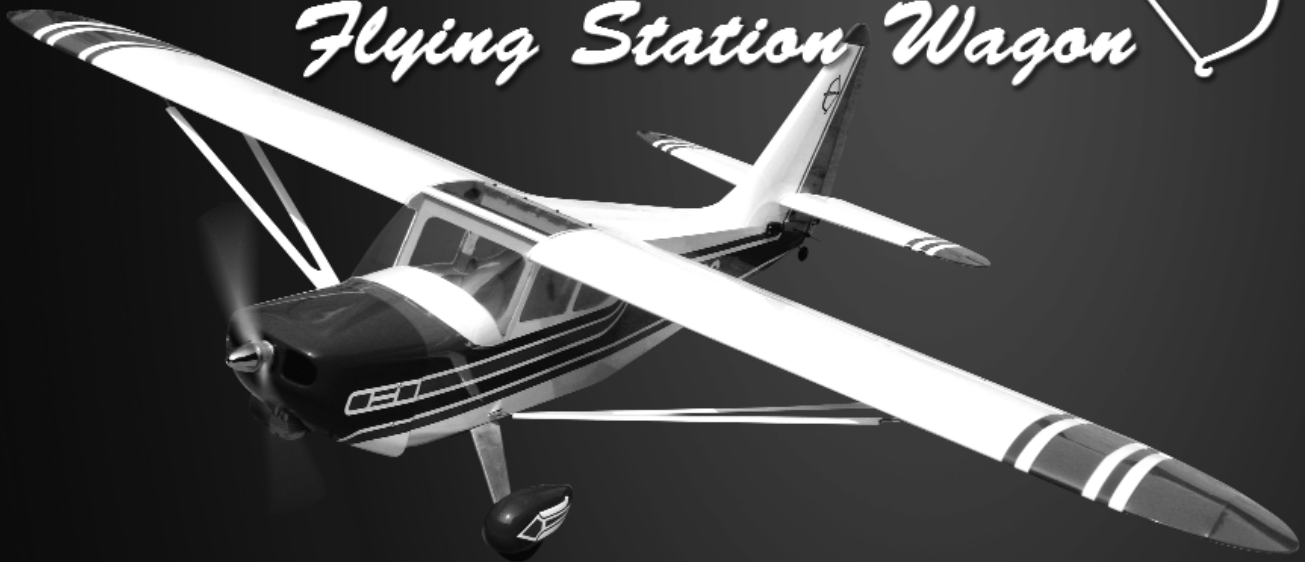


Stinson 108 ARF

Flying Station Wagon



Introduced in 1947, The Stinson 108 Flying Station Wagon was ahead of its time. The slogans "My airplane works for a living" and "America's No. 1 Utility Plane" was easy to understand as the Flying Station Wagon seated four along with 100 pounds cargo, and cruised at 130mph.

With Carl Goldberg's Stinson 108 ARF Flying Station Wagon you'll experience this classy airplane like never before. Relaxing predictable slow flight is like second nature. Flaps with dual servo control allow for extremely slow flight & easy landings. When you want something extra, this capable aerobatic beauty features dual elevator servos, independent aileron servos, and airfoiled tail group to take advantage of all your skill.

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.

INTRODUCTION

USING THIS INSTRUCTION MANUAL

Before you begin assembling your **Stinson 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 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.

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, Ltd. by telephone 1-678-450-0085.

ADHESIVES & GLUING TECHNIQUES

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

CAUTION

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

COVERING

The Stinson 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 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 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.

Important Information

Covering coming loose is not **COVERED UNDER WARRANTY**. Due to temperature changes the plane may develop some wrinkles in the covering that you will need to remove with an iron. Be sure to seal the edges down first so that you do not cause the covering to shrink and leave exposed areas of wood. Please inspect the plane before beginning to assemble to make sure you are happy with it. After assembly has begun you cannot return the kit. If you find a problem before beginning to assemble the plane, you must contact us. Please do not return it to the dealer.

ITEMS NEEDED TO COMPLETE THIS AIRCRAFT

- ☐ 1 RADIO GUIDANCE SYSTEM (6 CHANNEL MINIMUM REQUIRED WITH 8 SERVOS)
- ☐ 2 12" AILERON SERVO EXTENSION WIRES
- ☐ 2 24" ELEVATOR SERVO EXTENSION WIRES
- ☐ 3 Y-HARNESS (1 with reversing)
- ☐ 1 ENGINE .61-.108 2-STROKE, .91- 1.20 4-STROKE AND MUFFLER
- ☐ 1 CA ACCELERATOR
- ☐ 1 2 OZ. BOTTLE CA MEDIUM GLUE
- ☐ 1 1/2 OZ. BOTTLE CA THIN GLUE
- ☐ 1 20 MINUET EPOXY
- ☐ 1 1/4" FOAM RUBBER
- ☐ 1 20" String

NOTE: The Stinson ARF covering matches White (#870), Deep Blue (#873) and True Red (#877) Oracover.

TOOLS AND SUPPLIES FOR ASSEMBLY.

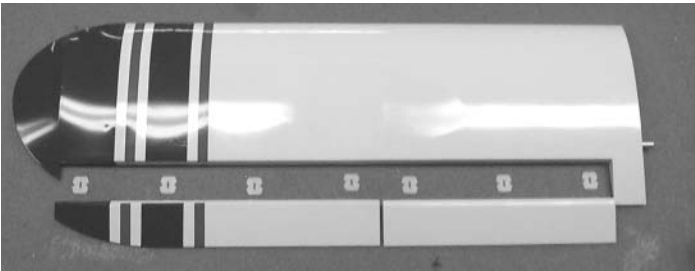
- ☐ MODELING OR UTILITY KNIFE
- ☐ WORK SURFACE (24" X70")
- ☐ ELECTRIC DRILL
- ☐ 1/16", 3/32", 1/8", 3/16", 5/32", 1/4", 5/64" 7/32" DRILL BITS
- ☐ SMALL STANDARD & PHILLIPS SCREW-DRIVERS
- ☐ MASKING TAPE
- ☐ NEEDLE NOSE PLIERS
- ☐ MOTO TOOL
- ☐ 24" RULER
- ☐ FLEXIBLE STRAIGHT-EDGE
- ☐ 30-60-90° x 6" TRIANGLE
- ☐ SOFT PENCIL
- ☐ A FEW STRAIGHT OR "T" PINS
- ☐ ADJUSTABLE WRENCH
- ☐ WIRE CUTTER (DYKES)
- ☐ OPTIONAL HEAT GUN/COVERING IRON
- ☐ ACID BRUSH
- ☐ ELECTRICAL TAPE
- ☐ PIECE OF MEDIUM SANDPAPER
- ☐ 5 FT. LENGTH OF STRING
- ☐ 4-40 DRILL AND TAP SET

Caution:

Before starting, carefully go over all high stress areas with an epoxy or a wood glue to confirm all areas are well glued.

WING ASSEMBLY

AILERON INSTALLATION

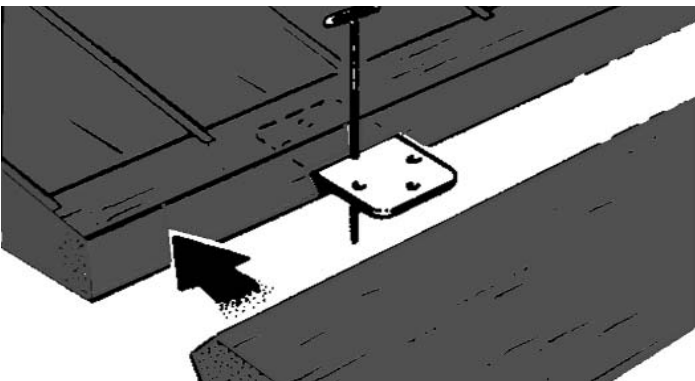


1. ☐ Collect the following parts:

- (1) Left wing
- (1) Right wing
- (1) Left aileron & Flap
- (1) Right aileron & Flap
- (14) CA hinges



2. ☐ Locate the pre-cut aileron hinge slots and flap 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 the 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 further than halfway into the wing.

4. ☐ Select the aileron and flap for the wing on which you are working on 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.
5. ☐ Carefully check the alignment of the aileron. It should be centered, with about 1/32" away from the wing tip.
- ☐ When satisfied with the alignment, remove the straight pins, being sure to keep the aileron tight to the wing. You may wish to apply a few pieces of masking tape to keep the pieces in place.



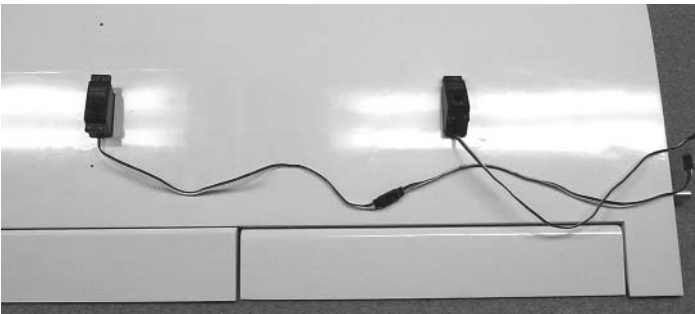
6. ☐ Keeping the aileron and wing in position, apply 3 or 4 drops of CA glue to the small exposed area of each hinge.
- ☐ Turn the assembly over and again apply 3 or 4 drops of CA glue to the exposed hinge surfaces.
- ☐ Do the same steps for the flap. Remember to leave a gap at both ends of the flap.
7. ☐ Repeat the above steps for the other half of the wing.

AILERON SERVO INSTALLATION

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

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.**

1. ☐ Collect the following items:
 - (16) Servo mounting screw (supplied with radio)
 - (4) Servos with rubber grommet & eyelets (supplied with radio)
 - (2) 12" servo Extension (for the aileron servos).
 - (1) 30" string
 - (1) axle nut



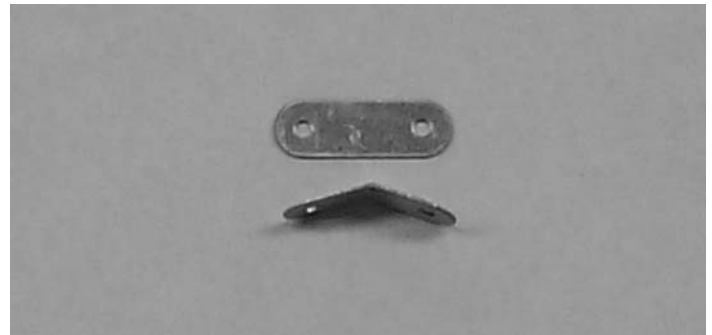
2. ☐ Attach the aileron servo wire to the 12" extension and securely tape the connection together.
 - ☐ Tie the 30" string to the axle nut.
 - ☐ Tie one end of the string to the aileron servo extension.
 - ☐ While holding the wing up on the root rib, drop the other end of the string with the nut into the aileron servo hole. Allow the nut to fall down through the wing rib holes till it exits the center root rib.
3. ☐ **SLOWLY** pull on the string until the end of the 12" extension comes out of the hole.
 - ☐ Tape the extension securely to the wing, so that it will not slide back in while you are working.
 - ☐ Repeat these steps for the other aileron servo.
 - ☐ The flap servos are done in the same manner as the aileron servos without using extensions.



4. ☐ Using the screws supplied with your radio, screw the servos to the mounting plates in the wings.

WING STRUT BRACKET INSTALLATION

1. ☐ COLLECT THE FOLLOWING ITEMS:
 - (4) STRUT MOUNTING BRACKET
 - (4) #2 x 3/8 SHEET METAL SCREW

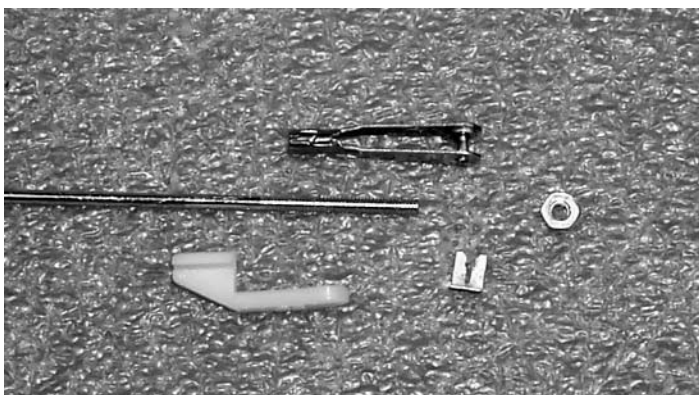


2. ☐ Place a small drop of thin CA glue into the wing strut mounting holes found in the bottom of the wing above and below the aileron servo.
 - ☐ Slightly bend the strut mounting bracket in the middle.



3. ☐ Using #2 x 3/8 sheet metal screw, mount the bracket so that it is pointing to the fuselage.

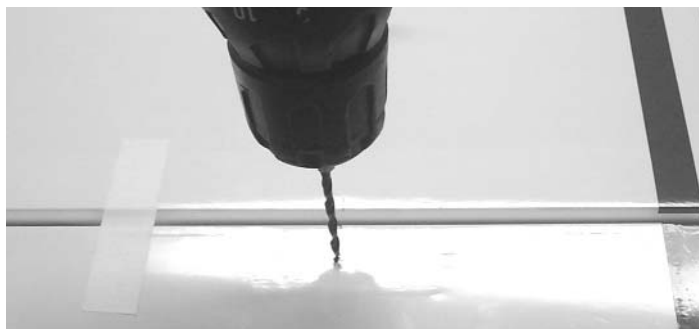
AILERON CONTROL HORN INSTALLATION



1. ☐ Collect the following items
 - (4) Metal Clevis
 - (4) 4-40 Hex Nut
 - (4) 2-56 x 4-7/8" Threaded wire
 - (4) 6-32 x 2" Bolt
 - (4) 6-32 Hex nut
 - (4) #6 Washer
 - (4) 6-32 Black Horn Bracket
 - (4) Nylon Swivel keepers



2. ☐ With the aileron servo in place, make a mark at a 90° degree angle to the trailing edge and in line with the servo arm.



3. ☐ Position the control horn bolt so that it is 3/4" back from the hinge line on the mark that you just made.
4. ☐ Using a 9/64" drill bit, make a hole in the aileron through to the top side.

HINT: Drill the hole from the bottom half way. Then measure and mark the top of the aileron and drill down to the hole from the top of the aileron.



5. ☐ Insert the 6-32 x 2" screw from the top through the aileron.
 - ☐ Place the #6 washer and the 6-32 hex nut on the bolt and tighten. Make sure that you use thread lock on the bolt and nut.
 - ☐ Screw the black adjustable horn bracket on the bolt. Keep the hex nut tight.



6. ☐ Thread on to the end of the 2-56 x 4-7/8" pushrod a 2-56 nut and a 2-56 metal clevis.
 - ☐ Mount the clevis onto the black horn bracket and secure using a metal clevis clip.
 - ☐ Measure the length of the pushrod to the servo arm hole and make a 90 degree bend.
 - ☐ Mount the swivel keeper on to the wire and clip in place.
 - ☐ Repeat the above steps for the remaining aileron and flaps.

Caution:

Make sure each snap link is fully closed with a clevis clip before and after each flight.

TAIL CONSTRUCTION

STAB INSTALLATION

* Collect the following items

- (2) Right & left Stab
- (1) 10mm x 182mm front stabilizer tube
- (1) 10mm x 312mm Rear Stabilizer tube
- (2) 4-40 x 3/8 Socket head screw



1. ☐ Slide the short stabilizer tube into the front hole and long stabilizer tube in the rear hole of one side of the stab. Then slide the assembly into the holes in the fuselage till the stab is flush against the fuse. (The side of the stab with the hole is the top of the stabilizer). Slide the second stab onto the tubes sticking out the other side of the fuselage. Squeeze both stab pieces together firmly on to the fuselage.
 - ☐ Check that the stabilizer is level with the wing. Shim the tube in the fuselage up or down if necessary. Do not go any farther till the stab is level to the wing.
2. ☐ Using 4-40 x 3/8" bolt, drill and tap the stabilizer tube at both hole locations. This method will allow you to remove the stab as needed. Remember to keep the stabilizers tight against the fuselage.

CAUTION:

You must watch the bolt holes for fatigue and drill another hole by rotating the tube when this happens.

HINGING THE ELEVATORS

- ☐ Collect the following items:
- (2) Elevators
- (6) Hinges



1. ☐ Take three hinges and, as with the aileron hinge installation, insert the hinge into the elevator, using straight pins to ensure the hinge stays centered between the stabilizer and the elevator.
 - ☐ Slide the exposed side of the hinge into the slots in the stab until the pins touch both the stab and the elevator.
2. ☐ Remove the pins in each hinge and, keeping the elevator/stab assembly in position, apply 3 or 4 drops of thin CA to each hinge, on both the top and bottom sides of the stab.
 - ☐ Allow ten minutes for the CA to cure before flexing the elevator. Then install the second elevator.

INSTALLING THE ELEVATOR SERVOS

1. * COLLECT THE FOLLOWING ITEMS:
 - (2) SERVOS AND MOUNTING HARDWARE
 - (6) 24" SERVO EXTENSIONS
 - (2) 2-56 x 7-7/8" THREADED ROD
 - (2) -2-56 METAL CLEVIS
 - (2) NYLON SWING KEEPER
 - (2) 6-32 x 2" FLAT HEAD SCREWS
 - (2) 6-32 HEX NUT
 - (2) #6 FLAT WASHER
 - (2) BLACK ADJUSTABLE HORN BRACKET
 - (2) 2-56 HEX NUT

2. ☐ Remove the stabilizer from the fuselage.



3. ☐ At the rear of the fuselage just below the front of the stabilizer you will find the servo cut outs on both sides of the fuselage. The top cut out is for the elevator servos.
 - ☐ Remove the covering over top of the elevator servo hole
 - ☐ Mount your elevator servo with a 24" servo extension taped to it.
4. ☐ Pull the servo extensions towards the front of the plane.
 - ☐ Repeat these steps for the second elevator servo.

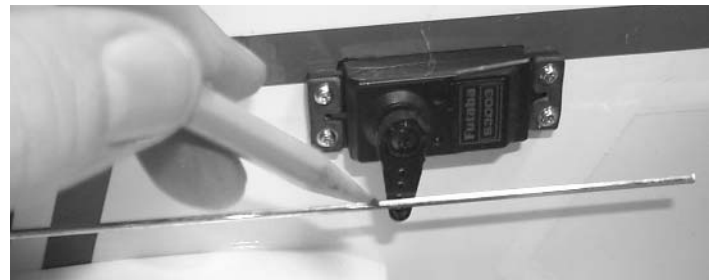


5. ☐ With the servo in place, remount both stabilizers and make a mark at a 90° degree angle to the elevator hinge line, and in line with the servo arm.
 - ☐ Position the control horn bolt so that it is 3/4" back from hinge line on the mark that you just made.

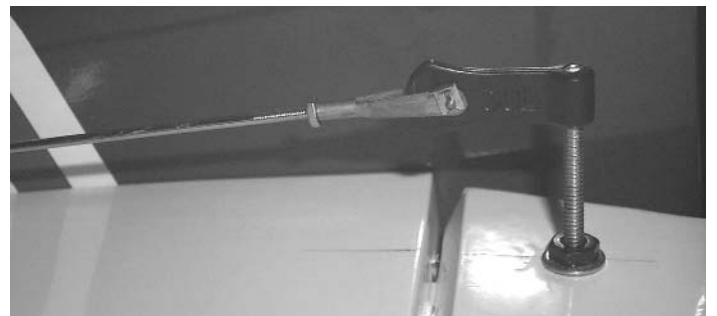
6. ☐ Using a 9/64" drill bit, make a hole in the elevator through to the top side.



5. ☐ Insert the 6-32 x 2" screw from the top through the elevator.
 - ☐ Place the #6 washer and the 6-32 hex nut on the bolt and tighten. Make sure that you use thread lock on the bolt and nut.
 - ☐ Screw the black adjustable horn bracket on the bolt.



6. ☐ Thread the 2-56 hex nut and metal clevis onto the end of the 2-56 x 7-7/8 pushrod.
 - ☐ Mount the pushrod onto the elevator control horn.
7. ☐ Keeping the elevator level, make a mark where the pushrod touches the servo arm.



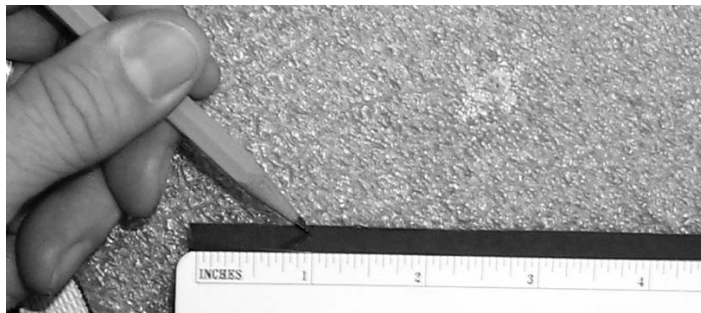
8. ☐ Make a 90 degree bend at the mark you just made.
 - ☐ Put the pushrod through the servo arm hole and attach the swivel keeper.
 - ☐ Place a clevis clip on each clevis.
 - ☐ Repeat for the other elevator.

Caution:
Make sure each snap link is fully closed with a clevis clip before and after each flight.

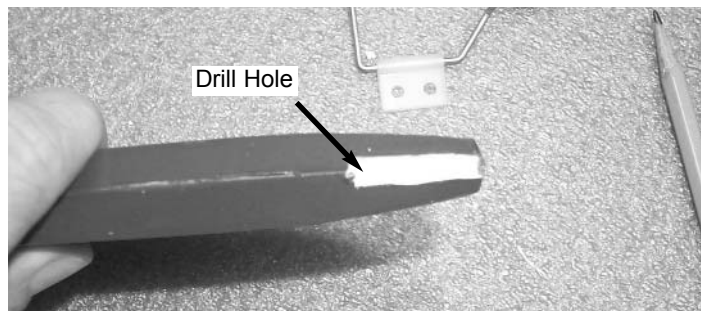
RUDDER AND RUDDER CABLES

☐ Collect the following items:

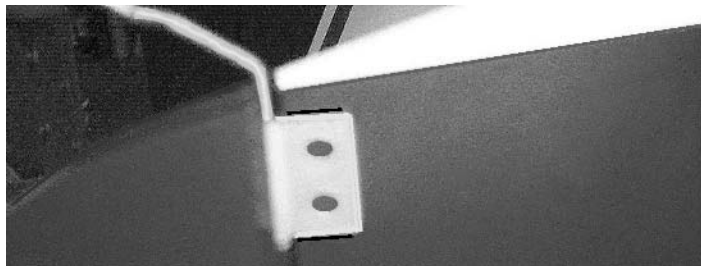
- (1) 6-32 x 3" All threaded rod
- (2) Adjustable Horn Bracket
- (2) 6-32 Hex Nut
- (2) #6 Flat Washer
- (1) Rudder
- (4) Hinges
- (1) Cable
- (2) Brass Tubes 1/16 OD x 1/4"
- (2) 2-56 Threaded Rods with holes
- (2) 2-56 Metal Clevises
- (2) 2-56 Hex Nuts



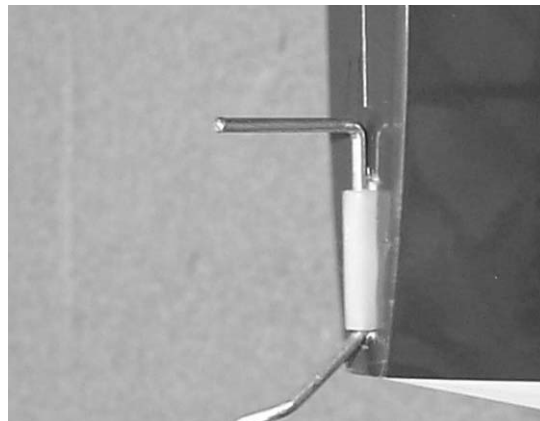
1. ☐ Mark 1" up from the bottom of the rudder.



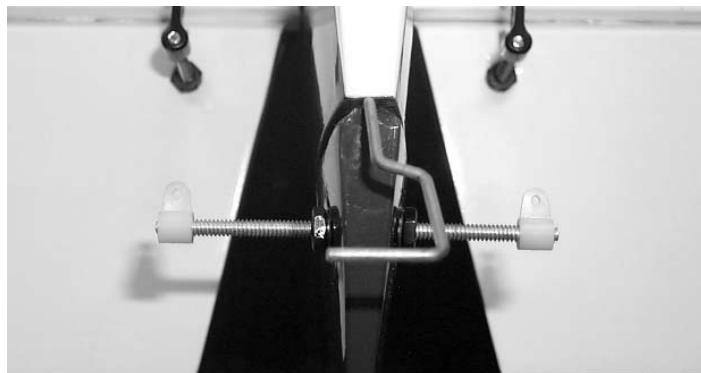
2. ☐ Drill a 3/32" hole on the hinge line at the 1" mark you just made.
- ☐ Cut a slot along the rudder hinge line for the tailwheel wire to fit into.



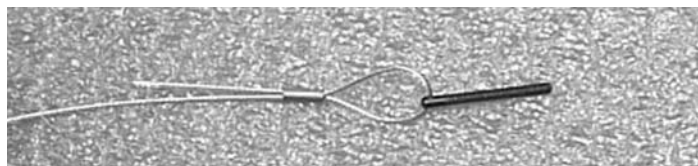
3. ☐ Mark where the tail wheel bracket meets the fuselage



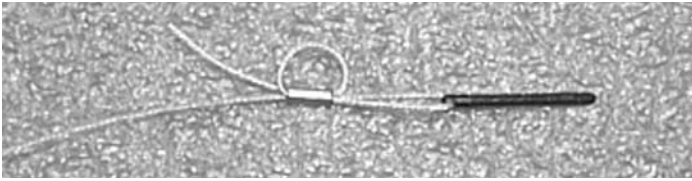
- ☐ Make a slot on the hinge line for the bracket. Make sure that the bracket and wire is between the fuselage and the rudder.
4. ☐ Install the hinges into the rudder and glue the rudder in place using the same hinging method used for the elevator and ailerons. Remember to leave a 3/32" gape at the top of the rudder.
- ☐ Position the rudder control horn bolt so that it is 1/4" back from hinge line and 1" up from the bottom of the rudder.
- ☐ Using a 9/64" drill bit, make a hole in the rudder.



5. ☐ Center the 6-32 x 3" threaded rod in the hole.
- ☐ Using thread lock place first the #6 washer then the 6-32 Hex nut on each side of the rudder.
- ☐ Thread the white adjustable horn brackets on both ends of the rod.



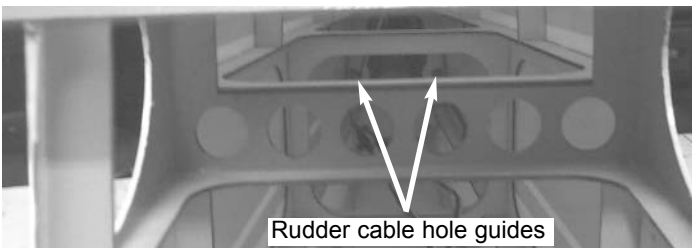
6. ☐ Insert the cable through the 1/16 OD x 1/4" brass tubing.
- ☐ Next thread the cable though the hole at the end of the 2-56 threaded rods and loop it back through the brass tube.



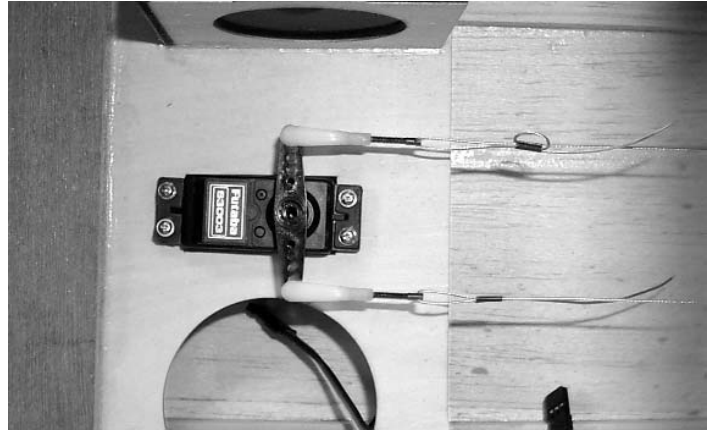
7. ☐ Loop the end of the cable back through the brass tube.
- ☐ Next thread the cable through the hole at the end of the 2-56 threaded rods and loop it back through the brass tube.
- ☐ Crimp the tube with pliers.
8. ☐ Repeat the steps 6 & 7 for the other end of the cable.



9. ☐ Insert the throttle tubing into the rear cable exit hole.



- ☐ Push the tubing into the fuselage while allowing the tubing to pass through the holes in the rear former inside the fuselage.
- ☐ Push the tubing forward, guiding it through the fuselage.
10. ☐ Insert the 2-56 end of the cable into the throttle tubing by the rudder, and pull the tubing out the front of the fuselage. This will pull the rudder cable forward towards the rudder servo.
- ☐ Repeat for the other end of the cable.



11. ☐ Install the rudder servo in the center servo hole
- ☐ Thread a 2-56 hex nut and a 2-56 metal clevis onto the each threaded ends of the cable.
- ☐ Connect the clevis to the rudder servo arm.
- ☐ Insert a clevis clip onto both clevis.



12. ☐ Insert the cable through the 1/16 OD x 1/4" brass tubing.
- ☐ Loop the cable through the adjustable horn bracket on the rudder and back through the brass tubing.
13. ☐ Make a second loop through the tubing.

DO NOT CRIMP THE TUBING AT THIS TIME

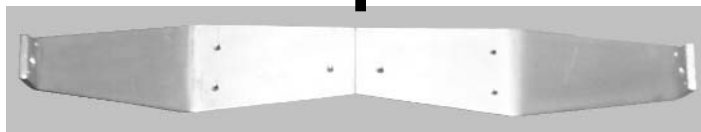
- ☐ Repeat for the other side of the rudder.
- ☐ Making sure that the rudder servo arm stays straight, tighten both ends of the cable till all the slack is removed.
- ☐ Once satisfied crimp the tubing on the cable.
14. ☐ Place the 1-1/4" wheel on the tailwheel wire.
- ☐ Mount a 2mm wheel collar onto the end of the tail wire and tighten the set screw.

INSTALLING THE LANDING GEAR



- ☐ Collect the following items:
- (6) 10-32 x 1" Socket Head Bolts
- (4) #10 Washers
- (2) Landing Gear (left & right)
- (2) Lower Wing Strut Brackets

Front ↑

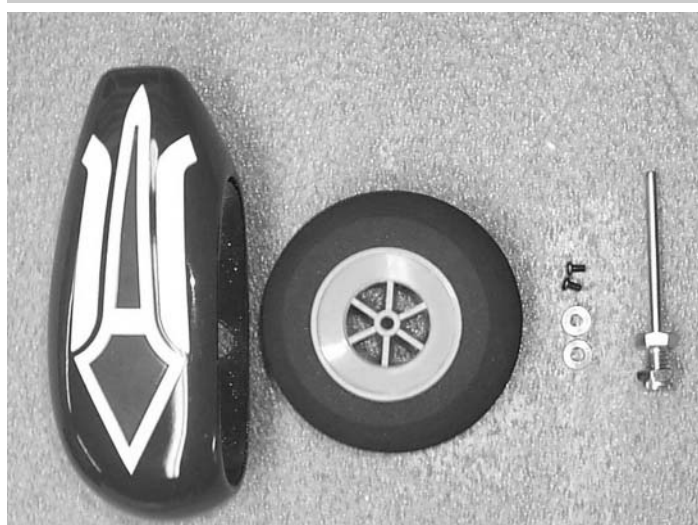


1. ☐ Determine which is the front of the landing gear.



2. ☐ Insert the left landing gear into the slot on the bottom of the fuselage.
- ☐ Slide the lower wing strut bracket into the slot found above the landing gear slot.
- ☐ Place thread lock on one of the 10-32 x 3/4" bolts, and insert it through the wing bracket and the lower outer hole of the landing gear plate.
- ☐ Screw the bolt into the landing gear below..
- ☐ Place thread lock on two more bolts and using washers finish mounting the left landing gear.
- ☐ Repeat for the right landing gear.

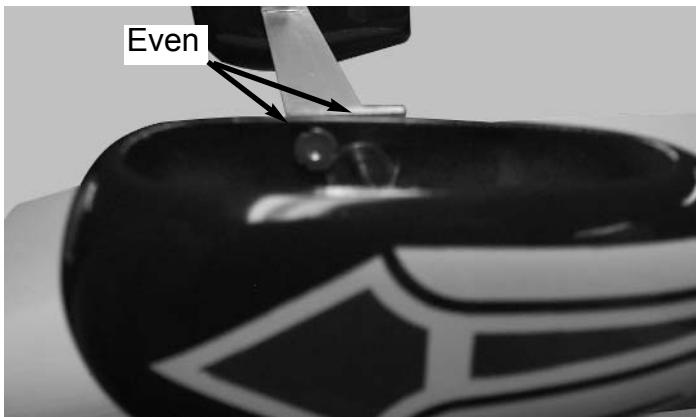
WHEELS & WHEEL PANTS



- ☐ Collect the following items:
- (2) Axles with Nuts
- (2) wheels
- (4) Wheel Collars with Philip Head Set Screws
- (4) 4-40 blind nuts
- (4) 4-40 x 1/2 " socket Head Bolts



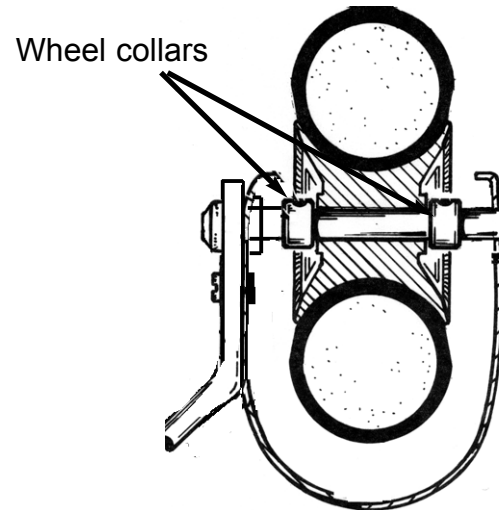
1. ☐ Mount the axle onto the landing gear.
- ☐ Place the wheel pant onto the axle.



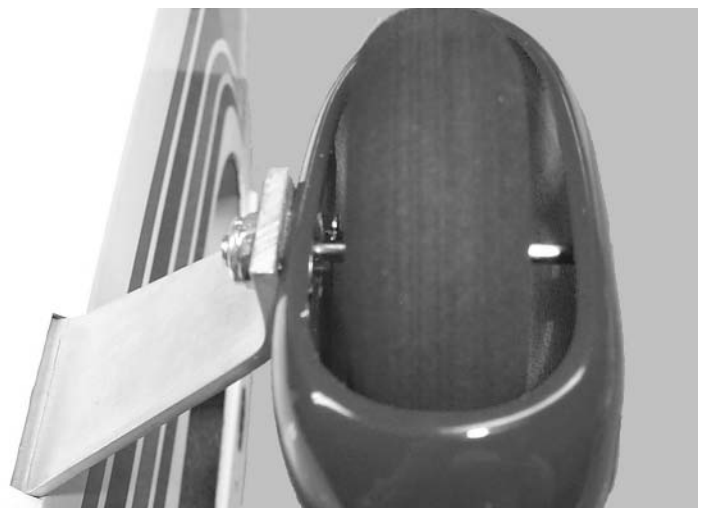
2. ☐ Hold the bottom of the wheel pant level with the bottom of the landing gear.
- ☐ Mark the wheel pant mounting hole locations onto the wheel pant through the landing gear.



3. ☐ Drill a 1/8" hole and insert a 4-40 blind nut into the hole from the inside of the wheel pant.
- ☐ Using the 4-40 x 1/2" socket head bolts, screw the wheel pants to the landing gear.
- ☐ Tighten the 4-40 screws to seat the blind nuts.
- ☐ Remove the wheel pants.

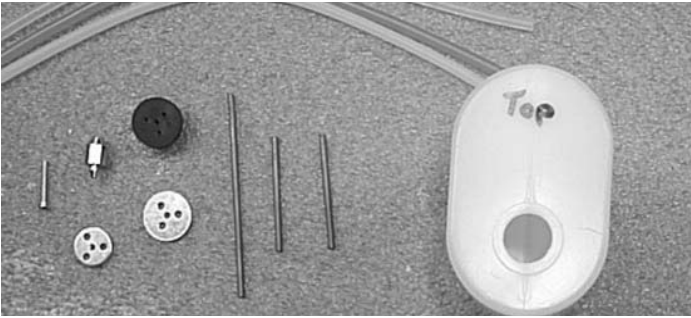


4. ☐ Place the wheel pant over the axle.
- ☐ Install one wheel collar with set screw then the wheel, finally the second wheel collar with set screw.
- ☐ Using thread lock, tighten the wheel pant to the landing gear.

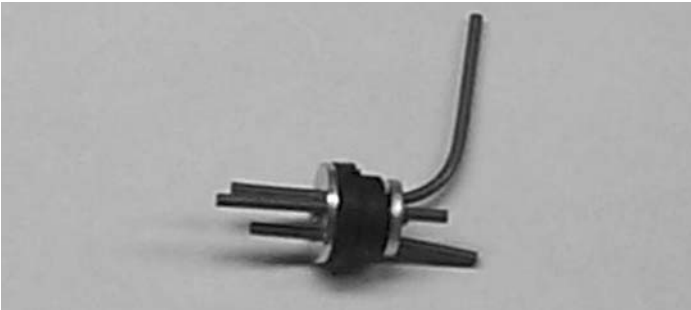


- ☐ Center the wheel on the axle using the wheel collars on both sides of the wheel.

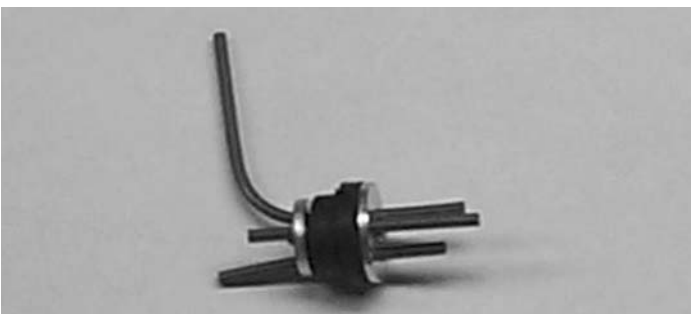
FUEL TANK ASSEMBLY



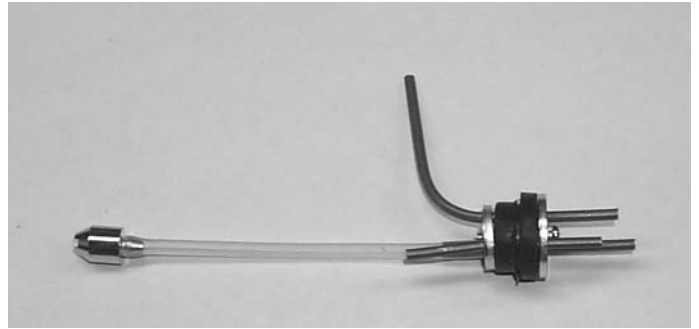
- Gather the following items
- (1) fuel tank
- (1) rubber tank stopper
- (1) clunk
- (1) 3mm x 25mm screw
- (1) cap washer large
- (1) cap washer small
- (2) 3mm x 40mm brass tube
- (1) 3mm x 60mm brass tube
- (1) silicone tube 4mm x 80mm
- (3) silicone tube 5mm x 165mm



1. □ 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.



2. □ Insert the brass tubes through three of the holes. They should be arranged so as the long one 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.



3. □ 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 pick-up and must be free to "flop" around in the tank so it can pick up fuel in any attitude.



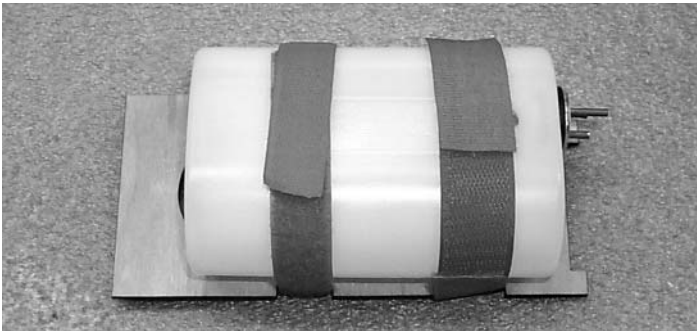
4. □ Install the assembly into the tank so the vent tube is turned up to the top of the tank and is positioned on the right side of the tank. Tighten the screw to expand the rubber cap. Don't over tighten or you could split the tank.



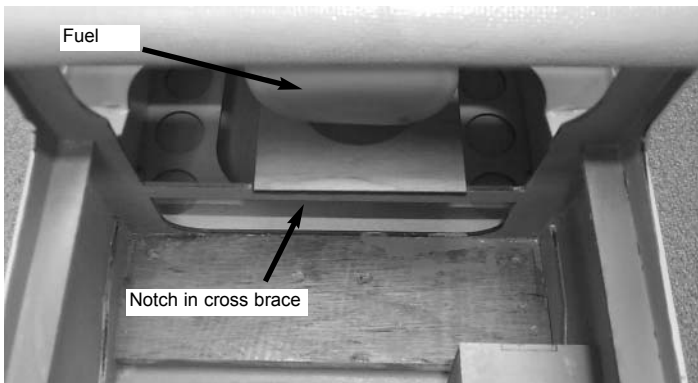
5. □ Attach the three pieces of 5mm tubing to the three tank outlets. They are different colors so you can tell which are the two vents and which is the fuel pickup after the tank is installed. Make a note of which color you attach to which tube. The short brass with the clunk is the fuel pickup and must go to the carburetor. One of the long brass tubes is the vent and should go to the pressure outlet on the muffler. The second vent can be used for filling the fuel tank but will have to be plugged with a screw (Not Included) so that the fuel will not run out.

INSTALLING FUEL TANK

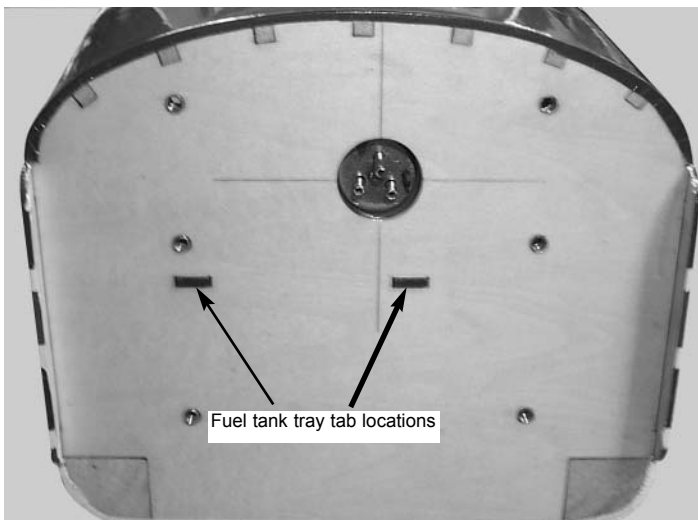
1. ☐ Gather the following items
 - (1) Foam Rubber (Not Included)
 - (1) Fuel tank tray
 - (1) Fuel tank



2. ☐ Cut a piece of foam to fit under the fuel tank.
 - ☐ Mount the fuel tank on to the fuel tank tray using velcro or rubber bands.



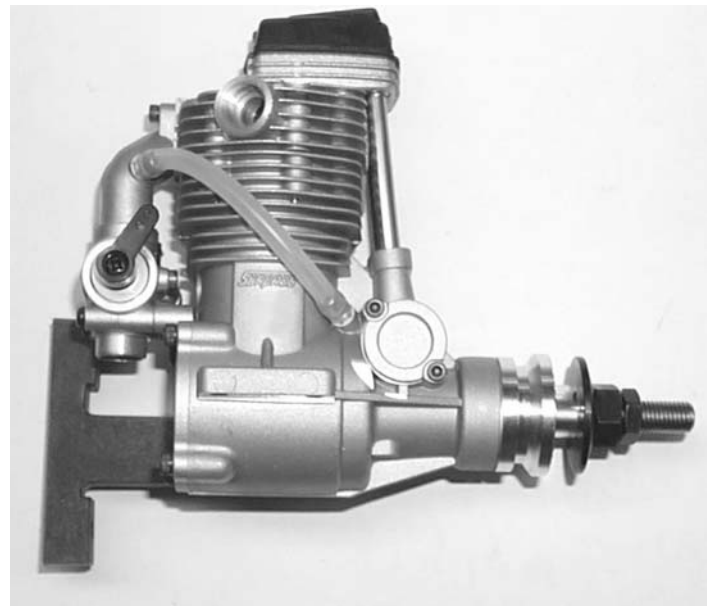
- ☐ Fit the fuel tank into the fuselage



- ☐ Insert the front tabs into the firewall.
- ☐ Fit the rear of the tray in the notch of the cross brace.
- ☐ Glue in place.

INSTALLING THE ENGINE

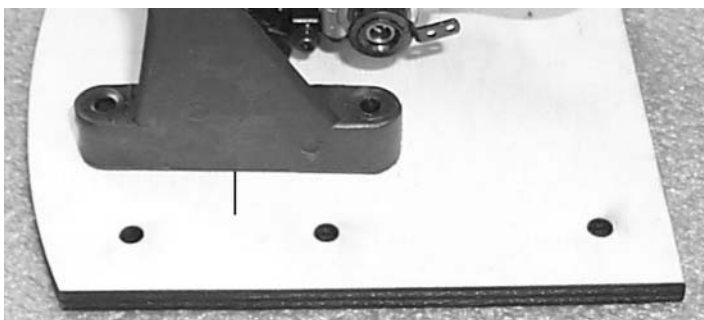
1. ☐ Collect the following items:
 - (2) Motor Mounts
 - (1) Engine
 - (4) #10 x 3/4" sheet metal screw
 - (10) 8-32 x 1" Philip Head Screw
 - (10) #8 Washer
 - (1) 3mm x 430mm Tubing
 - (1) 1.5mm x 490mm wire
 - (1) swivel-Keeper
 - (1) Pushrod Connector
 - (1) Snap Nut
 - (1) 4-40 x 1/8 Socket Head Screw
 - (1) Wood firewall spacer
 - (4) 8-32 Blind Nut



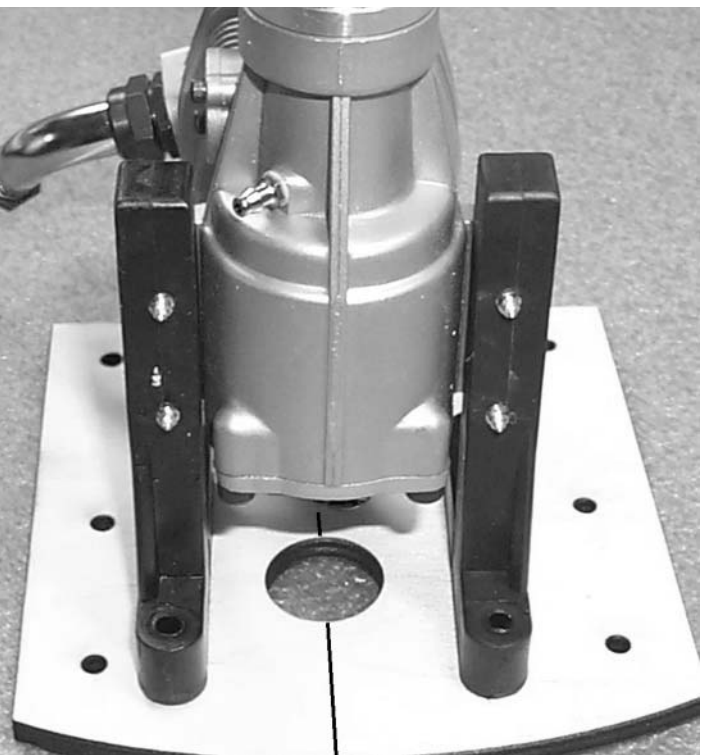
2. ☐ Place you engine in the mounts and adjust till the prop drive washer is 5-3/4" from the fire-wall. Clamp the engine in place and and mark the location of the mounting holes. Drill using a 1/8" bit.
 - ☐ Screw the engine onto the motor mount using the #8 x 1" screws.



3. ☐ Keeping the engine perpendicular to the table top, clamp the other motor mount to the engine. Mark and drill the second motor mount then screw the mount to the engine.

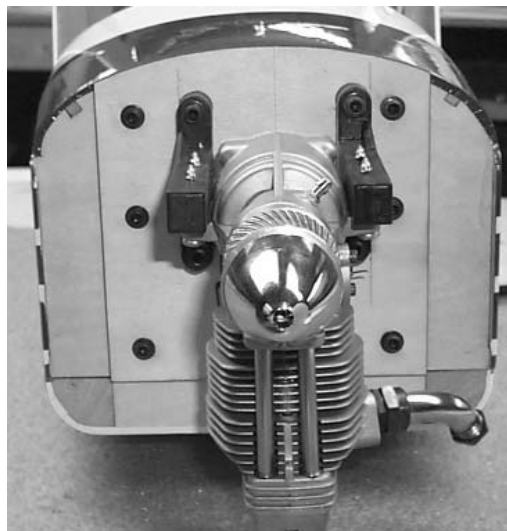


4. ☐ Place the motor mount onto the firewall mounting plate.
☐ Center the motor over the horizontal and vertical lines.



5. ☐ Install the motor mount beams on to the firewall plate using the 8-32 x 3/4" socket head screws and washers and 8-32 blind nuts

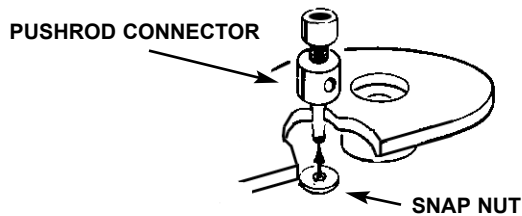
USE THREAD LOCK ON ALL SCREWS



6. ☐ Mount the firewall plate to the front of the fuselage using the 8-32 x 1/2"



5. ☐ Drill a 1/8" hole in the firewall in position with the throttle arm. Insert the 1/8" x 24" nylon tubing in the hole.
☐ Let the tubing exit into the fuselage towards the throttle servo mount.
☐ Make a 1/2" bend at the end of the throttle pushrod wire.
☐ Insert the pushrod into the tubing and the end of the bend in the throttle arm.



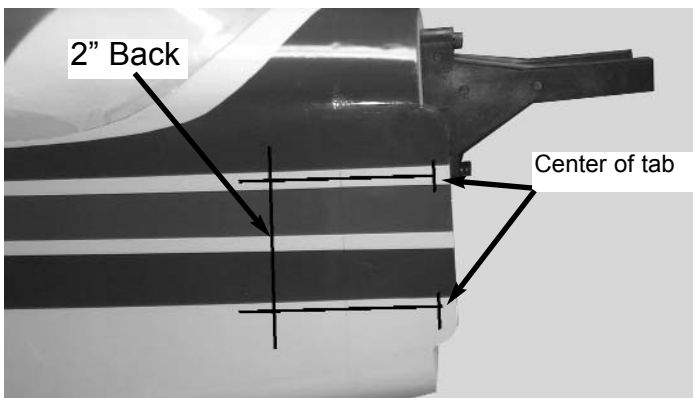
7. ☐ Mount throttle servo in the servo tray.

Note: Your installation may vary depending on the engine used.

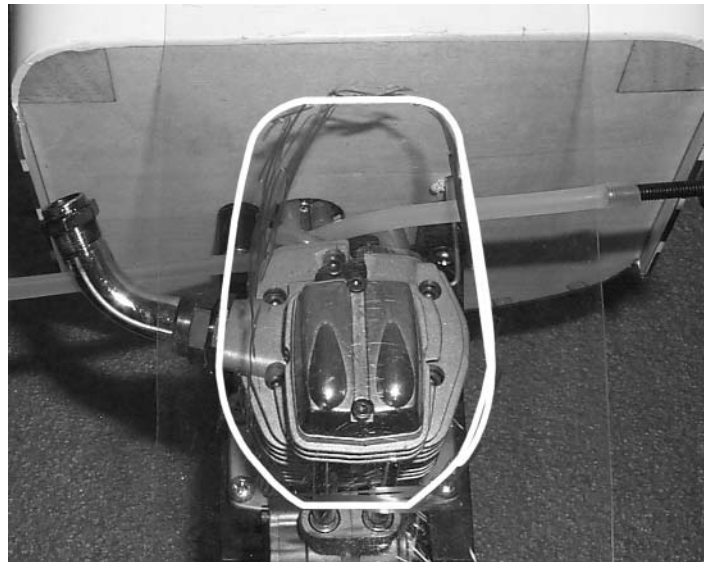
- ☐ Install pushrod connector on your servo arm and attach to the throttle servo.
8. ☐ Insert the pushrod wire through the connector on the servo arm.
 - ☐ Locate the proper positioning of the throttle servo arm. Then cut off the excess wire, keeping some wire for future adjustments.

INSTALLING THE COWL

- ☐ Collect the following items:
 - (1) Cowl
 - (4) 2mm x 5mm Philip head screws
 - (1) 4" x 12" clear plastic



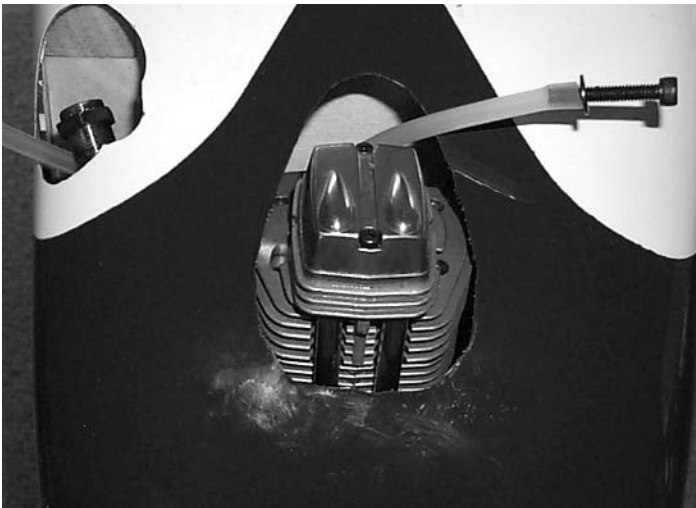
1. ☐ Make a mark 2" back from the middle front tabs on the fuselage sides in each of the white stripes.



2. ☐ Place the piece of clear plastic over the top of the engine. The end of the plastic should extend just past the cylinder head.
3. ☐ Mark where the engine contacts the plastic.
 - ☐ Remove the plastic and, using the moto tool, cut out the engine area until the plastic fits over the top of the motor and lies flat on the fuse side. Then, tape the edges of the plastic to one side of the fuselage.
4. ☐ Lift up the untaped side of the plastic and remove the engine.
5. ☐ Slide the cowl under the plastic.

CAUTION! WHEN CUTTING THE COWL, ALWAYS WEAR PROTECTIVE EYE GEAR AND A LONG-SLEEVE SHIRT. CHANGE CLOTHES AND WASH AFTER CUTTING.

6. ☐ Securely tape the cowl to the fuselage, making sure that the cowl is 5-5/8" away from the firewall. Once taped, measure the cowl again to make certain its position has not shifted.
 - ☐ Trace the cut out on the clear plastic to the cowl.



7. ☐ Remove the cowl and, with a moto tool, slowly remove the fiberglass INSIDE the cutout outline. Work slowly and carefully, until the cowl matches the clear plastic piece.

- ☐ Remember, if the fiberglass is damaged during this process, it can be repaired only with epoxy glue.

NOTE: You may wish to make a cutout in the front of the cowl, at the point where the engine prop washer sticks out, that is large enough to allow the engine to vibrate without touching the cowl.

8. ☐ Remount the engine and remove any fiberglass on the cowl that interferes with the engine. Go slow and remove only a little fiberglass at a time.



9. ☐ Place the cowl on to the fuselage and install the prop.
- ☐ Keeping the cowl 1/16" back from the rear of the prop, hold the cowl onto the fuselage till the stripes on the sides of the fuselage are even.
- ☐ Tape the cowl in place so that it can not move.

10. ☐ From the line that you made on the fuselage, measure foreword on the top stripe 2". make a pencil mark there.
- ☐ Use the same procedures for the bottom screw hole mark.
11. ☐ Measure and mark the other side of the cowl just like you did above
- ☐ Making sure that the cowl is still straight and has a 1/16" gap between the spinner, drill a 1/16" hole on each of the marks.
- ☐ Pull the cowl away from the fuselage sides and redrill the cowl holes with a 3/32" drill.
- ☐ Screw the cowl onto the fuselage using a 2mm x 5mm sheet metal screw.

RECEIVER, BATTERY & SWITCH

Plug all the servo wires into the receiver and center your servo linkages. Find a location on the side of the fuselage for mounting your radio switch. We placed our receiver in front of the rudder servo and our battery in front of the throttle servo behind the tank. The location of these items will vary with each planes set up.

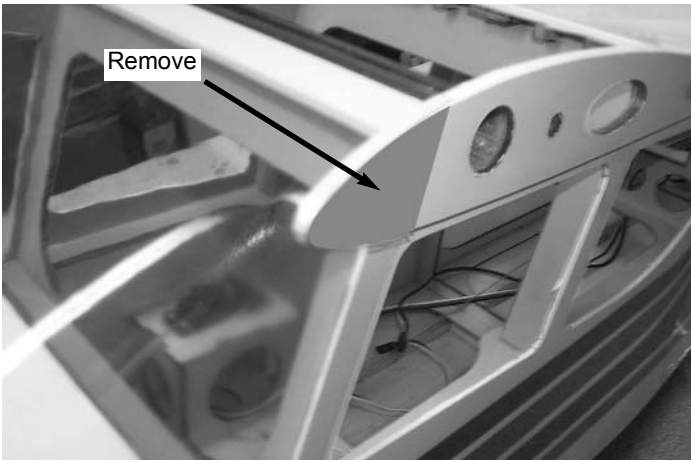
WINDSHIELD AND SIDE WINDOWS



1. ☐ Cut apart the side windows.
- ☐ Test fit the windows into the fuselage openings till the fit flush with the fuselage sides.



2. ☐ Once satisfied with the fit glue them in place using medium CA glue.



3. ☐ Place the windshield onto the front of the fuselage.
 - ☐ Using a pencil, mark where the windshield overlaps the side of the fuselage where the wing will fit.
11. ☐ Cut the plastic till it is flush with the side of the fuselage and so that the wing will fit flush against the fuselage.
 - ☐ Once satisfied with the fit glue the windshield in place using a canopy glue.
 - ☐ Tape the windshield to the fuselage till dry.

BOLTING ON THE WING

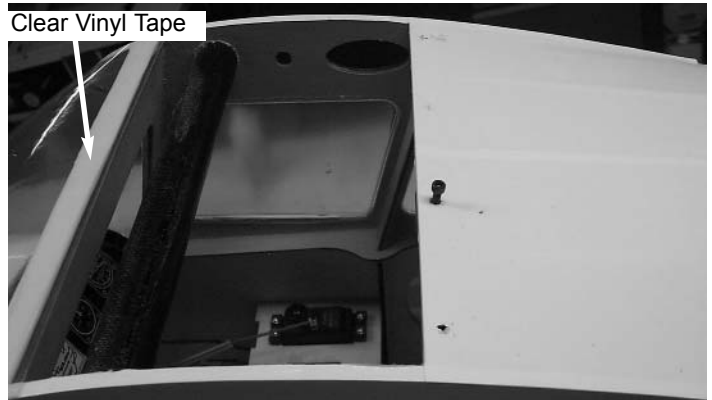
- ☐ Gather the following items
 - (1) Right & Left Wing Panels
 - (2) 1/4-20 x 2" Nylon Bolt
 - (1) Wing Tube



- ☐ Slide the wing tube into one of the wing halves.
- ☐ Slide the tube thru the fuselage.
- ☐ Slide the second wing half onto the wing tube coming out of the fuselage side.
- ☐ Push the two wing halves together till they are tight against the fuselage side.
- ☐ Bolt the wing to the fuselage using a 1/4-20 nylon bolt.

TOP HATCH

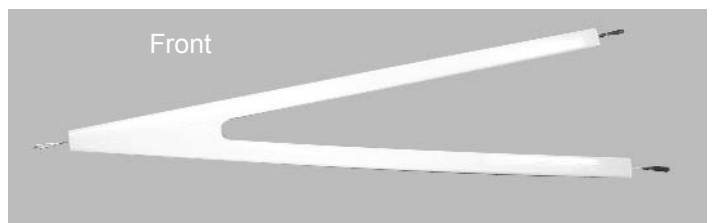
1. ☐ Collect the following items:
 - (1) 5-1/8" x 7-7/8" Clear plastic
 - (4) 4-40 x 1/2 socket head screws
 - (1) Clear vinyl tape



2. ☐ Remove the covering over the four holes in the rear of the hatch opening.
 - ☐ Tape the front of the 5-1/8" x 7-7/8" Clear plastic flush with the edge of the front windshield.
 - ☐ Mark each of the hole locations in the rear of the plastic hatch.
 - ☐ Drill a 1/8" hole at each of the marks.
 - ☐ Using the 4-40x 1/2 socket head bolts attach the hatch to the fuselage.

WING STRUTS

1. ☐ Collect the following items:
 - (2) Wing Struts
 - (6) 2-56 Golden Clevises
 - (6) 2-56 Hex nuts
 - (6) Clevis Clips



2. ☐ Install a 2-56 hex nut then a golden clevis on each of the ends of the wing strut.



3. ☐ Starting with the front of the wing strut, attach the bottom clevis to the lower strut bracket.
 - ☐ Keep twisting the upper clevis till the strut fits snug between the lower and upper attachment points.
 - ☐ When satisfied, attach the upper front strut clevis to the wing

- ☐ Adjust and attach the rear strut to the wing.
- ☐ Tighten all 2-56 hex nut to the clevises using thread lock.
- ☐ Place a clevis clips on each clevis.

DECAL APPLICATION

1. ☐ Using glass cleaner and a soft cloth, clean the model surface thoroughly before applying decals.
2. ☐ Cut the decal sheets apart in sections, as needed.
 - ☐ Fold the decal in half, front to rear. Open at the fold and place the decal on a flat surface. The protective backing will bubble away from the decal at the fold.

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 Stinson.

Elevator 3/4" UP& Down
Ailerons 1/2" Up & Down
Rudder 1-1/2" Right & Left

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

The Stinson was designed around a 1.20 four-cycle engine these engines will give you excellent performance. Remember, a bigger engine is not always better. Using a 15-8 to a 16-8 prop works well on these engines.

CG Balancing

Balancing the Stinson 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 3" back from the leading edge of the wing next to the fuselage. This balance point is a safe place for you to fly the Stinson at. As you get comfortable you can move the CG back further. The further you move the CG the more wild the aerobatics will become, **BUT** the more unstable the Stinson will become.