flap servo.



- 2. Thread the control horn on the flap linkage. The top of the horn will be flush with the top of the threads as shown.



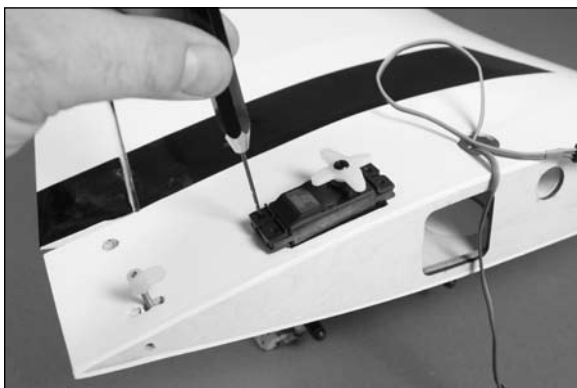
- 3. Prepare the flap servo by installing the grommets and brass eyelets. Pass the servo lead through the hole inside the wing, then through the hole in the top of the sheeting.



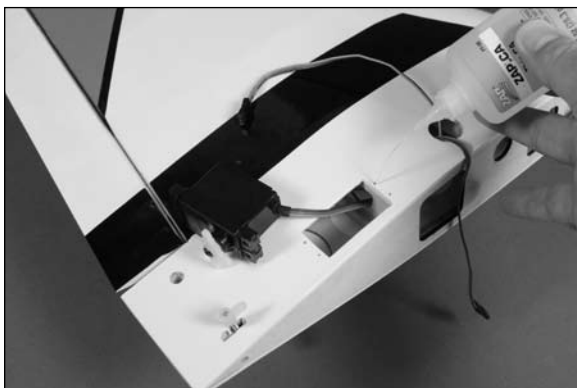
E-tips

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

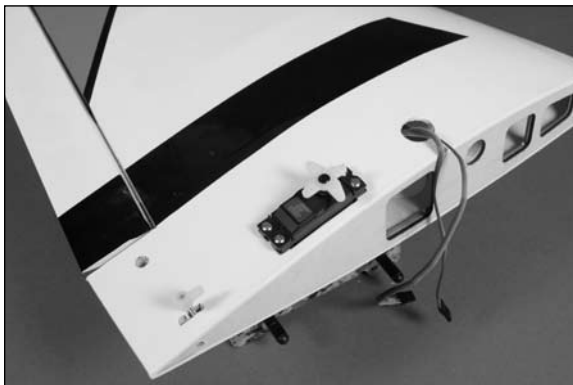
- 3. Place the servo in the opening. Use a pin vise and 1/16-inch (1.5mm) drill bit to drill the four holes for the servo mounting screws.



- 4. Place 2-3 drops of thin CA into each of the holes to harden the surrounding wood.



- 5. Use the screws provided with the servo and a #1 Phillips screwdriver to secure the flap servo in the wing. Make sure the output of the servo faces to the leading edge of the wing.



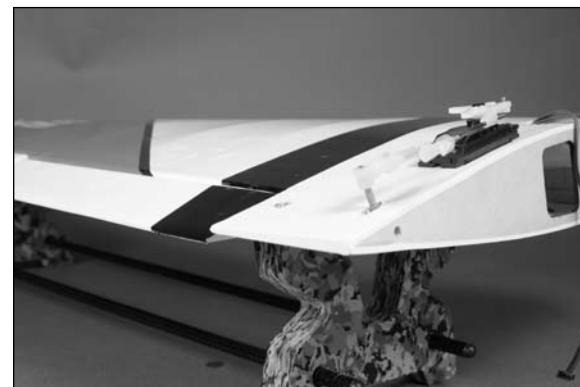
- 6. Slide a silicone keeper on and thread the two nylon clevises on the flap linkage. Thread each clevis 10 turns as a start.



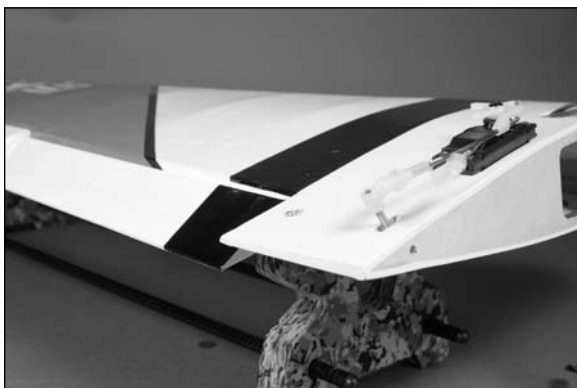
- 7. Use a pin vise and a 5/64-inch (2mm) drill bit to enlarge the hole in the servo horn that is 1/2-inch (13mm) from the center of the servo.



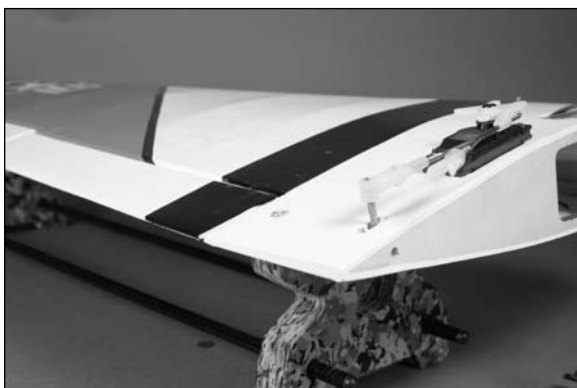
- 8. Use a pushrod keeper to connect the linkage to the servo horn. Attach the clevis to the nylon control horn. With the flap servo centered, check that the amount of flap is set at 1/4-inch (6mm). This is the HALF FLAP position. Adjust the linkage if necessary to achieve this measurement.



- 9. Use the flap adjustment of your radio system to set the FULL FLAP position. The measurement for full flap is 1/2-inch (13mm).



- 10. Use the flap adjustment of your radio system to set the UP FLAP position. The flaps will align with the trailing edge of the wing when up.



Etips

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.

Joining the Wing Panels

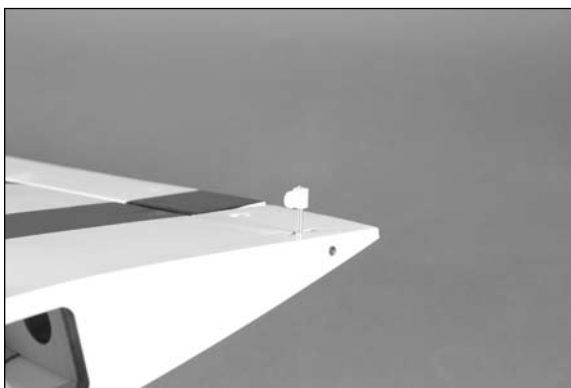
Required Parts

Wing panel (right and left)
 Nylon control horn Nylon strap
 Aluminum wing tube
 3mm x 12mm self-tapping screw (2)
 Aluminum pin, 5/32 x 1³/₁₆-inch (4mm x 30mm)

Required Tools and Adhesives

Thin CA Phillips screwdriver: #1

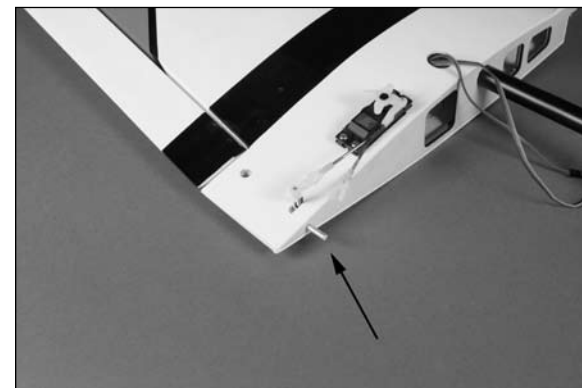
- 1. Thread the control horn on the flap linkage of the right wing. The top of the horn will be flush with the top of the threads as shown.



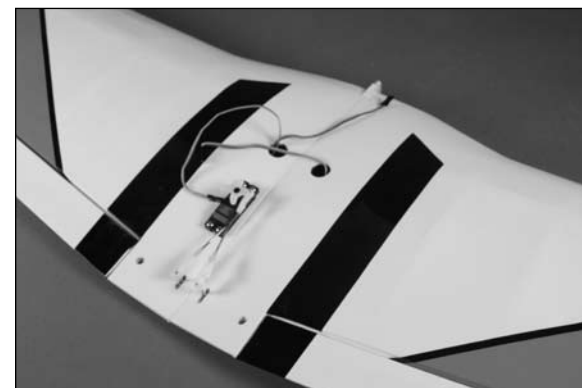
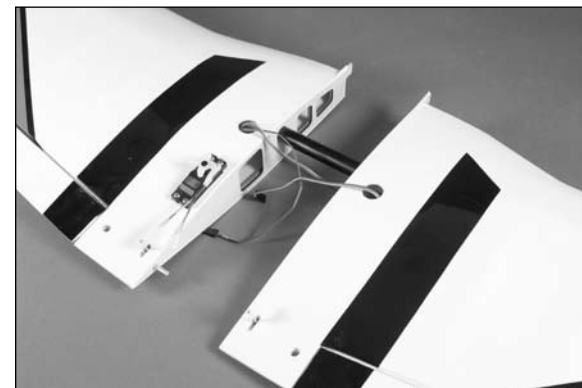
- 2. Slide the aluminum wing tube into the wing panel. Slide the tube in only as far as it will easily slide. Do not force the wing tube into the socket.



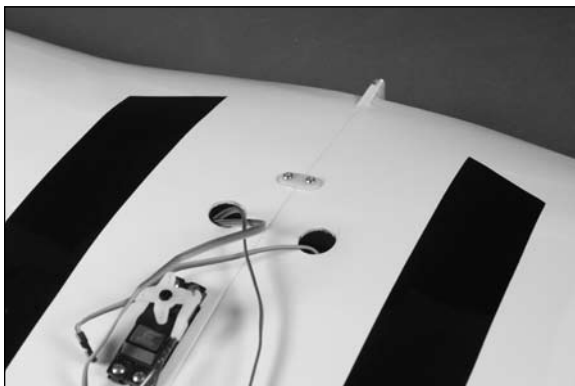
- 3. Slide the 5/32 x 1³/₁₆-inch (4mm x 30mm) aluminum pin in the wing panel in the socket near the trailing edge of the wing as shown.



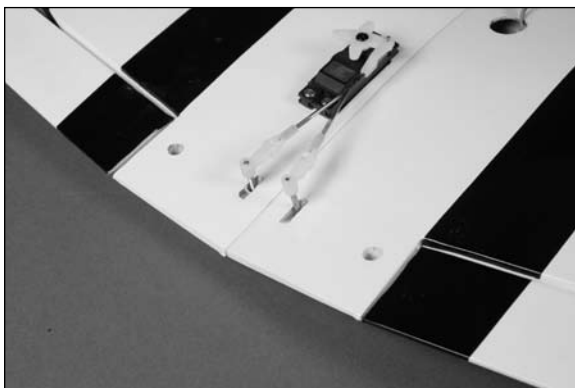
- 4. Slide the wing panels together. They will fit tightly together as shown in the second photo.



- 5. Use two 3mm x 12mm self-tapping screws and a nylon strap to secure the panels together. Holes have been pre-drilled for the screws. Make sure to place 2-3 drops of thin CA into the holes before starting the screws. Use a #1 Phillips screwdriver to tighten the screws.



- 6. Connect the remaining side of the flap linkage to the flap control horn. Make sure both flaps are aligned with the trailing edge of the wing when the flap servo is in the UP position.



Etips

Make sure both flaps are UP if you are flying your model with fixed flaps.

Main Landing Gear Installation

Required Parts

Wing assembly Nylon strap (4)
Main landing gear (2)
3mm x 12mm self-tapping screw (8)

Required Tools and Adhesives

Phillips screwdriver: #1

- 1. Insert the main landing gear in the wing panel. It will fit flush to the bottom of the wing when installed.



- 2. Use two nylon straps and four 3mm x 12mm self-tapping screws to secure the landing gear to the wing. Use a #1 Phillips screwdriver to tighten the screws in the pre-drilled holes in the bottom of the wing.



- 3. Repeat Steps 1 and 2 to attach the remaining gear to the opposite wing panel.

Final Assembly

Required Parts

Fuselage assembly Wing assembly
Canopy hatch Nylon wing bolt (2)

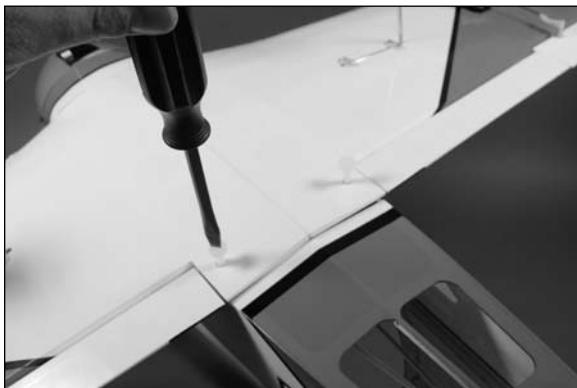
Required Tools and Adhesives

Flat blade screwdriver

- 1. Position the wing on the bottom of the fuselage. Slide the wing forward so the tab on the front of the wing goes into the slot at the front of the wing saddle. Check to make sure the wires from the wing are inside the fuselage.



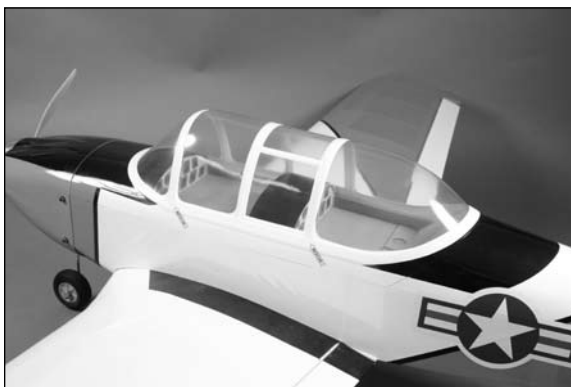
- 2. Use two nylon wing bolts to secure the wing to the fuselage. Use a flat blade screwdriver to tighten the wing bolts.



- 3. Connect the wires from the aileron servos to the Y-harness plugged into the AIL port of the receiver. If you installed operating flaps, plug the lead from the flap servo into the appropriate channel of your receiver.



- 4. Place the canopy hatch back on the fuselage.



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 Low Rate

Up	1/4-inch	(6mm)
Down	1/4-inch	(6mm)

Aileron High Rate

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

Elevator Low Rate

Up	3/8-inch	(9.5mm)
Down	3/8-inch	(9.5mm)

Elevator High Rate

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

Rudder Low Rate

Left	3/4-inch	(20mm)
Right	3/4-inch	(20mm)

Rudder High Rate

Left	3/4-inch	(20mm)
Right	3/4-inch	(20mm)

Flap Throw

Up	Align with wing trailing edge
Center	1/4-inch (6mm)
Down	1/2-inch (13mm)

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.

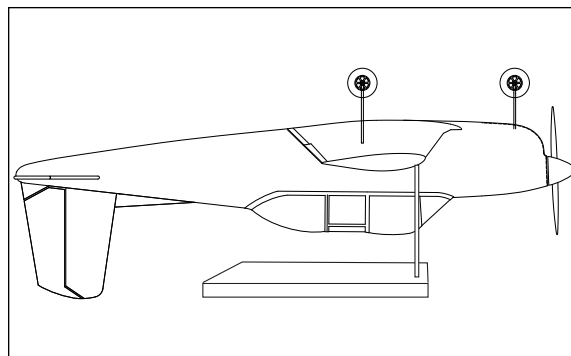
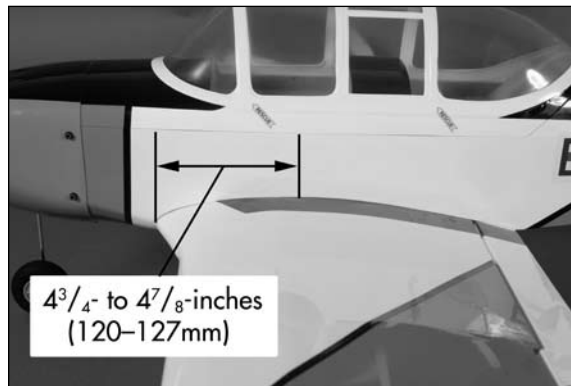
Center of Gravity

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 $4\frac{3}{4}$ - to $4\frac{7}{8}$ -inches (120–127mm) 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.

With the model inverted, 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.

Range Test Your Radio

Before each flying session, and especially with a new model, it is important to perform a range check. It is helpful to have another person available to assist during the range check. If you are using a Spektrum transmitter, please refer to your transmitter's manual for detailed instructions on the range check process.

1. With the model resting on the ground, stand 30 paces (approximately 90 feet) away from the model.
2. Face the model with the transmitter in your normal flying position. Be sure the throttle is in the full down position and plug the flight battery into the speed control.
3. As you move the controls, watch to be sure the airplane's motor and controls operate smoothly. You should have total control of the model at 30 paces (90 feet).
4. If control issues exist, call the Horizon Support Team at 1 877 504 0233 or go to horizonhobby.com to find a local Spektrum distributor in your country for service if you are using a Spektrum radio system.

Flying Your T-34 Mentor

Your T-34 Mentor 25e ARF has been designed with performance in mind for spirited aerobatics while still maintaining gentle stall characteristics in slow flight. After plugging in your battery taxi out onto the runway and line up on the center line. Apply power and after a short takeoff roll, apply a small amount of up elevator. Climb to altitude and trim the model for level flight at approximately 3/4 throttle. Once trimmed out you will find the model behaves very well to any command. Inverted flight requires only a small amount of down elevator to maintain level flight. Rolls, loops, and Split S maneuvers are easily accomplished with either power system. Landing the T-34 is about as easy as a low wing plane can get. Reduce power and set up on final approach. A small amount of up elevator will deliver the flare to touchdown just like the pro's do it. We hope you enjoy the T-34 as much as we have.

Happy landings.

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.

Daily Flight Checks

- 1. Check the battery voltage of the transmitter battery. Do not fly below the manufacturer's recommended voltage. To do so can crash your aircraft.

E-tips

When you check these batteries, ensure that you have the polarities correct on your expanded scale voltmeter.

- 2. Check all hardware (linkages, screws, nuts, and bolts) prior to each day's flight. Be sure that binding does not occur and that all parts are properly secured.
- 3. Ensure that all surfaces are moving in the proper manner.
- 4. Perform a ground range check before each day's flying session.
- 5. Prior to starting your aircraft, turn off your transmitter, then turn it back on. Do this each time you start your aircraft. If any critical switches are on without your knowledge, the transmitter alarm will sound a warning at this time.
- 6. Check that all trim levers are in the proper location.
- 7. All servo pigtails and switch harness plugs should be secured in the receiver. Make sure that the switch harness moves freely in both directions.

Glossary of Terms

Ailerons: Each side of this airplane has a hinged control surface (aileron), located on the trailing edge of the wing. Move the aileron stick on the transmitter left, the left aileron moves up and the right aileron moves down. Moving the left aileron up causes more drag and less lift, causing the left wing to drop down. When the right aileron moves down, more lift is created, causing the right wing to rise. This interaction causes the airplane to turn or roll to the left. Perform the opposite actions, and the airplane will roll to the right.

Clevis: The clevis connects the wire end of the pushrod to the control horn of the control surface. Being a small clip, the clevis has fine threads so that you can adjust the length of the pushrod.

Control Horn: This arm connects the control surface to the clevis and pushrod.

Dihedral: The degree of angle (V-shaped bend) at which the wings intersect the fuselage is called dihedral. More dihedral gives an airplane more aerodynamic stability. Some sailplanes and trainer planes with large dihedral dispense with ailerons and use only the rudder to control the roll and yaw.

Elevator: The hinged control surface on the back of the stabilizer that moves to control the airplane's pitch axis. Pulling the transmitter's control stick toward the bottom of the transmitter moves the elevator upward, and the airplane begins to climb. Push the control stick forward, and the airplane begins to dive.

Fuselage: The main body of an airplane.

Hinge: Flexible pieces used to connect the control surface to the flying surface. All hinges must be glued properly and securely to prevent the airplane from crashing. (This has already been done for you on the Alpha Advanced trainer.)

Horizontal Stabilizer: The horizontal flying surface of the tail gives the airplane stability while in flight.

Leading Edge: The front of a flying surface.

Main Landing Gear: The wheel and gear assembly the airplane uses to land. It is attached to the bottom of the fuselage.

Nose Gear: The part of the landing gear that is attached to the nose of the fuselage. The nose gear is usually connected to the rudder servo to help you steer the airplane on the ground.

Pitch Axis: The horizontal plane on which the airplane's nose is raised or lowered. By moving the elevator, you can raise the airplane's nose above the pitch axis (climb) or lower it below the pitch axis (dive).

Pushrod: The rigid mechanism that transfers movement from the servo to the control surface.

Roll Axis: The horizontal plane on which the airplane's wings are raised or lowered. By adjusting the ailerons, you can drop a wing tip below the roll axis and cause the airplane to bank or roll.

Rudder: The hinged control surface on the vertical stabilizer that controls the airplane's yaw. Moving the rudder to the left causes the airplane to yaw left; moving the rudder to the right causes it to yaw right.

Servo: The servo transforms your ground commands into physical adjustments of the airplane while it's in the air.

Servo Output Arm: A removable arm or wheel connecting the servo to the pushrod (also called servo horn).

Spinner: Term describing the nose cone that covers the propeller hub.

Threadlock: A liquid that solidifies; used to prevent screws from loosening due to vibration.

Torque Rods: Inserted into the ailerons, these rigid wire rods run along the wing's trailing edge, then bend downward and connect to the pushrod.

Vertical Stabilizer: The vertical flying surface of the tail gives the airplane stability while in flight.

Wheel Collar: The round, metal retaining piece that anchors wheels in place on the wheel axle.

Wing: The lifting surface of an airplane.

Yaw Axis: The vertical plane through which the airplane's nose rotates as it yaws to the left or to the right. The rudder controls the yaw axis.

Warranty Information

WARRANTY PERIOD

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

LIMITED WARRANTY

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

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

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

DAMAGE LIMITS

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

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

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

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
USA

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

Horizon Product Support
4105 Fieldstone Road
Champaign, Illinois 61822
USA

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.

CE Compliance Information for the European Union

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.



Age Recommendation: 14 years or over. Not a toy. Not intended for use by children without direct adult supervision.

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 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.



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4105 Fieldstone Road
Champaign, Illinois 61822
USA
(877) 504-0233
horizonhobby.com
E-fliteRC.com