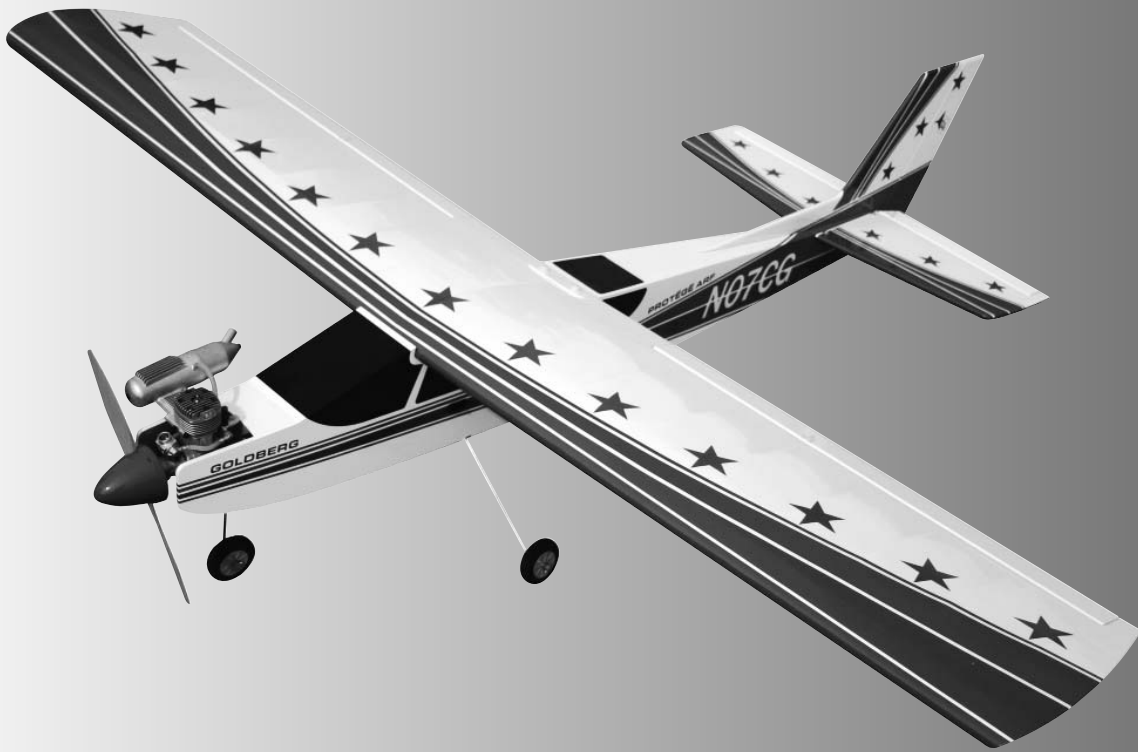


Protégé 60 ARF



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 90 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.

P.O. Box 818 Oakwood GA 30566 Phone #678-450-0085 Fax # 770-532-2163 www.carlgoldbergproducts.com

Congratulations on your purchase of the **Protégé 60 ARF**. Every effort has been made to produce a lightweight, straight, easy to assemble aircraft. Quality hardware components have been provided, It is your responsibility as a pilot to fly the aircraft in an intelligent manner. Carl Goldberg Products has flown the **Protégé 60 ARF through** a very rigorous flight-testing schedule and have stressed the airframe beyond all practical parameters without a single failure. Carl Goldberg Products will NOT warrant the **Protégé 60 ARF** against flutter due to improper set-up or excessive speed maneuvers. Having said that, we believe you will find the **Protégé 60 ARF to** be one of the best trainers on the market .

We are very proud of the construction of the **Protégé 60 ARF** and all of our other ARF aircraft. Each aircraft is jig built to insure a straight true airframe. Every effort is made to build as light an aircraft as possible. As with any professional builder, glue is used sparingly. **Please take a moment during assembly and run a bead of Ultra Set™ CA or aliphatic resin into the high stress joints that you can reach such as the landing gear plate, servo mounting trays, wing hold down blocks, etc.** Also, during the course of shipping from the manufacturer to our facility in the United States, it is not uncommon for the aircraft to experience several changes in climate. This may cause the iron-on covering to develop wrinkles. This is not a fault of the manufacturer. Please take a few minutes with your heating iron and heat gun to iron down the seams and re-shrink the covering where needed. The results will be a beautiful aircraft with a breathtaking finish that you will be proud to display at your flying club.

Before beginning assembly of your **Protégé 60 ARF**, we highly recommend that you study this manual in its entirety. You should begin planning your radio installation based on your choice of engine and equipment from the beginning.

Building supplies needed

Hobby knife w/#11 blades
Thin **Ultra Set™ CA**
Medium **Ultra Set™ CA**
Canopy glue
30 minute **Ultra Set™ epoxy**
Thread lock
Diagonal wire cutters
Pliers
Assorted drill bits
Various sized screwdrivers(both Phillips and standard head)
Tape measure
Dry-erase marker
Paper towels
Rubbing alcohol
Electrical tape
4-40 Tap & Die Set
3/32, 7/64, 9/64 & 3mm Allen wrench
Wax Paper

Note:

Thread lock must be used where ever any machine bolts are going into any type of nuts. If you do not use thread lock the bolts could become loose and fall out in flight.

ADHESIVES & GLUING TECHNIQUES

Ultra Set™ 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 **Ultra Set™ 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 **Ultra Set™ 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.

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 **Ultra Set™ CA** Glue and **Ultra Set™ 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.

COVERING

The **Protégé 60 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.

ITEMS NEEDED TO COMPLETE THIS AIRCRAFT

- 1 RADIO GUIDANCE SYSTEM (4 CHANNEL MINIMUM REQUIRED WITH 5 SERVOS, 54OZ TORQUE MINIMUM)
- 2 12" SERVO EXTENSION WIRES
- 1 Y-HARNESS
- 1 **Ultra Set™ CA** ACCELERATOR
- 1 2 OZ. BOTTLE **Ultra Set™ CA** MEDIUM GLUE
- 1 1/2 OZ. BOTTLE **Ultra Set™ CA** THIN GLUE
- 1 30 MINUET **Ultra Set™ EPOXY**
- 1 1/2" FOAM RUBBER
- 1 2-3/4" SPINNER

NOTE: The Protégé 60 ARF covering closely matches Oracover:

(#866) True Red,

(#873) Deep Blue

(#870) White

AILERON SERVO INSTALLATION

1. Collect the following parts:

- (1) Left wing
- (1) Right wing
- (2) Servos
- (2) 12" Servo Extension
- (1) Servo "Y" Harness



2. Attach the 12" servo extension to the 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. Starting from the servo hole, insert the servo extension and the servo wire into the servo hole.
- Allow the wire to fall straight down through the wing till it exits the hole in the bottom of the wing at the center
 - Tape the extension wire to the bottom of the wing.
 - Repeat for the other wing half..



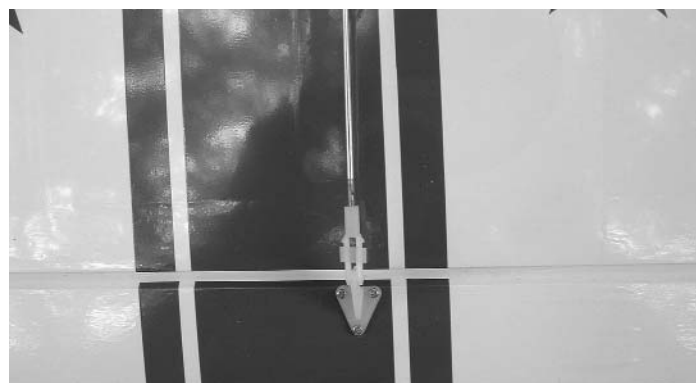
4. Install the servo into the servo hole and screw in place using the screws supplied with your radio.

AILERON SERVOS PUSHRODS

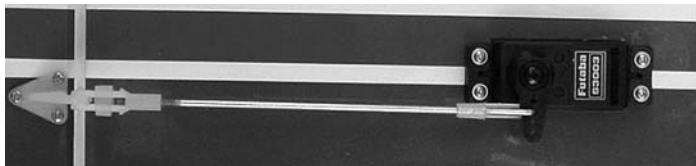
1. Collect the following items:

- (2) nylon swing in keepers
- (2) 2-56 pushrods threaded one end
- (2) 2-56 clevis
- (2) silicone clevis retainers

IMPORTANT! Check to confirm all control horns are securely tightened to all control surfaces.



2. Slide the silicone keeper on the clevis
- Screw the 2-56 pushrod into the nylon clevis so 1/16" of threads extend past the opening
 - Attach the clevis to the top hole on the aileron control horn..



3. Center the aileron servo and make sure the aileron is aligned with the wing at the root end.
- Insert the end of the pushrod into the servo arm.
 - Install the nylon swing in keeper to attach the pushrod.
 - Repeat for the other aileron.

TAIL INSTALLATION

1. Collect the following items:

- (1) Fuselage
- (1) Stabilizer
- (1) Fin
- (2) 4-40 nylon locking nuts
- (4) 4-40 x 3/4 " socket head screws
- (6) #4 washers
- Thread lock

Note:

Thread lock must be used where ever any machine bolts are going into any type of nuts. If you do not use thread lock the bolts could become loose and fall out in flight.

We recomend that you epoxy the fin and the stabilizer together onto the fuselage if you will not be removing them.



1. Look for the holes in the center of the stabilizer.
- Insert the studs that are protruding out the bottom of the fin into the top of the stabilizer. (Stars side is up)
- Place a #4 washer and a nylon locking nut on each threaded stud.
- Tighten both locking nuts.

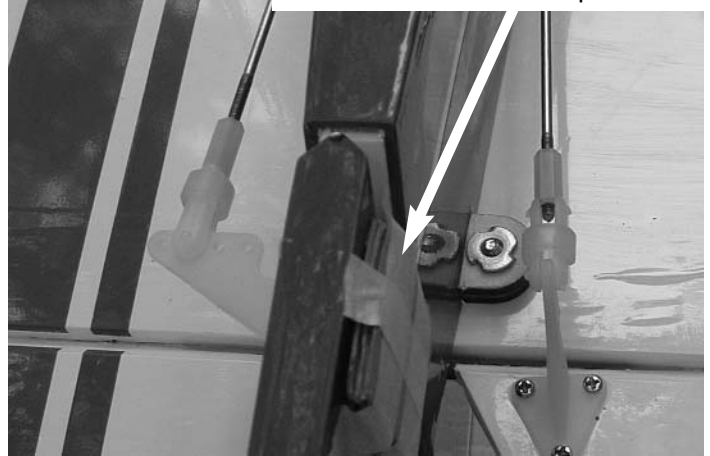


2. Place the stabilizer fin assembly onto the rear of the fuselage.

Make sure to use thread lock on these bolts.

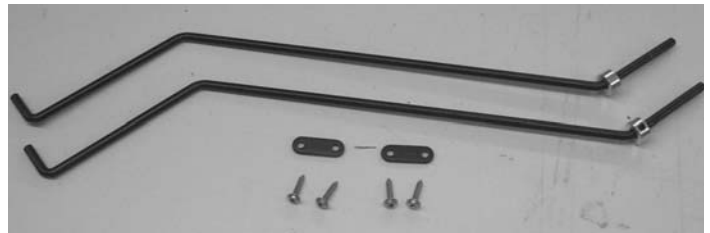
- Insert (4) 4-40 x 3/4" bolts with washers through the top of the stabilizer and into the blind nuts mounted on the fuselage
- Tighten all 4 bolts.

Remove this cardboard protector



3. connect the snap link to the elevator and rudder control horns.
- Slide the silicone keeper over the snap link.

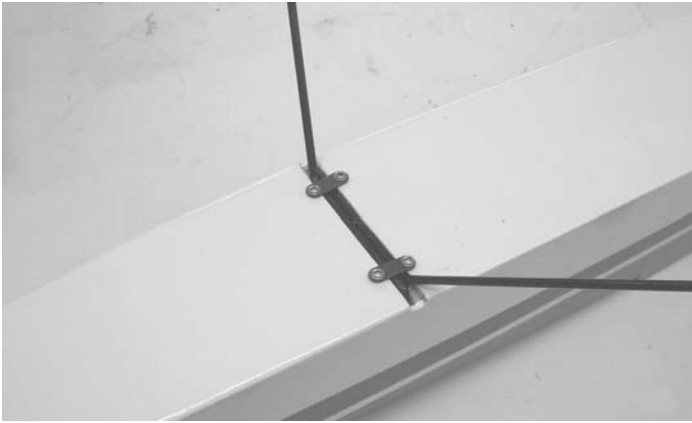
MAIN GEAR & WHEEL INSTALLATION



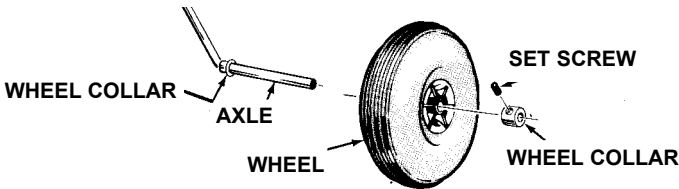
1. Collect the following items:
 - (2) Landing gear wire
 - (4) 2 x 5/16" screw
 - (2) Landing gear strap
 - (3) 2-1/2" wheel
 - (4) Wheel collar
 - (4) Set screw



2. Insert one gear leg in the hole in the bottom of the fuselage.



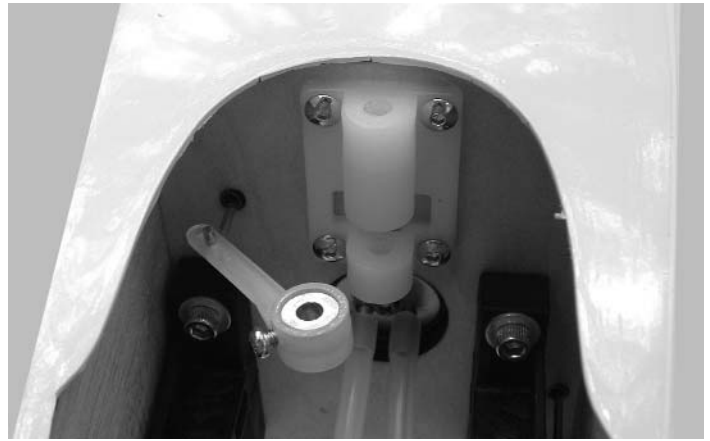
3. Insert the other gear leg in the hole on the other side of the fuselage. One hole is at the back of the slot and the other is at the front of the slot. The two wires will lie next to each other in the slot.
 - Use the two straps and four screws to retain the gear.



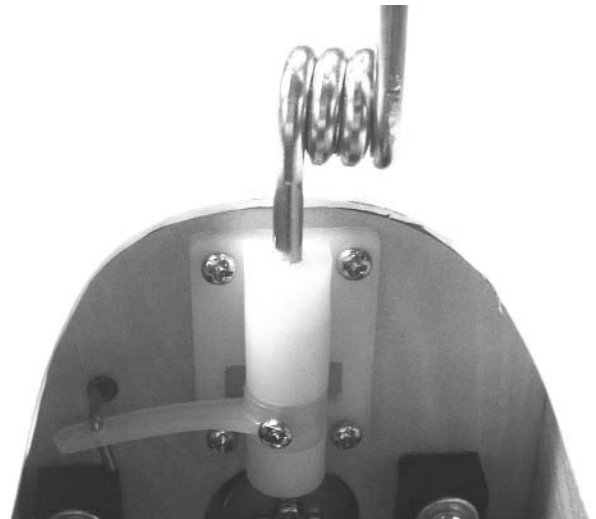
4. Install the wheels on the axles, as shown. First the wheel collar goes on, followed by the wheel, then the second wheel collar, and the set screw. Tighten the set screw.

NOSE GEAR INSTALLATION

- (1) Nose gear strut
- (2) Wheel Collars and set screws
- (1) Wheel
- (1) Nose gear steering arm
- (1) 1.5mm x 43 cm wire and tube
- (1) EZ connector and screw
- (1) Nylon Swivel Keeper



2. place the nose gear pushrod wire onto the nylon steering arm.



3. Slide the nose gear gear strut into the bearing and through the steering arm.
 - Adjust the nose gear till the coil is just off the fuselage bottom.
 - Tighten the set screw against the nose gear in the steering arm.

Note:

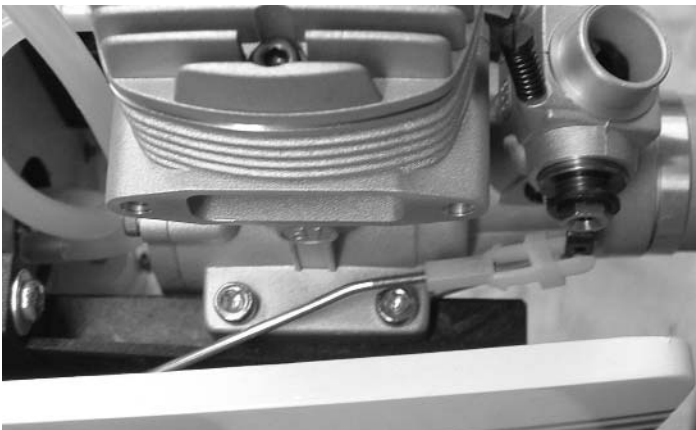
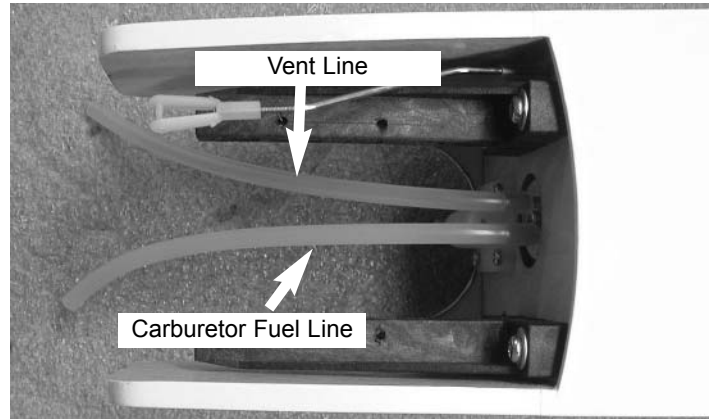
The Protégé 60 ARF was designed for any .60 size 2 stroke motor. We have set the motor mounts to fit most .60's. We are showing an OS.61 FX 2 stroke. If your motor will not fit in the mounts then you will have to remove the motor mounts and move them to fit your motor.

ENGINE INSTALLATION

Caution:

Thread lock must be used where ever any machine bolts are going into any type of nuts. If you do not use thread lock the bolts could become loose and fall out in flight.

Place thread lock on each of the bolts holding the motor mount to the firewall. Make sure each bolt is tight to the fire wall.

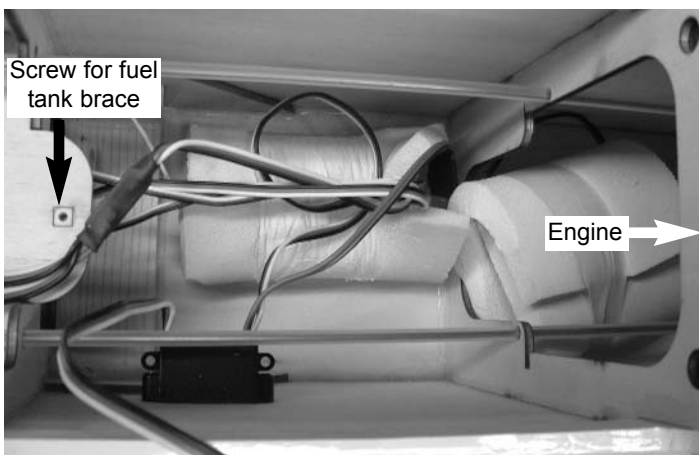


1. The motor mounts are pre installed for an OS 61 FX.
 - Install you engine using the socket head sheet metal screws.
2. Place the throttle push rod snap link on the carburetor.
 - Slide the silicone keeper over the snap link.
3. Install the fuel lines to the engine.

RADIO INSTALLATION



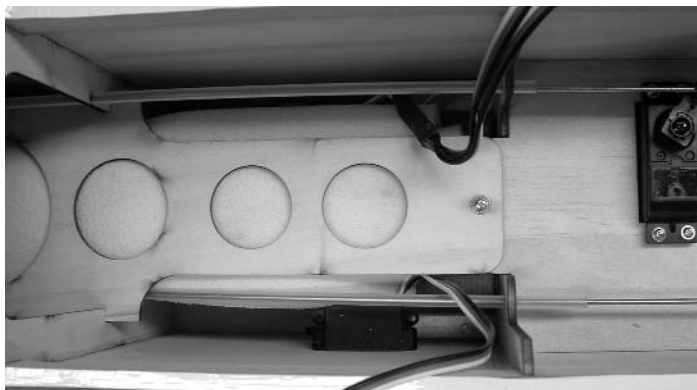
1. Install the servos as shown above.
 Adjust the pushrods so that the servo arms are centered.



2. Remove the screw that holds the fuel tank brace and remove the brace.
 Wrap your radio battery with 1/2" foam (not included) and place it on the fuselage bottom just behind the fuel tank.
 Wrap your receiver in 1/2" foam (not included) and place it in front of the servo tray.



3. Find the switch hole precut in the side of the fuselage and install the radio switch..



3. Reinstall the fuel tank brace.

DECAL

1. Using glass cleaner and a soft cloth, clean the model surface thoroughly before applying decals.
 Cut the decal sheets apart in sections, as needed.
 Peel the backing off the decal and apply the decal to the plane.

BALANCING AND CONTROL THROWS

Throws

Use these control throws for the first flights. Work your way up to more throw movement when you are comfortable with the Protégé 60 ARF.

Elevator 7/16" High / 1/4" Low

Ailerons 7/16" High / 1/4" Low

Rudder 1/2" Right & Left

When you have gotten comfortable flying the Protégé 60 ARF slowly increase the throws while still staying within your flying ability.

CG Balancing

Balancing the Protégé 60 ARF is very important, you might need to use weight depending on the servos and engine that you use. Start out with the balance point at 4" to 4-3/4". Measure next to the fuselage back from the leading edge.

Balance the Protégé 60 ARF right side up.