

Monster Pitts

Electric ARF



WARNING

A radio-controlled model is not a toy and is not intended for persons under 16 years old. Keep this kit out of the reach of younger children, as it contains parts that could be dangerous. A radio-controlled model is capable of causing serious bodily injury and property damage. It is the buyer's responsibility to assemble this aircraft correctly and to properly install the motor, radio, and all other equipment. Test and fly the finished model only in the presence and with the assistance of another experienced R/C flyer. The model must always be operated and flown using great care and common sense, as well as in accordance with the Safety Code of the Academy of Model Aeronautics (5151 Memorial Drive, Muncie, IN 47302, 1-800-435-9262). We suggest you join the AMA and become properly insured prior to flying this model. Also, consult with the AMA or your local hobby dealer to find an experienced instructor in your area. Per the Federal Communications Commission, you are required to use only those radio frequencies specified "for Model Aircraft."

LIMITED WARRANTY

Carl Goldberg Products, Ltd. has inspected and certified the components of this aircraft. The company urges the buyer to perform his own inspection, prior to assembly, and to immediately request a replacement of any parts he believes to be defective for their intended use. The company warrants replacement of any such components, provided the buyer requests such replacement within a period of 30 days from the date of purchase and provided the defective part is returned, if so requested by the company.

No other warranty, expressed or implied, is made by the company with respect to this kit. The buyer acknowledges and understands that it is his responsibility to carefully assemble the finished flying model airplane and to fly it safely. The buyer hereby assumes full responsibility for the risk and all liability for personal or property damage or injury arising out of the buyer's use of the components of this kit.

CARL GOLDBERG PRODUCTS, LTD

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USING THIS INSTRUCTION MANUAL

Before you begin assembling your **Monster Pitts ARF**, take some time to read through this entire instruction book. It is designed to take you step-by-step through the process and to give you added information on motor and radio selection and set-up, balancing your aircraft, and flying your model. The time you spend will speed the assembly process and help you avoid problems.

PREPARING FOR ASSEMBLY

You will need a work area of approximately 24 x 48" which has been covered to protect it from adhesive, as well as cuts and other damage. Many people cover their work area with a sheet of dry wall (sheet rock) and/or waxed paper to prevent CA Glue and Epoxy from ruining the work surface.

CONSTRUCTION TIPS

IMPORTANT: ALWAYS READ A FEW STEPS AHEAD. This will alert you to coming instructions and will help you plan accordingly.

Using the Parts Identification section, familiarize yourself with the various items included in your kit box.

Do not hesitate to ask questions. Your local hobby dealer and area flyers will most likely be happy to help, as they want you to have a successful flying experience.

You may also receive technical assistance from Carl Goldberg Products, Ltd. via e-mail (questions@carlgoldberg-products.com) or by telephone 1-678-450-0085.

ADHESIVES & GLUING TECHNIQUES

CA adhesives are specially formulated to firmly glue the plywood, hardwood, and balsa used in your model and to withstand the vibration and stresses of high performance flight. However, there are times, such as when you are installing the stabilizer and fin on the fuselage and want more set-up time for careful alignment and positioning, then you should use epoxy. Occasionally, you also will want to use thin CA, which "wicks" into the surrounding areas. Aliphatic resin glue or similar water-based glues can also be used, but they will add to the assembly time because they dry so much more slowly than CA glue. Remember, when ever using any CA, you must be careful to read instructions thoroughly, as you will have only seconds for positioning of parts. Be sure to trial fit parts together before gluing. Also, never use watery THIN type CA glue for gluing plywood and hardwood parts. Thin CA's do not adequately bond these areas.

CAUTION

Some people may experience an allergic reaction when exposed to fumes from CA glue or epoxy. As with paints, thinners, and solvents, it is always important to use glues only where there is adequate ventilation to carry fumes away. A fan is recommended. Also, special care must be taken when using CA, as it will bond skin as well as other surfaces. Before using any CA, carefully read all label precautions. When using CA, protective eye-wear and care in keeping the glue away from the face is highly recommended. If CA does happen to get into the eye, hold lid open and flush with water only. Seek immediate medical attention.

COVERING

The Monster Pitts ARF is covered in a premium polyester film chosen by many of the world's top flyers for its beauty, toughness, and ease of application and repair. It is not uncommon for ARF's to develop a few wrinkles in transit. If this is true of your model, the situation is easily corrected. Before you begin putting the pieces together, run around the edge of the seams first then over the surface of each section with an iron (either specially designed for airplane use or the more cumbersome household iron). Apply the heat (set at about 350° F), following along with a soft cloth and pressing down on the covering as you go around. This will more firmly set the covering adhesive into the wood and keep your aircraft covering tight and smooth in the future. Once you have ironed the seams stay away from them with the heat or the covering will slide when you try to shrink the middle. If this happens the wrinkles will not come out of the covering.

One of the great advantages of polyester film is that it can be applied over itself without causing gas bubbles. This allows you to repair your aircraft, as well as to customize it in a number of ways. If, due to a flight mishap, you get a hole or similar covering damage, simply trim away the ragged edges and then apply a patch, following the directions that come with your covering, which is available at your hobby dealer.

The Monster Pitts covering can be matched using

Oracover White 870

Oracover Blue 873

Oracover Red 883

Caution:

Before starting, carefully go over all high stress areas (Wing bolt mounting blocks, Firewall, etc.) with an epoxy or wood glue to confirm all areas are well glued.

ITEMS NEEDED TO COMPLETE THIS AIRCRAFT

- ☐ 1 RADIO GUIDANCE SYSTEM (4 CHANNEL MINIMUM REQUIRED WITH 4 SERVOS)
- ☐ 1 6" SERVO "Y" HARNESS
- ☐ 2 6" SERVO EXTENSION
- ☐ 1 ULTRA SET CA ACCELERATOR
- ☐ 1 ULTRA SET 1 OZ. BOTTLE CA MEDIUM GLUE
- ☐ 1 ULTRA SET 1/2 OZ. BOTTLE CA THIN GLUE
- ☐ 1 ULTRA SET 5 MINUTE EPOXY
- ☐ 1 1/4" FOAM RUBBER
- ☐ 1 MOTOR (AXI 2820 USE ON PROTOTYPE)
- ☐ 1 BATTERY (TW-3300XP-3S 3300 MAH LI-POLY FROM HOBBY LOBBY USED IN PROTOTYPE)
- ☐ 1 PROP (11 X 5.5 APC USED)
- ☐ 1 SPINNER (1-3/4" GOLDBERG USED)
- ☐ 1 SPEED CONTROL

TOOLS AND SUPPLIES FOR ASSEMBLY.

- ☐ MODELING OR UTILITY KNIFE
- ☐ WORK SURFACE (24" X48")
- ☐ SMALL STANDARD & PHILLIPS SCREW-DRIVERS
- ☐ MASKING TAPE
- ☐ NEEDLE NOSE PLIERS
- ☐ 24" RULER
- ☐ FLEXIBLE STRAIGHT-EDGE
- ☐ 30-60-90° x 6" TRIANGLE
- ☐ SOFT PENCIL
- ☐ A FEW STRAIGHT OR "T" PINS
- ☐ WIRE CUTTER (DYKES)
- ☐ OPTIONAL HEAT GUN/COVERING IRON
- ☐ 5 FT. LENGTH OF STRING

Warnings about Lithium

Polymer batteries

NEVER charge Lithium Polymer batteries with a charger designed for NiCd, NiMH, or any other type of battery chemistry. Use ONLY the chargers listed under REQUIRES or equivalent substitutes.

Do not allow Li-Po cells to overheat at any time. Cells which reach greater than 140° Fahrenheit (60C) will usually become damaged and could catch fire.

Do not charge or discharge Li-Po cells on or near combustible materials including paper, plastic, carpets, vinyl, leather, wood, inside an R/C model or full size automobile.

Do not expose Li-Po cells to water or moisture at any time.

Do not store batteries near an open flame or heater.

Do not assemble Li-Po cells or pre-assembled packs together with other Li-Po cells or packs.

Do not allow a Li-Po battery to be left unattended during charging or discharging.

Always store Li-Po batteries in a secure location away from children.

Always remove a Li-Po battery if model is involved in any kind of crash. Carefully inspect the battery and connectors for even the smallest damage.

CAUTION, cells may be hot!

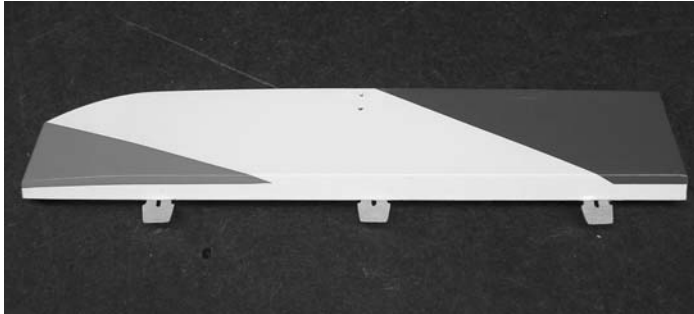
Do not allow the electrolyte to get into eyes or on skin. Wash affected areas immediately if they come into contact with electrolyte.

Wing

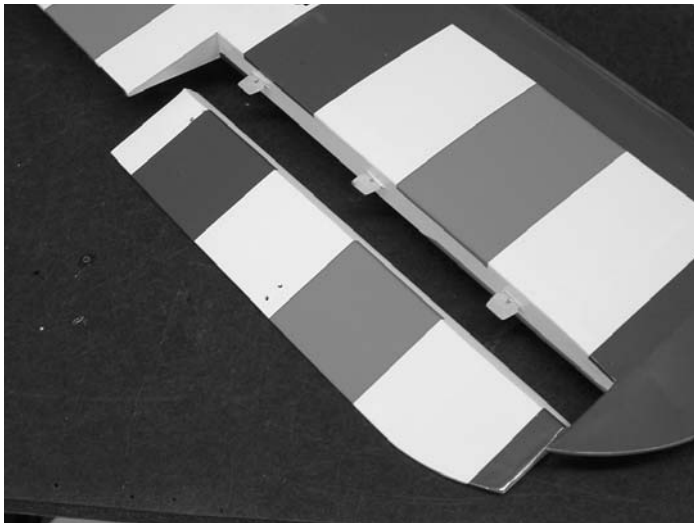
The wing for the Monster Pitts comes pre-assembled. All that is required to finish the wing is to glue the aileron hinges in place, install the aileron servos, control horns and attach the pushrods.



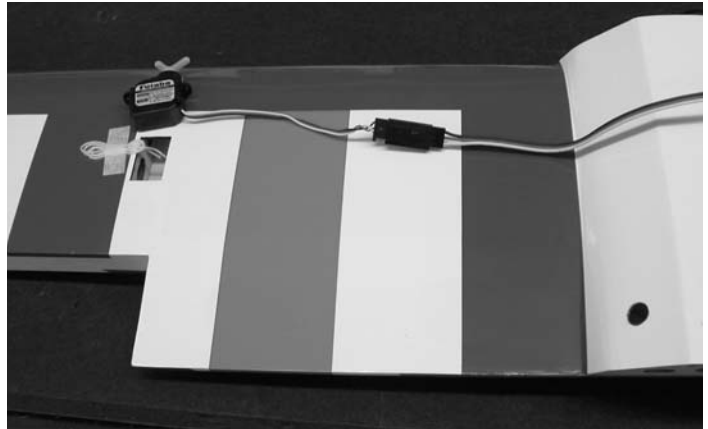
3. ☐ When satisfied with the fit, deflect the aileron to its full throw in one direction and apply a drop of thin Ultra Set CA glue. Turn the wing over and deflect the aileron in the opposite direction and apply a drop of glue on each hinge.



1. ☐ Collect the following parts:
 - (2) top wing ailerons
 - (2) two bottom wing ailerons
 - (12) ca hinges



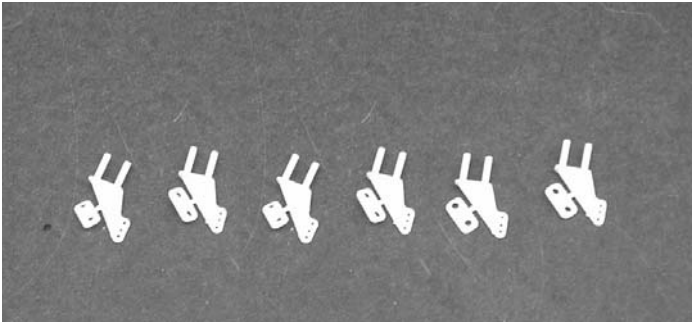
2. ☐ Prepare the aileron by trial fitting in place and making sure the hinges go half into the aileron and half into the aileron. Push the aileron tight against the trailing edge of the wing so there is no gap.



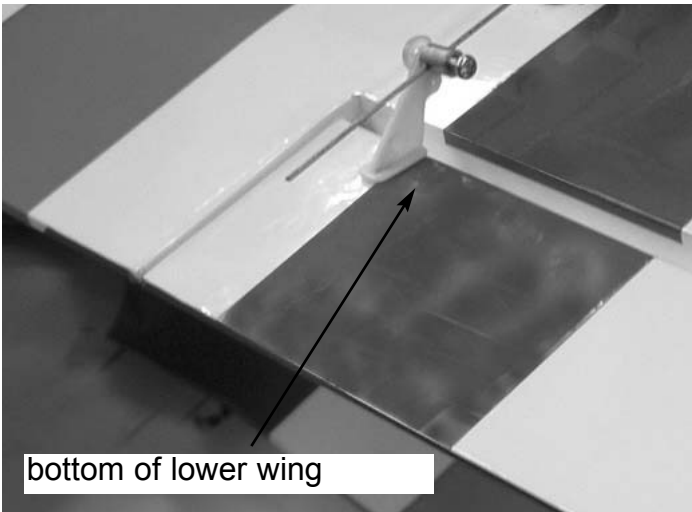
4. ☐ Attach a servo extension to the servo. Depending on the servo you use a 6" will probably be long enough. Use the string installed in the wing to pull the wire through the wing and exit into the center section hole.



5. ☐ Mount the servo using the hardware that came with the servo.



6. ☐ Locate 6 of the control horns.



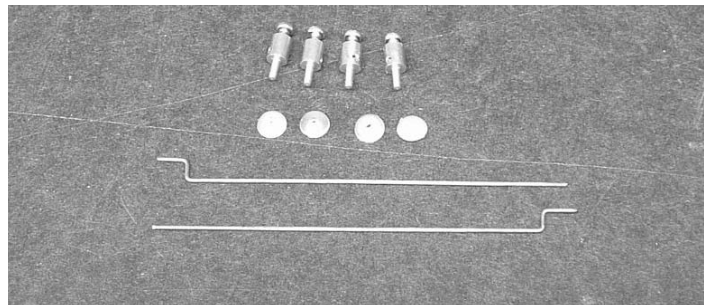
7. ☐ Install the control horns into the pre-drilled holes in the ailerons. Install one horn on the bottom of the lower wing aileron at the leading edge. This horn will point forward like a normal horn. This horn does not get a plate on top



8. ☐ Install another horn on the top of the lower wing aileron at the trailing edge. This horn will point to the rear. Install a plate on the top side.



9. ☐ Install another horn on the top wing aileron on the bottom side at the trailing edge. This horn will also point to the rear. Install a plate on the top side. Glue all in place with Ultra Set thin CA.



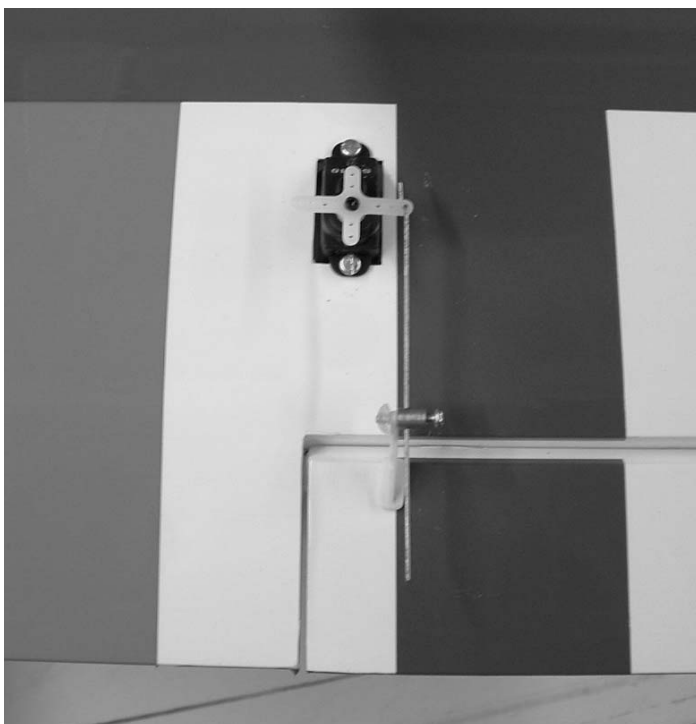
10. ☐ Locate the four servo connectors and the two 1/32" x 3" pushrods



10. ☐ Drill a 1/16" in the outer most hole of the four control horns on the bottom wing and install one of the servo connectors.

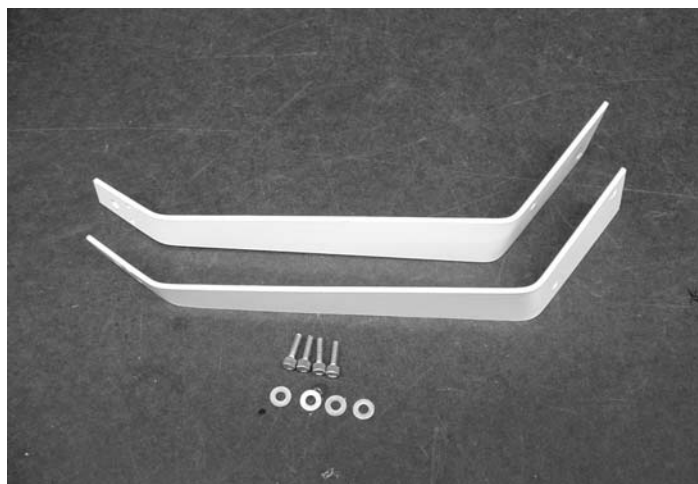
Caution:

Make sure the nylon nut is pushed all the way onto the pushrod connector.

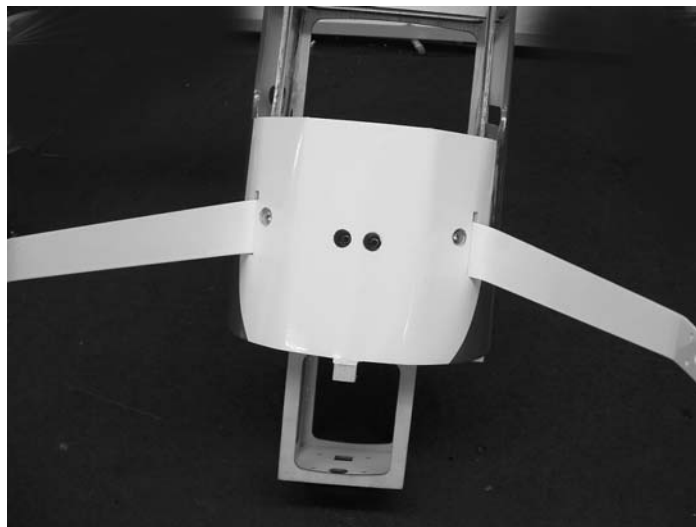


11. ☐ Center your servo with the radio and install the z-bend into the servo arm. Put the other end into the servo connector and center the aileron. Tighten the set screw.
12. ☐ Repeat for the other aileron.

Landing Gear

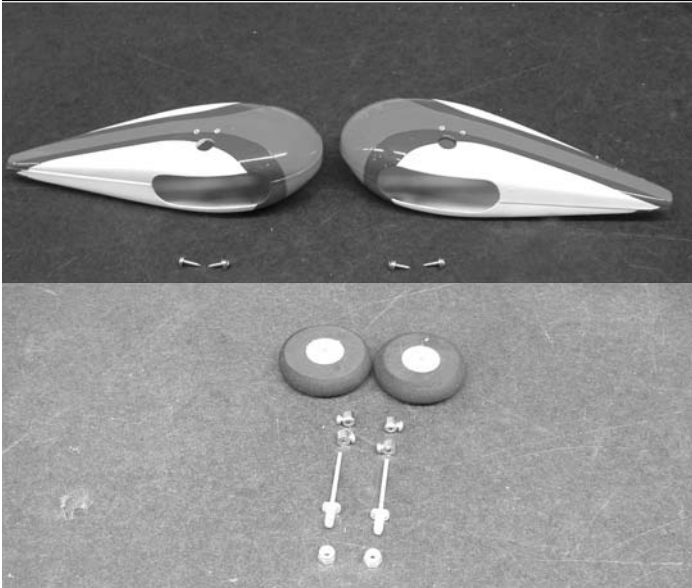


1. ☐ Collect the following items.
- (1) Main landing gear
 - (4) 4-40 x 1/2" bolts
 - (4) flat washers



1. ☐ Install the gear in the slots on each side of the fuselage and align the holes. Install the four 4-40 bolts with flat washer into the blind nuts that are pre-install in the fuselage. Be careful and don't press too hard trying to get the screw started or you could push the blind nut out of the hole. Be sure to use lock-tite on the bolts.

Wheel Pants



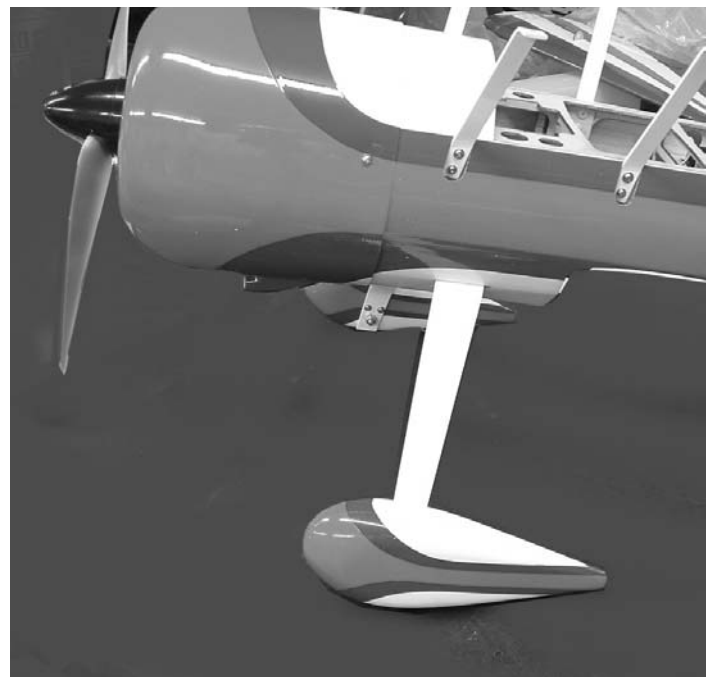
1. ☐ Collect the following items.
 - (2) wheel pants
 - (4) #2 x 1/4" screws
 - (2) axles
 - (2) axle nuts
 - (4) wheel collars



2. ☐ Install the axle in the gear leg and secure with locking nut on the back side.



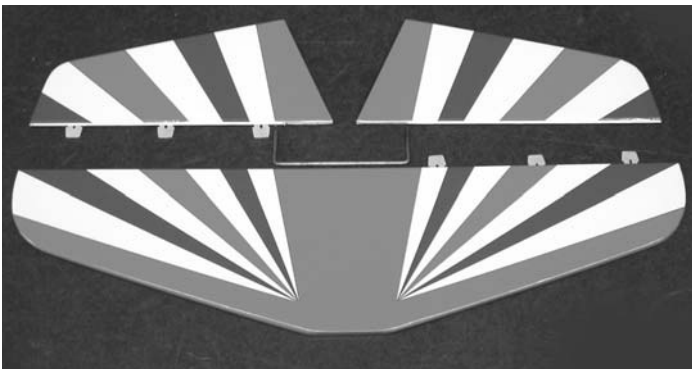
3. ☐ Slide the wheel pant over the axle with the wheel inside. Fit the outer wheel collar in place through the wheel opening. The large hole on the inside of the wheel pant should fit over the flange on the axle so the wheel pant is flush against the landing gear leg.



4. ☐ Install the two #2 x 1/4" screws through the landing gear leg into the wheel pants.

Stabilizer and Fin Mounting

1. ☐ Collect the following items.
 - (1) stabilizer
 - (1) right elevator
 - (1) left elevator
 - (1) fuselage
 - (1) wing
 - (1) wing bolts 6-32 x 1-1/4"
 - (1) elevator joiner wire
 - (6) CA hinges



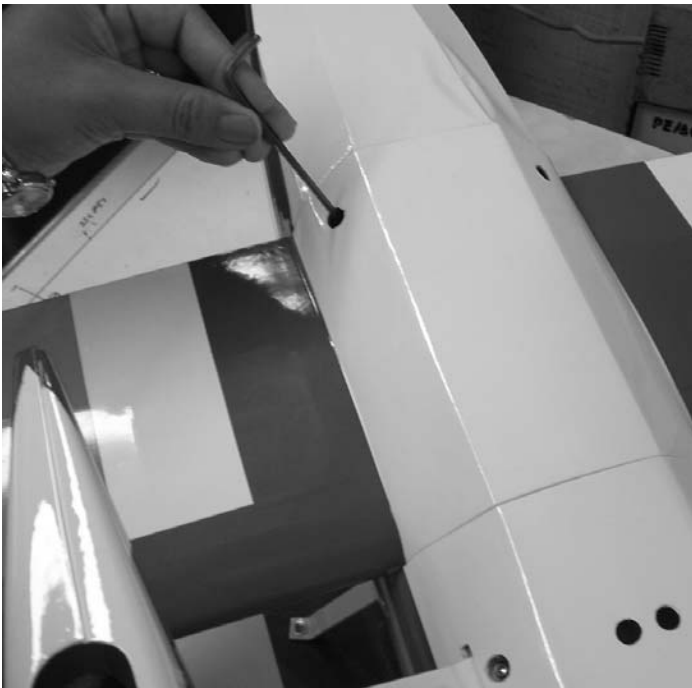
Caution:
install the elevator joiner wire first.



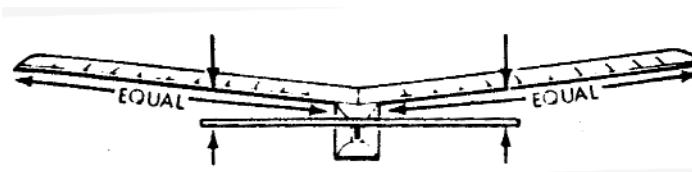
2. ☐ Slide the elevator joiner wire into the slot for the stab. You cannot install it after the stab is in place without cutting the fuselage.



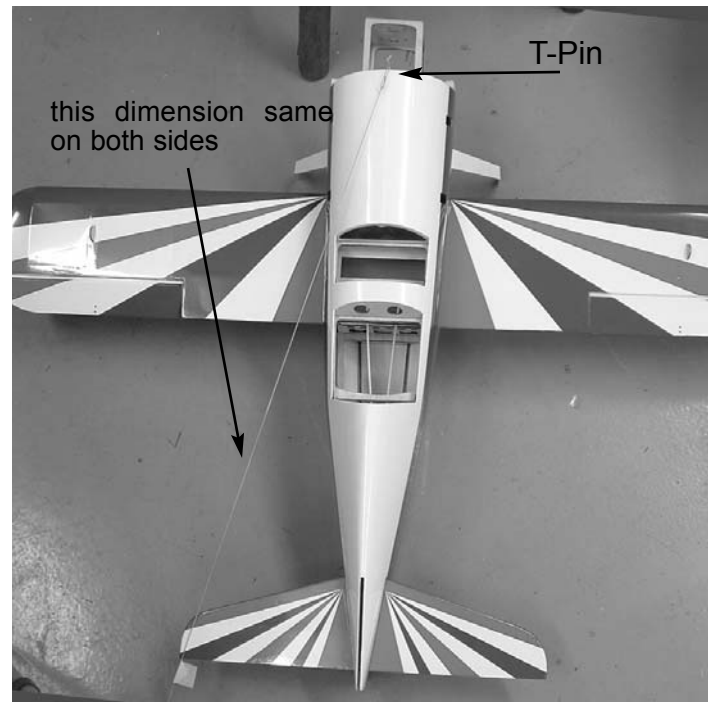
3. ☐ Slide the stab into the precut slot in the fuselage. Measure each side at the trailing edge to make sure it is centered.



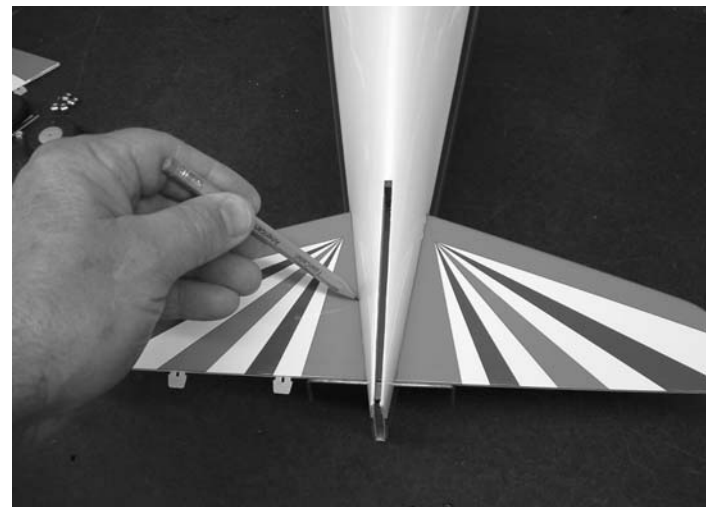
4. ☐ Bolt the wing in place using the 6-32 x 1-1/4" socket head screw.



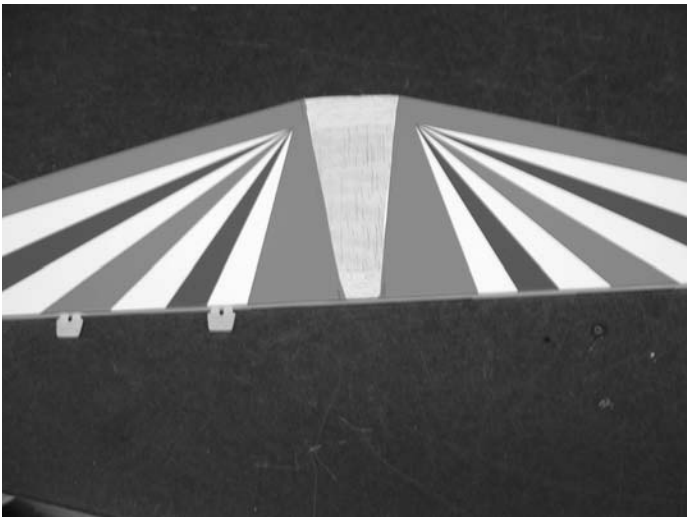
5. ☐ Sight the stab from the rear and make sure that it is parallel with the wing. If required, remove a small amount of material from the stab saddle to make the stab align with the wing.



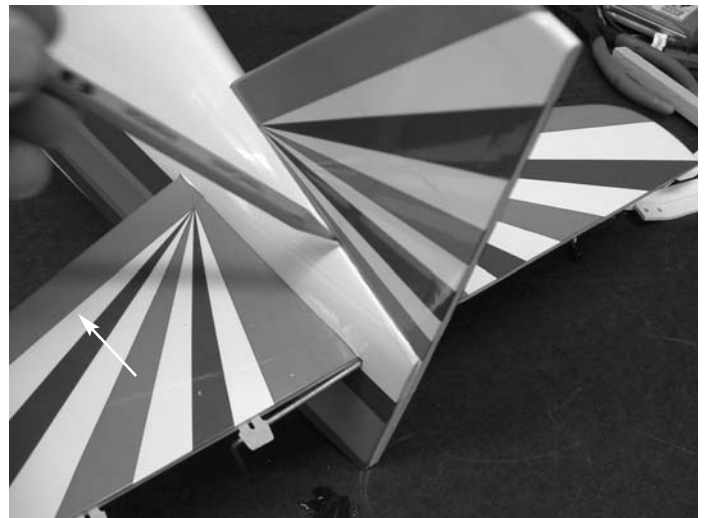
6. ☐ Insert a t-pin in the top of the fuselage in the center at the firewall. Tie the string to the t-pin and measure to the tip of the stab. Put a piece of masking tape on the string where it crosses the tip.. Swing the string over to the other side and make sure the dimension is the same on both sides. When you have this the same the stab will be square with the fuselage.



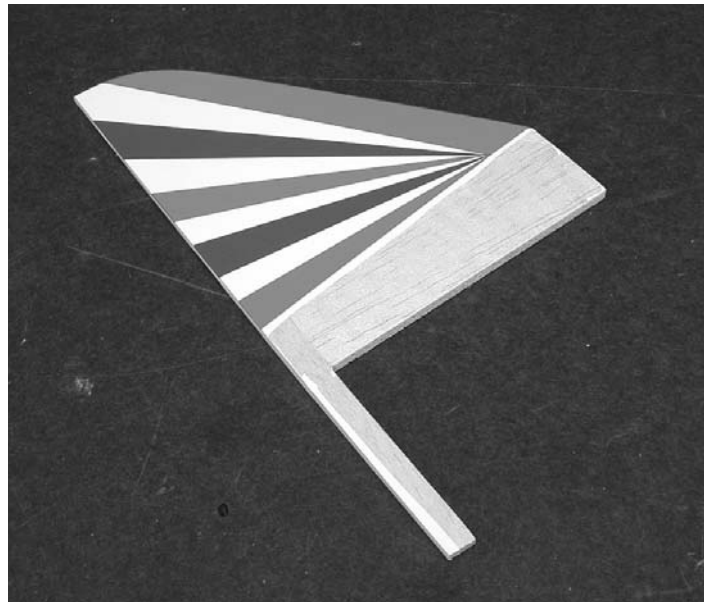
7. ☐ When satisfied with the alignment, make a line top and bottom and on both sides of the stab where it meets the fuselage.



8. ☐ Remove the stab and carefully cut the covering about 1/8" inside the mark you made. Be careful not to cut into the wood as this will weaken the stab. Remove the covering both top and bottom.
9. ☐ Reinstall the stab in the fuselage using the marks to realign. When satisfied with the fit, glue in place using Ultra Set 30 minute epoxy. Apply a thin film and slide into place. Use alcohol to clean the excess epoxy.

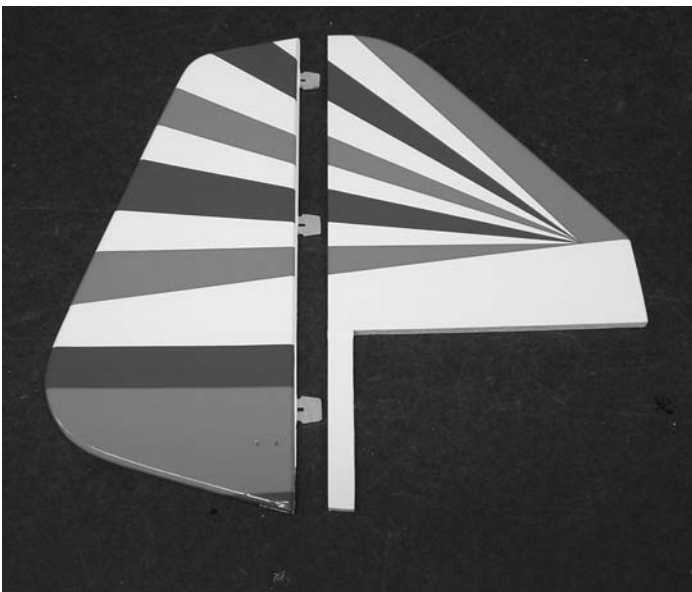


11. ☐ Install the fin in the slot and mark both side where it meets the fuselage.



12. ☐ Remove the covering cutting about 1/8" inside your marks. Be careful not to cut into the wood. Remove on both sides.

13. ☐ Re-install the fin and glue in place using Ultra Set epoxy.

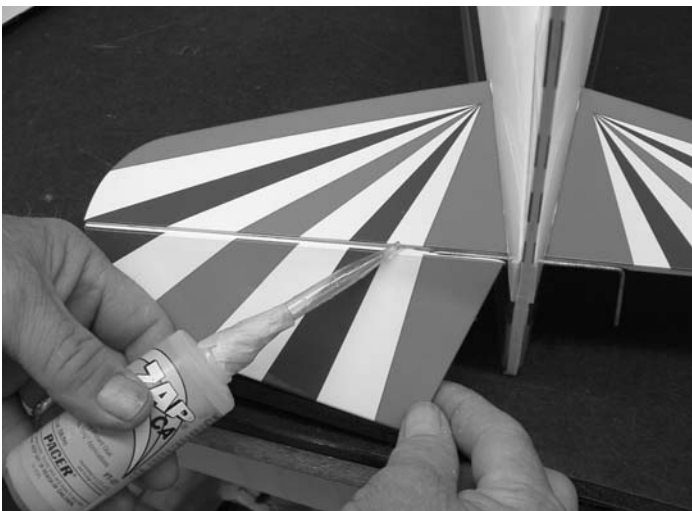


10. ☐ Locate the fin and rudder and three CA hinges.

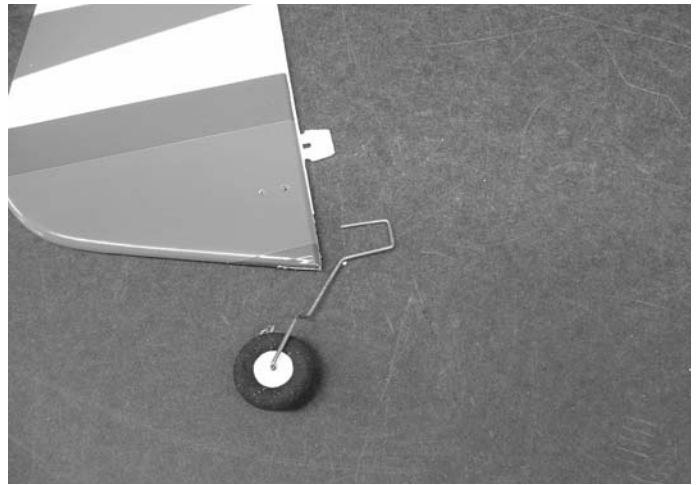
Elevators and Rudder Mounting



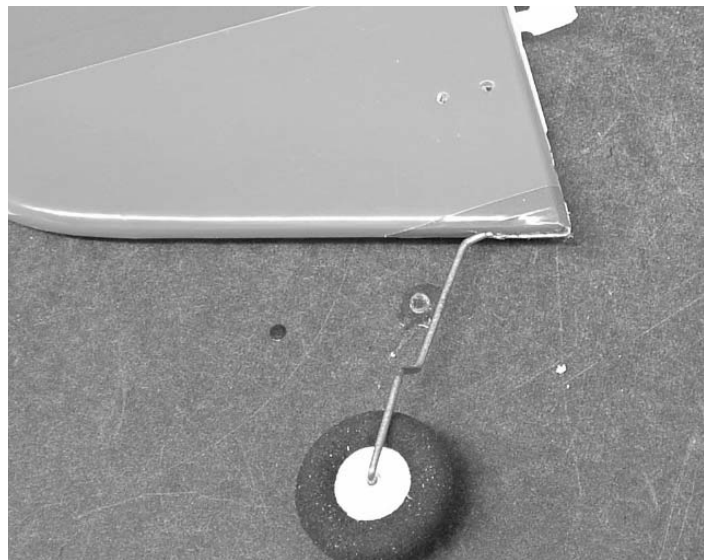
1. ☐ Install both elevator halves on the elevator joiner wire and hinges and check the alignment. Both should be level. If not bend the joiner wire till they match.
2. ☐ Remove the elevators and put some epoxy glue into the holes where the elevator joiner wire fits. Reinstall the elevators.



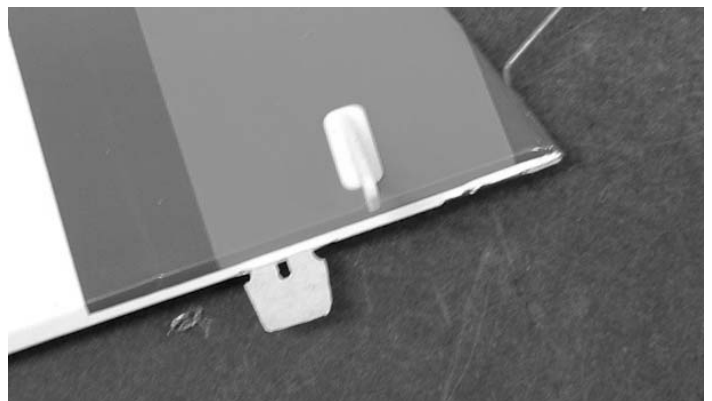
3. ☐ Deflect the elevator to it full travel in one direction and make sure to hold the elevator firmly against the trailing edge of the stab. Apply a drop of Ultra Set thin CA to each hinge. Turn the plane over and deflect the elevator in the other direction and apply a drop of glue to each hinge.



4. ☐ Locate the rudder and tail wheel assembly.



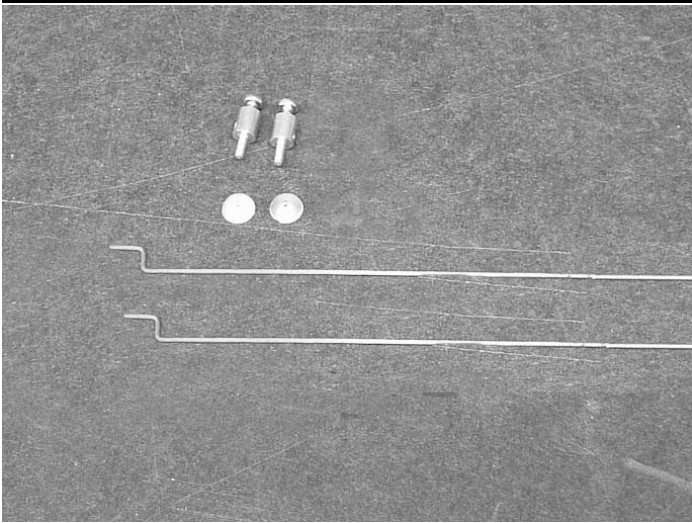
5. ☐ Glue the wire into the slot in the bottom of the rudder using epoxy.



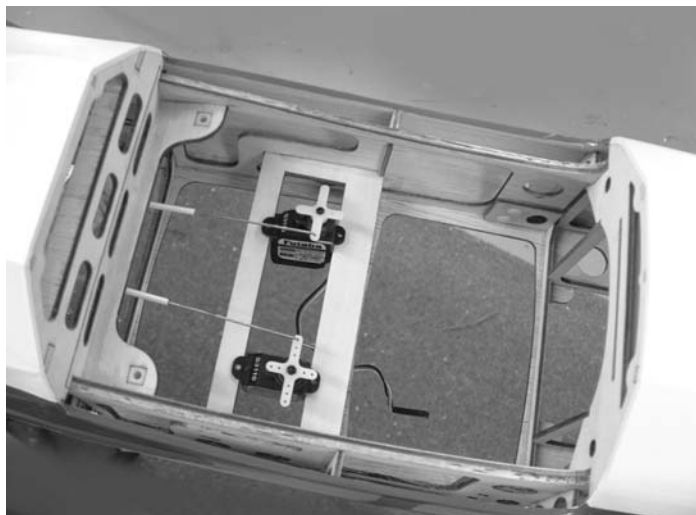
6. ☐ Install one of the control horns on the left side of the rudder in the holes provided. Install the plate on the opposite side and glue in place with Ultra Set thin CA.

7. ☐ Install the rudder on the hinges as we did with the elevators and aileron. Move rudder fully in one direction and make sure to hold it tight against the fin. Apply Ultra Set thin CA to each hinge. Move the rudder in the other direction and apply glue to the hinges on the other side.
8. ☐ Install the elevator control horn on the right elevator in the holes provided.

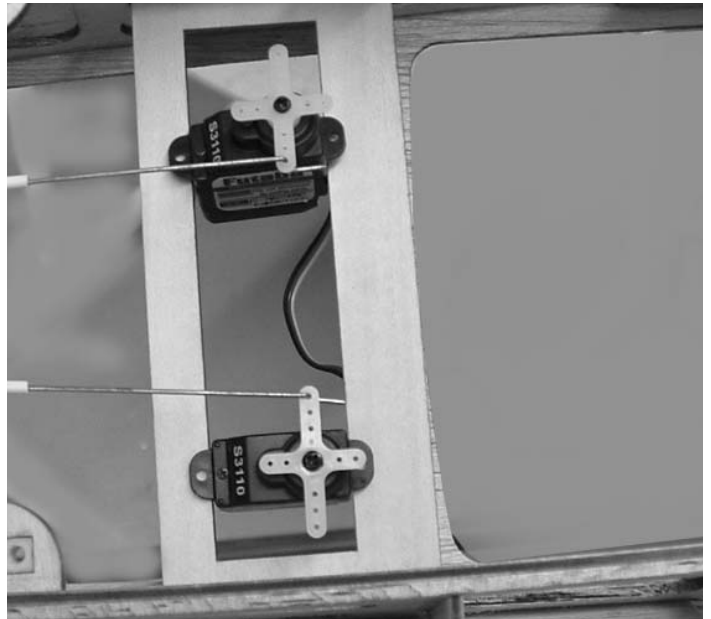
Servo Installation



1. ☐ Collect the following items:
 - ☐ (2) servos with hardware(not supplied)
 - ☐ (2) 1/32" x 24"
 - ☐ (2) pushrod connectors



1. ☐ Center your servo with the control arm in place and insert the z-bend on the pushrod into the output arm.
2. ☐ Slide the other end of the pushrod into the guide tube installed in the fuselage and fit the servos into the opening provided.
3. ☐ Let the pushrod and servo arm align the servo in the opening so there will be no bending of the pushrod between the servo arm and the guide tub.



4. ☐ Drill a 1/16" hole through the servo mounts and use the hardware supplied with the servo to mount.

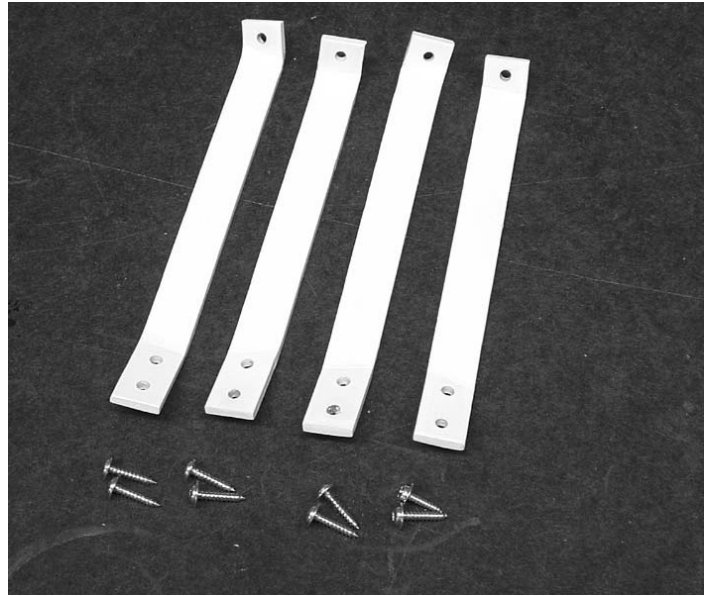


5. ☐ Drill the outer hole on the control horn with a 1/16" drill and install one of the pushrod connectors.
6. ☐ Put the pushrod through the hole in the servo connector, center both the rudder and servo, and tightened the set screw on the pushrod connector.

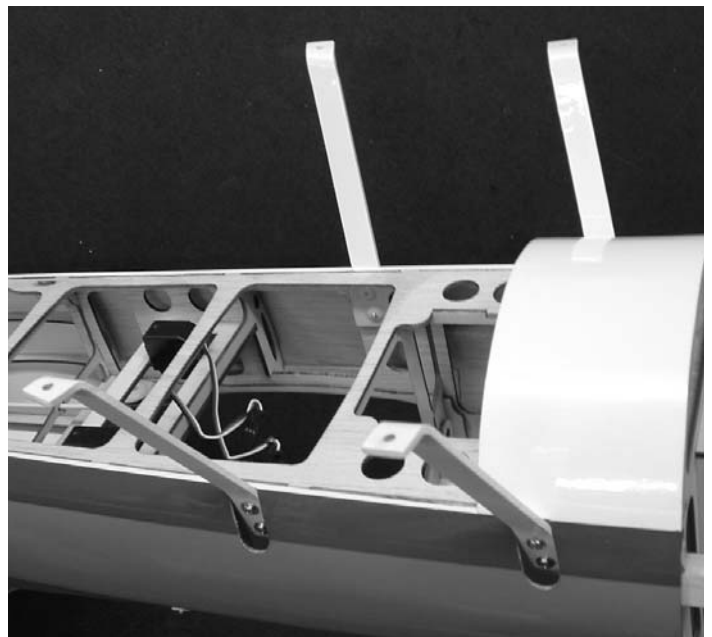


7. ☐ Repeat the procedure for the elevator pushrod on the other side.

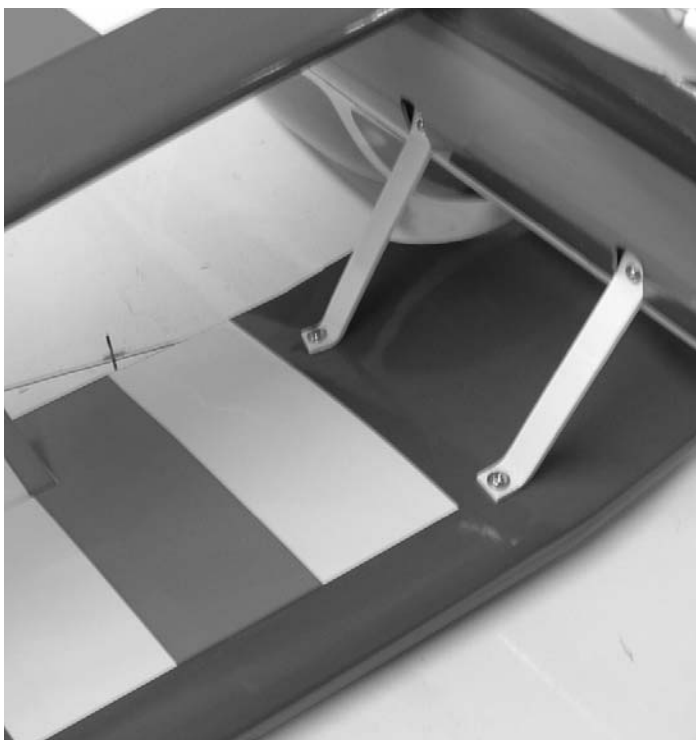
CABANE STRUTS



1. ☐ Collect the following items:
 - ☐ (2) front struts (shorter ones)
 - ☐ (2) rear struts (longer ones)
 - ☐ (8) #2 x 3/8" screws



2. ☐ Identify the front and rear struts. The rear are longer than the front. Identify the left and right of both front and rear. When on the proper side of the fuselage, the strut will lean to the rear of the plane.
3. ☐ Screw the struts in place in the pre-made holes on each side of the fuselage using the #2 screws.



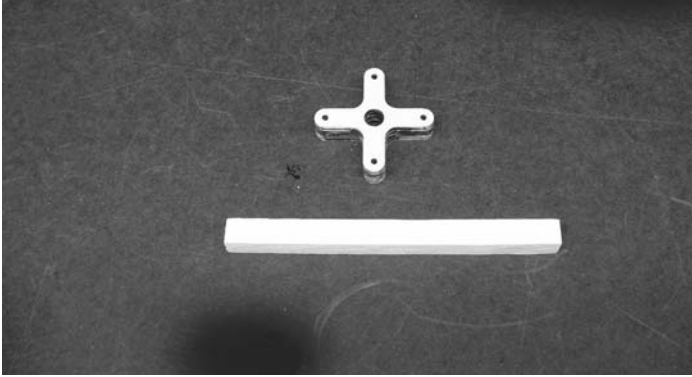
4. ☐ Locate the four dimples in the bottom of the top wing that locate the cabane struts. Drill a 1/16" hole at each location being careful not to drill all the way through to the top of the wing. Lay the wing down upside down and fit the fuselage in place with the holes in the cabanes aligned over the dimples.
5. ☐ Install the four #4 x 1/2" screws to secure the top wing.
6. ☐ Reinstall the bottom wing.

7. ☐ Fit I-Struts in placed and install the #2 x 1/2" screws.

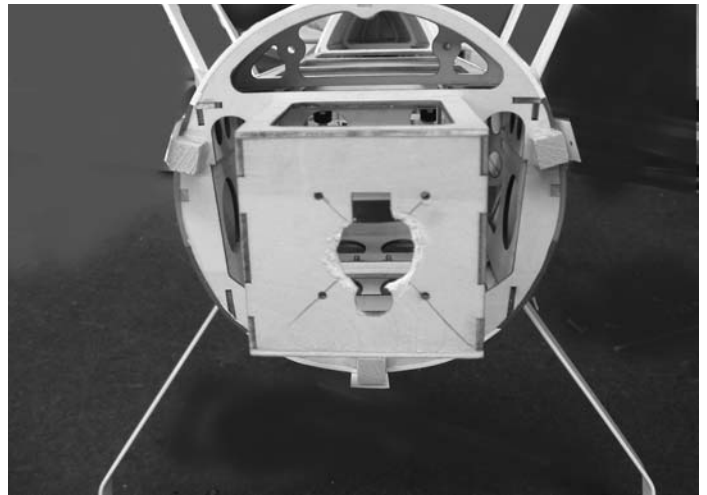


8. ☐ Fit the z-bend on the aileron pushrod into the top aileron control horn. Fit bottom end into pushrod connector in bottom wing.
9. ☐ Center both top and bottom aileron and tighten set screw in pushrod connector.

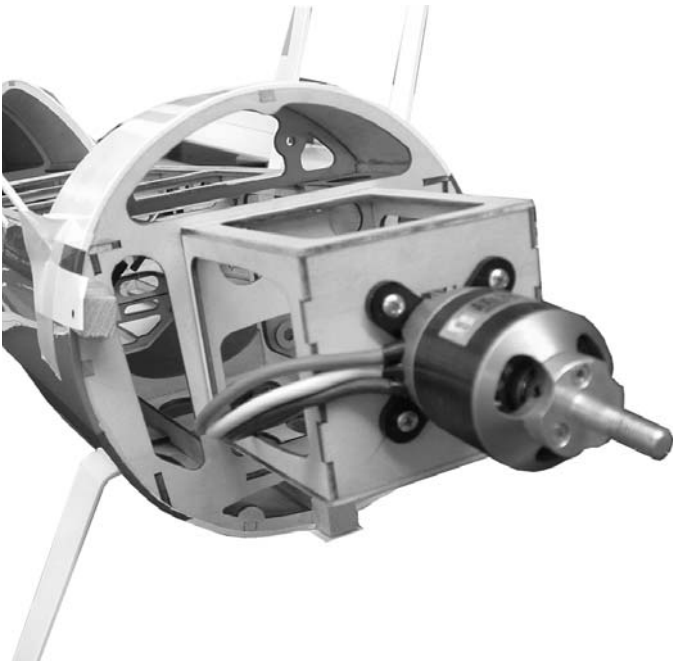
Motor Mounting



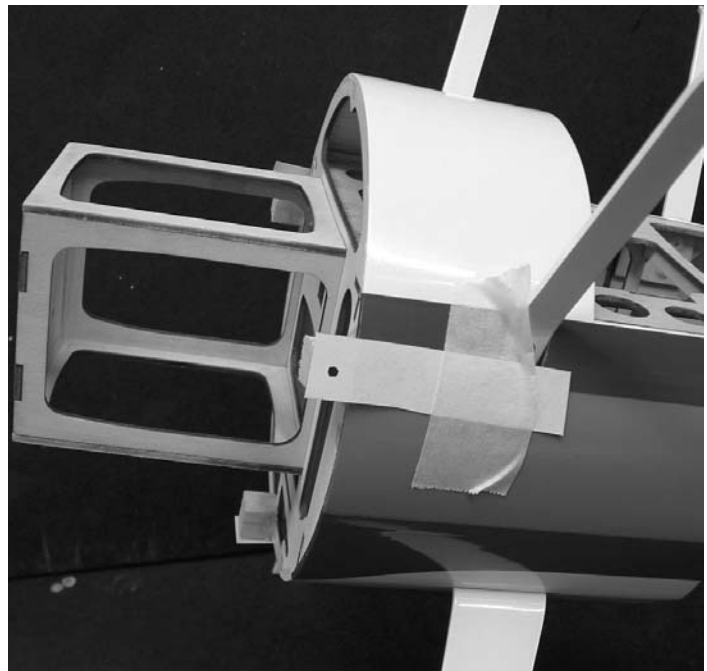
1. ☐ Because there are so many different styles and types of motors it is impossible to cover them all. The kit comes with a 3/8" square motor mount to use with the beam type gear boxes, and a spacer for use with some of the axial motors. Your installation may vary.



4. ☐ This motor required the center of the firewall to be opened up to allow the rear shaft to pass through the firewall.
5. ☐ Route the wires from the motor back into the fuselage through the opening in the side of the motor box.



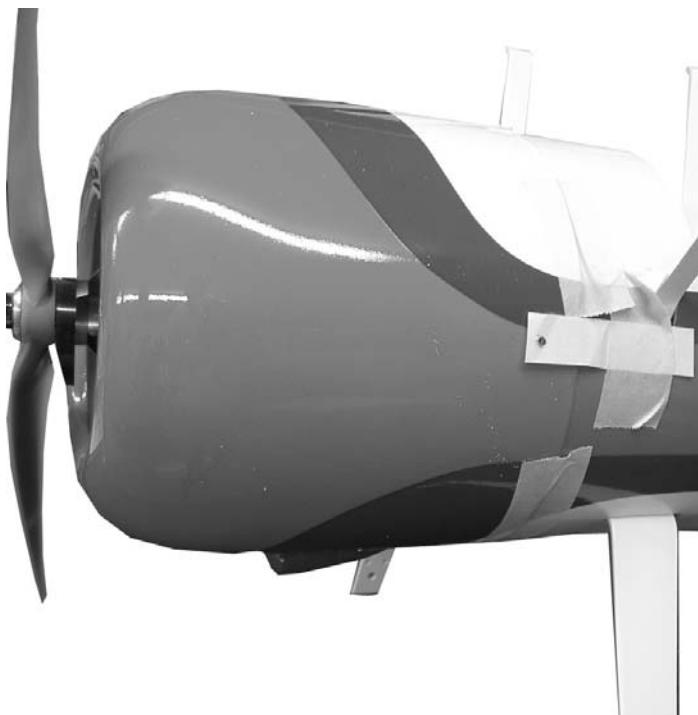
2. ☐ Our installation will show the AXI 2820 motor installed.
3. ☐ Center the motor on the firewall and mark the location of the mounting holes.



6. ☐ Take a scrap of paper and tape to the side of the fuselage and make a mark over the center of the cowl mounting block. Do this on the other side and the bottom (three places).

Note:

Motor shown for reference only, not included in kit.

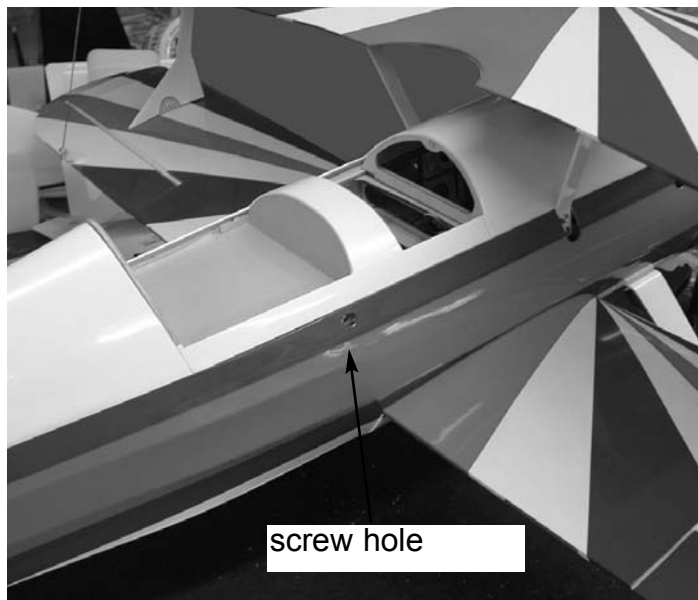


7. ☐ Slide the cowl in place over the front of the fuselage. It should overlap the front of the fuselage about 1/4".
8. ☐ Make sure the paper strips are on the outside of the cowl.
9. ☐ Align the stripes on the cowl with the stripes on the fuselage. Make sure cowl is straight with the top of the fuselage, not angled up or down. Check alignment left and right by looking down on the fuselage from the top. Use masking tape to hold the cowl in place.
10. ☐ When satisfied with the alignment, drill a 1/16" hole at the mark on the paper strip into the mounting block.
11. ☐ Remove the cowl and open the holes in the cowl with a 5/64" drill. Re-install the cowl and mount with three #2 x 3/8" screws.

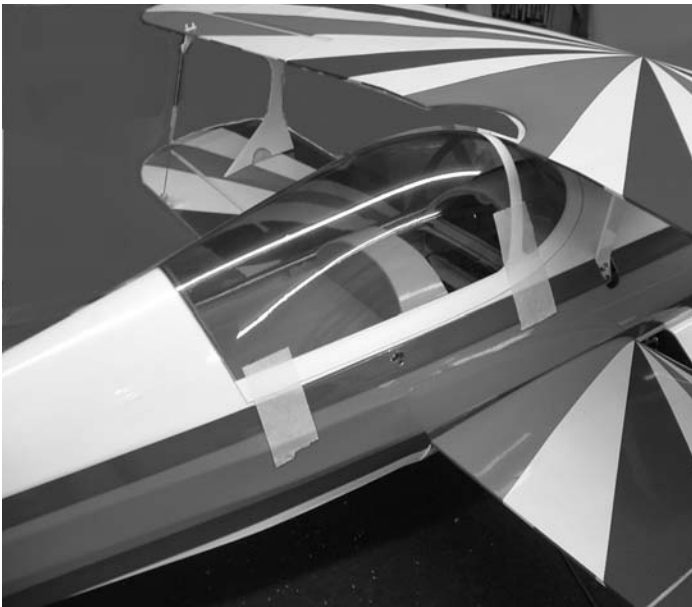
Canopy and Hatch



1. ☐ Collect the following items:
 - ☐ fuselage
 - ☐ hatch
 - ☐ canopy
 - ☐ (2) #2 x 3/8" screws



2. ☐ The hatch is held in place with two dowels on the front that fit into the bulkhead and two screws into the mounting holes on the side of the fuselage.

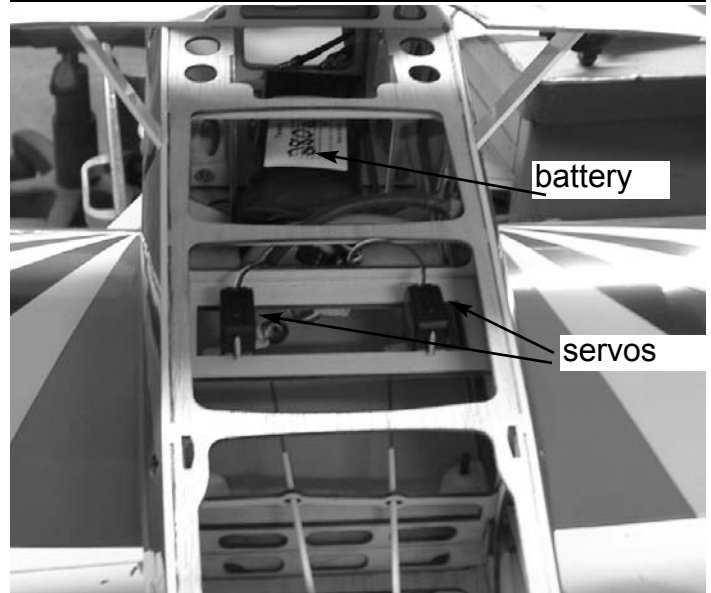


3. ☐ With the hatch mounted on the fuselage, apply a small bead of canopy glue to the inside edge of the canopy and tape in place on the hatch. Be careful around the turtle deck to make sure you don't glue the hatch to the fuselage.

Important:

Don't glue the canopy to the hatch without the hatch being installed on plane. If you glue it off the plane it might not fit when you try to install it.

Receiver-Battery Installation



1. ☐ The receiver can go just in front of the servos, the battery will fit just forward of the receiver and the speed control can go in the nose compartment.
- ☐ Important: The battery must have some sort of retainer over the top, Don't depend on the canopy to hold it in place.

CG and Control Throws

The CG should be 1" behind the leading edge of the bottom wing. Our model balanced and flew with no added weight set up as shown.

Notice:

The plane is very responsive with a high rate of roll, so be ready for snap-py performance. Do not fly on high rates on your first flight.

Elevator Low Rate 3/4" each way
High Rate All you can get

Ailerons Low Rate 3/8" each way
High Rate All you can get

Rudder Low Rate 1" each way
High Rate All you can get