



MX 30cc

INSTRUCTION MANUAL

SPECIFICATIONS

Wingspan:	80 in [2030 mm]	Weight:	12.75– 13.75 lbs [5780– 6230 g]	Radio:	4-6 Channel
Length:	67 in [1700 mm]	Wing Loading:	25– 27 oz/ft ² [76– 82 g/dm ²]	Engine:	1.8– 2.0 cu in [30– 35 cc]
Wing Area:	1184 in ² [76.4 dm ²]			Electric:	RimFire 1.60 (63-62-250) Brushless

WARRANTY

Great Planes® Model Manufacturing Co. guarantees this kit to be free from defects in both material and workmanship at the date of purchase. This warranty does not cover any component parts damaged by use or modification. **In no case shall Great Planes' liability exceed the original cost of the purchased kit.** Further, Great Planes reserves the right to change or modify this warranty without notice.

In that Great Planes has no control over the final assembly or material used for final assembly, no liability shall be assumed nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product, the user accepts all resulting liability.

If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return

this kit immediately in new and unused condition to the place of purchase.

To make a warranty claim send the defective part or item to Hobby Services at the address below:

Hobby Services

3002 N. Apollo Dr. Suite 1
Champaign IL 61822 USA

Include a letter stating your name, return shipping address, as much contact information as possible (daytime telephone number, fax number, e-mail address), a detailed description of the problem and a photocopy of the purchase receipt. Upon receipt of the package the problem will be evaluated as quickly as possible.

READ THROUGH THIS MANUAL BEFORE STARTING CONSTRUCTION. IT CONTAINS IMPORTANT INSTRUCTIONS AND WARNINGS CONCERNING THE ASSEMBLY AND USE OF THIS MODEL.



Champaign, Illinois
(217) 398-8970, Ext 5
airsupport@greatplanes.com

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INTRODUCTION

Continuing with the success of the Escapade line, Great Planes brings you the Escapade MX 30cc ARF. This is a great first gas powered model. The plane is as easy to fly as a .60 size sport plane. The optional flaps allow you to add the flaps later if you desire. We believe you will be very pleased with the ease of assembly and flight performance of the Escapade MX 30cc ARF.

For the latest technical updates or manual corrections to the Escapade MX 30cc ARF visit the Great Planes web site at www.greatplanes.com. Open the "Airplanes" link, then select the Escapade MX 30cc ARF. If there is new technical information or changes to this model a "tech notice" box will appear in the upper left corner of the page.

Academy of Model Aeronautics: If you are not already a member of the AMA, please join! The AMA is the governing body of model aviation and membership provides liability insurance coverage, protects modelers' rights and interests and is required to fly at most R/C sites.

Academy of Model Aeronautics

5151 East Memorial Drive
Muncie, IN 47302-9252

Tele. (800) 435-9262
Fax (765) 741-0057



Or via the Internet at: <http://www.modelaircraft.org>

IMPORTANT!!! Two of the most important things you can do to preserve the radio controlled aircraft hobby are to avoid flying near full-scale aircraft and avoid flying near or over groups of people.

SAFETY PRECAUTIONS

Protect Your Model, Yourself & Others... Follow These Important Safety Precautions

1. Your Escapade MX 30cc ARF should not be considered a toy, but rather a sophisticated, working model that functions very much like a full-size airplane. Because of its performance capabilities, the Escapade MX 30cc ARF, if not assembled and operated correctly, could possibly cause injury to yourself or spectators and damage to property.
2. You must assemble the model **according to the instructions**. Do not alter or modify the model, as doing so may result in an unsafe or unflyable model. In a few cases the instructions may differ slightly from the photos. In those instances the written instructions should be considered as correct.
3. You must take time to **build straight, true and strong**.
4. You must use an R/C radio system that is in good condition, a correctly sized engine, and other components as specified in this instruction manual. All components must be correctly installed so that the model operates correctly on the ground and in the air. You must check the operation of the model and all components before **every** flight.
5. If you are not an experienced pilot or have not flown this type of model before, we recommend that you get the assistance of an experienced pilot in your R/C club for your first flights. If you're not a member of a club, your local hobby shop has information about clubs in your area whose membership includes experienced pilots.

6. While this kit has been flight-tested to exceed normal use, if an engine larger than one in the recommended range is used, the modeler is responsible for taking steps to reinforce the high stress points and/or substituting hardware more suitable for the increased stress.

7. **WARNING:** The cowl and wheel pants included in this kit are made of fiberglass, the fibers of which may cause eye, skin and respiratory tract irritation. Never blow into a part to remove fiberglass dust, as the dust will blow back into your eyes. Always wear safety goggles, a particle mask and rubber gloves when grinding, drilling and sanding fiberglass parts. Vacuum the parts and the work area thoroughly after working with fiberglass parts.

8. If you are building this plane as electric powered, set the failsafe on your transmitter and follow the safety precautions in the back of the manual.

We, as the kit manufacturer, provide you with a top quality, thoroughly tested kit and instructions, but ultimately the quality and flyability of your finished model depends on how you build it; therefore, we cannot in any way guarantee the performance of your completed model, and no representations are expressed or implied as to the performance or safety of your completed model.

REMEMBER: Take your time and follow the instructions to end up with a well-built model that is straight and true.

DECISIONS YOU MUST MAKE

This is a partial list of items required to finish the Escapade MX 30cc ARF that may require planning or decision making before starting to build. Order numbers are provided in parentheses.

Engine Recommendations

The recommended engine size range for the Escapade MX 30cc ARF is a 30 – 35cc [1.8 – 2.0 ci.] two-stroke gasoline engine. We used the DLE 30 engine for our model. Other engines can also be used but you may need to make modifications for mounting those engines.

Motor Recommendations

- Great Planes RimFire 1.60 [63-62-250] Outrunner Brushless Motor (GPMG4795)
- Great Planes SS-80 ESC (GPMM1860)
- Great Planes 6mm Male/4mm Female Bullet Adapter (GPMM3119)
- Two 5S FlightPower LiPo Pro50 or FP50 5000mAh 18.5V Batteries (FPWP5102 or FPWP5505)
- Spinner Adapter Kit (GPMQ4589)

Radio Equipment

The Escapade MX 30cc ARF can be flown with a minimum of a 4-channel radio. For our installation we used six channels. One channel each for the throttle, choke, elevator, rudder ailerons and flaps.

RECOMMENDED SERVOS: All control surfaces require the use of a high-quality servo of at least 85 oz-in of torque. A servo of 40 oz-in of torque can be used for the throttle and choke.

FUNCTION	#	MINIMUM TORQUE	SUGGESTED SERVO
ELEVATORS	2	85 oz-in	Futaba S3305 FUTM0045
RUDDER	1	85 oz-in	Futaba S3305 FUTM0045
AILERONS	2	85 oz-in	Futaba S3305 FUTM0045
OPTIONAL FLAPS	2	85 oz-in	Futaba S3305 FUTM0045
THROTTLE	1	54 oz-in	Futaba S9001 FUTM0075
OPTIONAL CHOKE	1	54 oz-in	Futaba S9001 FUTM0075
TOTAL	9 Servos		

ELECTRIC MOTOR INSTALLATION

- (2) 20" Servo extension (FUTM4147)
OR
(2) 24" Servo extension (TACM2721)
- (3) 8" Servo extension (FUTM4140)
OR
(2) 6" Servo extension (TACM2701)
- (2) Y-harness (FUTM4135) (TACM2751)
- (1) Additional Y-harness for flaps
- (1) Heavy duty on/off switch (FUTM4385) (TACM2761)
- (1) 1900mAh LiFe receiver battery (HCAM6521)

ADDITIONAL ITEMS FOR GAS INSTALLATION

- (1) Additional Y-harness for choke if using a 6-channel receiver
- (1) Heavy duty on/off switch (FUTM4385 or TACM2761)
- (1) 1300mAh LiFe ignition battery (HCAM6411)

The instructions show the two aileron servos connected with a Y-harness that is plugged into the aileron channel of the receiver. If using a computer radio, the two aileron servos can be plugged into separate channels of the receiver and mixed together. The two flap servos and the two elevator servos also use a Y-harness. If plugging the servos into separate channels, follow the instructions included with your radio system on how to mix the channels.

ADDITIONAL ITEMS REQUIRED

Required Hardware and Accessories

- (1) Dubro #554 X-Large Tygon Fuel Line (DUBQ0427)
- (1) R/C Foam Rubber (1/4" [6mm], HCAQ1000; or 1/2" [13mm], HCAQ1050)
- Propeller and spare propellers suitable for your engine.

Adhesives and Building Supplies

This is the list of Adhesives and Building Supplies that are required to finish the Escapade MX 30cc ARF.

- 1/2 oz. [15g] Thin Pro CA (GPMR6001)
- Pro 30-minute epoxy (GPMR6047)
- Pro 6-minute epoxy (GPMR6045)
- Threadlocker thread locking cement (GPMR6060)
- Mixing sticks (50, GPMR8055)
- Mixing cups (GPMR8056)
- Epoxy brushes (6, GPMR8060)
- Denatured alcohol (for epoxy clean up)
- Masking tape
- Sandpaper
- Drill
- Drill bits: 1/16" [1.6mm], 5/64" [2mm], 3/32" [2.4mm], 1/8" [3.2mm], 3/16" [4.8mm], 13/64" [5.2mm], 1/4" [6.4mm], 25/64" [10mm]
- Small metal file
- Stick-on segmented lead weights (GPMQ4485)
- Silver solder w/flux (STAR2000)
- Hobbico 60 Watt Soldering Iron (HCAR0776)
- #1 Hobby knife (RMXR6903)
- #11 blades (5-pack, RMXR6930)
- Rotary tool such as Dremel®
- Rotary tool reinforced cut-off wheel (GPMR8200)
- DLE-30 Propeller Drill Guide (DLEQ0301)

Covering Tools

- Top Flite® MonoKote® Sealing Iron (TOPR2100)
- Top Flite Hot Sock Iron Cover (TOPR2175)
- Top Flite MonoKote Trim Seal Iron (TOPR2200)
- Top Flite MonoKote Heat Gun (TOPR2000)
- Coverite® 21st Century® Sealing Iron (COVR2700)
- Coverite 21st Century Cover Sock (COVR2702)
- Coverite 21st Century Trim Sealing Iron (COVR2750)

Optional Supplies and Tools

Here is a list of optional tools mentioned in the manual that will help you build the Escapade MX 30cc ARF.

- 2 oz. [57g] spray CA activator (GPMR6035)
- CA applicator tips (HCAR3780)
- CA debonder (GPMR6039)
- 36" metal ruler
- Pliers with wire cutter (HCAR0625)
- Robart® Super Stand II™ (ROBP1402)
- Servo horn drill (HCAR0698)
- AccuThrow™ Deflection Gauge (GPMR2405)
- CG Machine™ (GPMR2400)
- Precision Magnetic Prop Balancer (TOPQ5700)

IMPORTANT BUILDING NOTES

- Anytime a sheet metal screw is installed in wood, first install the screw, remove the screw and apply a couple of drops of thin CA in the hole to harden the threads. After the CA has cured, reinstall the screw.
- Anytime a threaded screw or nut is installed, a drop of threadlocker must be applied to the threads. An exception, do not use threadlocker on the screws installed in the nylon control horns.
- Denatured alcohol is great for cleaning epoxy from surfaces before the epoxy cures
- Replacement MonoKote colors
 - Jet White (TOPQ0204)
 - Dove Gray (TOPQ0211)
 - Black (TOPQ0208)
 - True Red (TOPQ0227)

KIT INSPECTION

Before starting to build, inspect the parts to make sure they are of acceptable quality. If any parts are missing or are not of acceptable quality, or if you need assistance with assembly, contact **Product Support**. When reporting defective or missing parts, use the part names exactly as they are written in the Kit Contents list.

Great Planes Product Support

3002 N Apollo Drive, Suite 1 Ph: (217) 398-8970, ext. 5
Champaign, IL 61822 Fax: (217) 398-7721

E-mail: airsupport@greatplanes.com

ORDERING REPLACEMENT PARTS

Replacement parts for the Great Planes Escapade MX 30cc ARF are available using the order numbers in the **Replacement Parts List** that follows. The fastest, most economical service can be provided by your hobby dealer or mail-order company. Not all parts are available separately (an aileron cannot be purchased separately, but is only available with the wing kit). Replacement parts are not available from Product Support,

but can be purchased from hobby shops or mail order/Internet order firms. Hardware items (screws, nuts, bolts) are also available from these outlets.

To locate a hobby dealer, visit the Great Planes web site at www.greatplanes.com. Choose "Where to Buy". Follow the instructions provided on the page to locate a U.S., Canadian or International dealer.

Parts may also be ordered directly from Hobby Services by calling (217) 398-0007, or via facsimile at (217) 398-7721, but full retail prices and shipping and handling charges will apply. Illinois and Nevada residents will also be charged sales tax. If ordering via fax, include a Visa® or MasterCard® number and expiration date for payment.

Mail parts orders and payments by personal check to: **Hobby Services**
3002 N Apollo Drive, Suite 1
Champaign IL 61822

Be certain to specify the order number exactly as listed in the **Replacement Parts List**. Payment by credit card or personal check only; no C.O.D.

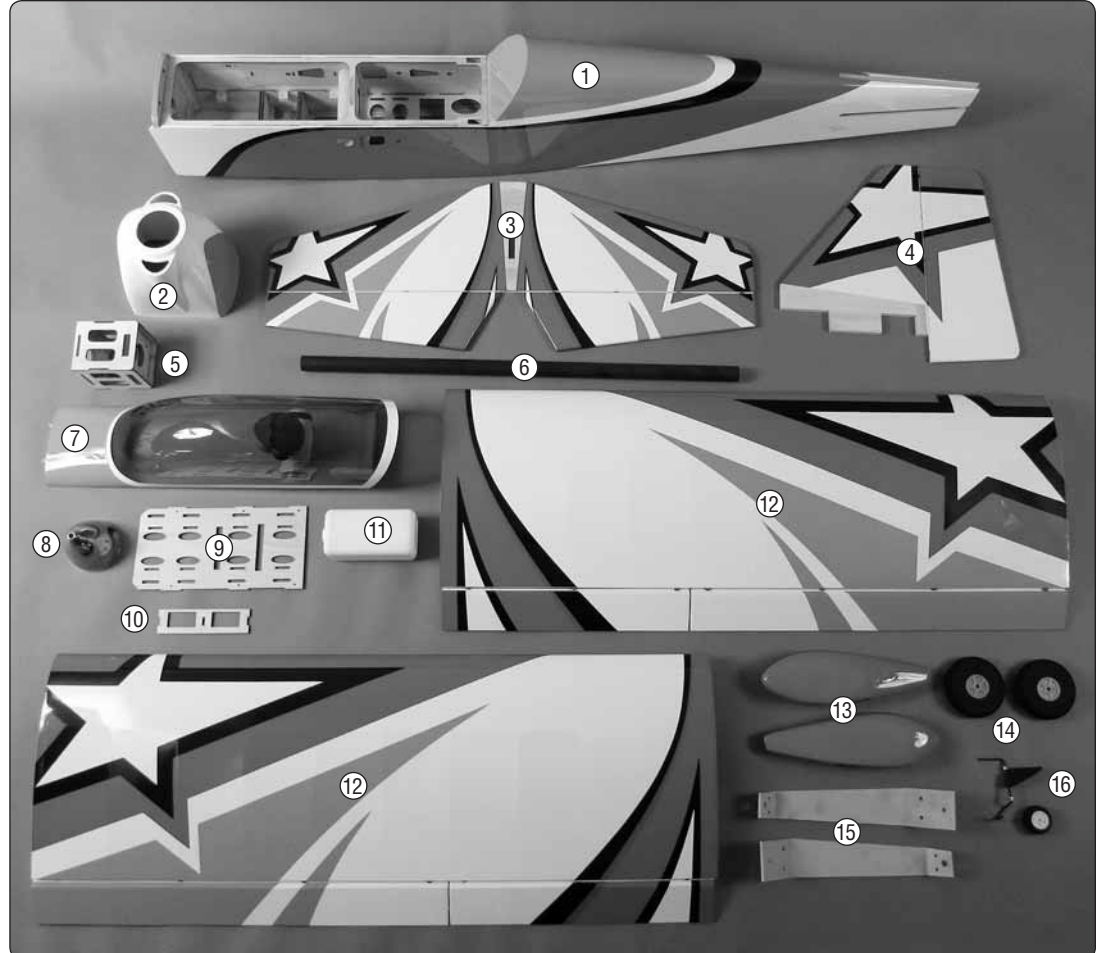
If additional assistance is required for any reason contact **Product Support** by e-mail at productsupport@greatplanes.com, or by telephone at (217) 398-8970.

REPLACEMENT PARTS LIST

Order No.	Description
GPMA5380	Wing Set
GPMA5381	Fuselage Set
GPMA5382	Tail Surface Set
GPMA5383	Cowl
GPMA5384	Landing Gear
GPMA5385	Wheel Pants
GPMA5386	Wing Tube
GPMA5387	Canopy/Hatch
GPMA5388	EP Motor Mount Box
GPMA5389	Spinner
GPMA5390	Tailwheel Assembly
GPMA5391	Hatch Screws

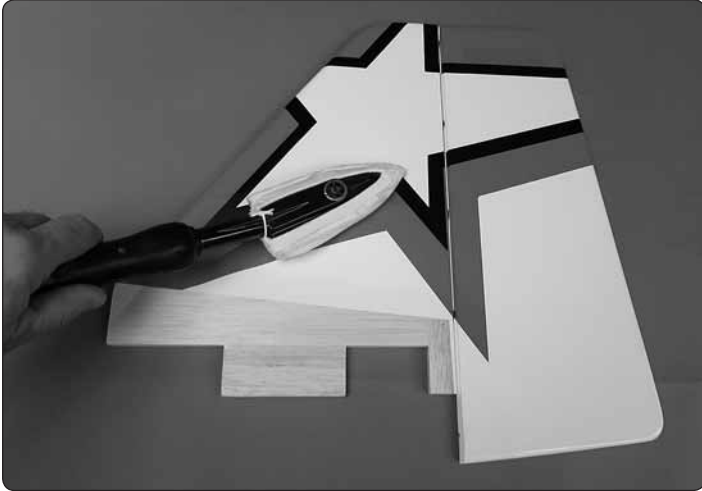
KIT CONTENTS

1. Fuselage
2. Cowl
3. Horizontal Stabilizer
4. Vertical Stabilizer
5. EP Motor Mount Box
6. Wing Tube
7. Canopy/Hatch
8. Spinner
9. Battery/Fuel Tank Tray
10. Servo Tray
11. Fuel Tank
12. Wing Halves
13. Wheel Pants
14. Main Wheels
15. Main Landing Gear
16. Tailwheel Assembly



PREPARATIONS

- ❑ 1. Firmly pull on each of the control surfaces to confirm they are securely glued.

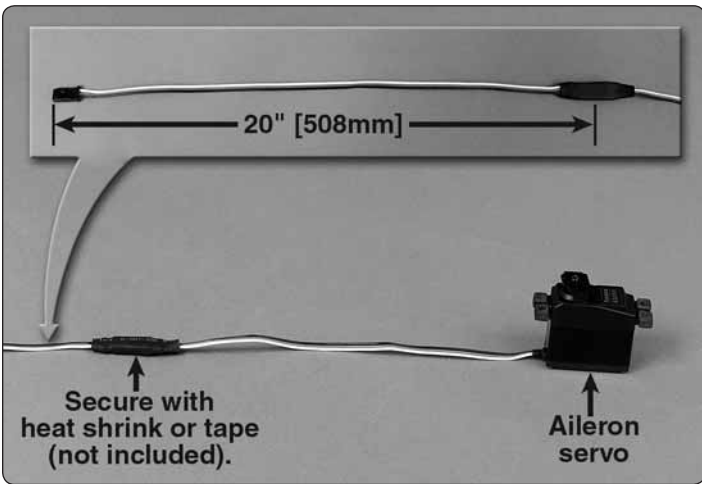


- ❑ 2. Tighten the covering with a covering iron as needed.

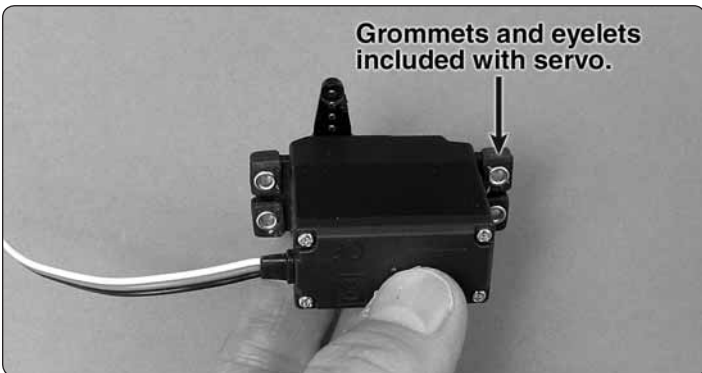
ASSEMBLE THE WING

Aileron Servo Installation

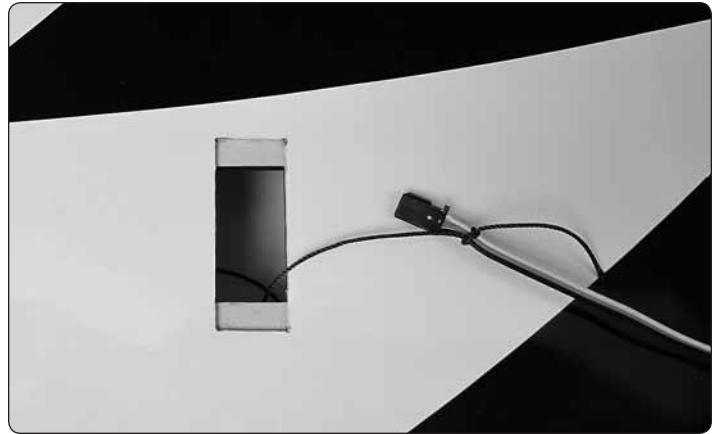
Begin with the left wing panel.



- ❑ ❶ 1. Install a servo lead extension (not included).



- ❑ ❷ 2. Install grommets and eyelets on all servos.



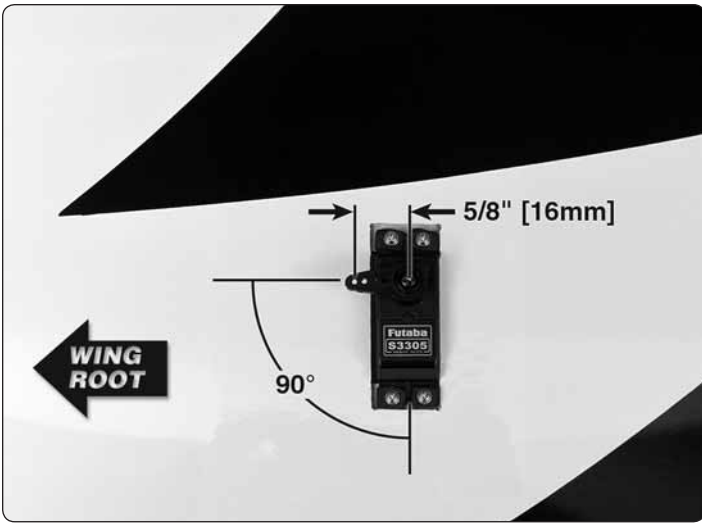
- ❑ ❸ 3. Route servo lead through wing.



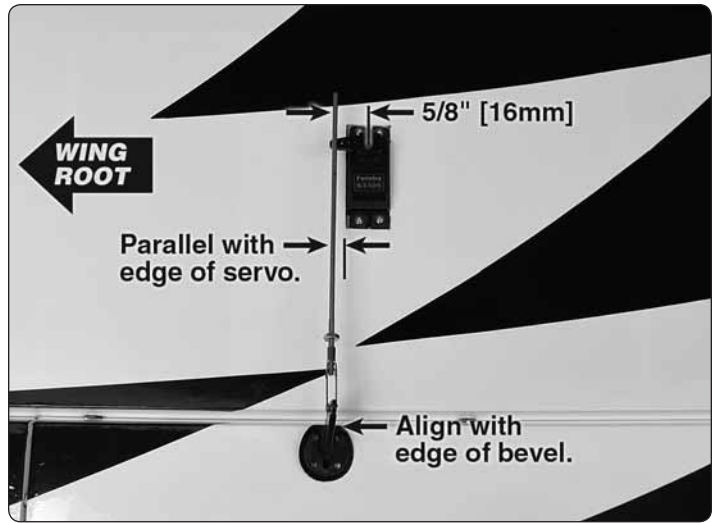
- ❑ ❹ 4. Drill servo screw mounting hole.



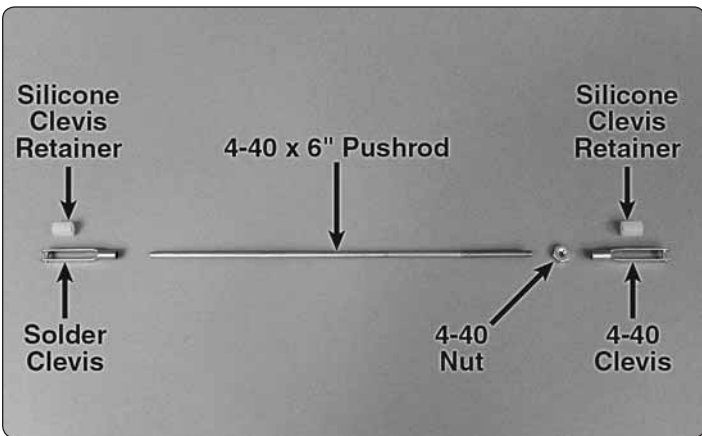
- ❑ ❺ 5. Install servo screws.



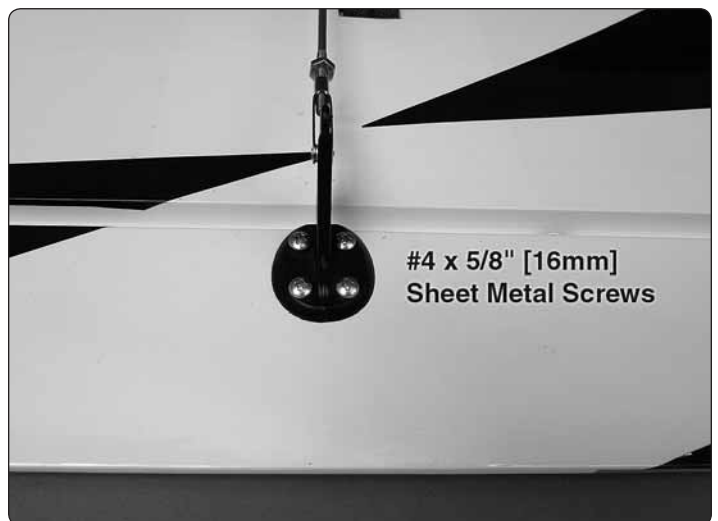
□ □ 6. Install servo horn.



□ □ 10. Position control horn on aileron.



□ □ 7. Aileron pushrod components.



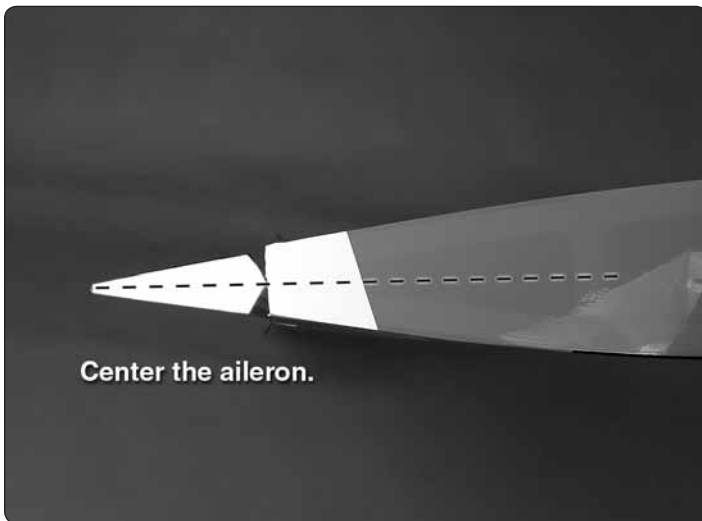
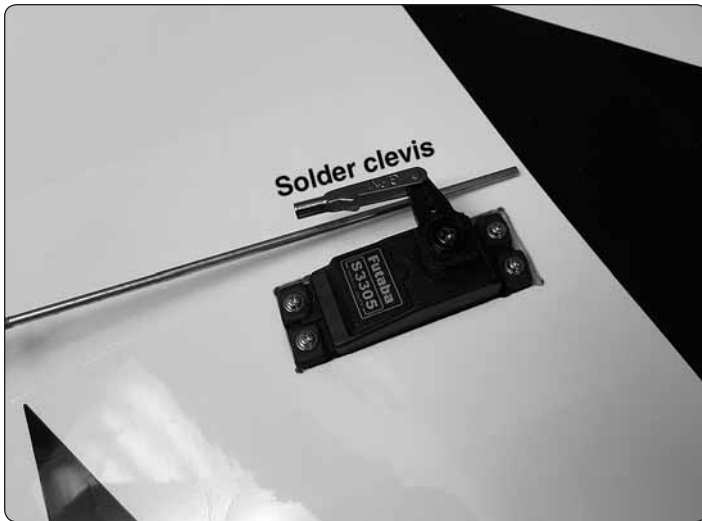
□ □ 11. Mount control horn.



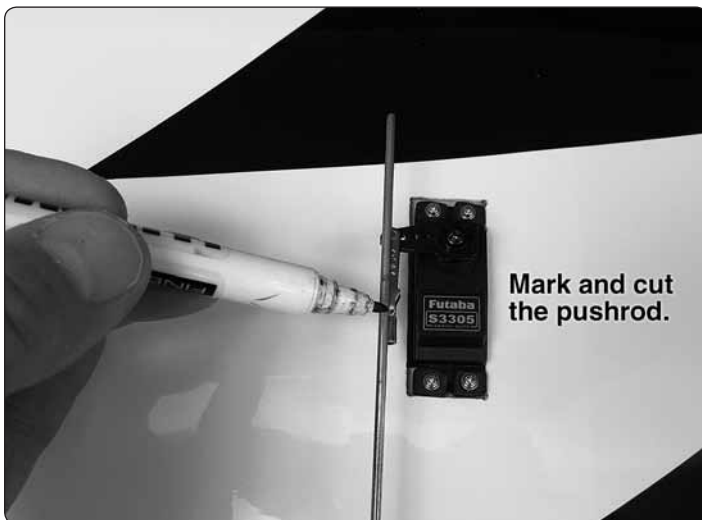
□ □ 8. Install the 4-40 threaded clevis.



□ □ 9. Attach clevis to control horn.



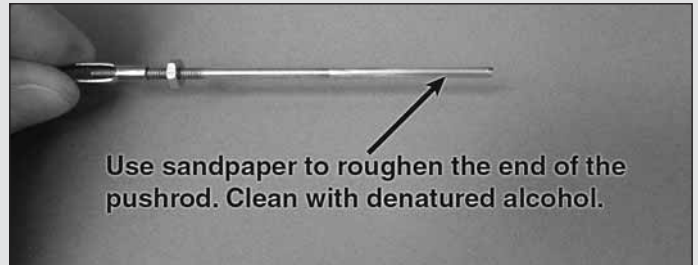
Center the aileron.



Mark and cut the pushrod.

☐ ☐ 12. Install the solder clevis.

EXPERT TIP
EXPERT TIP
HOW TO SOLDER



Use sandpaper to roughen the end of the pushrod. Clean with denatured alcohol.

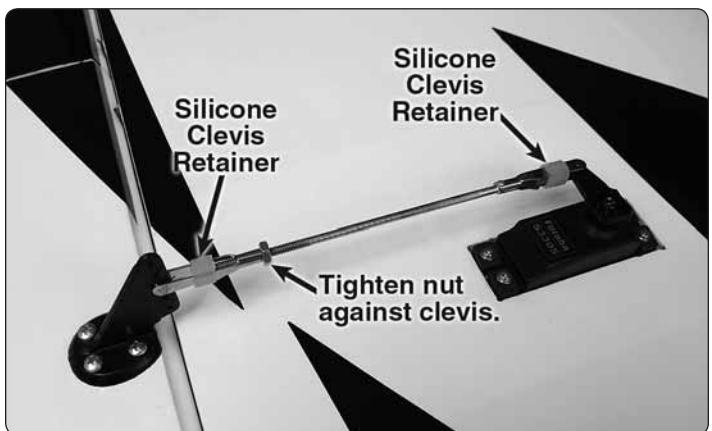
Apply a few drops of soldering flux to the end of the pushrod. "Tin" the end of the pushrod by applying heat. Apply silver solder to the heated area. The pushrod should melt the solder, not the flame of the torch. The end of the pushrod should be tinned all the way around.

Position the solder clevis on the pushrod and apply a drop of flux to the joint. Apply heat and add solder. Again, the heat of the part should melt the solder, not the flame of the torch. Allow the part to cool naturally. Make sure the joint is thoroughly soldered. It should be shiny, not rough. Reheat if necessary.

Wipe off the flux residue with denatured alcohol. Coat the joint with oil to prevent rust.



Properly soldered clevis.



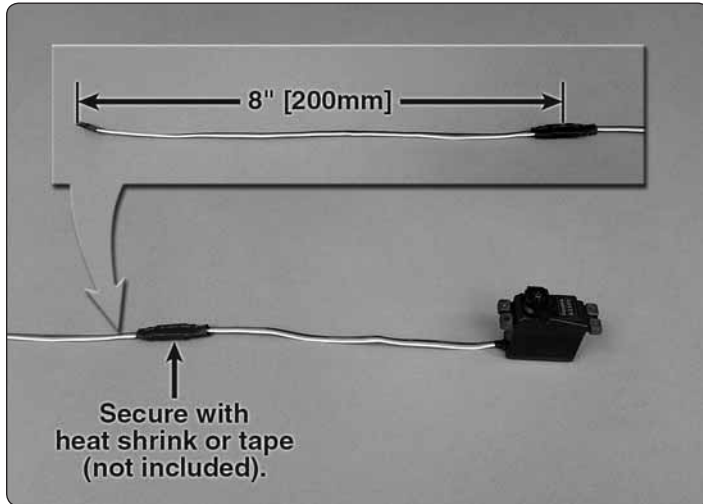
Silicone Clevis Retainer
Silicone Clevis Retainer
Tighten nut against clevis.

☐ ☐ 13. Reinstall the aileron pushrods and slide the retainers over the clevises.

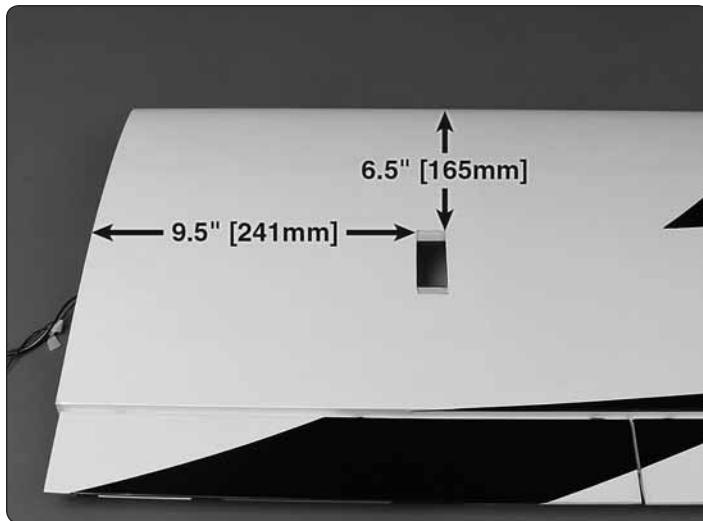
☐ 14. Repeat steps 1 – 13 to install the aileron servo in the right wing. The two aileron servos are connected with a Y-harness and plugged into the aileron channel on the receiver.

Flap Servo Installation (Optional)

Flaps are not necessary to land the 30cc Escapade. However, if you have never flown with flaps, the 30cc Escapade is a great plane to learn with.



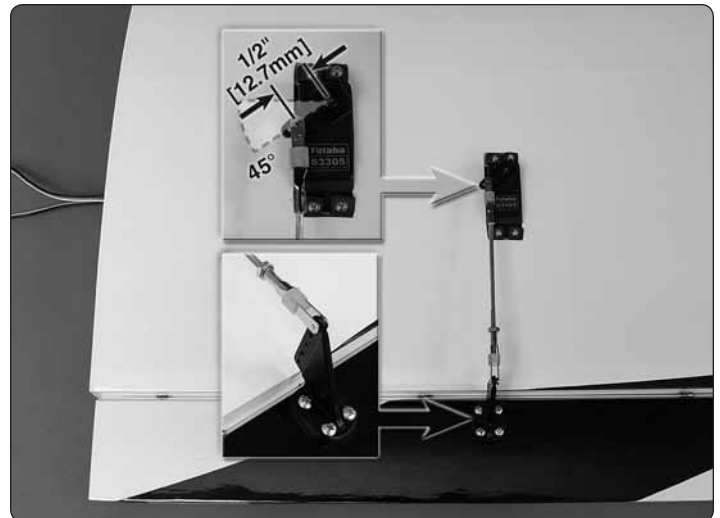
- 1. Install a servo lead extension (not included).
- 2. Install grommets and eyelets in the flap servo .



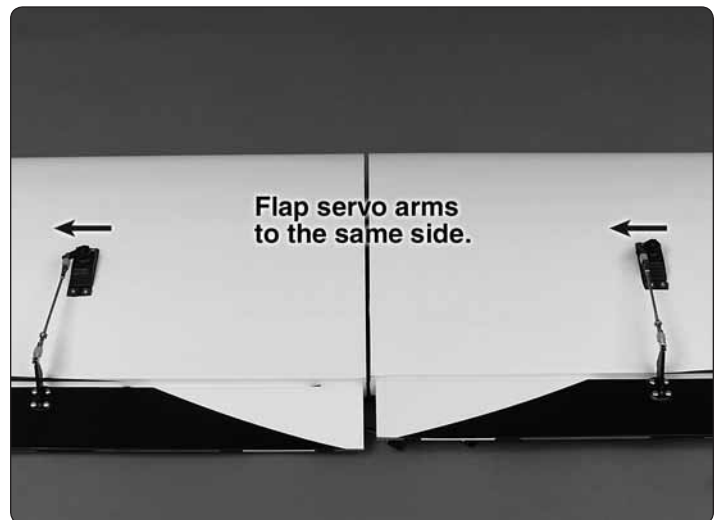
- 3. Remove the covering from flap servo opening.



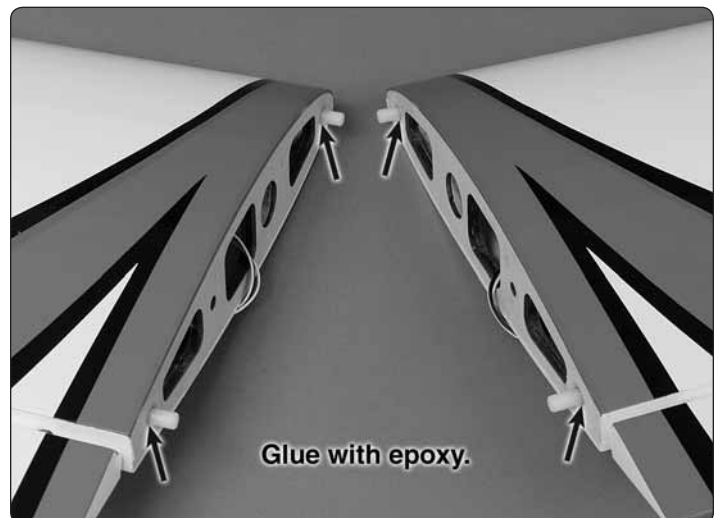
- 4. Separate the flap from the aileron.



- 5. Install the flap servo following the same procedure used to install the aileron servos.



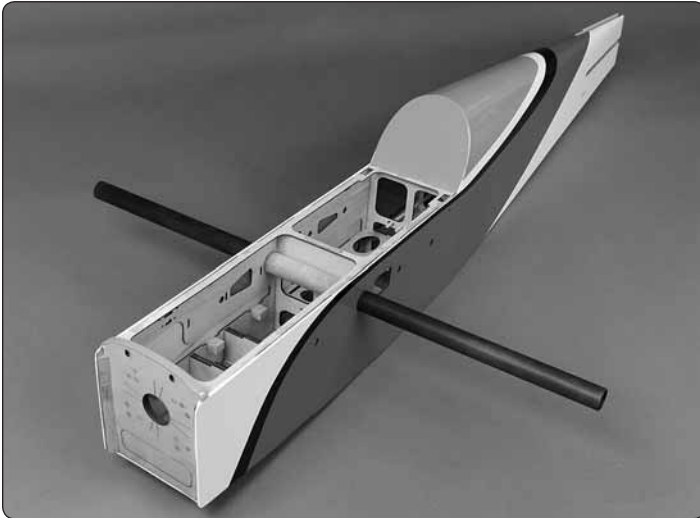
- 6. Install the flap servo in the right wing. The two flap servos are connected with a Y-harness and plugged into the flap channel on the receiver.



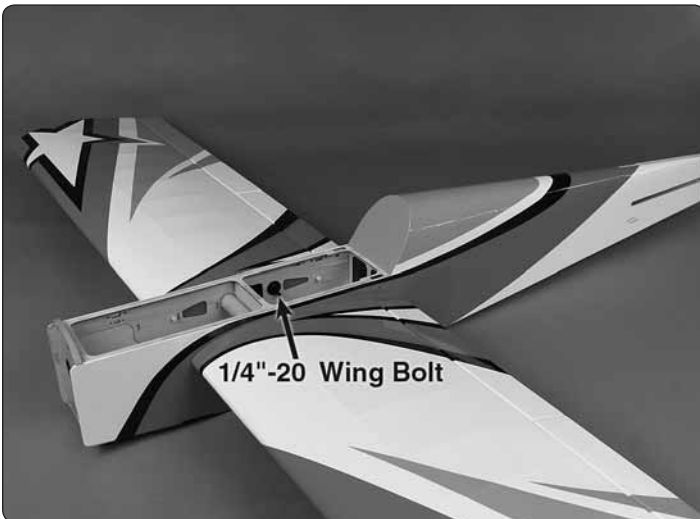
- 7. Install the nylon wing dowels.

ASSEMBLE THE FUSELAGE

Install the Tail



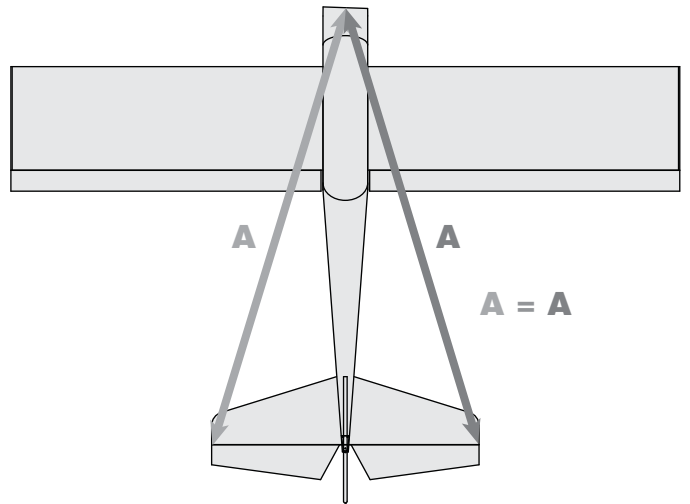
- ❑ 1. Slide the Carbon Wing Tube into the fuselage.



- ❑ 2. Install the wing panels.



- ❑ 3. Temporarily install the horizontal stabilizer and the vertical fin.



- ❑ 5. Check the alignment of the horizontal stabilizer. The distance from the center of the nose of the fuselage to the tips of the horizontal stabilizer should be equal.

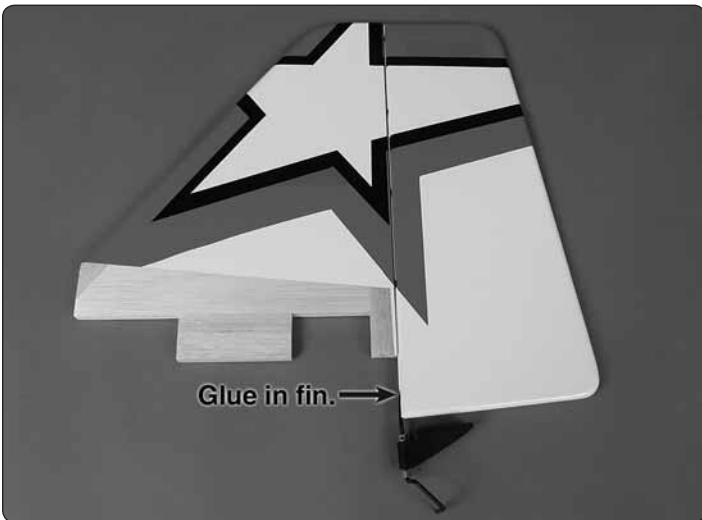
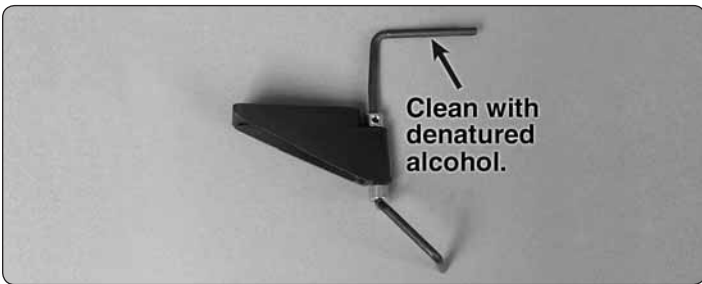


- The wing and stabilizer should be parallel. If they are not, lightly sand the stabilizer slot.





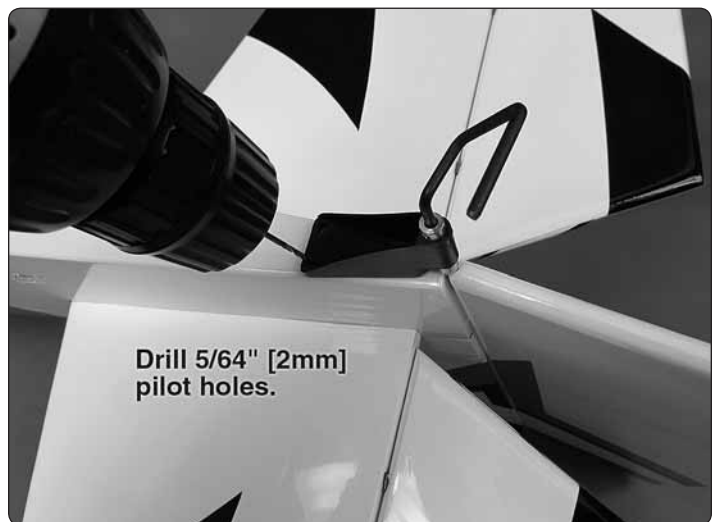
❑ 6. Use 30-minute epoxy to glue the stabilizer in the fuselage.



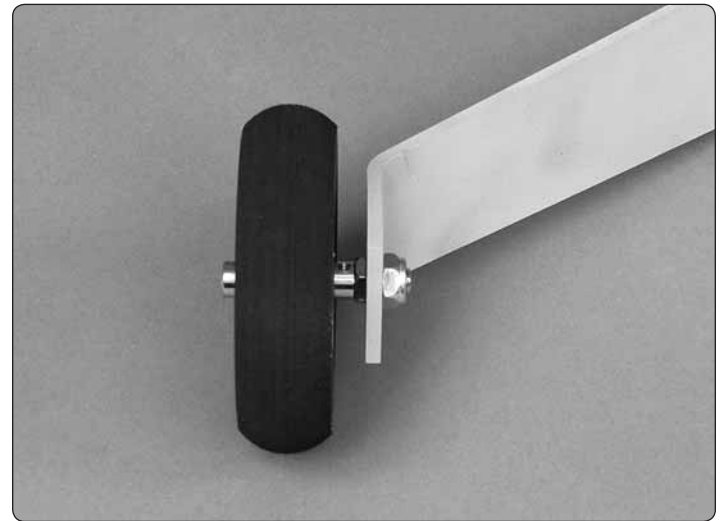
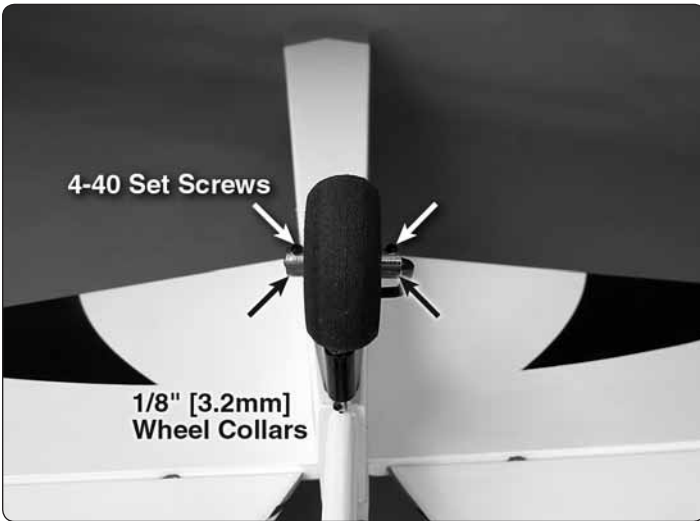
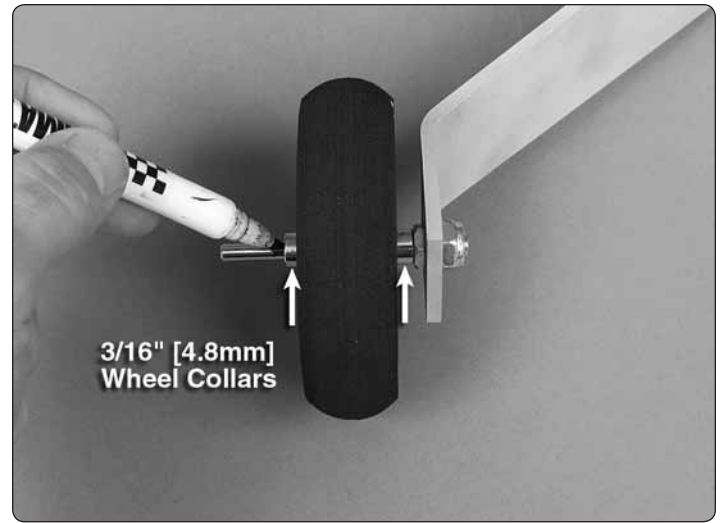
❑ 7. Use 30-minute epoxy to glue the vertical fin in the fuselage.



❑ 8. Glue the filler blocks on both sides of the fuselage.



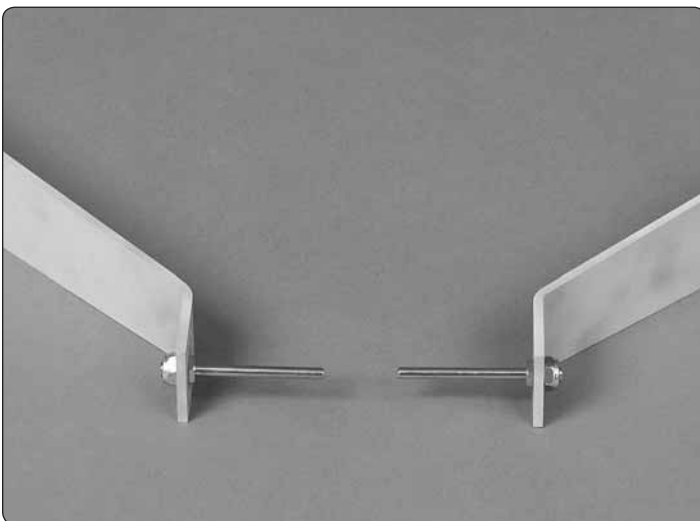
❑ 9. Attach the tail gear to the fuselage.



❑ 10. Install the tail wheel.

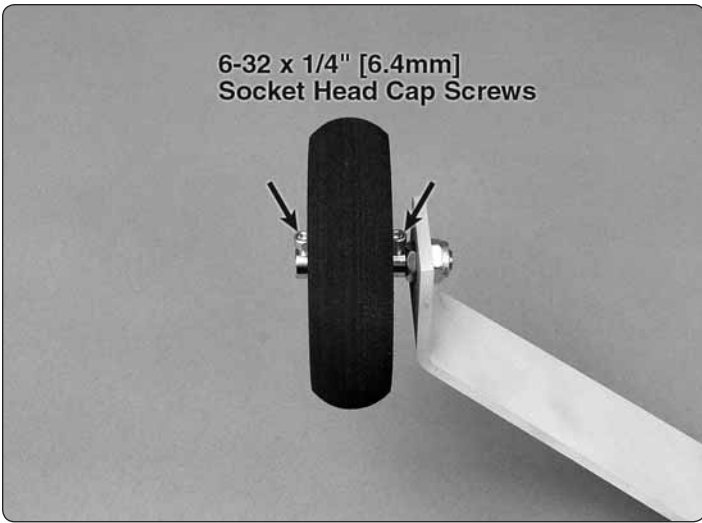
❑ 2. Cut the axle to length.

Install the Main Landing Gear

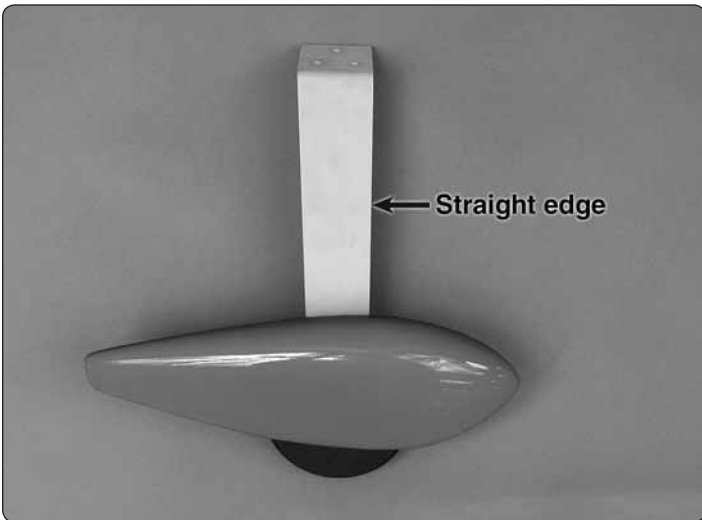


❑ 1. Install the 3/16" [4.8mm] axles.

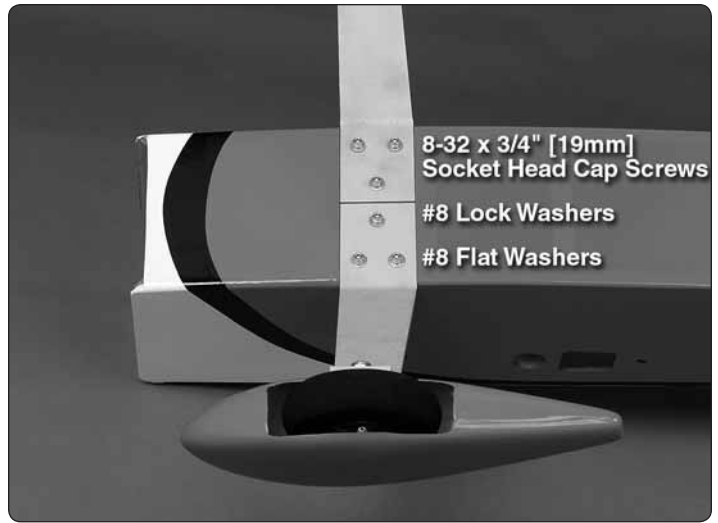
❑ 3. File a flat spot at the end of the axle.



❑ 4. Install the main wheel.



❑ 5. Install the wheel pants.

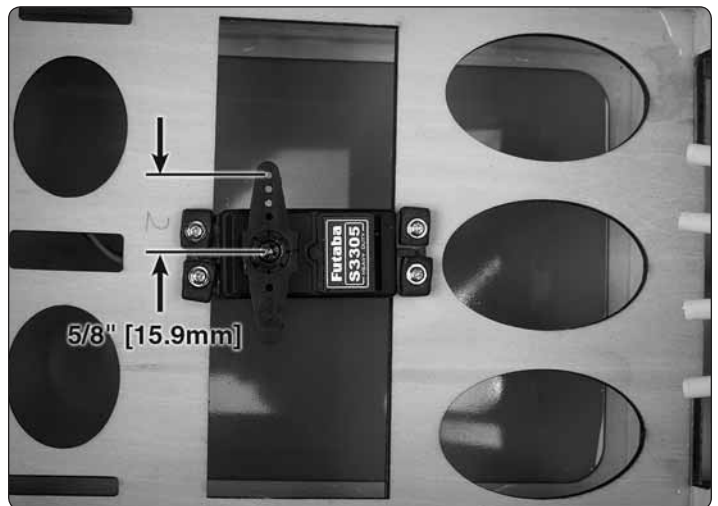


❑ 6. Install the main landing gear on the fuselage.

Install the Rudder and Elevator Servos

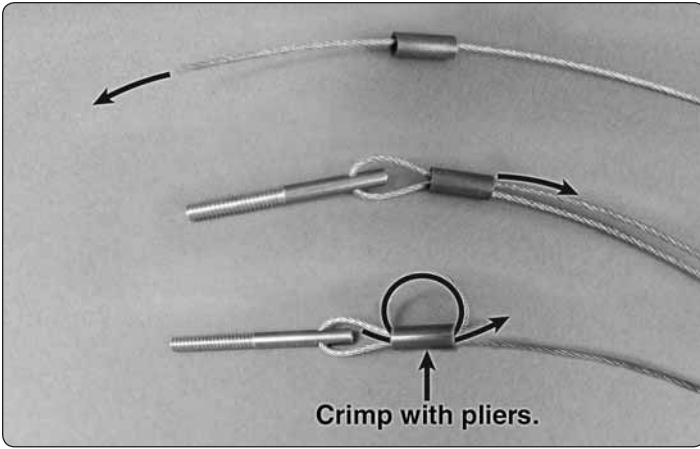


❑ 1. Install the rudder servo and plug it into the receiver. Temporarily plug the receiver battery into the receiver.

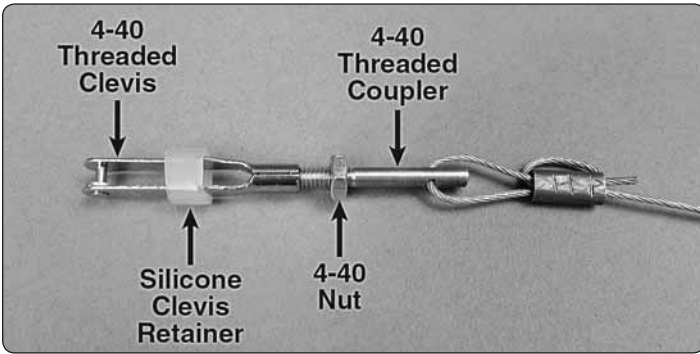


❑ 2. Install the rudder servo arm.

❑ 3. Cut the 114" [2900mm] pull-pull cable in half.



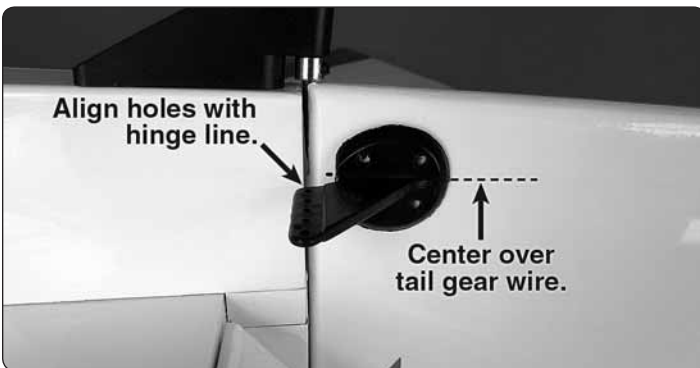
4. Install a 4-40 threaded coupler to the end of both pull-pull cables.



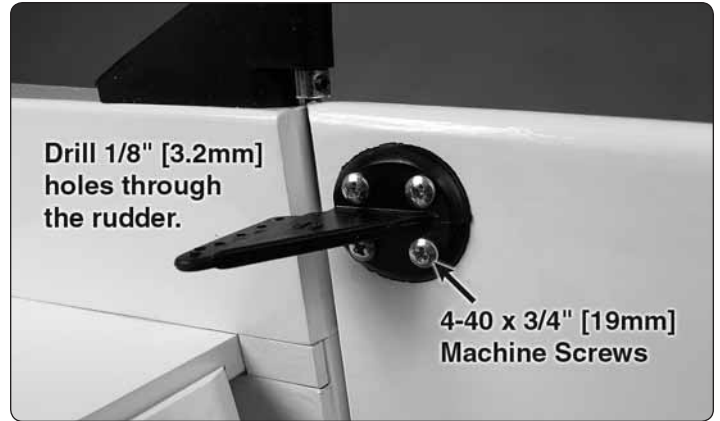
5. Install a 4-40 nut and threaded clevis on the coupler.



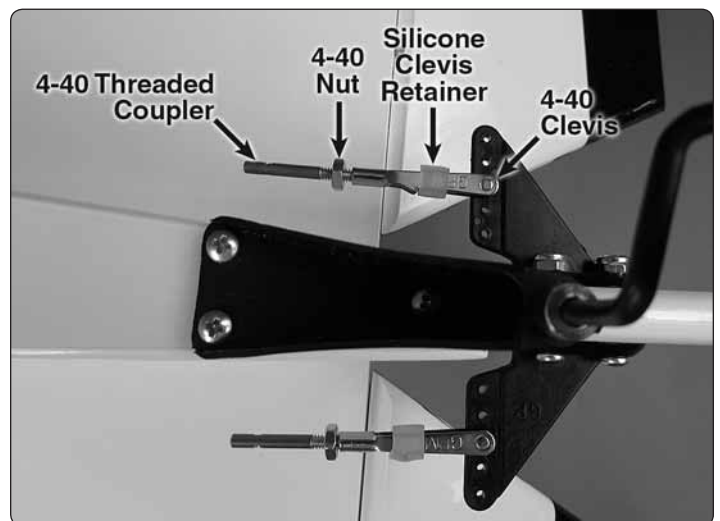
6. Insert the pull-pull cables in the pushrod guide tubes. Attach the clevises to the servo arm.



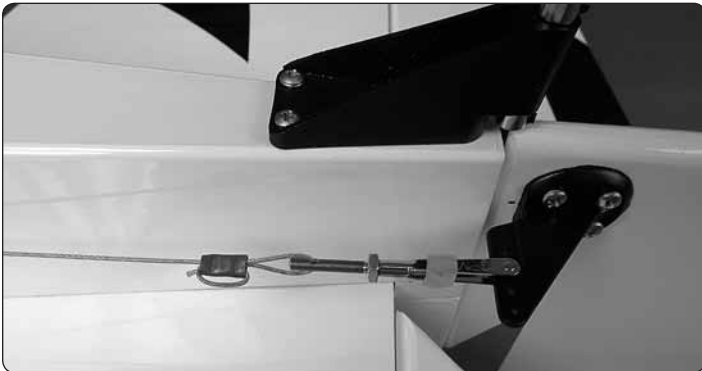
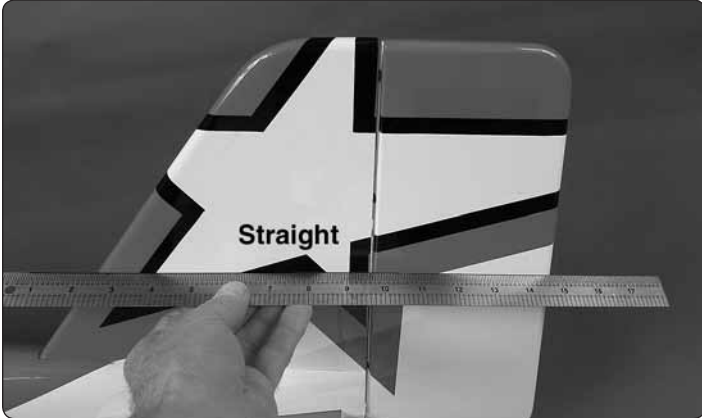
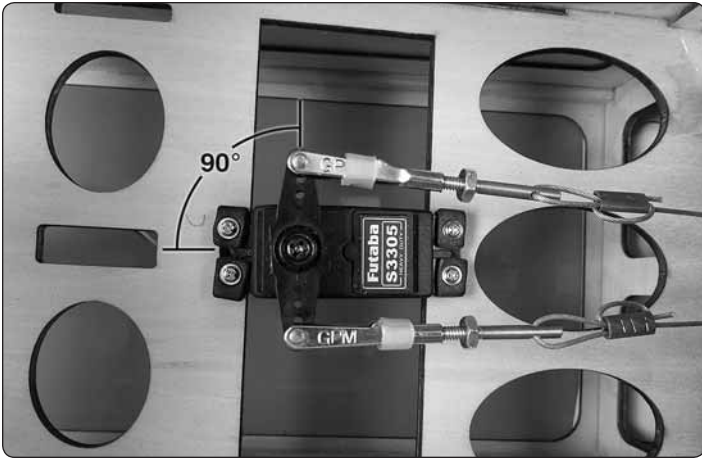
7. Position the rudder control horn.



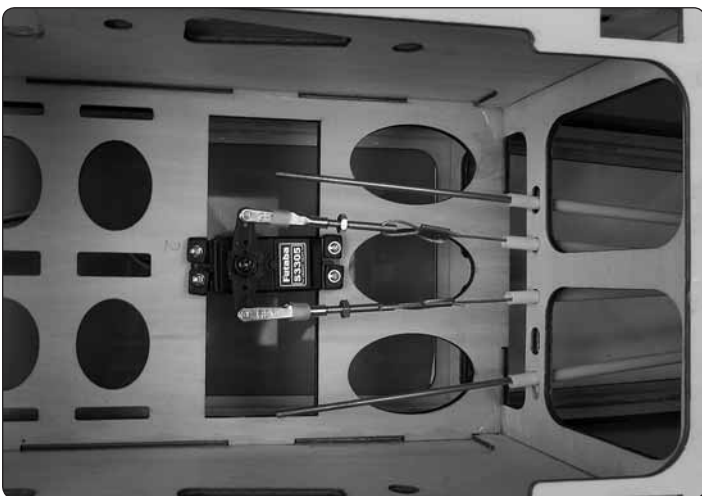
8. Attach rudder control horns.



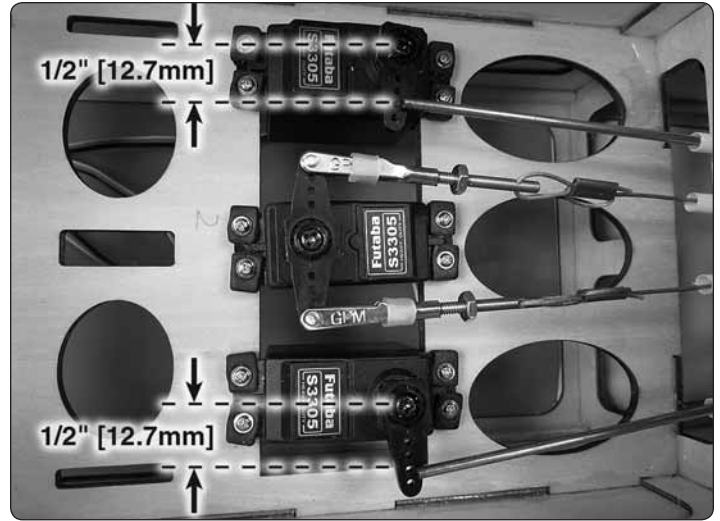
9. Attach a second set of clevises, 4-40 couplers, 4-40 nuts and silicone clevis retainers to the rudder control horns.



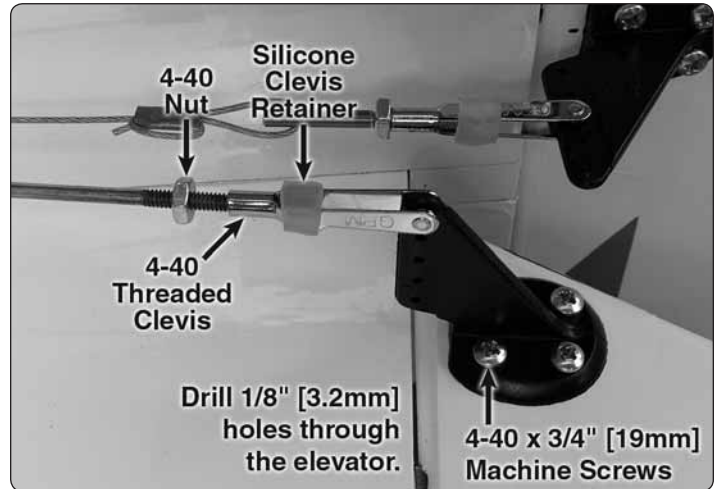
□ 10. Pull the pull-pull cables tight and attach them to the rudder control horns.



□ 11. Install the elevator pushrods.



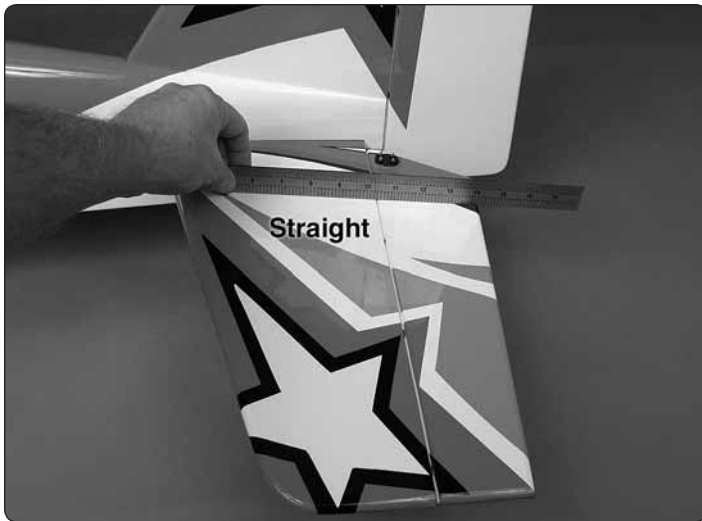
□ 12. Install the elevator servos. Join the two servo leads with a Y-harness and plug the Y-harness into the receiver.



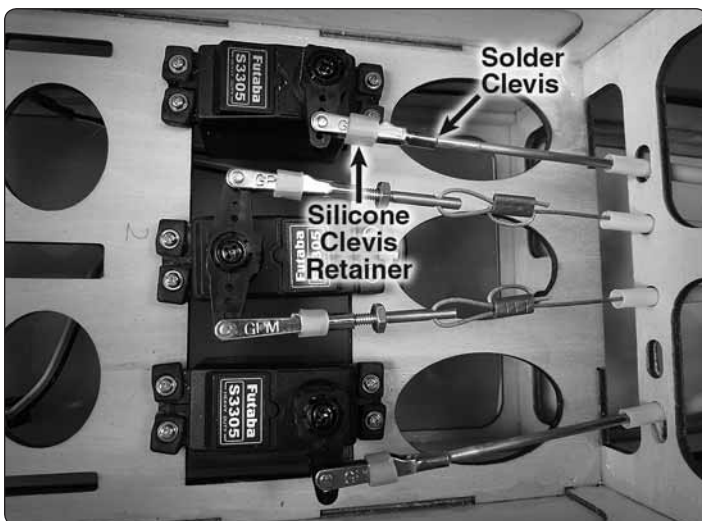
□ 13. Install the elevator control horns and attach the 4-40 clevises, nuts and retainers.

Electric Motor Installation

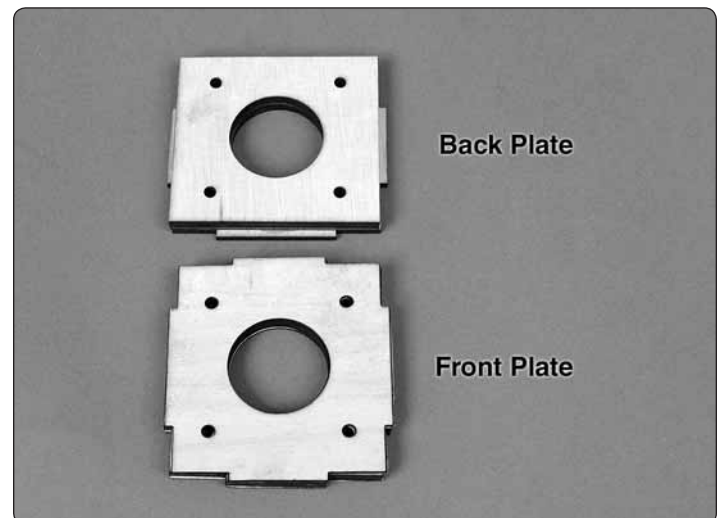
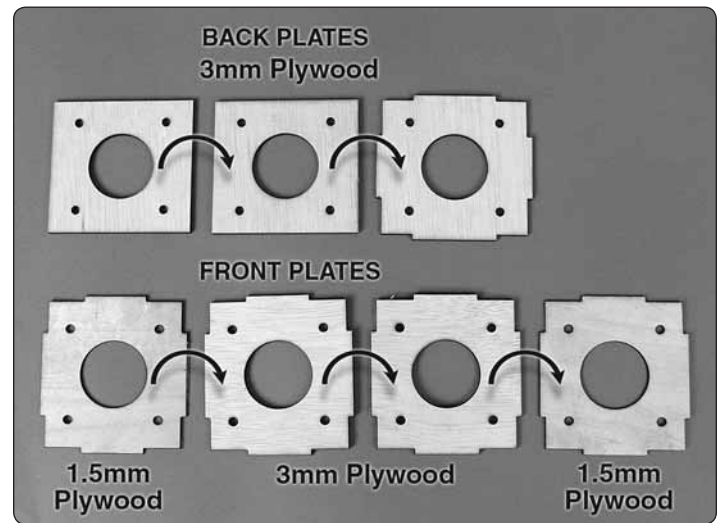
Proceed to Engine and Tank Installation (page 19) if a gas engine will be installed.



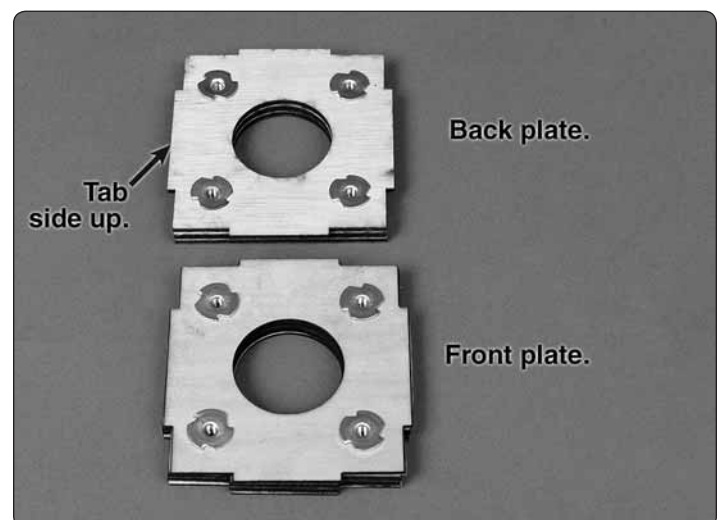
□ 14. Install the solder clevis.



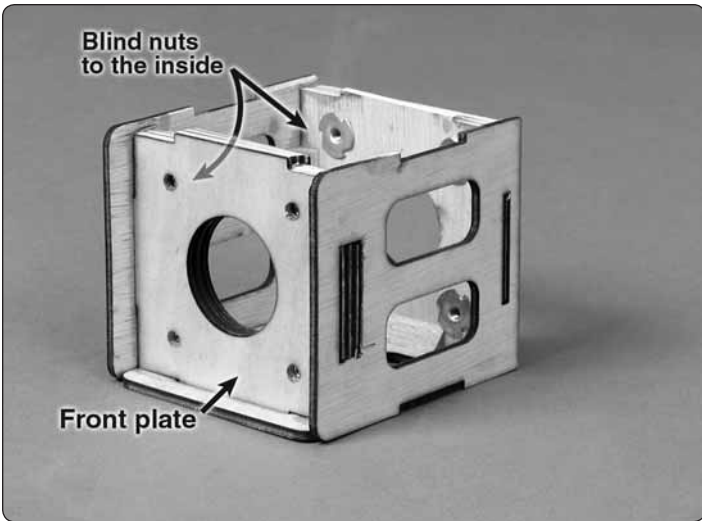
□ 15. Solder the clevises to the elevator pushrods.



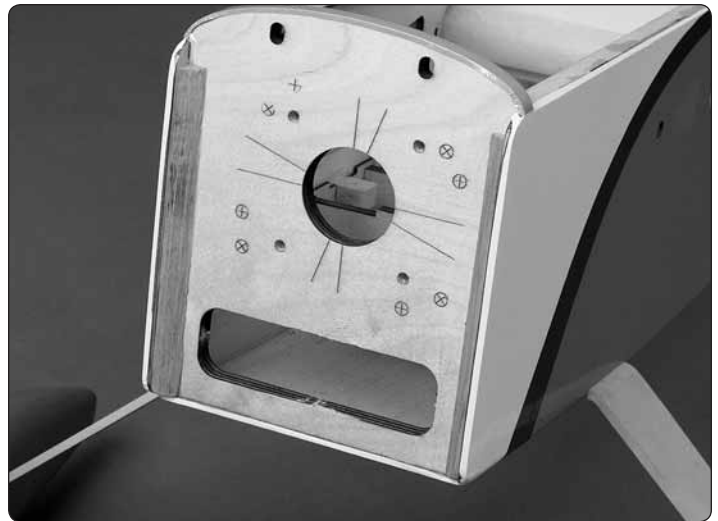
□ 1. Use epoxy to glue the front and back plates of the motor box together.



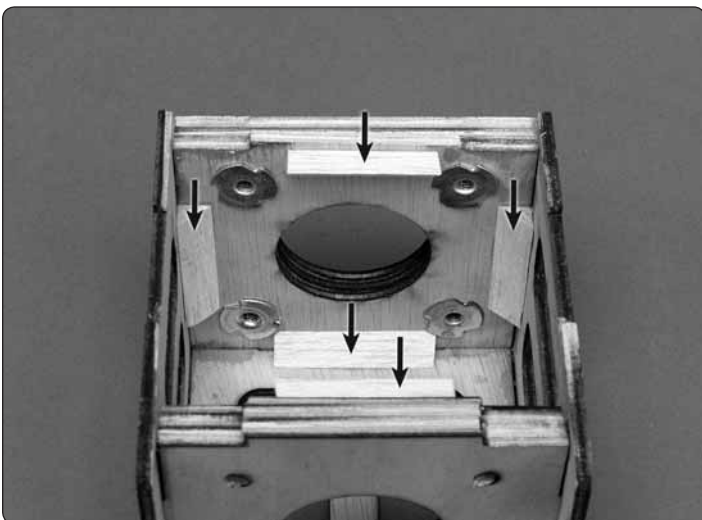
□ 2. Install the 8-32 blind nuts and secure with CA.



❑ 3. Glue three of the sides on.



❑ 6. Open the cooling hole.

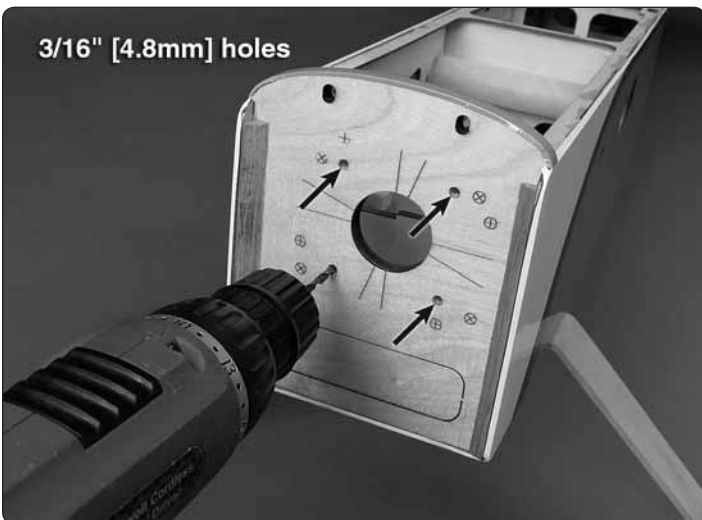


❑ 4. Glue eight pieces of triangle stock between the front plate and the sides and the back plate and the sides. Then, glue the fourth side on.



#8 Flat Washers
 #8 Lock Washers
 8-32 x 1" [25.4mm] Machine Screws

❑ 7. Attach the motor box to the firewall.

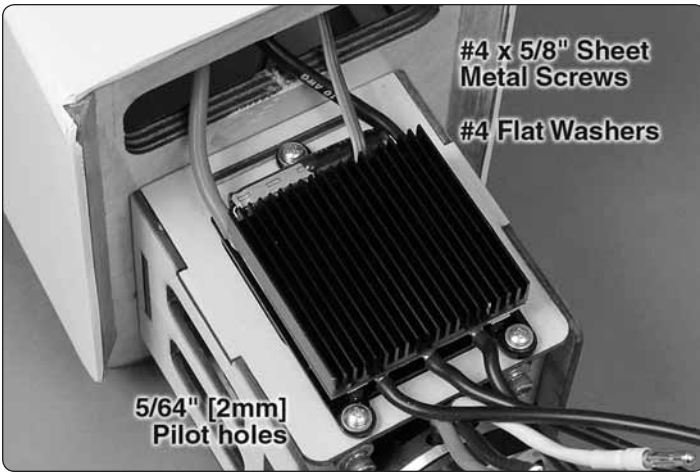


❑ 5. Drill the firewall.

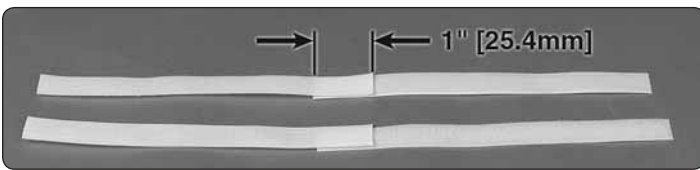


#8 Flat Washers
 #8 Lock Washers
 8-32 x 3/4" [19mm] Machine Screws

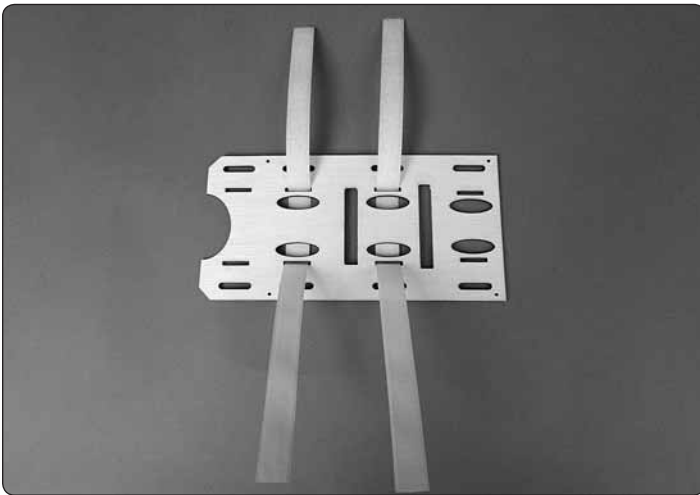
❑ 8. Install the RimFire 1.60 motor.



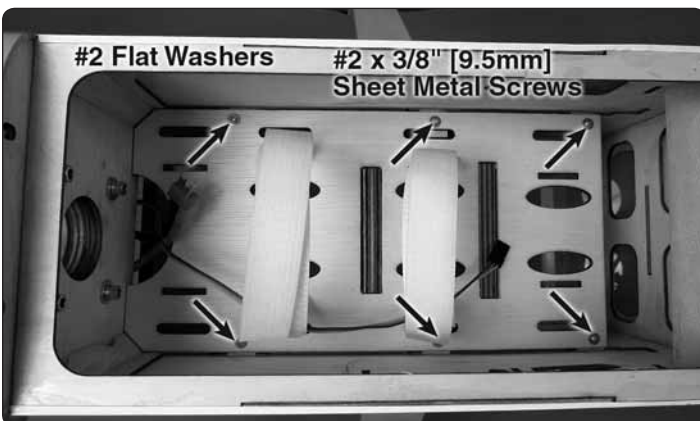
❑ 9. Mount the ESC. Connect the wires from the ESC to the motor wires.



❑ 10. Make two battery straps from the supplied hook and loop material.

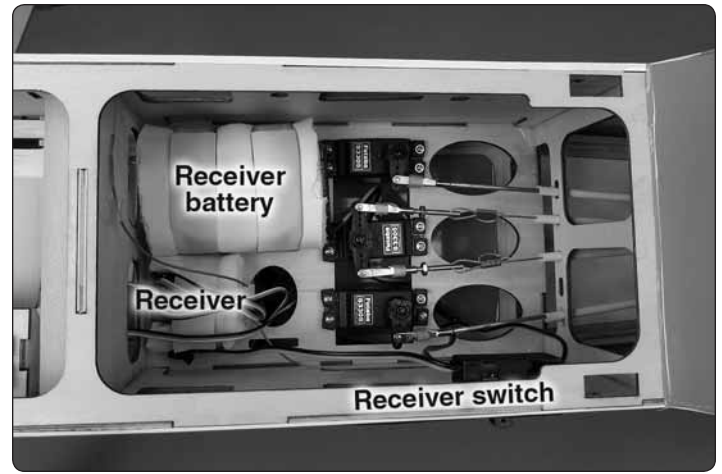


❑ 11. Install the battery straps on the battery tray.



❑ 12. Install the battery tray.

❑ 13. Connect an 8" [200mm] servo extension to the ESC.

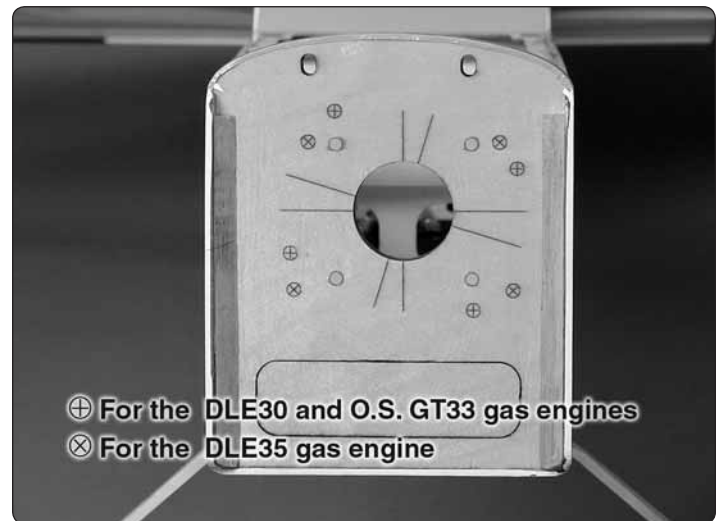


❑ 14. Make two straps from the remaining hook and loop material. Install the receiver, receiver switch and receiver battery.

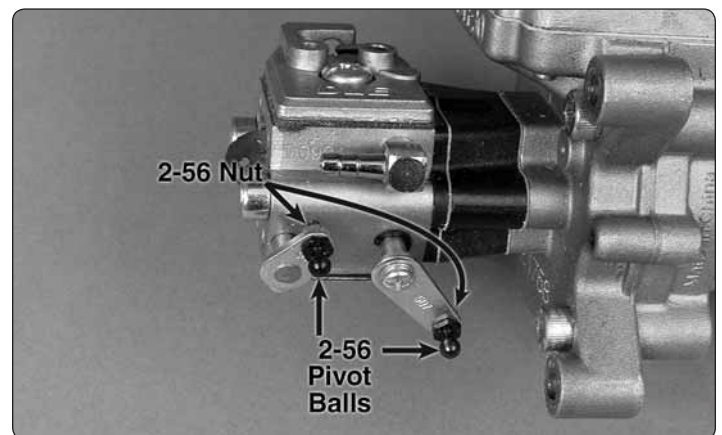
❑ 15. Plug the ESC into the receiver. Check that the throttle is set to reverse on the Futaba transmitter. Plug the motor batteries into the ESC. Check that the motor turns counter-clockwise.

Skip to **Install the Cowl**.

Gas Engine Installation



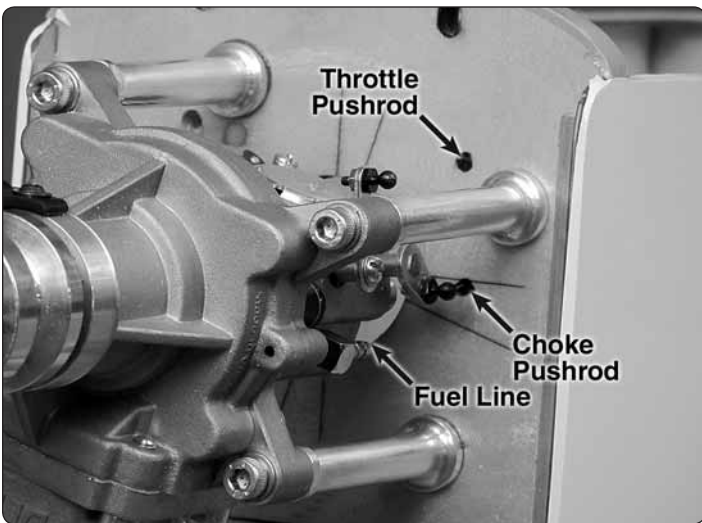
❑ 1. Drill the firewall for your engine.



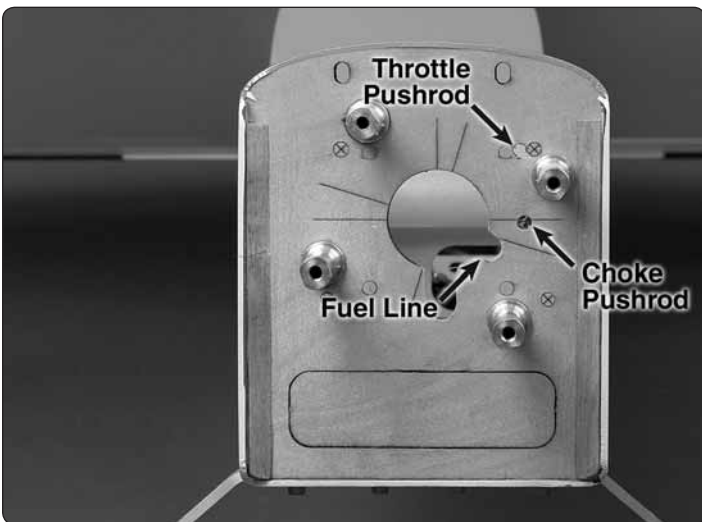
❑ 2. Install the pivot ball on the throttle and choke arm.



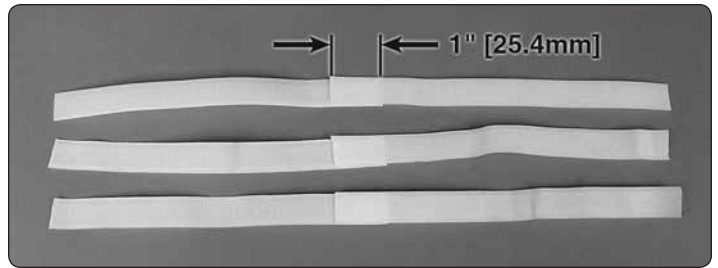
❑ 3. Temporarily mount the engine using the hardware included with the engine.



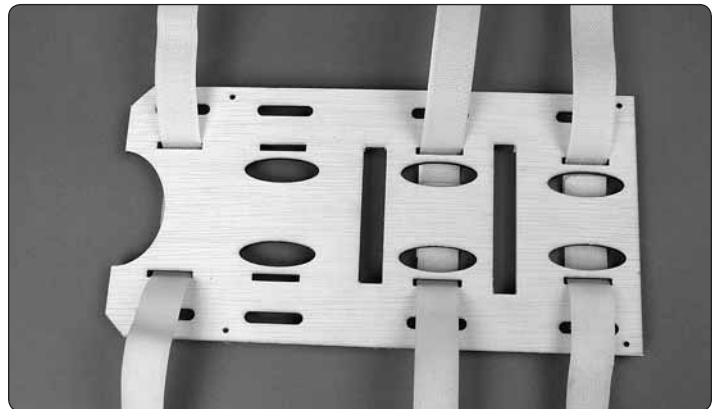
❑ 4. Mark the fuel line, throttle and choke pushrod locations on the firewall.



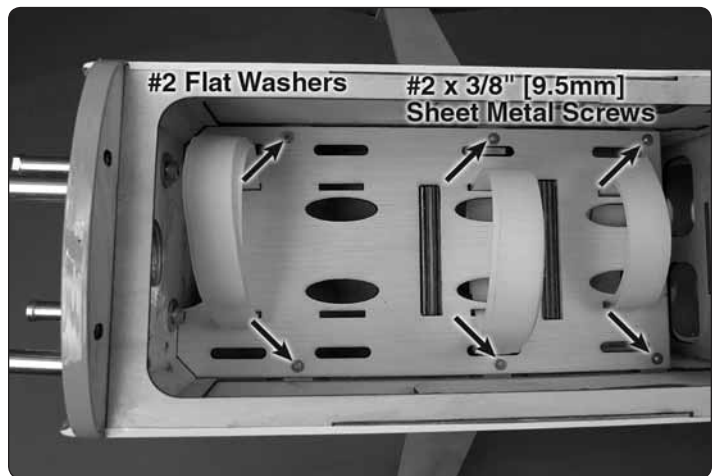
❑ 5. Drill the firewall for the throttle, choke and fuel line.



❑ 6. Make three straps from the supplied hook and loop material.



❑ 7. Install the straps on the fuel tank tray.

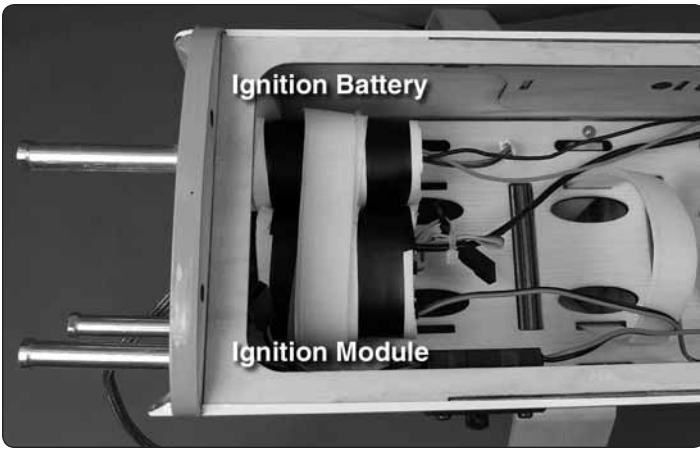


❑ 8. Install the fuel tank tray.

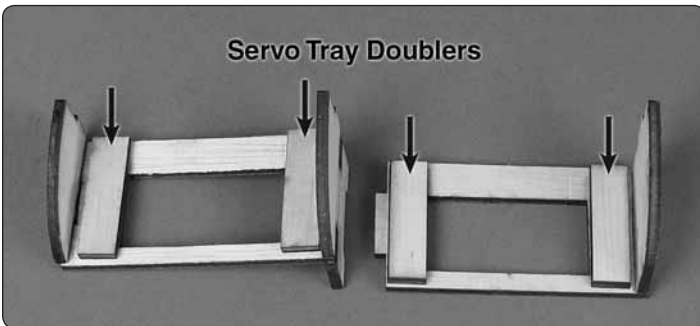
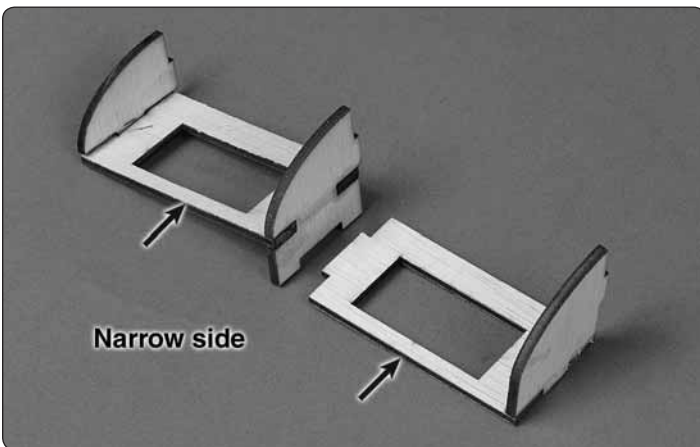


❑ 9. Install the ignition switch.

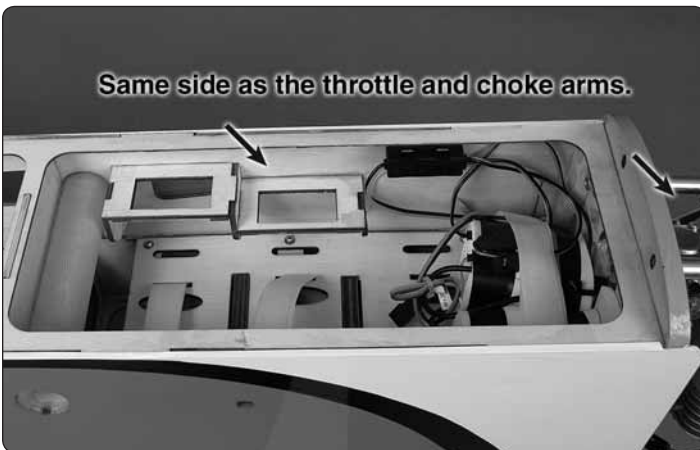
❑ 10. Wrap the ignition battery and ignition module in foam rubber.



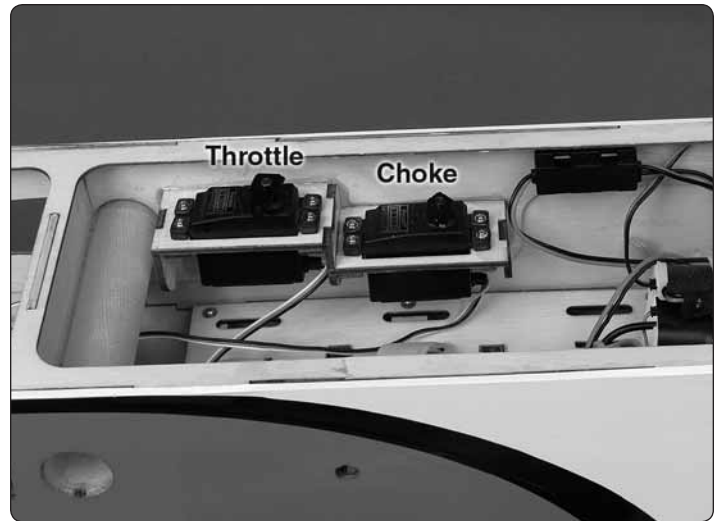
- 11. Install the ignition battery and ignition module.
- 12. Reinstall the engine.



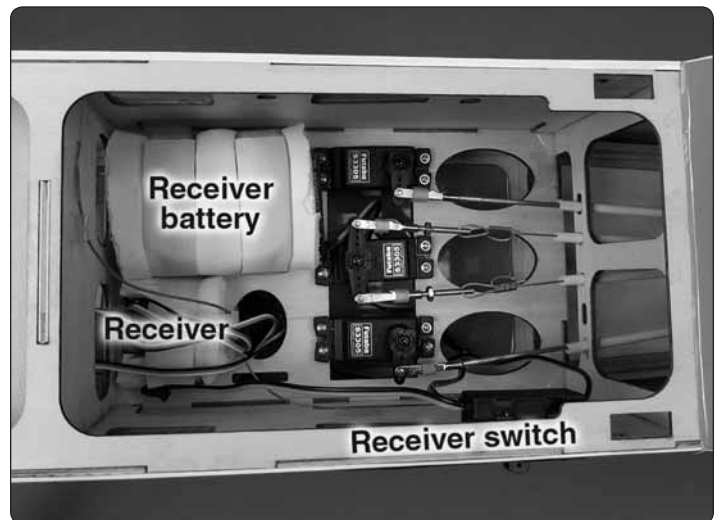
- 13. Use epoxy to assemble the throttle/choke servo tray.



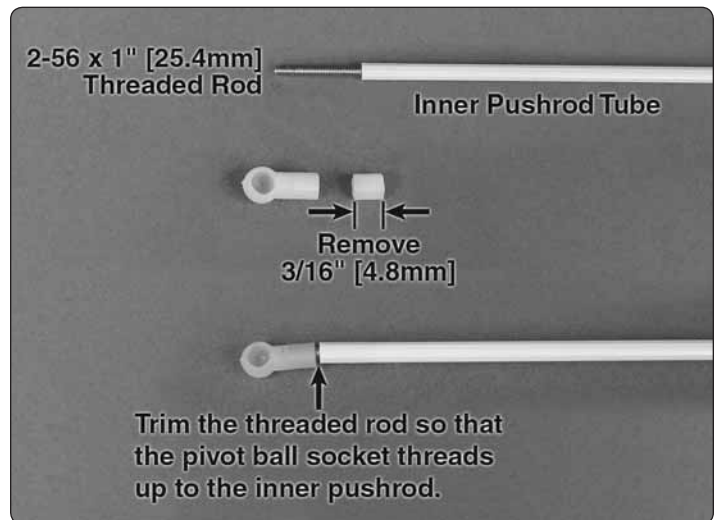
- 14. Glue the tray in the fuselage.



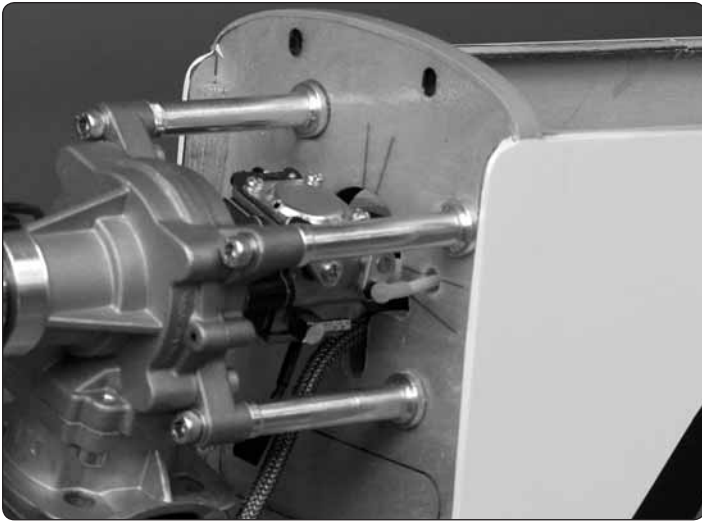
- 15. Install the throttle and choke servos and plug them into the receiver.



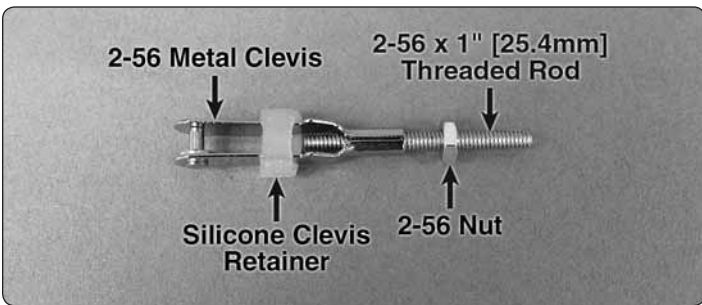
- 16. Make two straps from the remaining hook and loop material. Install the receiver switch, receiver and receiver battery.



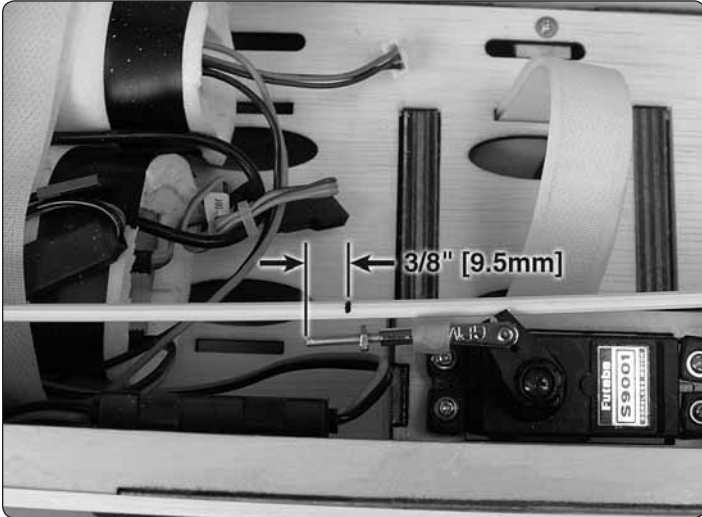
- 17. Assemble the choke pushrod.



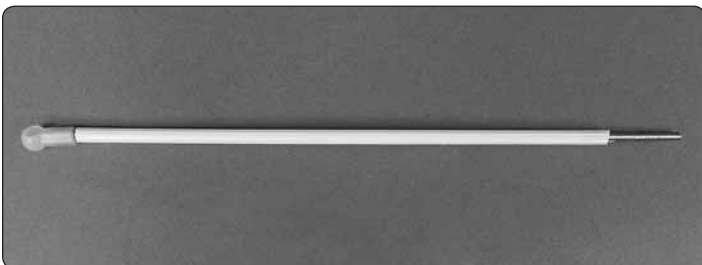
❑ 18. Install the choke pushrod.



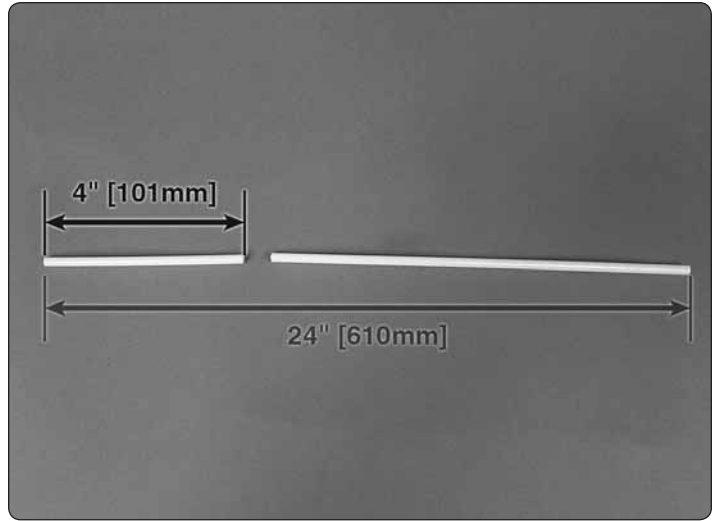
❑ 19. Assemble the choke clevis.



❑ 20. Install the clevis on the choke servo.



❑ 21. Attach the 2-56x1" threaded rod to the choke pushrod. It is easier to remove the pushrod from the choke to install the threaded rod.

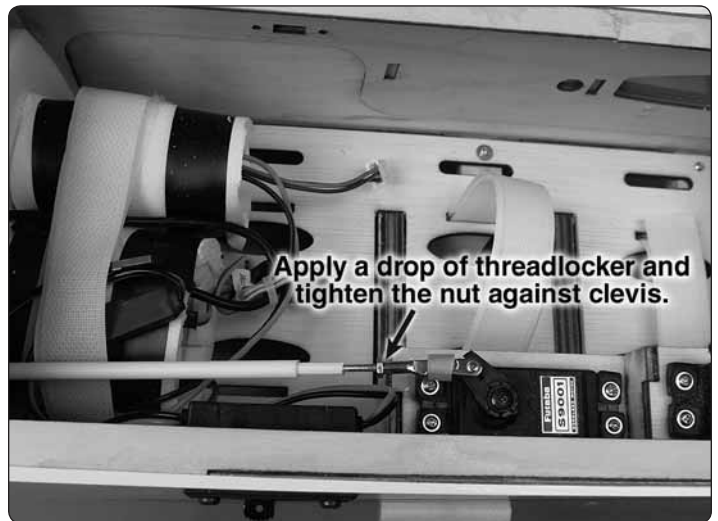


❑ 22. Cut the outer pushrod tube.

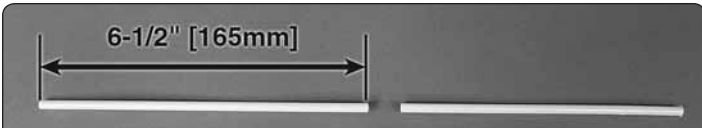
❑ 23. Roughen the outer pushrod with sandpaper.



❑ 24. Install the outer pushrod.



❑ 25. Reinstall the clevis and adjust it so that the choke opens and closes completely.

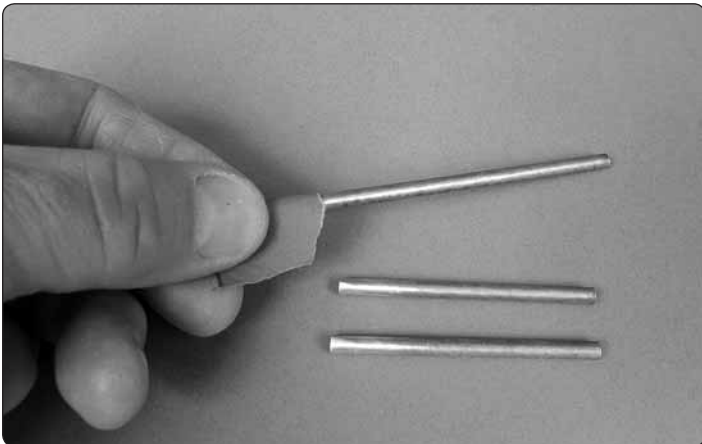


Cut from the remaining outer pushrod tube.



26. Install the throttle pushrod using the same procedure as used on choke pushrod. We recommend that a throttle cutoff also be set up on the transmitter to close the throttle completely, stopping the engine.

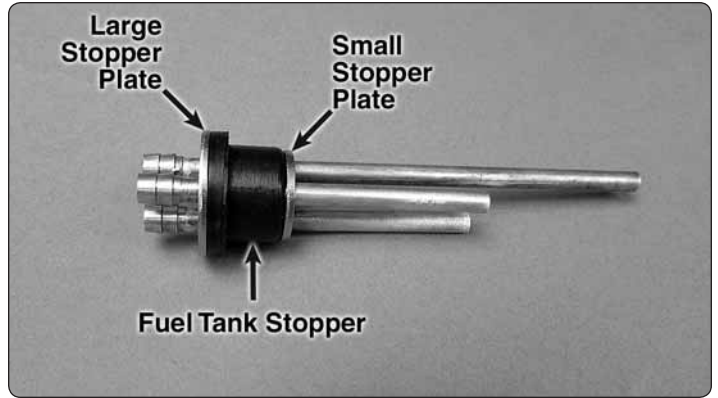
Assemble the Fuel Tank



1. Clean both ends of the brass tubes with sandpaper.



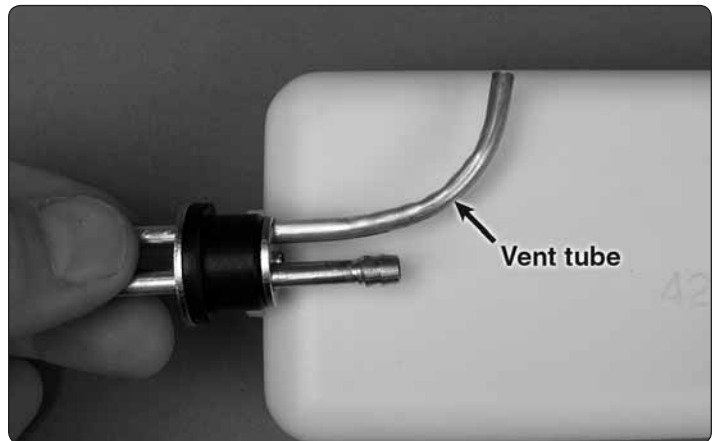
2. Solder fuel line barbs onto one end of the brass tubes.



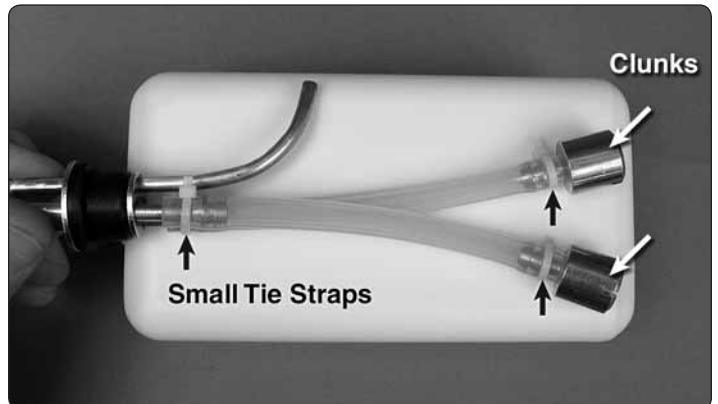
3. Insert the brass tubes in the fuel tank stopper and stopper plates.



4. Solder the barbs on the other end of the two shorter brass tubes.



5. Bend the vent tube.



6. Install the two fuel pickup lines and clunks so they move freely.

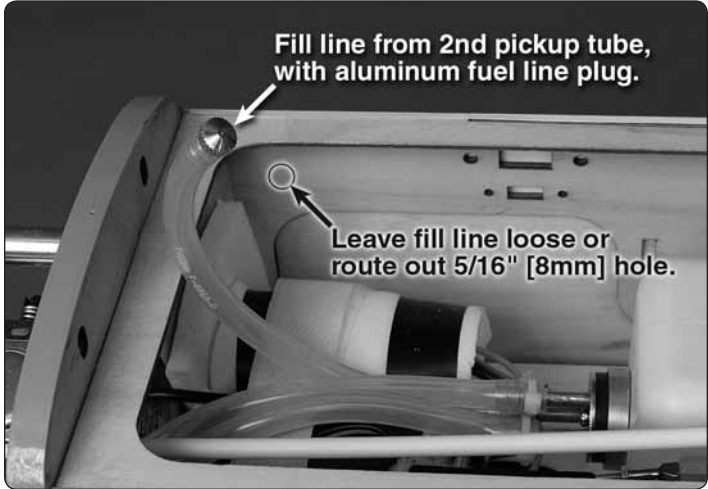
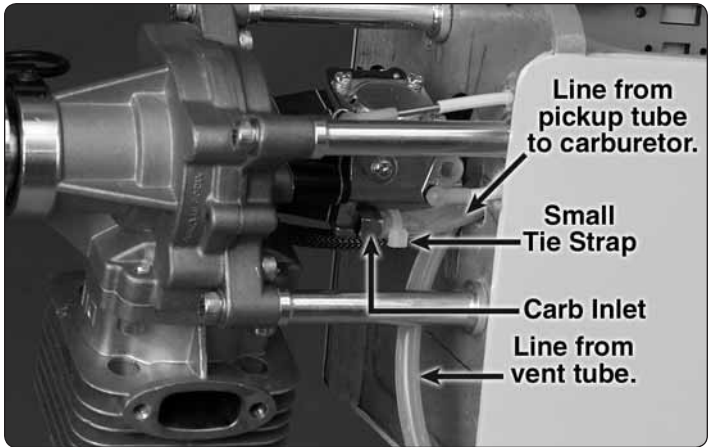
Install the Fuel Tank



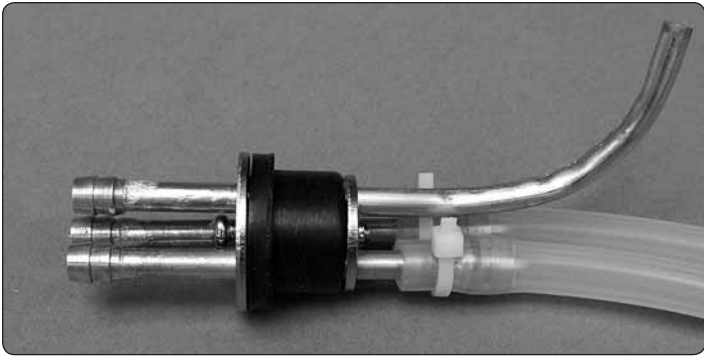
1. Install and mark the fuel lines: Vent, Carb and Fill.



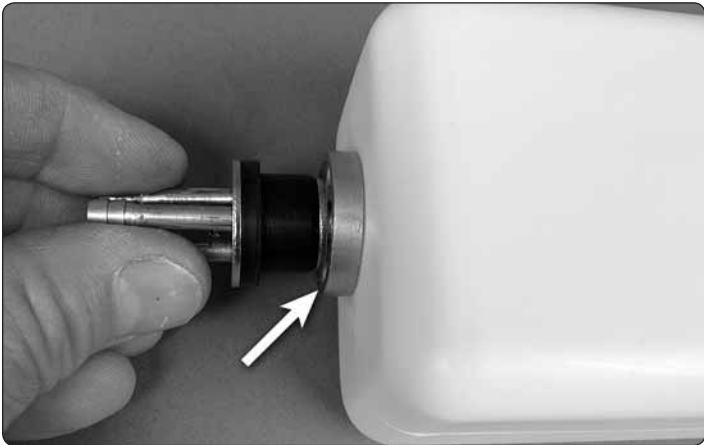
2. Secure the fuel tank in the fuselage.



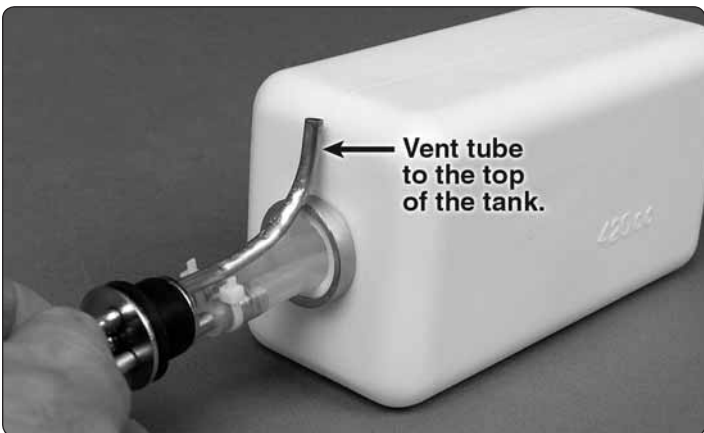
3. Route the fill line.



7. Loosely install the fuel tank stopper screw.



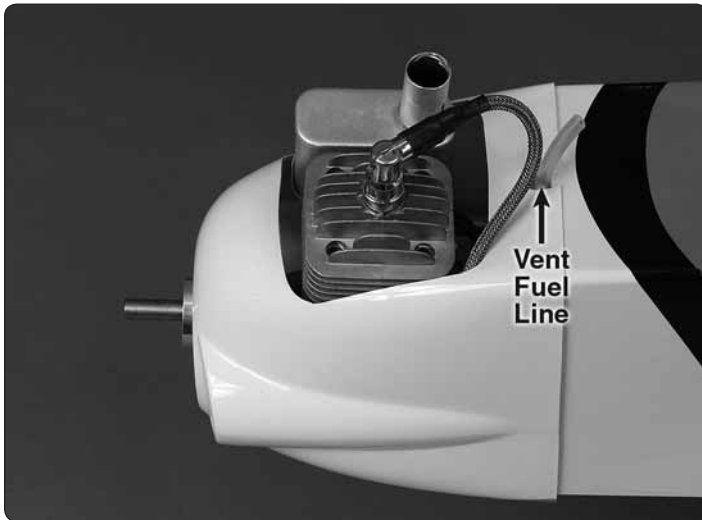
8. Slide the aluminum ring over the fuel tank neck.



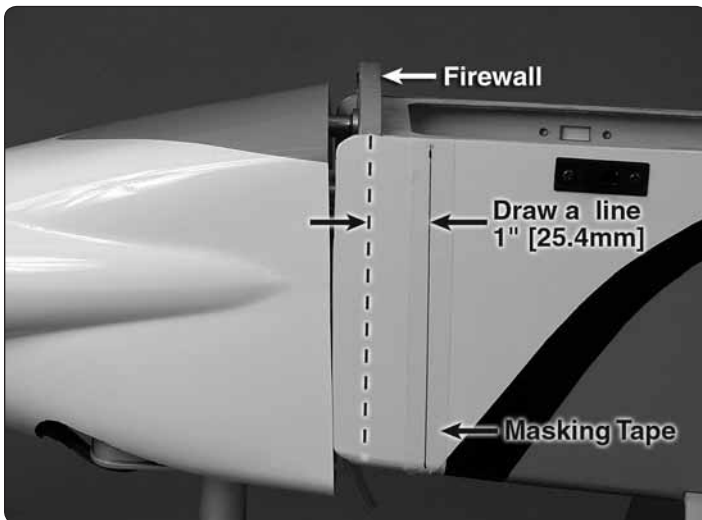
9. Secure the fuel tank stopper in the fuel tank. Mark the top of the tank.

Install the Cowl

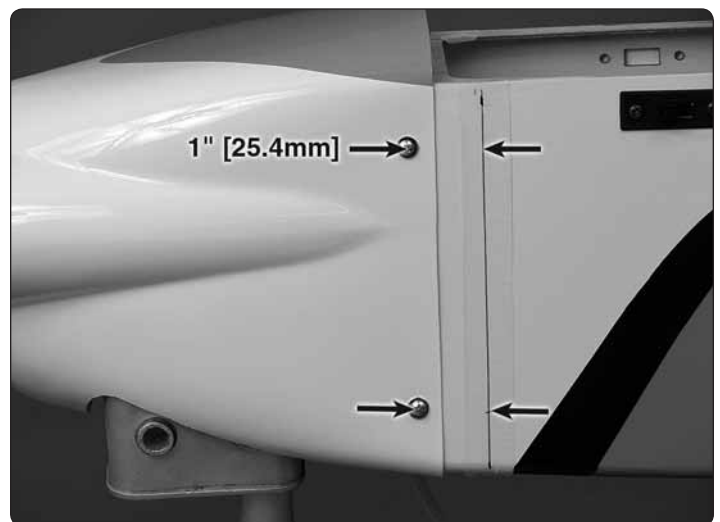
For the electric installation, skip to step 2.



- ❑ 1. Trim the cowl to fit over the head and muffler.



- ❑ 2. Position the cowl.



- ❑ 3. Drill 5/64" [1.5mm] pilot holes. Attach the cowl using #4x5/8" [16mm] sheet metal screws and #4 flat washers.

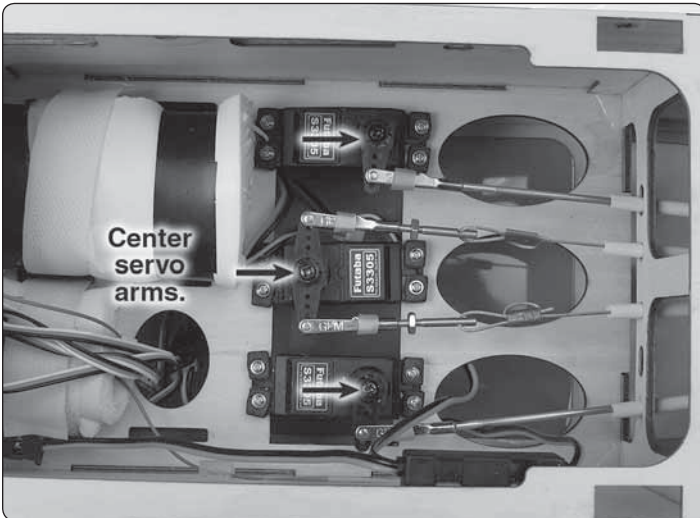
Apply the Decals

1. The decals are die-cut from the factory.
2. Be certain the model is clean and free from oily fingerprints and dust. Prepare a dishpan or small bucket with a mixture of liquid dish soap and warm water—about 1/2 teaspoon of soap per gallon of water. Submerge one of the decals in the solution and peel off the paper backing. **NOTE:** Even though the decals have a "sticky-back" and are not the water transfer type, submersing them in soap & water allows accurate positioning and reduces air bubbles underneath.
3. Position decal on the model where desired. Holding the decal down, use a paper towel to wipe most of the water away.
4. Use a piece of soft balsa or something similar to squeegee remaining water from under the decal. Apply the rest of the decals the same way.

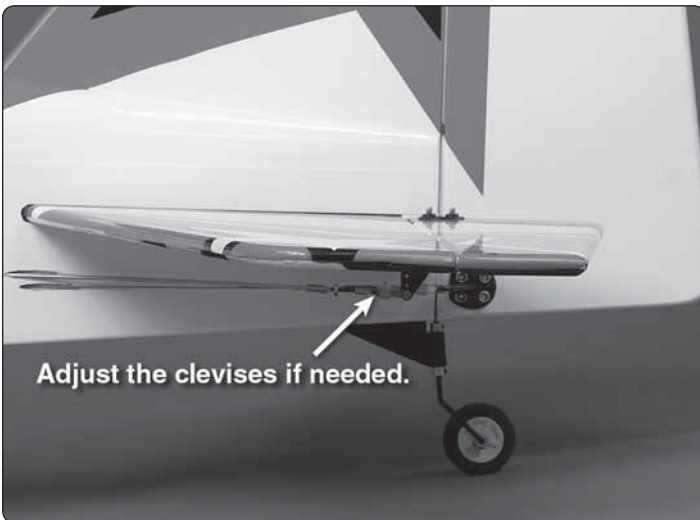
Please use the following pictures and box top as a guide for the decal placement.

GET THE MODEL READY TO FLY

Check the Control Directions

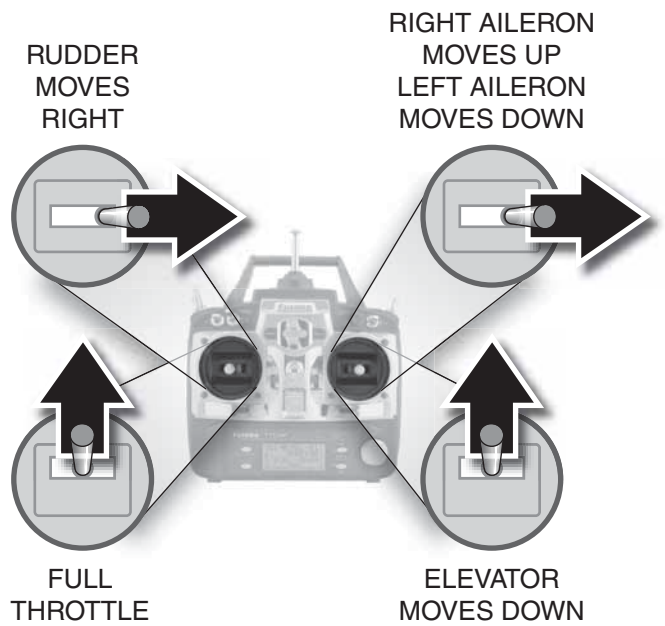


- ❑ 1. Switch on the transmitter and receiver.



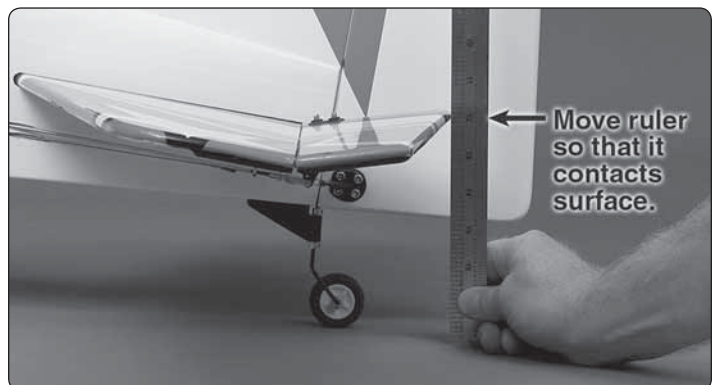
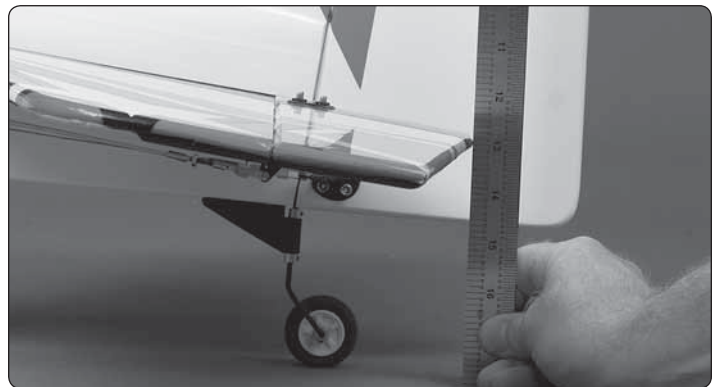
- ❑ 2. Center the control surfaces.

4-CHANNEL RADIO SET UP (STANDARD MODE 2)

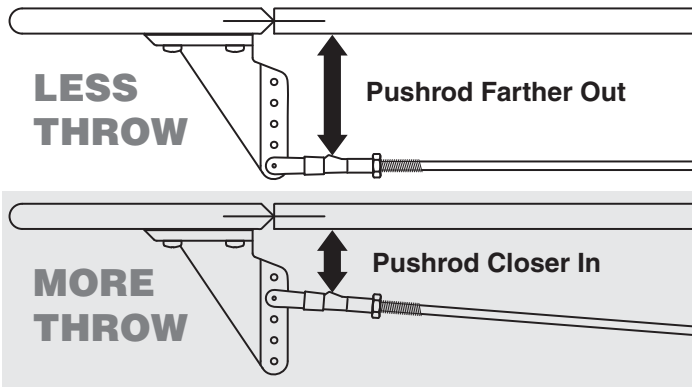


- ❑ 3. Make certain that the control surfaces and the carburetor respond in the correct direction as shown in the diagram. If any of the controls respond in the wrong direction, use the servo reversing in the transmitter to reverse the servos connected to those controls. Be certain the control surfaces have remained centered. Adjust if necessary.

Set the Control Throws

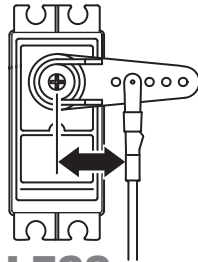
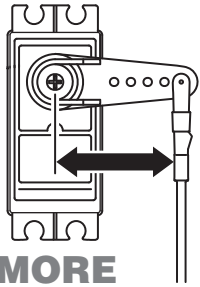


- ❑ 1. Hold a ruler against the widest part of the control surface and measure the high rate throw first.



Pushrod Farther Out

Pushrod Closer In



**MORE
THROW**

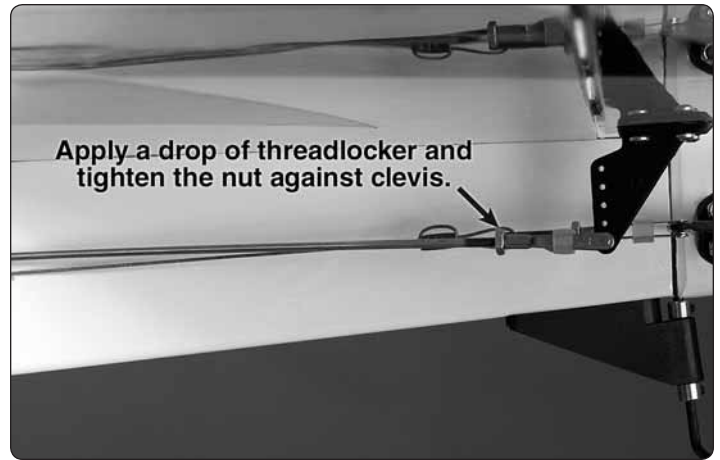
**LESS
THROW**

❑ 2. Adjust the location of the pushrod on the servo arm or on the control horn first. Then, use the endpoint adjustment in your transmitter to fine tune the throws.

❑ 3. Measure and set the **low rate** throws. Measure and set the high and low rate throws for the rest of the control surfaces the same way.

If your radio does not have dual rates, we recommend setting the throws at the high rate settings.

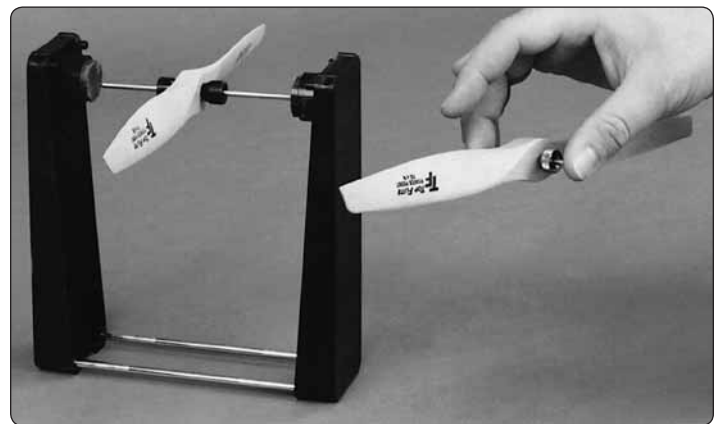
These are the recommended control surface throws:					
	HIGH RATE		LOW RATE		
ELEVATOR	Up	Down	Up	Down	
	7/8" [22mm] 13°	7/8" [22mm] 13°	5/8" [16mm] 9°	5/8" [16mm] 9°	
RUDDER	Right	Left	Right	Left	
	2" [51mm] 19°	2" [51mm] 19°	1-3/4" [44mm] 17°	1-3/4" [44mm] 17°	
AILERONS	Up	Down	Up	Down	
	3/4" [19mm] 17°	3/4" [19mm] 17°	1/2" [13mm] 12°	1/2" [13mm] 12°	
FLAPS	Down 7/8" [22mm] 20°	Mix in approximately 5/16" [8mm] down elevator with the flap. This will reduce ballooning when flaps are applied.			



❑ 4. Once the throws are set, apply a drop of threadlocker to the threads and tighten the 4-40 nuts against the clevises. Slide the silicone retainers over the clevises.

IMPORTANT: Now that you have the throws set, be sure to set the failsafe on the radio.

Install the Propeller



❑ 1. Balance the propeller.



❑ 2. Install the propeller. Drill holes through the propeller if necessary.

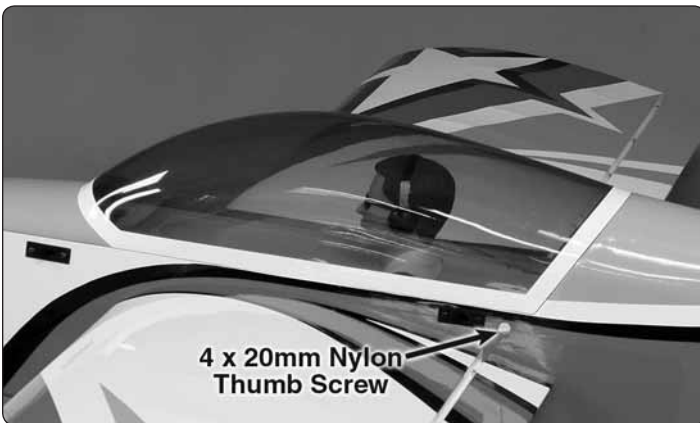
NOTE: Enlarge the hole in the spinner backplate to 25/64" [10mm] for the adapter ring used on the O.S. GT33 engine.



5 x 60mm Socket Head Cap Screw

- 3. Install the spinner cone.

ELECTRIC ONLY: Install the spinner adapter (GPMQ4584) before installing the spinner cone.



4 x 20mm Nylon Thumb Screw

- 4. Install the canopy.

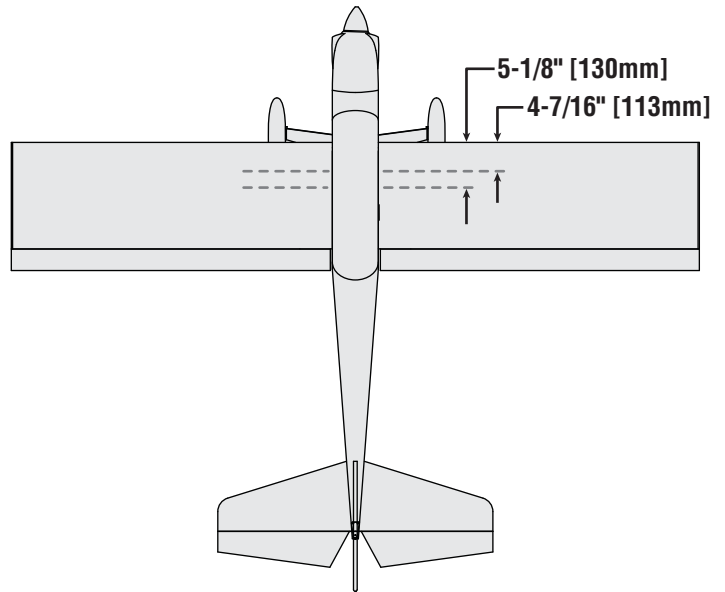
Balance the Model Laterally

ELECTRIC ONLY: Install the flight batteries, but **do not** plug the batteries into the ESC.

- 1. With the wing level, have an assistant help you lift the model by the engine propeller shaft and the bottom of the fuselage under the TE of the fin. Do this several times.
- 2. If one wing always drops when you lift the model, it means that side is heavy. Balance the airplane by adding weight to the other wing tip. **An airplane that has been laterally balanced will track better in loops and other maneuvers.**

Balance the Model (C.G.)

DO NOT OVERLOOK THIS IMPORTANT PROCEDURE. A model that is not properly balanced may be unstable and possibly unflyable.



- 1. Mark the C.G. range.



- 2. With the plane **ready to fly**, with an empty fuel tank or motor batteries installed, use a Great Planes C.G. Machine or apply narrow (1/16" [2mm]) strips of tape at the front and rear C.G. locations so you will be able to feel them when lifting the model with your fingers to check the C.G. location. **Do not at any time balance the model outside this C.G. range.**
- 3. Use Great Planes "stick on" weight (GPMQ4485) to balance the plane. Place incrementally increasing amounts of weight on the bottom of the fuselage over the location where it would be mounted inside until the model balances. A good place to add stick-on nose weight is to the firewall. Do not attach weight to the cowl—this will cause stress on the cowl and could cause the cowl to crack at the screw holes. Once you have determined if additional weight needs to be installed, permanently attach the weight with glue or screws.
- 4. **IMPORTANT:** If you found it necessary to add any weight, recheck the C.G. after the weight has been installed.

PREFLIGHT

Identify Your Model

You should always have your name, address, telephone number and AMA number on or inside your model. It is **required** at all AMA R/C club flying sites and AMA sanctioned flying events. Fill out the identification tag on page 31 and place it on or inside your model.

Charge the Batteries

Always charge your transmitter and receiver batteries the night before you go flying, and at other times as recommended by the radio manufacturer.

CAUTION: Unless the instructions that came with your radio system state differently, the **initial** charge on **new** transmitter and receiver batteries should be done for 15 hours **using the slow-charger that came with the radio system**. This will "condition" the batteries so that the next charge may be done using the fast-charger of your choice. If the initial charge is done with a fast-charger the batteries may not reach their full capacity and you may be flying with batteries that are only partially charged.

Ground Check and Range Check

Make sure the engine idles reliably, transitions smoothly and maintains full power indefinitely. Shut the engine off and inspect the model closely, making sure all fasteners, pushrods and connections have remained tight and the hinges are secure. Follow the radio manufacturer's instructions to ground check the operational range of your radio before the first flight of the day. This should be done once with the engine off and once with the engine running at various speeds. If the control surfaces do not respond correctly, **do not fly!** Find and correct the problem first. Look for loose servo connections or broken wires, corroded wires on old servo connectors, poor solder joints in your battery pack or a defective battery cell.

ENGINE SAFETY PRECAUTIONS

Failure to follow these safety precautions may result in severe injury to yourself and others.

- Keep all engine fuel in a safe place, away from high heat, sparks or flames, as fuel is very flammable. Do not smoke near the engine or fuel; and remember that engine exhaust gives off a great deal of deadly carbon monoxide. Therefore **do not run the engine in a closed room or garage.**
- Get help from an experienced pilot when learning to operate engines.
- Use safety glasses when starting or running engines.
- Use a "chicken stick" or electric starter to start the engine. If you do flip the propeller with your fingers, wear a heavy

leather glove, such as a welder's glove. When hand starting gas engines, if the engine should backfire, the large prop can cause severe injury to your hand and fingers.

- Do not run the engine in an area of loose gravel or sand; the propeller may throw such material in your face or eyes.
- Keep your face and body as well as all spectators away from the plane of rotation of the propeller as you start and run the engine.
- Keep these items away from the prop: loose clothing, shirt sleeves, ties, scarfs, long hair or loose objects such as pencils or screwdrivers that may fall out of shirt or jacket pockets into the prop.
- Stop the engine before making any engine adjustments.
- The engine and muffler get hot! Do not touch them during or right after operation. Make sure fuel lines are in good condition so fuel will not leak onto a hot engine, causing a fire.
- To stop a gasoline powered engine an on/off switch must be connected to the engine ignition. Do not throw anything into the propeller of a running engine.

ELECTRIC MOTOR SAFETY PRECAUTIONS

- The motor gets HOT! Do not touch it during or right after operation.
- When working on your plane, remove the propeller if the motor batteries will be connected.
- Always remove the motor batteries when charging.
- Follow the charging instructions included with your charger for charging LiPo batteries. LiPo batteries can cause serious damage if misused.
- Once the motor batteries are connected the electric motor can start at any time. Make sure the fail safe is set on your radio to prevent the motor from starting if the signal is lost.
- **ALWAYS** unplug the motor batteries first.
- **NEVER** switch off the transmitter with the motor batteries plugged in.
- **WARNING:** Read the entire instruction sheet included with your motor batteries. Failure to follow the instructions could cause permanent damage to the battery and its surroundings and cause bodily harm!
- **ONLY** use a LiPo approved charger.
- **NEVER** use a NiCd/NiMH peak charger to charge a LiPo battery.
- **NEVER** charge in excess of 4.20V per cell.
- **ONLY** charge through the "charge" lead.
- **NEVER** charge through the "discharge" lead.
- **NEVER** charge at currents greater than 1C unless the battery is rated for a higher charge rate.
- **ALWAYS** set the charger's output volts to match the battery volts.

- **ALWAYS** charge a LiPo battery in a fireproof location.
- **NEVER** trickle charge a LiPo battery.
- **NEVER** allow the battery temperature to exceed 150° F (65° C).
- **NEVER** disassemble or modify the pack wiring in any way or puncture the cells.
- **NEVER** discharge below 2.7V per cell.
- **NEVER** place the battery or charger on combustible materials or leave it unattended during charge or discharge.
- **ALWAYS** KEEP OUT OF THE REACH OF CHILDREN.
- **NEVER** charge the battery in the plane.
- **ALWAYS** remove the battery from the plane after a crash. Set it aside in a safe location for at least 20 minutes. If the battery is damaged in the crash it could catch fire.
- If the battery starts to swell, quickly move the battery to a safe location, preferably outside. Place it in a bucket, covering the battery with sand. Never use water to try and put out a LiPo fire.

AMA SAFETY CODE (excerpts)

Read and abide by the following excerpts from the Academy of Model Aeronautics Safety Code. For the complete Safety Code refer to Model Aviation magazine, the AMA web site or the Code that came with your AMA license.

General

- 1) I will not fly my model aircraft in sanctioned events, air shows, or model flying demonstrations until it has been proven to be airworthy by having been previously, successfully flight tested.
- 2) I will not fly my model aircraft higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give right-of-way and avoid flying in the proximity of full-scale aircraft. Where necessary, an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full-scale aircraft.
- 3) Where established, I will abide by the safety rules for the flying site I use, and I will not willfully and deliberately fly my models in a careless, reckless and/or dangerous manner.
- 5) I will not fly my model unless it is identified with my name and address or AMA number, on or in the model. Note: This does not apply to models while being flown indoors.
- 7) I will not operate models with pyrotechnics (any device that explodes, burns, or propels a projectile of any kind).

Radio Control

- 1) I will have completed a successful radio equipment ground check before the first flight of a new or repaired model.
- 2) I will not fly my model aircraft in the presence of spectators until I become a qualified flier, unless assisted by an experienced helper.

3) At all flying sites a straight or curved line(s) must be established in front of which all flying takes place with the other side for spectators. Only personnel involved with flying the aircraft are allowed at or in the front of the flight line. Intentional flying behind the flight line is prohibited.

4) I will operate my model using only radio control frequencies currently allowed by the Federal Communications Commission.

5) **I will not knowingly operate my model within three miles of any pre-existing flying site except in accordance with the frequency sharing agreement listed [in the complete AMA Safety Code].**

9) Under no circumstances may a pilot or other person touch a powered model in flight; **nor should any part of the model other than the landing gear, intentionally touch the ground, except while landing.**

FLYING

The Escapade MX 30cc ARF is a great-flying sport model that flies smoothly and predictably. However, it does not possess the self-recovery characteristics of a primary R/C trainer and should be flown only by experienced R/C pilots.

Fuel Mixture Adjustments

A fully cowed engine may run at a higher temperature than an un-cowed engine. For this reason, the fuel mixture should be richened so the engine runs at about 200 rpm below peak speed. By running the engine slightly rich, you will help prevent dead-stick landings caused by overheating.

CAUTION (THIS APPLIES TO ALL R/C AIRPLANES):

If, while flying, you notice an alarming or unusual sound such as a low-pitched "buzz," this may indicate control surface flutter. Flutter occurs when a control surface (such as an aileron or elevator) or a flying surface (such as a wing or stab) rapidly vibrates up and down (thus causing the noise). In extreme cases, if not detected immediately, flutter can actually cause the control surface to detach or the flying surface to fail, thus causing loss of control followed by an impending crash. If flutter is detected, slow the model **immediately** and land as soon as safely possible. Identify which surface fluttered (so the problem may be resolved) by checking all the servo grommets for deterioration or signs of vibration. Make certain all pushrod linkages are secure and free of play. If it fluttered once, under similar circumstances it will probably flutter again unless the problem is fixed. Some things which can cause flutter are; Excessive hinge gap; Not mounting control horns solidly; Poor fit of clevis pin in horn; Side-play of wire pushrods caused by large bends; Excessive free play in servo gears; Insecure servo mounting; and one of the most prevalent causes of flutter; Flying an over-powered model at excessive speeds.

Takeoff

Before taking off, see how the model handles on the ground by doing a few practice runs at **low speeds** on the runway. Hold “up” elevator to keep the tail wheel on the ground. If necessary, adjust the tail wheel so the model will roll straight down the runway.

Remember to takeoff into the wind. When you’re ready, point the model straight down the runway, hold a bit of up elevator to keep the tail on the ground to maintain tail wheel steering, then gradually advance the throttle. As the model gains speed, decrease up elevator allowing the tail to come off the ground. One of the most important things to remember with a tail dragger is to always be ready to apply **right** rudder to counteract engine torque. Gain as much speed as your runway and flying site will practically allow before gently applying up elevator, lifting the model into the air. At this moment it is likely that you will need to apply more right rudder to counteract engine torque. Be smooth on the elevator stick, allowing the model to establish a **gentle** climb to a safe altitude before turning into the traffic pattern.

Flight

It is a good idea to have an assistant on the flight line with you to keep an eye on other traffic. Take it easy with the Escapade MX 30cc ARF for the first few flights, gradually getting acquainted with it as you gain confidence. Adjust the trims to maintain straight and level flight. After flying around for a while, and while still at a safe altitude with plenty of fuel, practice slow flight and execute practice landing approaches by reducing the throttle and lowering the flaps to see how the model handles at slower speeds. Add power to see how she climbs as well. Continue to fly around, executing various maneuvers and making mental notes of what trim or C.G. changes may be required to fine tune the model so it flies the way you like. Mind your fuel level, but use this first flight to become familiar with your model before landing.

Landing

The Escapade MX 30cc lands similar to a .60 size sport plane. It does not require flaps to land, but the flaps will allow the plane to land slower and is great practice for the pilot that has never used flaps. Flaps increase lift and drag, thus reducing rollout after touchdown (not as much of a factor on grass runways). To initiate a landing approach, lower the throttle while on the downwind leg. If using flaps, allow the model to slow before extending them. Continue to lose altitude, but maintain airspeed by keeping the nose down as you turn onto the crosswind leg. Make your final turn toward the runway (into the wind) keeping the nose down to maintain airspeed and control. If using flaps, keep a few additional “clicks” of power so the model doesn’t slow too much. Level the attitude when the model reaches the runway threshold, modulating the throttle as necessary to maintain your glide path and airspeed. If you are going to overshoot, smoothly advance the throttle (always ready on the right rudder to counteract torque) and retract the flaps when enough airspeed is gained.

Climb out to make another attempt. When the model is a foot or so off the deck, smoothly increase up elevator until it gently touches down. Once the model is on the runway and has lost flying speed, hold up elevator to place the tail on the ground, regaining tail wheel control.

NOTE: If ever the occasion arises when a dead-stick landing must be performed, do not extend the flaps until **certain** the model will be able to reach the landing zone (on dead-stick landings it is common to land with no flaps at all). Without engine power, flaps can unexpectedly reduce the model’s range, thus causing you to come up short of the field.

FINAL NOTE: Have a goal or flight plan in mind each time you fly. This may be learning or improving a maneuver or learning how the model behaves at certain speeds and control rates. Every maneuver should be deliberate, not impulsive. A flight plan reduces the chances of crashing your model because of poor planning and impulsive moves.

Have a ball! But always stay in control and fly in a safe manner.

GOOD LUCK AND GREAT FLYING!

Fill in your battery type, voltage and capacity. Then tape this chart to bottom of canopy hatch for reference:

	HIGH RATE	LOW RATE
ELEVATOR <i>Up/Down</i>	7/8" [22mm] 13°	5/8" [16mm] 9°
RUDDER <i>Left/Right</i>	2" [51mm] 19°	1-3/4" [44mm] 17°
AILERON <i>Up/Down</i>	3/4" [19mm] 17°	1/2" [13mm] 12°
FLAP <i>Down</i>	7/8" [22mm] 20° 5/8" [8mm] elevator mixed with flap	
C.G.	Forward 4-7/16" [113mm] <i>from leading edge</i> Aft 5-1/8" [130mm] <i>from leading edge</i>	
RECEIVER BATTERY _____		
MOTOR BATTERY _____		
IGNITION BATTERY _____		

This model belongs to:

Name

Address

City, State, Zip

Phone Number

AMA Number

