Heritage Series

SKYLANE 62 ARF

INSTRUCTIONS

Ideal as a terrific everyday sport plane, the Skylane ARF combines docile flight characteristics with the aptitude for super-smooth,scale flight. This ARF has been designed to keep building time to a minimum; it's 90% pre-built, with a pre-assembled elevator and installed pushrod and wing guide tubes, and it features top-quality hardware and premium covering. So read through these instructions, follow them carefully, and you'll soon be flying this superb model.

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 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 one year 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.

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

ITEMS NEEDED TO COMPLETE THIS AIRCRAFT

- ☐ 1 RADIO GUIDANCE SYSTEM (4 CHANNEL MINIMUM REQUIRED) 7 SERVOS
- ☐ 2 12” AILERON SERVO EXTENSION WIRES
- ☐ 2 Y-HARNESS
- ☐ 1 ENGINE . 2-CYCLE OR . 4-CYCLE, AND MUFFLER
- ☐ 1 ZAP ACCELERATOR
- ☐ 1 2 OZ. BOTTLE ZAP-A-GAP medium CA
- ☐ 1 1/2 OZ. BOTTLE ZAP Super Thin CA
- ☐ 1 BOTTLE ZAP 30 minute and/or 5 minute epoxy.
- ☐ 1 Foam rubber 1/2”x8”x12”
- ☐ 1 ” Spinner 2-1/2”

NOTE: The Heritage Series Skylane 62 ARF is covered in White #870 UltraCote®. The trim colors are Red #866 , BLACK #874 , and SILVER #881.

TOOLS AND SUPPLIES FOR ASSEMBLY.

- ☐ MODELING OR UTILITY KNIFE
- ☐ WORK SURFACE (24" X70")
- ☐ ELECTRIC DRILL
- ☐ 1/16”,5/64” 3/32”,1/8", 5/32”, 1/4” DRILL BITS
- ☐ SMALL STANDARD & PHILLIPS SCREW-DRIVERS
- ☐ MASKING TAPE
- ☐ NEEDLE NOSE PLIERS
- ☐ 36” RULER OR TAPE MEASURE
- ☐ FLEXIBLE STRAIGHT-EDGE
- ☐ T-SQUARE
- ☐ 30-60-90° x 6" TRIANGLE
- ☐ SOFT PENCIL
- ☐ A FEW STRAIGHT OR "T" PINS
- ☐ ADJUSTABLE WRENCH
- ☐ WIRE CUTTER
- ☐ OPTIONAL HEAT GUN/COVERING IRON
- ☐ ACID BRUSH

PROFESSIONAL-GRADE ADHESIVES

You can trust ZAP™ CA (cyanoacrylate) and ZAP™ Epoxy to handle all your important modeling needs. They're designed to withstand the high vibration levels of model aircraft, but they'll handle just about everything-dollhouse miniatures, model railroads, arts and crafts, household repairs, building projects, and a variety of industrial applications.

INTRODUCTION

USING THIS INSTRUCTION MANUAL

Before you begin assembling your **Heritage Series Skylane 62 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 engine 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 70" 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 Zap CA 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.

As you work, CHECK OFF EACH STEP in the box provided, so that you are sure you do not forget anything.

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 via e-mail (carlgoldbergproducts.com)

ADHESIVES & GLUING TECHNIQUES

The ZAP family of 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. ZAP A GAP CA is perfect for most jobs. 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 ZAP ZPOXY™.. Occasionally, you also will want to use ZAP Super Thin™, 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 ZAP A GAP. Remember, whenever 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. ZAP CA remover is a CA solvent which removes hardened glue from fingers and softens glued joints for repositioning. 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 Heritage Series Skylane 62 ARF is covered in premium iron on film. 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 over the surface of each section with an iron (either specially designed for airplane use or the more cumbersome household iron) or use a modeling heat gun. 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.

One of the great advantages of 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 replacement film , which is available at your hobby dealer. In case of a major crash, where large amounts of the film must be replaced, heat the damaged covering and then slowly peel up. If you are applying sufficient heat, the film will come up easily and leave no color on the wood.

RADIO EQUIPMENT & CARE

There are many fine radio systems on the market. Your local hobby dealer and club members are good sources of information on equipment and its suitability for various projects. It is recommended that you speak to them before making a final choice.

Today's RC systems are very well engineered and constructed. However, they will remain only as good as the way in which they are USED. Always follow the rules of proper usage and all manufacturer's instructions for your particular piece of equipment.

TRANSMITTERS: Keep your transmitter clean and free from fuel residue and dirt. Battery condition and RF output should be monitored, and the system should be aligned and tuned annually. Do not transport under vibration (such as on the floor of a car) without cushioning.

RECEIVERS: Receivers must be vibration free. When installing in the aircraft, wrap them in a minimum of ¼" soft foam rubber (not plastic foam). Keep well clear of all cables and batteries. Tune annually (or as recommended by the manufacturer), as indicated below under "Check-Ups."

SERVOS: Servos are vibration prone. Be sure to mount them with grommet shock mounts in servo trays which are also shock mounted. Also be sure to keep them clean. If the neutral position "drifts," this is a sign of change which should not be ignored; find out WHY before flying again.

BATTERIES: Nicads also can suffer from vibration, so they too should be wrapped in soft foam rubber before installing. Check their condition periodically by measuring the voltage with a volt meter or battery tester. Charge the batteries before EVERY flying session. When not used for a period of time (such as during the winter months) the batteries should be charged every 30 days. Never store batteries in a discharged condition.

PUSHRODS: Obviously, pushrods should be installed to operate freely, so that they place no load on the servo. Using a servo's power to move a tight rod or heavy surface by force increases the battery drain, shortens the electronic life, and can cause neutralizing problems. In addition, it is important the pushrods do not flex or vibrate. Any vibration is transferred directly to the servo, and its gear, motor, and pot. To avoid flexing and vibration, use guides and fairleads on the rods.

CONNECTORS: In using connectors, never pull on the wires to disconnect; grasp the plugs instead. Clean them by dunking in a solvent, such as dope thinner. Tape the connectors together when installing and make sure there is no strain on the cables.

CHECK-UPS: A full check-up by the factory or an authorized service center should be done AT LEAST ONCE A YEAR, as well as any time something unusual occurs during usage. A malfunction or "glitch" is the first sign of an impending failure; it should not be ignored. The checkup should include tuning and alignment of the system, as well as battery testing.

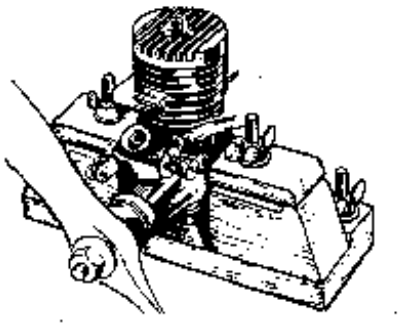
ENGINE & PROPELLER SELECTION

When selecting an engine, **it is important to stay within the manufacturer's recommended range, as failure to do so is likely to lead to less than satisfactory performance and may well lead to failure of the aircraft.** Remember, that manufacturers design and test their models for specific engine sizes. Therefore, the aircraft is unlikely to withstand the stresses created above this range. Many a modeler has watched all his hours of work and many dollars worth of hardware head earthward because he did not heed this warning: **DO NOT OVERPOWER YOUR MODEL!** Doing so will automatically void the manufacturer's warranty**.**

Typically, size recommendations are for both a 2-cycle or a 4-cycle engine. A 2-cycle engine has more raw power because it has faster RPMs on the propeller. A 4-cycle engine swings a bigger prop and therefore creates more pull. It is also quieter. 4-cycle engines are generally preferred for high performance, more aerobatic planes. However, if flying a tri-gear plane, a 2-cycle should be used. The expense of an engine is usually related to its efficiency. Some engines of similar cubic inch displacements are more powerful than others. Check with a dealer or an experienced flyer to learn about the specific attributes of the engine you are considering.

If selecting a more sophisticated engine, you may go with the lower recommended range However, if purchasing a more basic engine, it is probably best to select something in the higher recommended range. If you are a relatively new RC pilot, it's probably a good idea to select an engine that is popular at the flying field, so that if you have any engine problems, other modelers will be familiar with the engine and be able to help. **REMEMBER: DON'T OVERPOWER THE AIRCRAFT!**

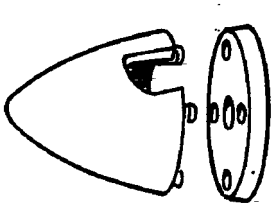
The propeller size must be matched to the engine. For example, a .60 may use a 11" diameter prop while a .80 can use a 13" prop. Refer to the information that is supplied with your engine for recommended propeller sizes. It's wise to buy a few spare props, as everyone breaks them occasionally, and particularly often when learning to fly.

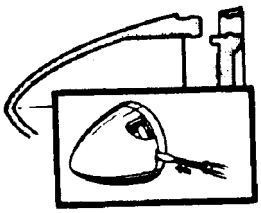


Balancing your propeller helps to protect your radio from the damaging effects of vibration. There are good, easy to use prop balancers on the market. Follow the instructions that are supplied with the prop balancer. Never

carve or cut a prop near the hub for any reason (such as to fit a spinner).

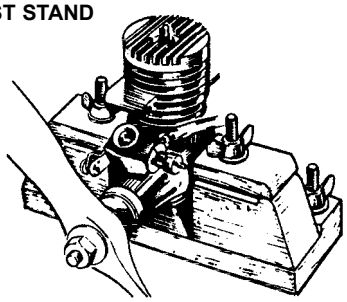
A " CGP 4-Pin Snap-On Spinner is available for the Heritage Series Skylane 62 ARF. It is a rugged precision molded spinner that does not require any special mounting nuts or screws. Carefully read the spinner instructions and warnings included in this book. Although a spinner helps reduce the chance of injury from a rotating prop, extreme caution always must be used when the engine is running.





As with other precision equipment, a new engine should be "broken-in" to enhance performance and extend its life. Breaking-in usually consists of running the engine with a "rich" fuel mixture and at lower RPMs until all the moving parts get to "know each other better." This can be done with the engine mounted in the model or securely clamped into a CGP Engine Test Stand or similar device. Refer to your engine's operating manual for the recommended break-in procedure and follow it carefully.

CGP ENGINE TEST STAND



FIELD EQUIPMENT

The following equipment will be needed at the flying field to start your engine, make adjustments, and clean your model after flying.

FLIGHT BOX: Something sturdy in which to carry your equipment. CGP's quick-building MiniTote carries the basics: fuel, starter and battery, and a few essential tools. The larger CGP SuperTote is economical, easy to build, and pack lots of utility into little space. They hold fuel, transmitter, starter & battery, as well as many tools, in a balanced load that is easy to carry. The fuel tote is designed to carry your fuel in a handy box that keeps the jugs from rolling around in your car.

STARTING BATTERY AND GLO-PLUG CLIP: A 1-1/2 volt battery is required to heat your engine's glo-plug for starting. Wires connect the glo-plug clip to the battery. Because engine starting draws a lot of electric power from the battery, rechargeable ni-cad batteries are recommended. Although they cost more initially, they are more economical in the long run than frequently replacing dry-cell batteries.

FUEL: For best engine performance, use the fuel recommended by your engine's manufacturer. 2 and 4-cycle engines require different fuel blends. Ask your dealer to recommend a good quality fuel.

FUEL PUMP: Needed to transfer fuel from the fuel can to the model's fuel tank. A simple squeeze-type bulb will do for small tanks, whereas manual crank or electric pumps fill larger tanks more quickly.

FUEL LINE: Have about 3 feet of silicone fuel line to make connections between the fuel pump, the fuel can, and the model's fuel tank.

EXTRA PROPS: Experts always have a few spares on hand, so flying doesn't have to stop due to a broken propeller.

GLOSSARY OF MODELING TERMS

ARF: Almost Ready to Fly

AILERON: the control surface on the wing that rolls the plane

AIRFOIL: the shape of the wing as seen from the end

ANGLE OF ATTACK: the angle at which the wing meets the air flow

BEVEL: to sand to an angle shape

BURR: the rough edges on a piece of wood or metal after it is cut

CAP STRIP: a thin strip glued to the edges of the ribs to shape the wing

CONTROL HORN: a device attached to each control surface to provide an attachment point for the pushrod

COWL (COWLING): the nose section of the fuselage that encloses the engine

DECALAGE: the difference between the incidence of the wing and stabilizer

DIHEDRAL: the upward angle of the wings, as seen from the front

ELEVATOR: the moveable part of the horizontal tail, which controls pitch

EMPENNAGE: the tail of the plan

FIN: the fixed vertical part of the tail

FIREWALL: the hard wooden former at the front of the fuselage, to which the engine is mounted

FORMER: a piece which shapes the fuselage; and to which the sides of the fuselage are attached.

GUSSET: a small triangular piece glued into a corner to strengthen it

INCIDENCE: the angle of the wing or the tail in relation to the thrustline

LAMINATE: to glue two thin sheets of material together to form a thick sheet

LEADING EDGE (L.E.): the edge of the wing that first meets the airflow

LONGERON: a stringer that runs the length of the fuselage

OUTPUT ARM: the piece that attaches to the servo and connects it to the pushrod

PITCH: an up and down movement of the nose of the plane, which is controlled by the elevator

PROTOTYPE: the full scale airplane from which the model design was taken

PUSHROD: the long, stiff dowel, plastic or wire piece that connects the servo with the control horn

RTF: Ready to Fly

RIB: the airfoil-shaped piece that connects the leading edge, spars and trailing edge of the wing together and holds them in shape

RETRACTS: devices for extending and retracting the wheels on command

ROLL: tilting of the plane as viewed from the front, controlled by the ailerons

RUDDER: the moveable vertical tail of the plane, which controls yaw

SERVO: the part of the airborne radio system that moves the control surfaces

SHEAR WEB: wood sheeting that connects the top and bottom spars to stiffen the wing

SHIM: a thin piece of wood inserted between two other pieces to improve their fit

SPAR: a wooden stick running lengthwise through the wing that serves as its backbone

SPINNER: the rounded cone that fits over the propeller hub

STABILIZER (STAB): the fixed horizontal part of the tail

STALL: a situation in which the plane is flying too slowly to move sufficient air across the wing to produce lift

STRINGER: a long piece of wood attached to the formers to shape the fuselage

THRUSTLINE: a line drawn from the center of the propeller hub straight through the airplane

TORQUE: a rolling tendency caused by the spinning propeller

TRAILING EDGE (T.E.): the edge of the wing that faces the rear of the plane

TRIM: small adjustments made to the control surfaces to cause the plane to fly straight and level by itself

WASHIN: a twist in the wing that makes the trailing edge lower than normal

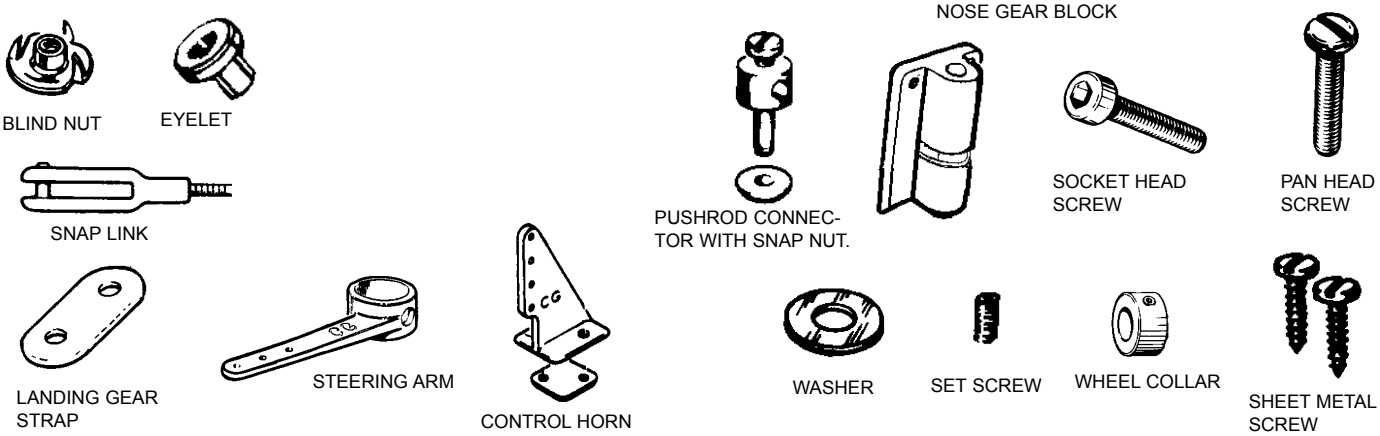
WASHOUT: a twist in the wing that makes the trailing edge higher than normal

WING SADDLE: the shaped part of the fuselage in which the wing rests

WHEEL COLLAR: a metal ring that holds the wheel on the axle

YAW: a right-to-left movement of the nose, controlled by the rudder

HARDWARE IDENTIFICATION



WING ASSEMBLY & INSTALLATION

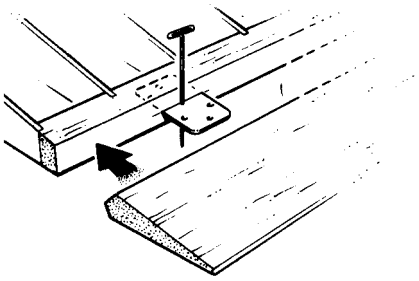
AILERON AND FLAP INSTALLATION

1. ☐ Collect the following parts:

(1) Left and right wing
(1) Left and right aileron
(1) Left and right flap
(14) CA hinge

2. ☐ Locate the pre-cut aileron and flap hinge slots in both wing halves. 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.



3. ☐ Place a straight pin into the center of each of the four CA hinges.

☐ Slide each hinge into the hinge slots on one of the wing halves. The pin will prevent the hinges from going in further than halfway into the wing.

4. ☐ Select the aileron for the wing on which you are working and insert the exposed half of each hinge into the aileron slots.

☐ Slide the aileron toward the wing until no gap remains between the aileron and the wing.

☐ Install the flap in the same manner. Align the stripes on the wing and make sure the aileron clears the tip and the flap.

5. ☐ When satisfied with the alignment, remove the straight pins, being sure to keep the aileron and flap tight to the wing. You may wish to apply a few pieces of masking tape to keep the pieces in place.

6. ☐ Keeping the aileron,flap, and wing in position, apply 3 or 4 drops of thin CA to the small exposed area of each hinge.

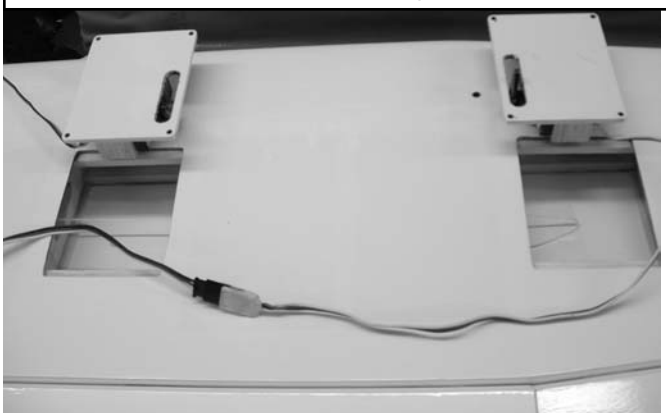
☐ Turn the assembly over and again apply 3 or 4 drops of CA to the exposed hinge surfaces.

☐ Allow to dry for 10 minutes before flexing the aileron.

7. ☐ Repeat the above steps for the other half of the wing and each flap.

AILERON SERVO INSTALLATION

The following pictures may not exactly match the hardware you are using. Always check the radio manufacturer's instructions when installing radio equipment.



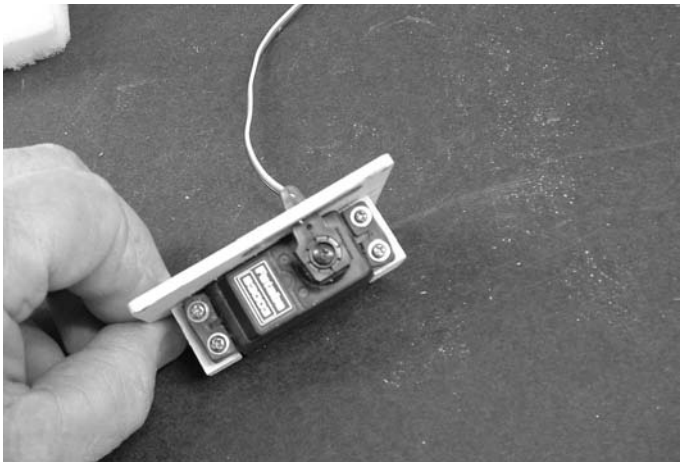
1. ☐ Collect the following items:

(2) Wing halves
(4) Servos with rubber grommets
(16)Servo Mounting Screw (supplied with radio)
(2)12” servo extensions

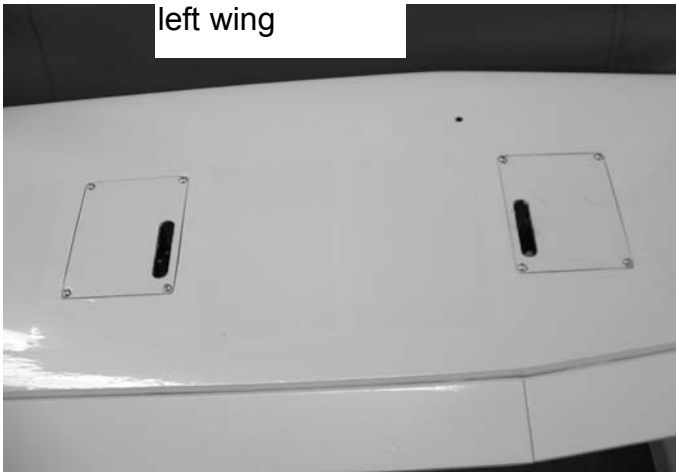
2. ☐ Pull the servo leads down through the wing and exit through the hole on the bottom surface of the wing.

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.

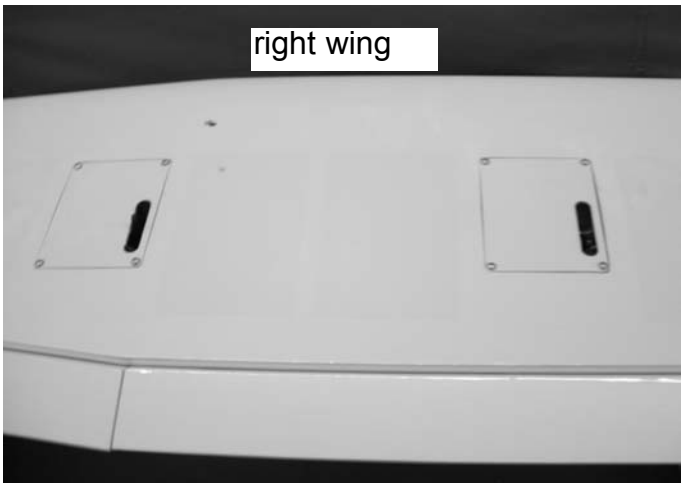
3. ☐ Repeat these steps for the other half of the wing, so that both servo extensions are exiting the holes in the center of the wing.



4. ☐ Mount the aileron and flap servos using the hardware supplied with the radio. The output arm should go toward the trailing edge.



☐ In order for the flaps and ailerons to work properly the output arms for the servos must be aligned as shown. On the left wing the aileron servos output arm is on the inboard side of the wing. The flap servo output arm is on the outboard side of the wing.

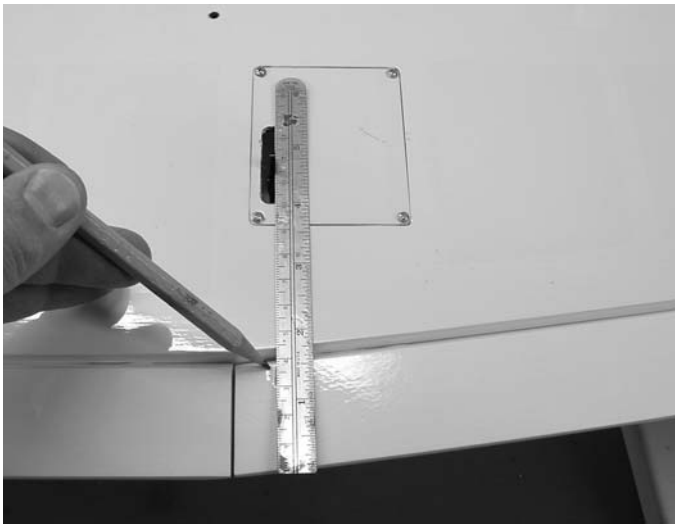


☐ On the right wing the aileron servo output arm is on the inboard side of the wing and the flap servo output arm is on the inboard side of the wing also.

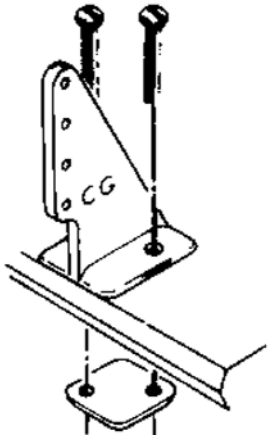
AILERON FLAP CONTROL HORN INSTALLATION

1. ☐ Collect the following items

(4) Silicone clevis keepers
(4) nylon control horns
(4) nylon control horn nut plates
(4) 2-56 clevis
(4) 2-56 pushrods
(8) #2 screws
(4) Nylon swing in keepers
(4) 4-40 x 5-1/2” pushrods threaded both ends

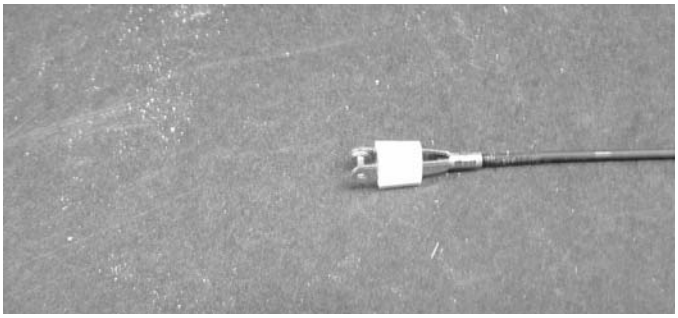


2. ☐ Use a straight edge and make a mark at a 90º degree angle to the trailing edge and in line with the output arm.



3. ☐ Mount the four control horns using the #2 screws and the nylon plates on the top side of the ailerons and flaps. The holes for the clevis should be aligned over the hinge line.

4. ☐ Mount the servos doors on the wing using the #2 x 3/8” screws provided. Using the radio, make sure the servo arm on the ailerons are centered and the flap output arms are in the fully up position.



5. ☐Screw a metal clevis on the end of each of the four 4” pushrods. Let the threads of the pushrod extend into the open part of the cle vis 1/16”. Install a silicone clevis keeper on the clevis.

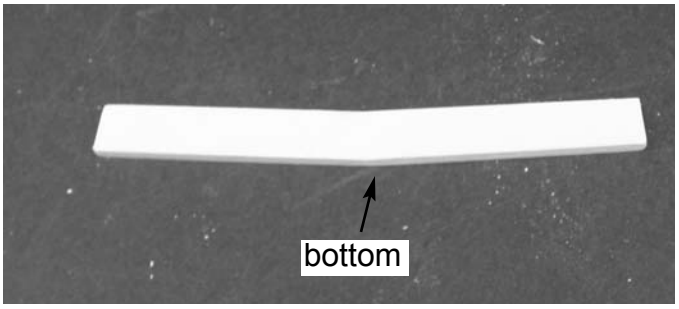
6. ☐ Install the clevis on the output arm of the servo. Using the radio, make sure the output arm is centered. Center the aileron and make a mark on the pushrod where it crosses the control horn.

7. ☐ Bend the pushrod 90 degrees at the mark and cut off at 3/8”.

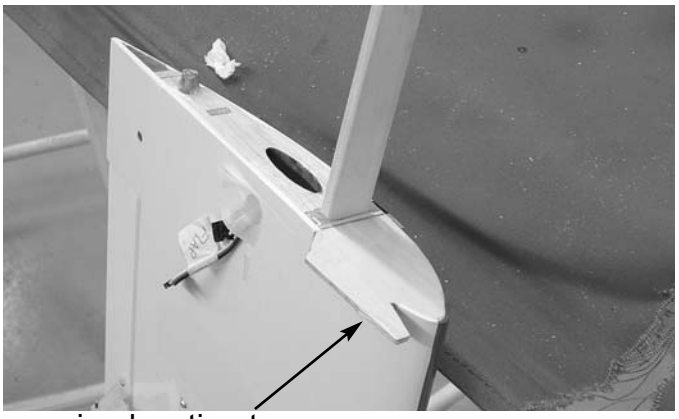
8. ☐ Use the nylon swing in keeper to secure the pushrod to the control horn.

9. ☐ Repeat for the other flap and ailerons.

WING JOINING

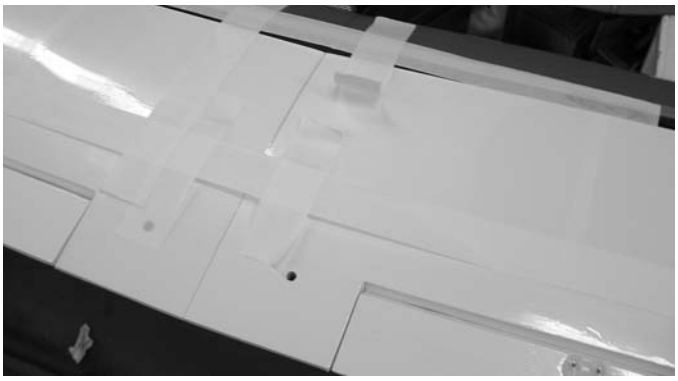


1. ☐ Locate the dihedral brace and identify the top and bottom.



2. ☐ Trial fit the dihedral brace in each wing half and then slide the two wing halves together.

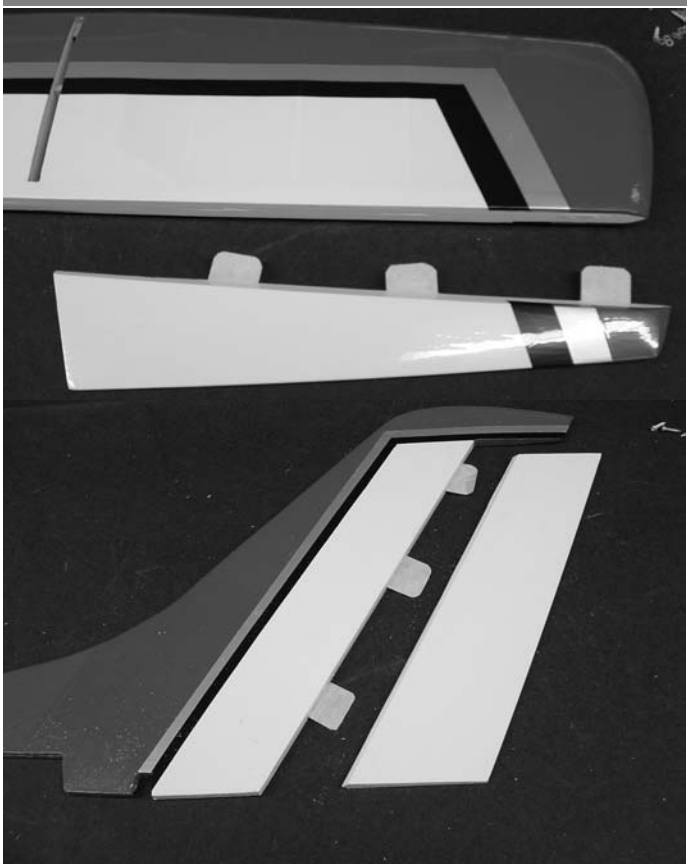
3. ☐ When satisfied with the fit, take the wing apart and mix enough epoxy glue to cover both wing roots, the dihedral brace and and the slots in the wing that dihedral brace fit into. Use a scrap piece of wood to work glue down into the slots in both wing halves. Make sure to get glue on both halves of the tongue on the bottom side that locates the wing. Use clamps to make sure they are together firmly.



4. ☐ Use masking tape to hold the wing together till the epoxy sets. Be sure to lay the wing flat, don't stand it on one tip or all the glue will run to one side of the wing.

TAIL ASSEMBLY & INSTALLATION

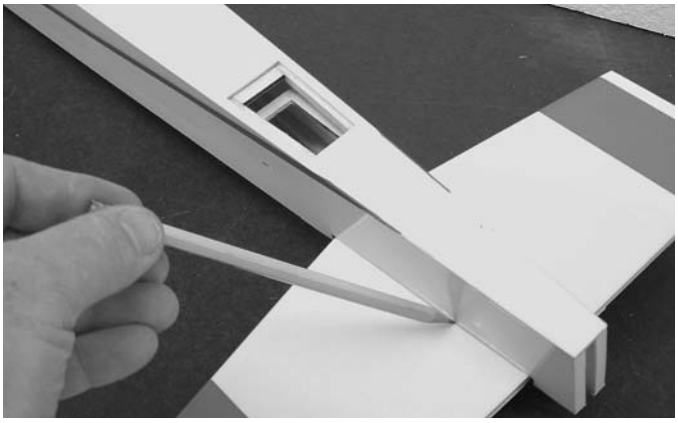
STAB & ELEVATOR INSTALLATION



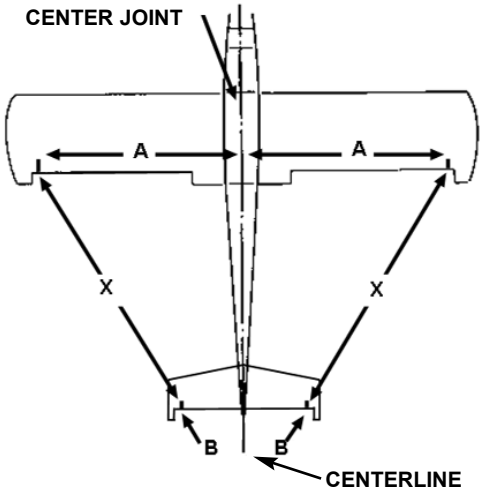
1. ☐ Collect the following parts:

(1) Stabilizer
(2) Elevators
(1) Elevator joiner wire
(1) Fin
(1) Rudder
(1) Wing/fuse assembly
(9) CA hinges

2. ☐ As with the wing and ailerons, use a modeling knife to make sure the hinge slots are cleanly cut.



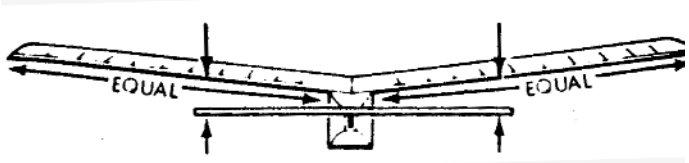
2. ☐ Install the stab in the opening in the rear of the fuselage and fit the fin into the slot in the top of the fuselage and into the slot in the stab.



3. ☐ Place a piece of masking tape on each wing tip, just above the aileron hinge line.

☐ Measure 29" out from the fuselage side to the wing tip and mark the spot on the tape, on both the left and the right side of the wing

☐ Measuring from the mark on each wing tip to the mark on the stab tip, make sure the distance "X" on the right side and left side of the plane are equal.



4. ☐ Make sure the stab is level (parallel) with the wing and insert paper strip shims, if necessary.

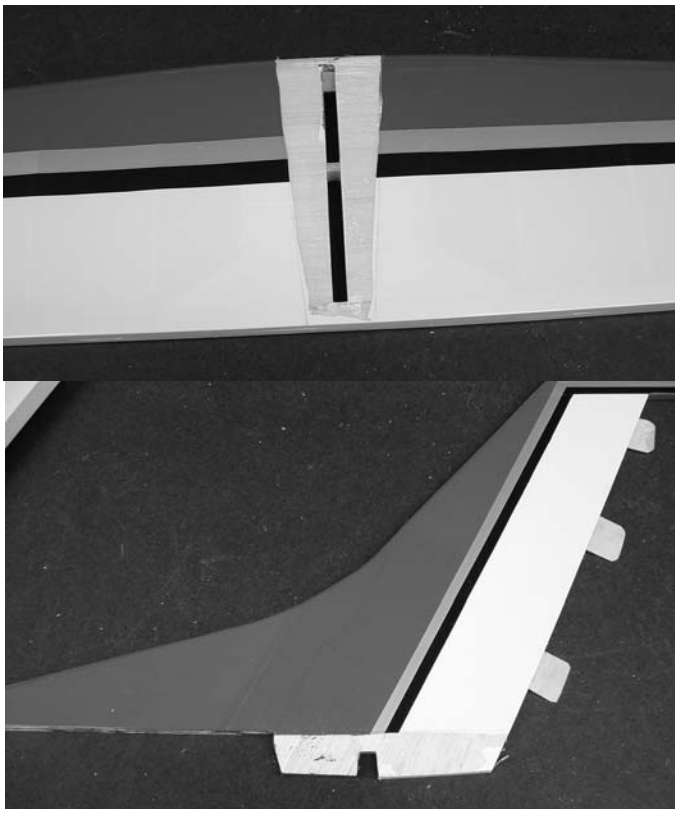
5. ☐ When satisfied with the alignment of the stab, temporarily tape securely in place.

☐ Turn over the plane and mark the area on the bottom of the stab where it rests on the fuse.

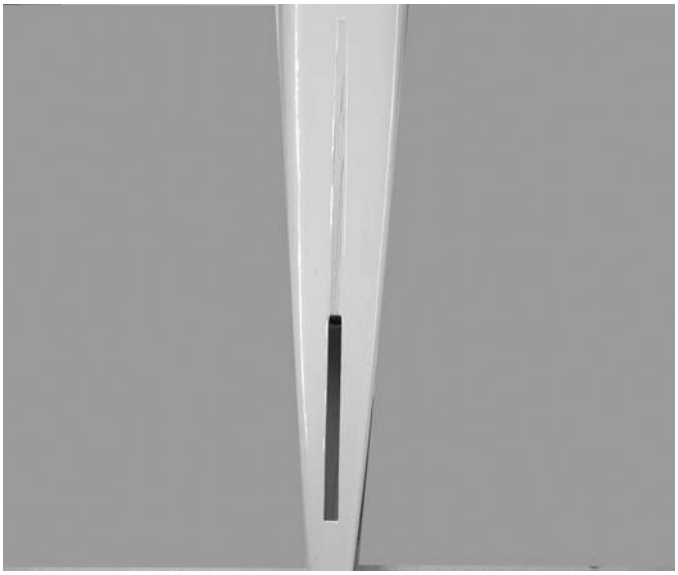
☐ Mark along the stab on the top side next to the fuselage.

☐ Mark the fin on both sides where it meets the fuselage.

☐ Remove the stab and fin from the fuse and, working 1/8" inside the drawn lines, carefully remove the covering from the bottom and top of the stab. BE CAREFUL TO AVOID CUTTING THE WOOD



6. ☐ Remove the covering on the bottom of the fin 1/8” below the ling you marked.



7. ☐ Remove the covering 1/16” inside the lines on the top of the fuselage where the fin sits.

8. ☐ Install the elevator joiner wire in the fuselage before installing the stab.**Important: don’t install the stab without the elevator joiner wire in place, you can’t install it later.**

☐ Spread epoxy on the stab top and bottom and insert into the fuselage. Apply glue in the slot on the stab and top of fuse and install the fin. Clean up excess epoxy using alcohol and recheck to make sure the stab and fin are aligned properly and allow the epoxy to set.

OUTFITTING THE FUSELAGE

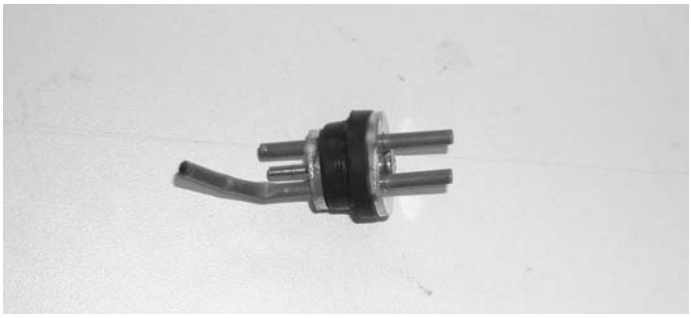
FUEL TANK ASSEMBLY

1. ☐ Gather the following items
(1) fuel tank
(1) rubber tank stopper
(1) clunk
(1) 3mm x 25mm screw
(1) cap washer large
(1) cap washer small
(1) 3mm x 40mm brass tube
(1) 3mm x 60mm brass tube
(1) silicone tube 4mm x 80mm

2. ☐ Insert the 3mm screw through the center hole in the large washer, through the center hole in the rubber washer against the large side, and screw the small washer on the back side.

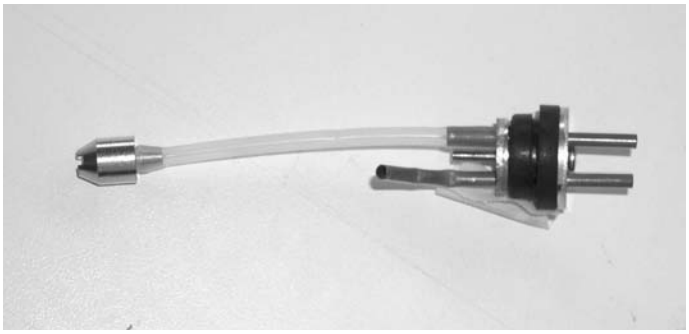
☐ Decide if you want to use a two line or a three line tank. Most two strokes use a two line, one to the carb and a vent tube to the pressure fitting on the muffler. You can get to the carb line to remove and fill through.

On most four strokes you cannot get to the carb easily so plumb a third line into the tank to use as a fill line. You will fill through it then plug it for flight. The carb line will stay connected all the time.



3. ☐ Insert the brass tubes through two or three of the holes. They should be arranged so as the long one (vent tube) will be on the right side of the plane and the short one on the left side.

☐ The tubes should extend out the front of the cap 5/8”. Bend the long tube up at about a 20 degree angle. This should be adjusted so the end of the tube almost touches the top of the tank when installed.



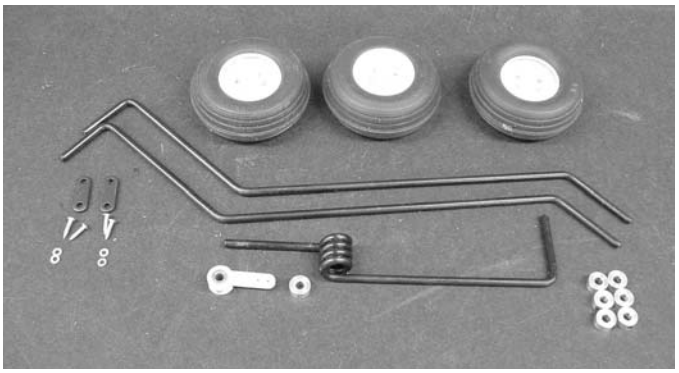
4, ☐ Install the 4mm silicone tube to the short brass tube and install the clunk to the other end of the silicone tube. This is the fuel pickup and must be free to “flop” around in the tank so it can pick up fuel in any attitude.

5. ☐ Install the assembly into the tank so the vent tube is turned up to the top of the tank and is positioned on the right side of the tank. Tighten the screw to expand the rubber cap. Don't over tighten or you could split the tank.

6. ☐ Attach the two pieces of 5mm tubing to the two tank outlets. Use different colors so you can tell which is the vent and which is the fuel pickup after the tank is installed. Make a note of which color you attach to which tube. The short brass with the clunk is the fuel pickup and must go to the carburetor. The long brass tube is the vent and should go to the pressure outlet on the muffler.

☐ Set tank aside till ready to install.

LANDING GEAR INSTALLATION



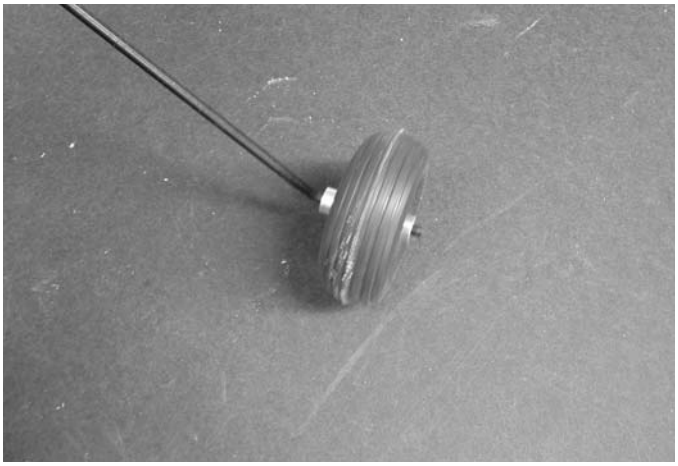
1. ☐ Gather the following items:

(4) 2mm x 12mm screws
(4) 2mm washer
(2) Metal gear straps
(2) Main gear wire
(1) Nose Gear Wire
(6) 4mm wheel collar
(1) Nylon steering arm
(1) set screw for steering arm
(3) 2-1/2" wheels

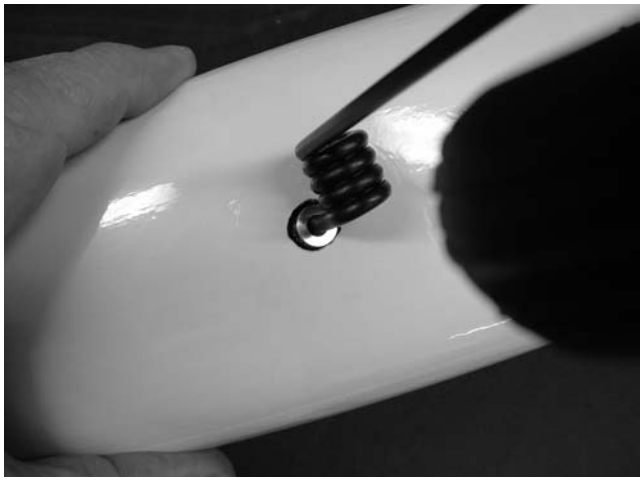
2. ☐ Insert the main gear wires in the pre-cut holes and slots in the bottom of the fuselage.

3. ☐ Position the two metal straps over the gear legs where they turn up into the fuselage on both sides.

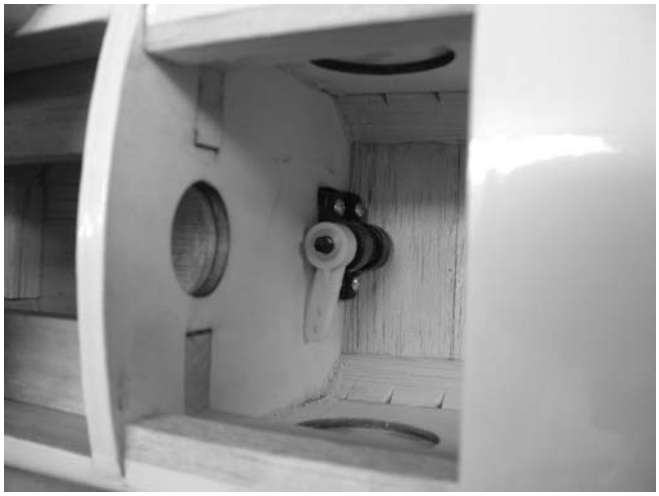
☐ Drill a 1/16" hole through each gear strap and install the 2mm screw and flat washer.



4. ☐ Install a wheel collar on the axle followed by the wheel, then the other wheel collar. File a flat spot on the axle where the outer wheel collar set screw fit to make sure it does not come off.



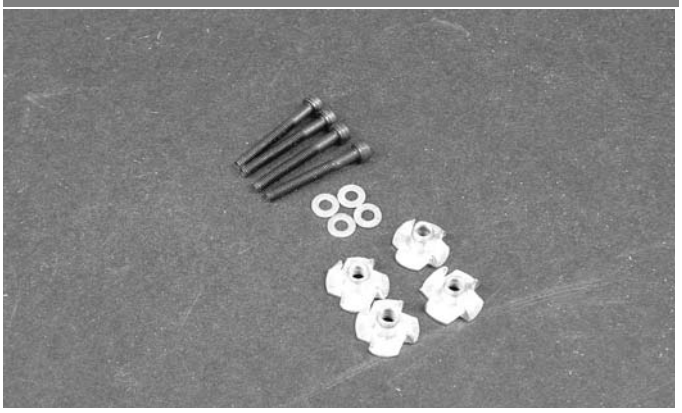
5. ☐ Install a wheel collar on the nose gear and insert into the hole in the bottom of the fuselage. Adjust the wheel collar so the gear wire is flush with the top of the steering arm inside the fuselage



6. ☐ Install the steering arm with the set screw on the side next to the firewall. This means you will have to rotate the nose gear 180 degrees, tighten the set screw, then rotate the nose gear back into position.This is done to give you more throw on the steering arm before it hits the firewall. Position the steering arm to give you enough throw and tighten the set screw.

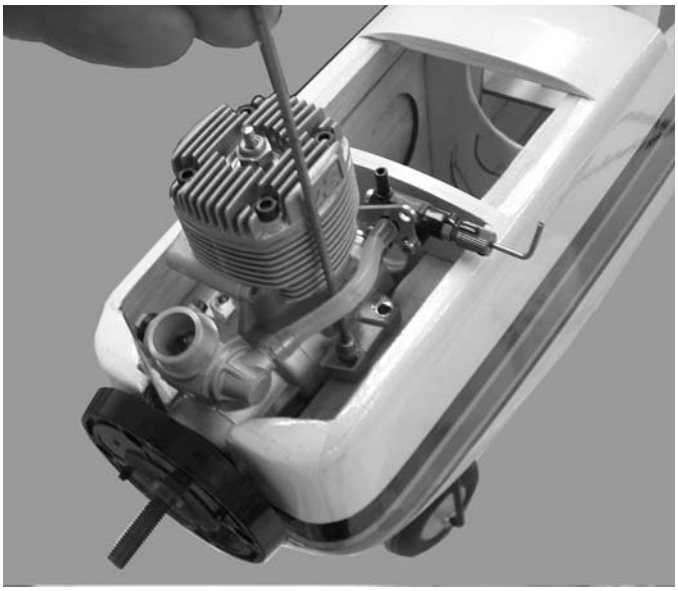
7. ☐ Install the nose wheel with a wheel collar on both sides

ENGINE INSTALLATION



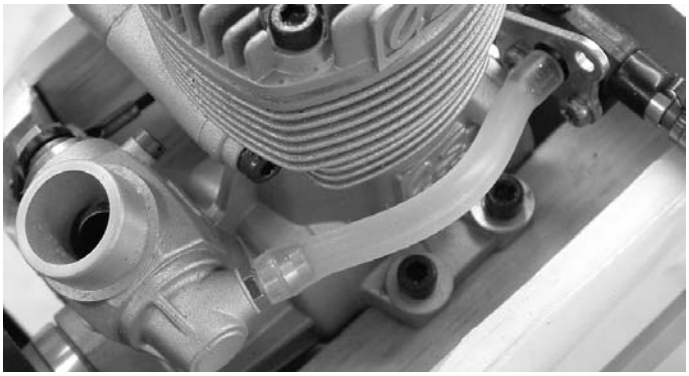
1. ☐ In addition to the engine collect the following items:

(4) 4mm blind nut
(4) 4mm x 30mm" socket head bolt
(4) 4mm flat washers



2. ☐ Position the engine in the mounts making sure to leave clearance for the spinner back plate on front. Mark the location of each hole.

3. ☐ Remove the engine and drill a 5/32” hole at the location you marked. This is the size of the shoulder of the blind nut not the screw. Seat the blind nuts using one of the bolts and flat washers to pull each blind nut into the bottom of the mount.



4. ☐ Re-install the engine and bolt in place using the four bolts and washers. Be sure to use lock tite on the bolts.

PROPELLER & SPINNER INSTALLATION

The propeller size must be matched to the engine. For example, a .60 may use a 11" diameter prop while a .80 four stroke can use a13" prop. Follow the engine manufacturer’s recommendation for correct propeller sizes or speak to a knowledgeable dealer. It's wise to buy a few spare props, as everyone breaks them occasionally, and particularly often when learning to fly.

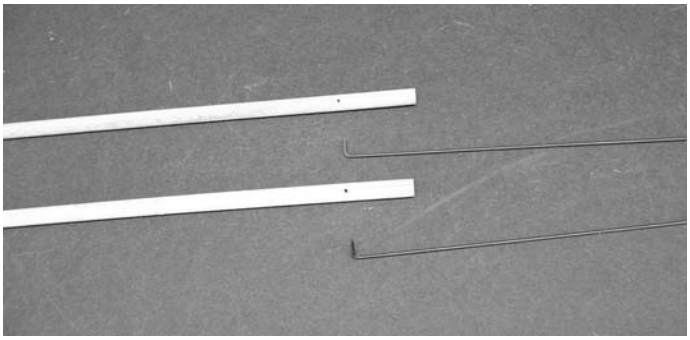
Balancing your propeller helps to protect your radio from the damaging effects of vibration. There are good, easy to use prop balancers on the market. We recommend sanding the heavy blade on the curved face, out near the tip, rather than on the flat face. Try to maintain the normal airfoil curvature. Avoid scratches which may cause the prop to break. **Never carve or cut a prop near the hub for any reason** (such as to fit a spinner).

It is equally important to use a correctly sized spinner. The CGP 4-pin spinner (3-1/2”) for the Heritage Series Skylane 62 ARF is a rugged precision-molded spinner which does not require any special mounting nuts or screws. **CAREFULLY READ THE SPINNER INSTRUCTIONS AND WARNINGS INCLUDED WITH THE SPINNER.** And remember, although a spinner helps reduce the chance of injury from a rotating prop, extreme caution always must be used when the engine is running.

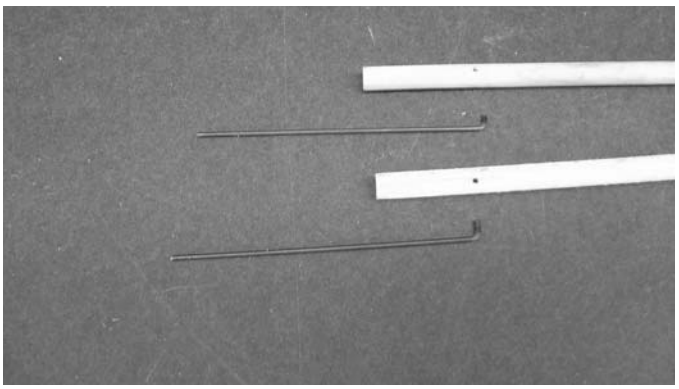
RADIO INSTALLATION

PUSHROD INSTALLATION

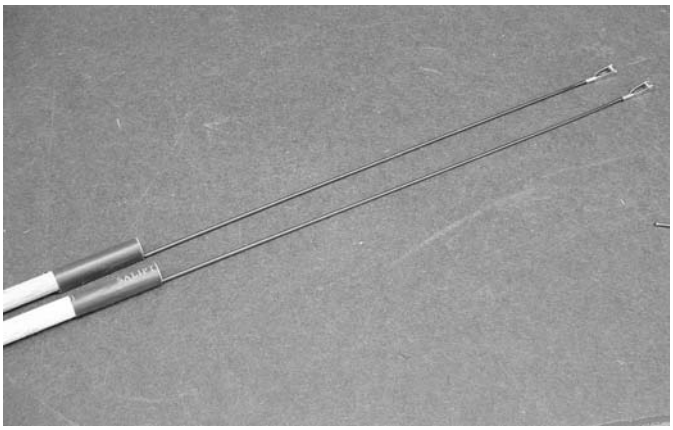
1. ☐ Collect the following items:
(2) 3/8” X 16” wooden dowels
(4) 2mm x 30cm pushrods
(4) Silicone clevis keepers
(4) 1/2” x 1-1/2” shrink tubing
(4) 2mm metal clevis
(2) 2mm x 18cm metal rods
(2) EZ servo connector
(2) 4mm x 20cm nylon tubes
(2) nylon swing in keepers



2. ☐ Take two of the 2mm x 30cm pushrods and make a 90 degree bend on the unthreaded end 3/8” long

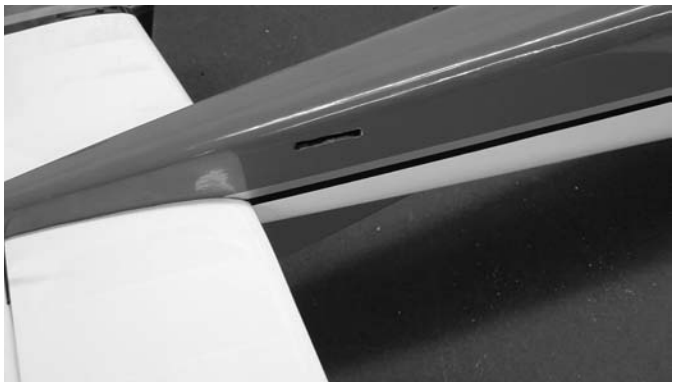


3. ☐ Take the two 2mm x 18cm rods, unthreaded on both ends, and make a 90 degree bend in one end.



4. ☐ Take the two wooden dowels and insert one long rod and one short in each end. Fit the 3/8” leg in the hole and the wire in the slot.Apply thick CA glue or epoxy to the wire and then slide the shrink tubing in place. Shrink the tubing tight.

5. ☐ Remove the covering over the rudder pushrod exit on the top-right side of the fuselage.



6. ☐ Remove the covering over the elevator pushrod exit on the left-lower side of the fuselage.

7. ☐ Mount the rudder control horn the same as we did with the ailerons and flaps. Mount it 1-1/4” up from the bottom of the rudder and angled toward the pushrod exit.

8. ☐ Mount the elevator servo in the manner, 1-1/8” over from the inside edge and perpendicular to the hinge line.

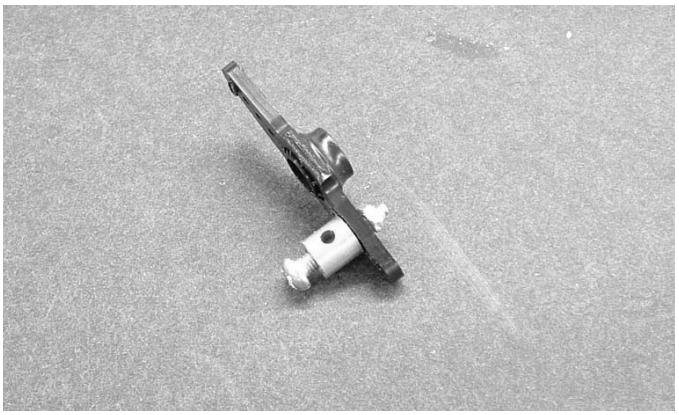
9. ☐ Install the pushrods in the slots in the rear of the fuselage. Put a 2mm clevis and silicone keeper on each rod and connect to the control horn.

SERVO INSTALLATION

1. ☐ Locate the two 3/16”x1/2”x1-5/8” wooden blocks. Glue in place at the front and rear of the rudder servo cutout. This will raise the rudder servo to prevent any interference between the rudder arm and the elevator arm.

2. ☐ Mount the rudder, elevator,and throttle servo in the openings provided.

3. ☐ Attach one of the pushrod connectors to the throttle servo arm.



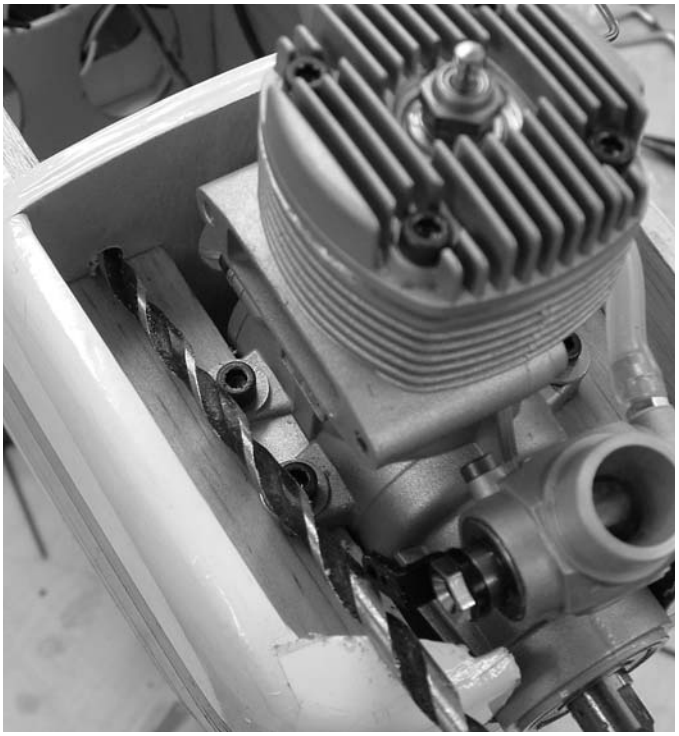
4. ☐ Connect the other pushrod connector to the inner hole on a double output servo arm.

5. ☐ Connect one of the2mm x 30cm pushrod with a clevis and silicone keeper to the nose gear steering arm. Install one of the 5mm nylon tubes on the rod.

5. ☐ Attach the rudder output arm to the servo and center the servo with the radio. Make sure the rudder is centered and mark the pushrod and bend at a 90 degree angle as we did with the ailerons Attach to the output arm with one of the swing in keepers.

☐ Insert the nose gear steering rod into the servo connector on the rudder servo, and adjust the nose wheel till straight. Tighten the set screw.

6. ☐ Center the elevator servo with the radio and attach an output arm. Center the elevator and mark the point where the pushrod crosses the output arm and bend at a 90 degree angle. Cut off at 3/8” and attach to the output arm using one of the nylon swing in keepers.



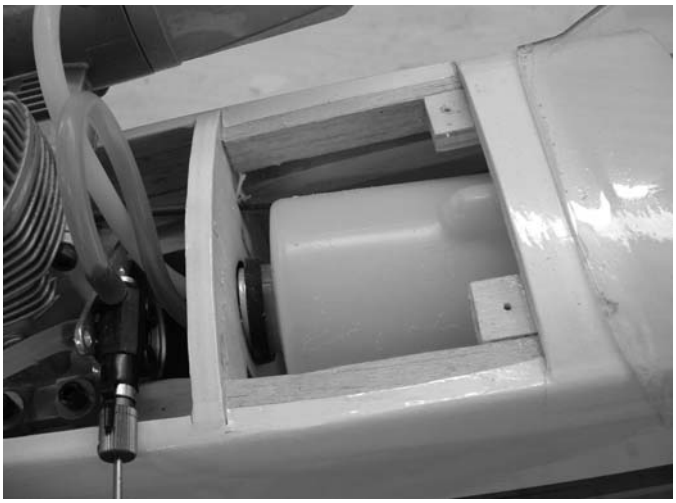
7. ☐ Using a long 3/16” drill, drill a hole in the firewall in line with the throttle arm on the engine.

☐ Attach the other 2mm x 30cm pushrod to the engine throttle arm with a clevis and silicone keeper. Install the nylon tube on the pushrod.

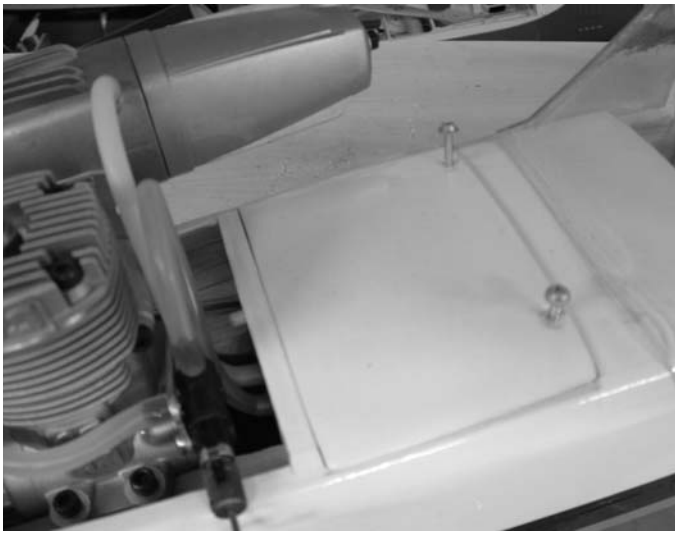
8. ☐ Attach the pushrod to the servo connector on the throttle servo and adjust properly.

9. ☐ Both the throttle pushrod and the nose gear steering pushrod will need to be notched into the bulkhead where the tank fits.

TANK AND HATCH INSTALLATION



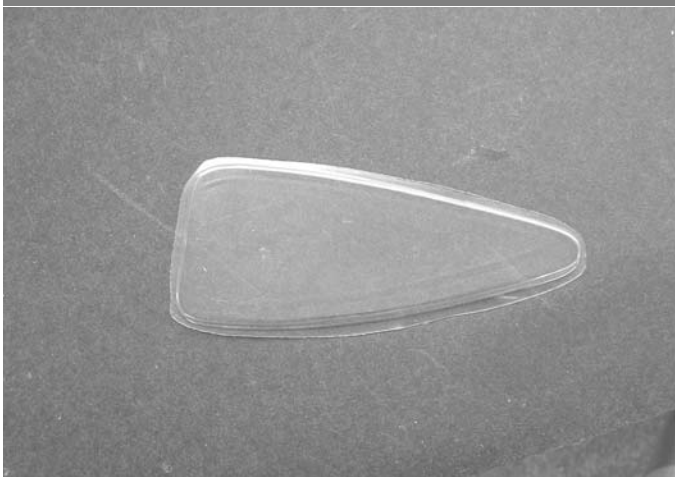
1. ☐ Install the tank through the wing opening, through the hole in the bulkhead, and the cap into the hole in the firewall. Foam (not included) can be used to cushion the tank on the sides. Connect the fuel lines from the fuel pickup to the carburetor, and the vent line to the muffler.



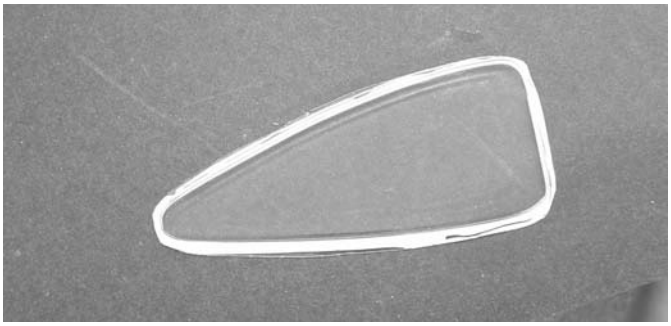
2. ☐ Fit the hatch in place with the dowels in front and secure using two 2mm screws at the rear.

3. ☐ Trim the rear window to fit flush with the rear of the wing saddle and overhanging the sides 1/4” to 3/8”. Glue in place using canopy glue and masking tape to hold in place till the glue dries.

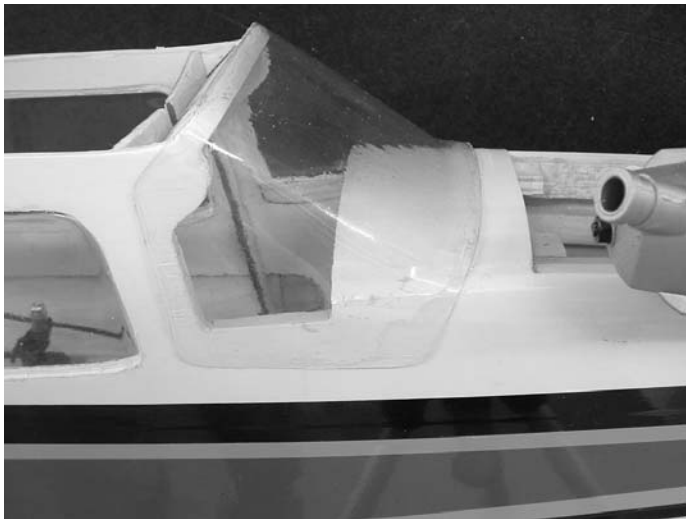
WINDSHIELD& WINDOW INSTALLATION



1. ☐ Trim the side windows leaving a 1/8” flange all around.



2. ☐ Apply a bead of Zap canopy glue around the 1/8” flange and push the window into place from the inside of the cockpit area. Hold with tape till dry.



4. ☐ Trim the windshield to fit flush with the front of the wing saddle and overhanging the post 1/4”. Glue in place with canopy glue and masking tape.

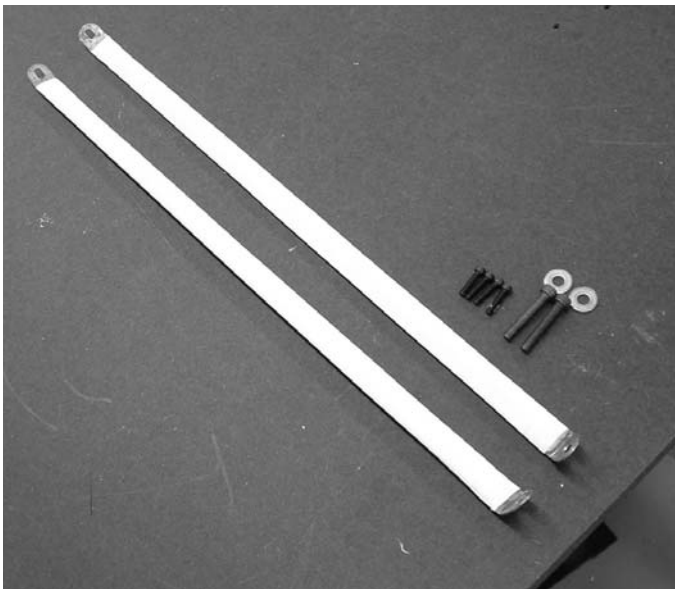
RECEIVER AND BATTERY INSTALLATION

1. ☐ Insert the Y-harness into the the aileron plug in the receiver and then wrap both the receiver and the battery in the 1/2" foam.

2. ☐ The switch can be mounted in the fuselage side opposite the exhaust.

☐ You can remove the tank and place the battery under the tank or it can be placed just in front of the servo tray depending on where you need it for balance. If the battery is under the tank the receiver can go just in front of the servo tray. If the battery is in front of the servo tray you can mount the receiver behind the servo tray under the pushrods. Move the battery and receiver to achieve the proper balance.

WING AND STRUT MOUNTING

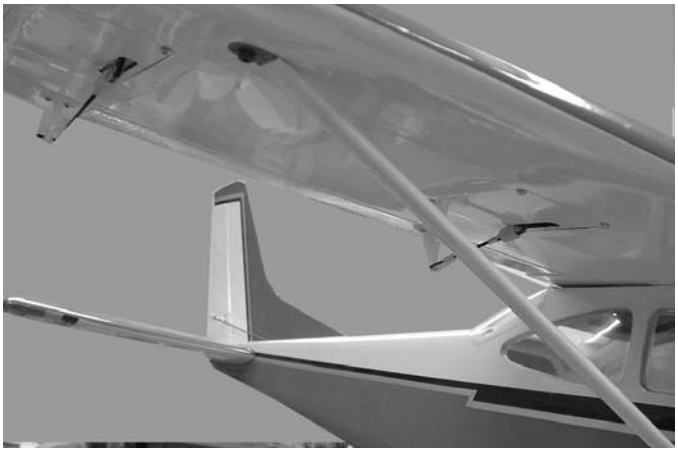


1. ☐ Collect the following items:
(2) Wing Struts
(4) 3mm x 12mm socket head screws
(2) 4mm x 25mm socket head screws
(2) 4mm flat washers

2. ☐ Fit the wing into the saddle with the tongue on the bottom of the bottom of the wing fitting into the notch at the leading edge.

3. ☐ Bolt the wing in place using the two 4mm x 25mm bolts and flat washers. The blind nuts are pre-installed in the fuselage.

4. ☐ Connect the strut to the fuselage using one of the 2mm bolts, don't tighten all the way. The blind nut is pre-installed in the fuselage.



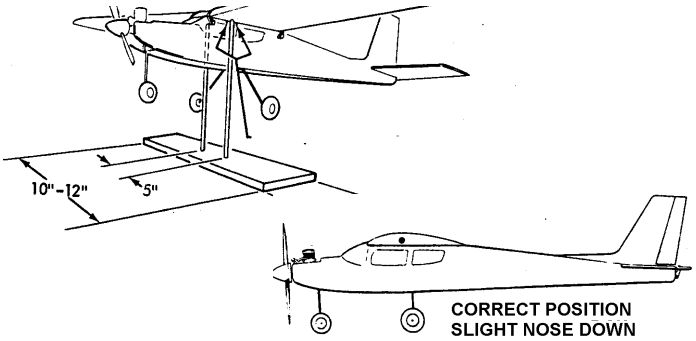
4. ☐ Connect the other end of the strut to the wing with another 4mm bolt. The blind nut is pre-installed in the wing. Repeat for the other strut and tighten all four bolts.

BALANCING THE MODEL

IMPORTANT: NEVER NEGLECT THIS STEP WITH ANY AIRPLANE. If you try to fly a plane with the balance point behind the recommended range, you run the risk of having an unstable aircraft and the strong likelihood of a crash. **TAKE THE TIME TO PROPERLY BALANCE YOUR MODEL!**

To determine the Center of Gravity, measure back on the fuselage from the leading edge of the wing. The C.G. range for this aircraft is

3" to 3-5/8".



Place the fully assembled aircraft on a model balancing stand, as shown above. You can make this simple set-up with a couple of ¼" dowels with rounded tops, spaced 5" apart. Alternatively, lift the model under the wing near the fuse by your finger tips. (You may wish to get help from a friend if using the latter method.) Referring to the recommended balance range for your model, move the position of the plane on the balance stand until the model is level or the nose slightly down. If the is tail heavy, shift the R/C equipment away from the heavy end of the model and recheck until the model will balance within the acceptable range. If shifting the R/C gear still doesn't balance the model, add weight to the far end of the nose or tail, respectively, until the model is correctly balanced. The least weight is needed when added as far back or forward as possible. Fasten the weight permanently in place.

FLYING YOUR Heritage Series Skylane 62 ARF

GETTING READY TO FLY

Taking time here really pays off later. Rushing the set-up and testing frequently results in a model that never performs up to its full potential and may even lead to a crash.

CONTROL SURFACE SETTINGS. For the first few flights, even if you are an experienced flier, it is best to set the control surfaces at the GENTLE (LOW) settings. You can then work your way up to the higher settings. The settings for the Heritage Series Skylane 62 ARF are:

	LOW	HIGH
AILERONS	3/8"	1/2"
ELEVATOR	3/8"	1/2"
RUDDER	3/4"	

RADIO CHECK. Many an experienced flier has rued the day he neglected to check EVERYTHING! After fully charging the batteries, turn on the receiver and transmitter and actuate all controls many times to make sure all responses are correct. Standing behind the model, the right aileron should go up when the stick is moved to the right. Moving the transmitter stick down should move the elevator up, and vice versa. Also check the wheel movement, which should move right with the right rudder movement. Check that the throttle opens to permit full power when the stick is moved up. Practice steering the model on the ground, with the throttle set at minimum, to keep model moving at a walking pace. **Before and after all tests**, make sure all gear is neatly and firmly in place - engine and servos fastened down, receiver and battery wrapped in foam and secured against shifting, propeller tight, and antenna extended.

Prior to the beginning of each day's flying, make a range check of your equipment in accordance with the manufacturer's instructions. With transmitter antenna collapsed to 6-8", you should have at least 100 feet range on the ground. Check this by turning on both the receiver and transmitter and with the model heading away from you, walk away while transmitting signals. Watch to see that no signals are missed until you are at least 100 feet away. **Remember not to use your transmitter when someone else is flying or testing on the same frequency. DO NOT ATTEMPT FLIGHTS UNLESS ALL THE EQUIPMENT WORKS PERFECTLY.**

After everything checks out, check it again! When you are satisfied with the performance of all equipment functions, point your **SKYLANE'S** nose into the wind and, gradually increasing to full power, take off for a short (2 to 3-minute) first flight.

Before the second flight, take off the wing and check all screws, radio equipment, engine mounting, muffler, etc. to make sure that nothing has come loose.

Spend the following flights getting familiar with your model and making sure it is properly trimmed for straight and level flight. When you feel comfortable with your model, it's time to try aerobatics.

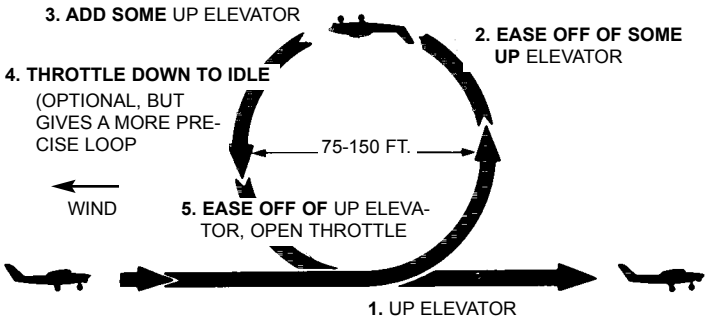
BEGINNING AEROBATICS

Almost all maneuvers are a combination of loops and rolls, so if you can do these two things, you're off to a good start! We highly recommend the book **Flight Training Course, Volume II**, published by **R/C Modeler Magazine.** Some of the following is taken from this manual, with the gracious permission of the magazine.

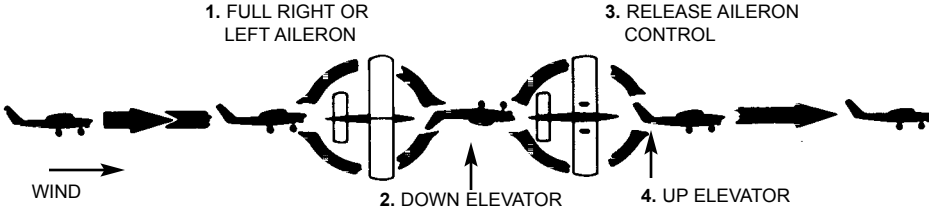
Above all, remember that top gun aerobatics are the result of practice. The crisp, graceful movements come from the pilot's willingness to do and do it again. Don't give up; practice really does make perfect!

Which side is up? Learning to recognize which side is up may sound foolish, but many a plane has bitten the dust because the pilot lost track of the plane's position. Other than learning to recognize the plane's silhouette at different angles and attitudes, the best insurance is to force yourself to concentrate on each thing that you do, i.e. making a left turn. If your mind strays and you forget what you're doing, coming back to it can cause a few new grey hairs!

THE LOOP. This is a good first stunt. The model starts flying straight and level into the wind, then pulls up into a smooth, round loop. The up and down portion should be straight, without the plane falling off to the right or left, and the speed should be constant. As the plane finishes the loop, it pulls out straight and level, at the same heading and altitude as when it entered the maneuver.



THE HORIZONTAL ROLL. *Important! Always remember that,* ***when the plane is inverted, the elevator works backwards.*** Therefore, when the plane is inverted, you give **down elevator.** Also, be sure to fly high enough to give a good margin for error, as your early attempts will probably end up in a 30° dive. We also recommend you practice with the plane in front of you, rather than overhead.



Good luck and happy flying!