Husky 400

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 10 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 **Husky 400 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.

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 **Husky 400** ARF is covered in a polyester film chosen 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.

ITEMS NEEDED TO COMPLETE THIS AIRCRAFT

- ☐ 1 5 CHANNEL RADIO WITH 6 MICRO SERVOS. (WE USED 6 CHANNEL **FUTABA** RADIO WITH S3108 SERVOS AND **GREAT PLANES** ELECTRICFLY RECEIVER W/O SPEED CONTROL)
- ☐ 2 12” SERVO EXTENSIONS
- ☐ 1 ELECTRONIC SPEED CONTROL (WE USED A **CASTLE CREATIONS** PHOENIX 25 BRUSHLESS SPEED CONTROL)
- ☐ 1 3 CELL LI-PO BATTERY (**GREAT PLANES** ELECTRICFLY 1500)
- ☐ 1 **ULTRAFLY** BRUSHLESS MOTOR A/30/29 WITH 3.89 GEAR RATIO
- ☐ 1 **GREAT PLANES** ELECTRIFLY PROP ADAPTER 3MM APC LONG
- ☐ 1 **APC** PROPELLER 9 X4.7 SLO FLYER
- ☐ 1 CA ACCELERATOR
- ☐ 1 1 OZ. BOTTLE CA MEDIUM GLUE
- ☐ 1 1/2 OZ. BOTTLE CA THIN GLUE
- ☐ 1 5 MINUET EPOXY
- ☐ 1 1/4” FOAM RUBBER
- ☐ 1 #2 X 1/4” SHEET METAL SCREW FOR MOTOR(MIGHT BE REQUIRED FOR SOME MOTOR INSTALLATIONS)

TOOLS AND SUPPLIES FOR ASSEMBLY.

- ☐ MODELING OR UTILITY KNIFE
- ☐ WORK SURFACE (24" X48")
- ☐ SMALL STANDARD & PHILLIPS SCREWDRIVERS
- ☐ 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
- ☐ ACID BRUSH
- ☐ 5 FT. LENGTH OF STRING

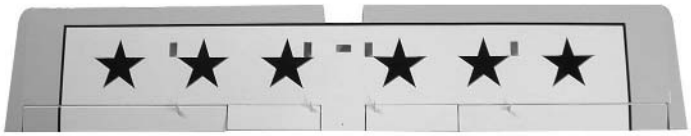
Caution:

Before starting, carefully go over all high stress areas (Wing bolt mounting blocks, Firewall, landing gear blocks, fuselage formers, etc.) with an epoxy or wood glue to confirm all areas are well glued.
We will not warranty any of these parts.

Installing Ailerons & Flaps

1. ☐ Collect the following parts:

(1) Wing
(2) Ailerons (Left & Right)
(2) Flaps (Left & Right)
(10) Mini CA hinges



1. ☐ Locate the pre-cut aileron and flap hinge slots in both sides of the wing. Using a hobby knife (#11 blade), slide the blade into each slot to make sure it is cleanly cut.

☐ Repeat this process with the ailerons and flaps, making sure all hinge slots are clean.

2. ☐ Find the control horn slot near one end of the aileron.

☐ Align the slot in the aileron with the servo hole in the wing.

☐ Insert the CA hinges half way into the wing and the ailerons. (Use a pin inserted into the middle of the hinge to help keep the hinge in the middle.)

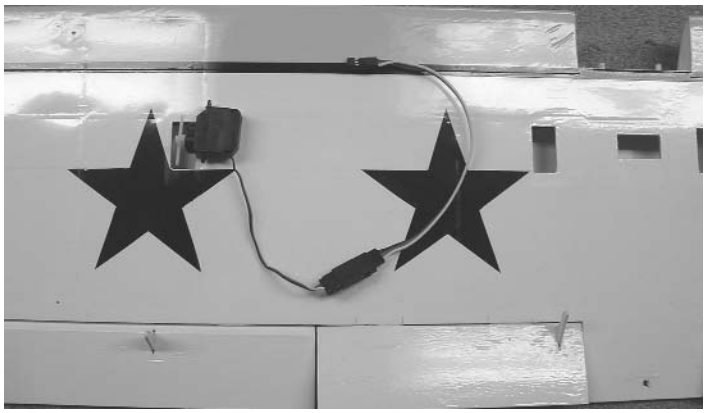
☐ Repeat steps 1 & 2 for the flap.

☐ Make sure that the aileron is tight against the wing and even with the wing tip.

☐ Using thin CA glue, place one drop on all hinges top and bottom.

Servo Extensions

1. ☐ Gather the following items:
(2) 12" Servo Extension wires
(1) Wing
(4) Servos
(1) Electrical tape



2. ☐ Plug one 12" extension wire into a aileron servo.

IMPORTANT! To ensure that any connections located inside the wing will not come loose, either when the wires are pulled, or during flying, always tape them securely together with electrical tape.

3. ☐ Tie or tape the aileron extension wire end to the string that is exiting the outer aileron servo hole in the bottom of the wing.

☐ Push the extension in the servo hole, **SLOWLY** pull until the end of the 12" extension comes out of the hole in the center of the wing.

☐ Tape the extension securely to the wing, so that it will not slide back in while you are working.

☐ Mount the aileron servo using the hardware provided by the radio manufacture.

4. ☐ Repeat steps 2 & 3 for the other aileron servo.

5. ☐ Install the flap servos and guide the servo wires to the center of the wing and pull out the center hole.

Flap & Aileron Pushrods

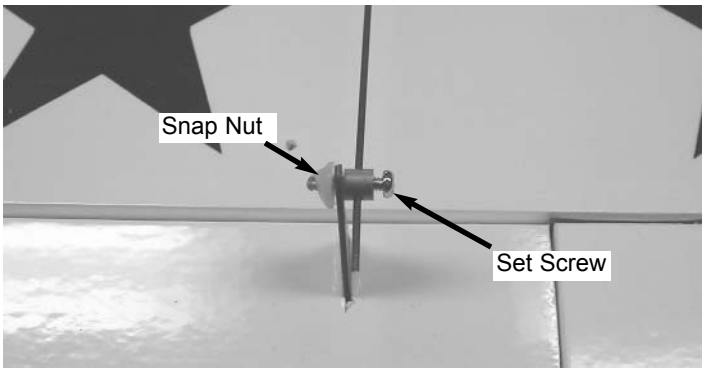
1. ☐ Collect the following parts:

(1) Wing
(4) Control Horns
(4) EZ connectors with screws and nylon nuts.
(4) Short Pushrod Wires

2. ☐ Remove the covering on both the ailerons & the flaps, where the control horn slots are located.

☐ Using CA glue, attach the control horns to the ailerons and flaps.

3. ☐ Find the small aileron pushrod wire, and place a “z” in one end.



4. ☐ Connect the EZ pushrod connector to the Control horn.

☐ Put the “Z” bend into the outer hole of the servo arm.

☐ Slide the pushrod wire through the connector on the control horn and mount the arm onto the servo.

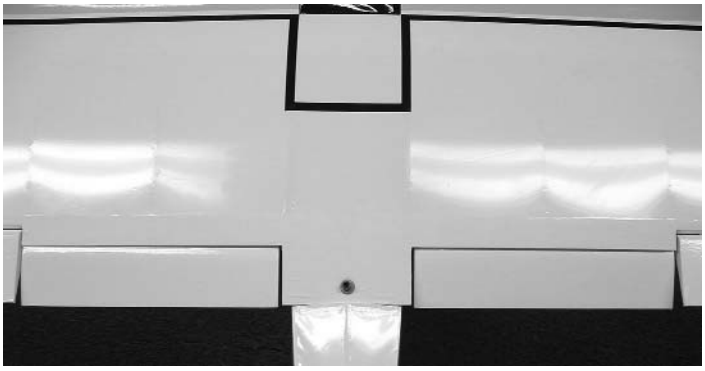
☐ Tighten the set screw onto the pushrod.

5. ☐ Repeat these steps for the other aileron and flap pushrods.

Stabilizer

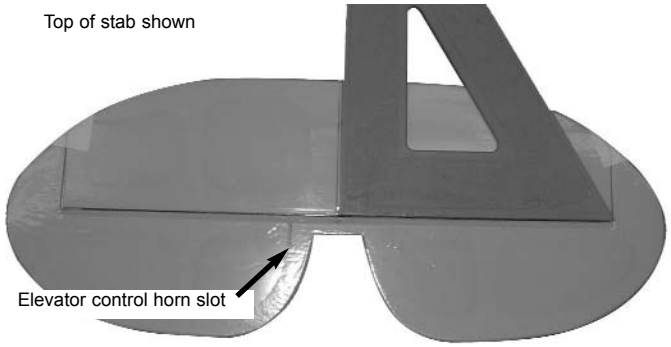
1. ☐ Collect the following parts:

(1) Fuselage
(1) Stabilizer & Elevator
(1) wing
(1) 4-40 x 3/8” Socket Head Bolt
(1) #4 Washer



2. ☐ Locate the hole in the center of the wing for the wing bolt. Remove the covering over the hole.

☐ Using the 4-40 x 3/8” socket head screw and the #4 Washer, bolt the wing to the fuselage.



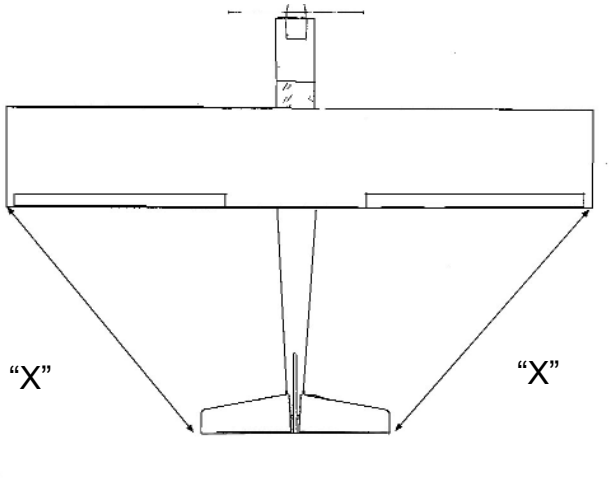
3. ☐ Place the stabilizer top side up on your work bench

☐ Find the center of the stabilizer, by measuring the length of the trailing edge where the elevator hinge line is located.

☐ Stand the stabilizer up on its edge and using a right triangle draw a center line up from the trailing edge to the leading edge.

☐ Find the center of the fuselage in front of where the stabilizer sits.

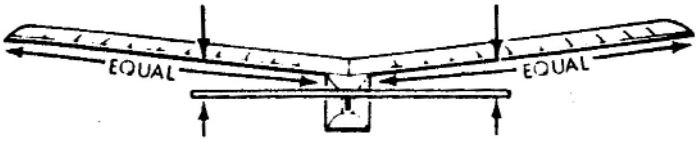
☐ Place the stabilizer on the fuselage using the marks you just made.



4. ☐ Measure from the end of the wing to the tip of the stab. This measurement should be the same for both sides.

☐ Mark the stabilizer where it rest on the fuselage

☐ Remove the covering where the stab will be glued to the fuselage.



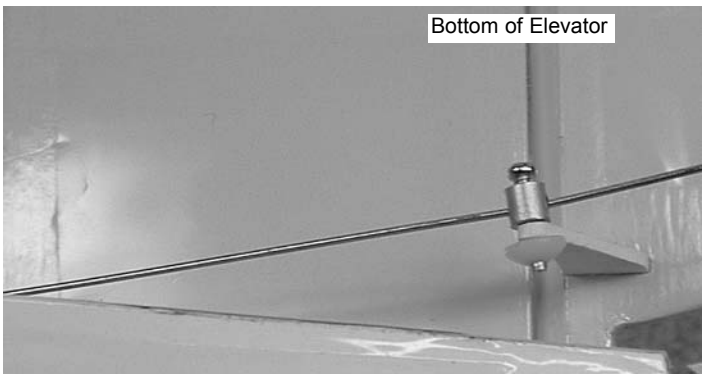
☐ Look down the length of the fuselage and check that the stabilizer is parallel to the wing. If it is not then shim the low side till they are parallel.

☐ When satisfied then glue the stabilizer in place using 5 minuet epoxy. Make sure the stabilizer remains both perpendicular and parallel to the wing and fuselage while the epoxy dries.

Elevator Control Horn

1. ☐ Collect the following parts:

(1) Fuselage With Stabilizer
(1) EZ connector complete
(1) Nylon Control Horn
(1) Long Pushrod Wire



2. ☐ Locate the slot in one side of the elevators near the center.

☐ Remove the covering over the slot.

☐ Glue the Nylon control horn into the slot making sure that the control horn is pointing down and the holes are over the hinge line.

3. ☐ Take the long wire pushrod and insert the end into the pushrod tubing inside the fuselage next to the servo tray.

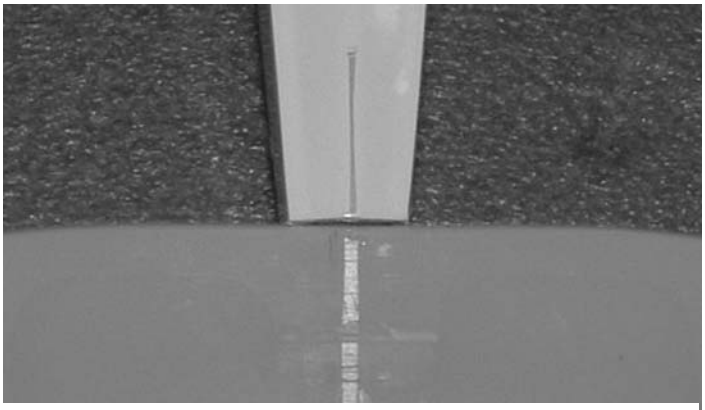
☐ Attach the EZ connector to the control horn with the adjusting screw facing out.

☐ Push the elevator pushrod through the EZ connector and snug the set screw to hold the pushrod in place.

Fin & Rudder Installation

1. ☐ Collect the following parts:

(1) Fuselage With Stabilizer
(1) Fin & Rudder
(1) EZ connector complete
(1) Nylon Control Horn
(1) Long Pushrod Wire

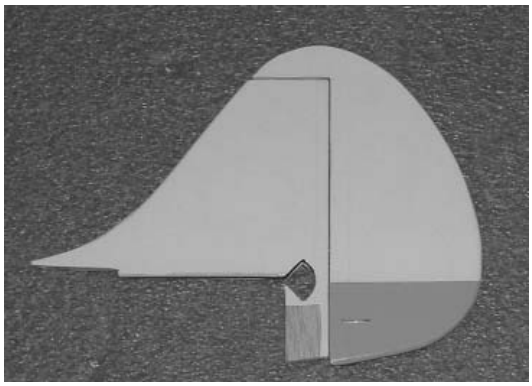


2. ☐ Draw a center line 2" up from the stab on the fuselage

☐ Place the fin on the fuselage and mark where the fin rest on the fuselage.

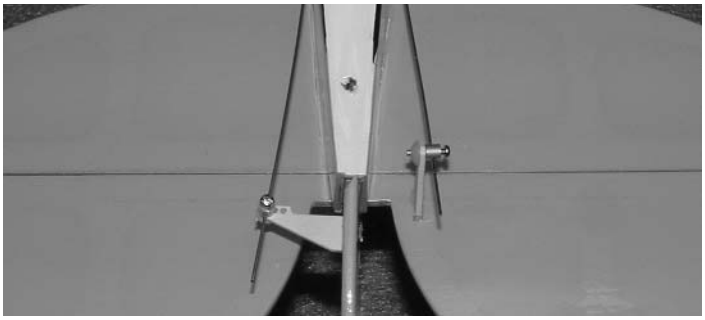
☐ Remove the fin from the fuselage.

☐ Carefully remove the covering off the stabilizer and the top of the fuselage where the fin will be glued.



2. ☐ Remove the covering off the bottom of the rudder hinge post.

☐ Glue the fin to the fuselage making sure to keep the fin perpendicular to the stabilize.



☐ Remove the covering over the rudder control horn slot.

☐ Glue the Nylon control horn into the slot making sure that the rudder control horn is on the opposite side from the elevator control horn.

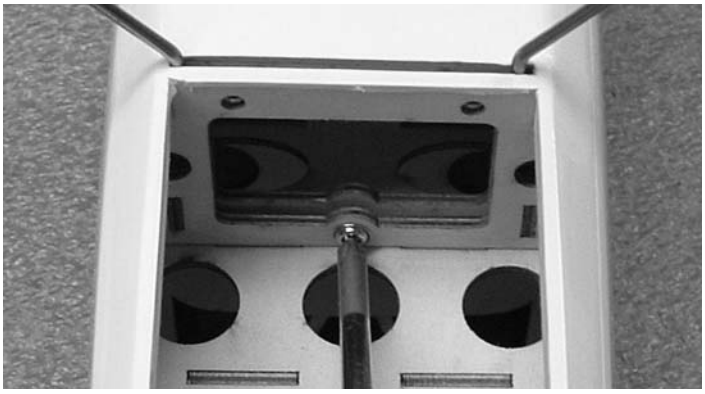
3. ☐ Take the long wire pushrod and insert the end into the pushrod tubing inside the fuselage next to the servo tray.

☐ Attach the EZ connector to the control horn with the adjusting screw facing down.

☐ Push the rudder pushrod through the EZ connector and snug the set screw to hold the pushrod in place

Landing Gear

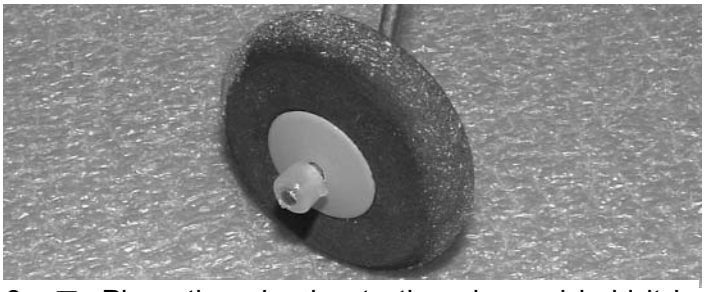
1. □ Collect the following parts:
   (1) Fuselage
   (1) Main Landing Gear Wire
   (1) #2 x 3/16" Socket Head Screw
   (2) Wheels
   (2) Nylon Wheel retainers
   (2) Landing gear fairing



2. ☐ Remove the hatch from the bottom of the fuselage

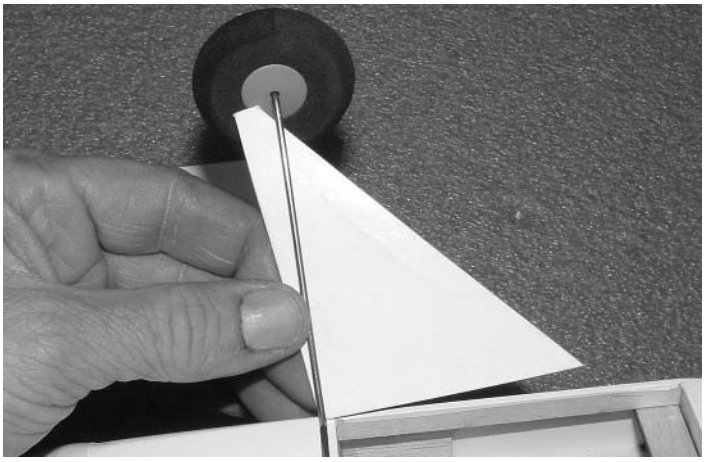
☐ Insert the landing gear into the slot just in front of the hatch opening.

☐ Using the #2 x 3/16" screw , insert the screw into the hole and tighten.



3. ☐ Place the wheel onto the wire and hold it in place by inserting the Nylon retainer on the end.

☐ Place a drop of glue on the end of the wire to hold the retainer in place.

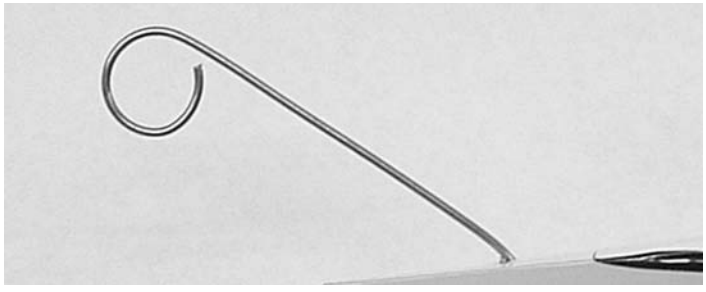


4. ☐ Place the landing gear fairing on the fuselage.

☐ Tape the fairing to the fuselage using the clear tape provided. Try and keep the fairings parallel to the fuselage centerline. **Do not tape the fairings to the landing gear.**

Tail Skid

1. ☐ Collect the following parts:
(1) Fuselage
(1) Tail Skid



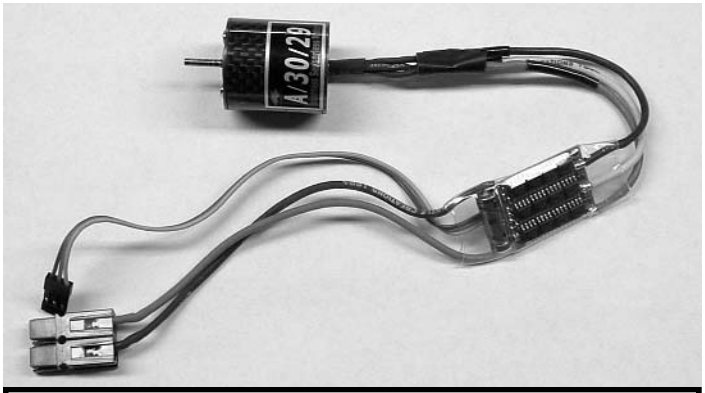
2. ☐ Insert the tail skid wire into the bottom of the fuselage under the tail in the pre-drilled hole.

☐ Glue the wire in place using epoxy.

Installing Motor & ESC

1. ☐ Collect the following parts:

(1) Fuselage
(1) Motor with Gear Drive (Not Included)
(1) Electronic Speed Control (Not Included)
(1) Screw for motor installation (Not Included)



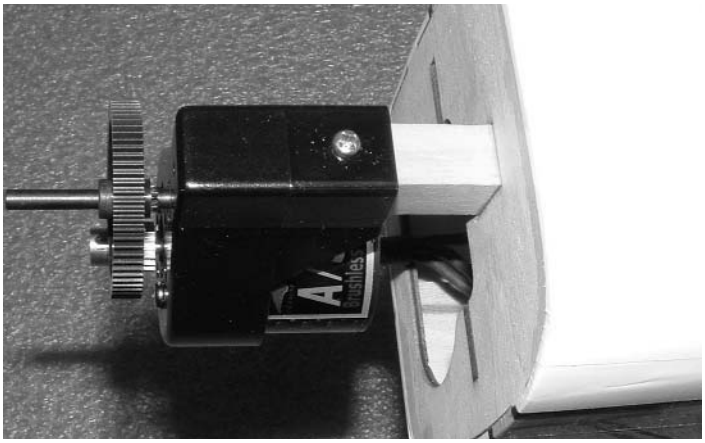
Note:
Read the instructions that come with your motor and speed control for proper wiring. Your Motor and Speed Control might be different than shown. You might want to solder the speed control to the motor after threading the wire through the firewall.

2. ☐ Remove the cowl from the fuselage.

☐ We have assembled the motor and gear drive that was provided with the Ultrafly system by the manufactures instructions.

☐ Slide the motor and gear drive onto the motor stick till the rear of the prop is 2-5/8" away from the firewall.

☐ Screw the gear drive to the motor stick.



3. ☐ Insert the motor wires through the holes in the firewall.

Note:
You might have to enlarge the holes in the firewall for your speed control to fit through.

4. ☐ Insert the speed control receiver wire through the hole next to the landing gear.

Caution:
<u>Do Not</u> leave the propeller on the motor at this time. Electric motors can start turning at any time during radio installation. This can cause damage to the plane or bodily harm.

Radio Installation

1. ☐ Collect the following parts:

(1) Fuselage
(2) Micro Servos with Hardware (Not Included)
(1) Micro Receiver (Not Included)
(2) Servo "Y" Harness (Not Included)

2. ☐ Mount the elevator and rudder servo as shown above.

☐ Attach the pushrods to the servo arms the same way you did the aileron servos.

☐ Mount the two servo arms to the top of the servos.

☐ Cut off the excess pushrod wire at the control horns.

3. ☐ Plug the elevator and rudder servos into your receiver.

☐ Attach the "Y" harness to the receiver.

☐ Plug in the speed control.

☐ Cut foam and wrap around the receiver.

4. ☐ Put the receiver wrapped in foam in front of the servos.

☐ Drill a hole for the receiver antenna wire in the bottom or the side of the fuselage.

☐ Tape the receiver wire to the bottom of the fuselage at the tail.

Battery Installation

1. ☐ Collect the following parts:

(1) Fuselage
(1) 3 cell Li-Po Battery

2. ☐ Insert your battery into the bottom battery hatch.

☐ Use the velcro™ strips to hold the battery in place.

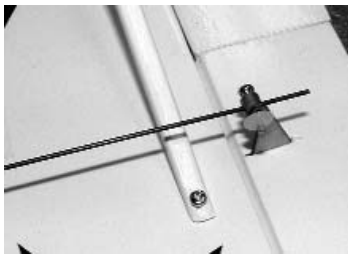
☐ Cut a hole in the covering in the bottom hatch to allow heat from the battery to escape.

Wing Struts

1. ☐ Collect the following parts:

(1) Fuselage
(2) 1/8" x 5/16" x 11-1/4" Wing Strut
(2) 1/8" x 1/4" x 11-1/4" Wing Strut
(4) #2 x 5/16 Philip Head Screw

2. ☐ Screw the wing struts to the fuselage using the #2 x 5/16 philip head screws.



3. ☐ Screw the wing strut to the bottom of the wing.

Note:
Remove the screws from the struts and place a drop of thin CA glue into the holes in the strut, fuselage & wing. This will harden the wood to keep the screw from striping out.

Control Set Up

Turn on your transmitter and plug in the receiver battery. Center all the control surfaces (rudder, elevator & aileron). If required by your speed control this is the time to program it for your use.

Control Travel

Aileron	**up 7/16" / down 7/16"**
Elevator	**up 1/2" / down 1/2"**
Rudder	**Right 1" / Left 1"**
Flap	**Down 1/2"**

Adjust these throws to your flying ability.

Propeller

Install the prop adapter and your propeller at this time. We used a 9 x 4.7 APC prop for our motor, battery and speed control setup.

Caution:
The propeller can start turning any time the receiver battery is plugged in.

Balancing

Your model should balance 2-1/4" back from the leading edge of the wing next to the fuselage.