

**Wild Sport
Combat Plane!!!
RCCA B-Class
Legal**

**Friday Night
Special**



Materials:

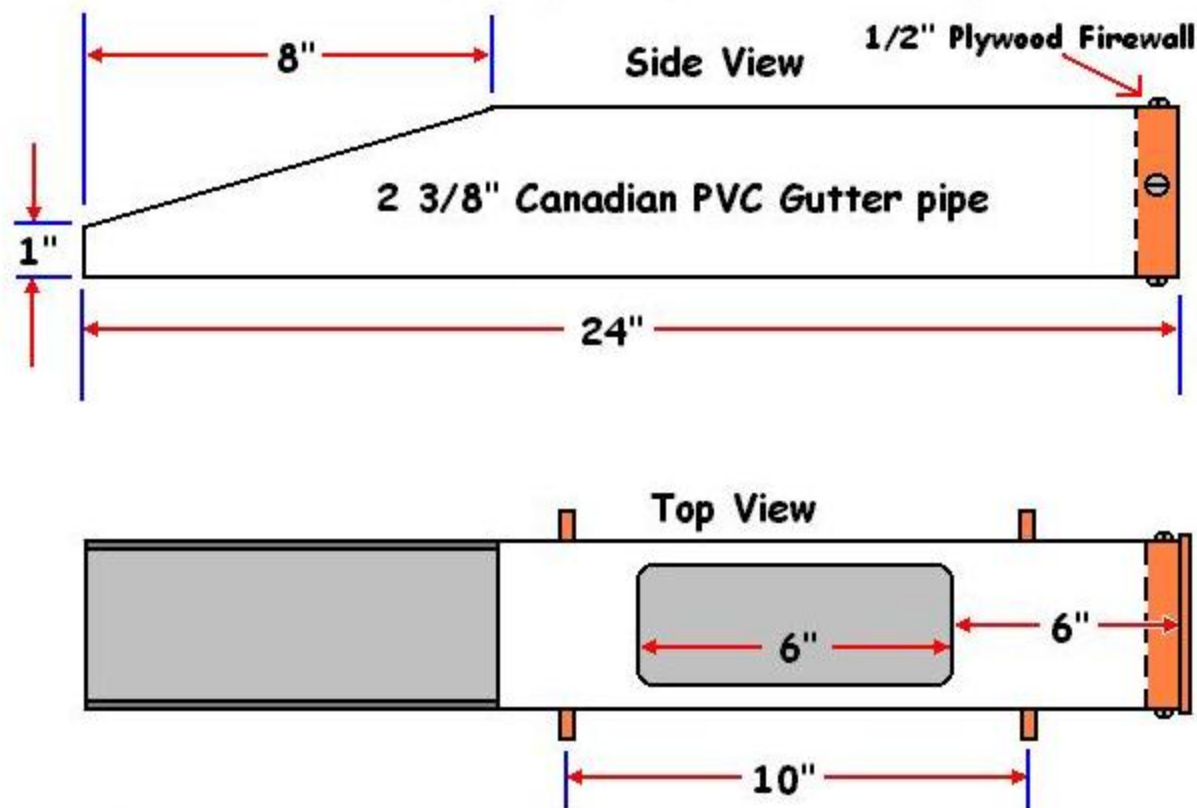
1. 2 and 4 Mil Coroplast
2. Canadian PVC gutterpipe
3. 2 Yardsticks
4. Plastic or ply. firewall
5. 3/16" Dowel
6. Zip-Ties
7. Foam mounting tape
8. Small self tapping screws
9. Engine, Tank, Radio, etc.
10. Medium CA glue
11. Propane or butane torch
12. Standard shop tools

**See page 11
for the .40
sized version
using American
gutterpipe and
all 4 Mil
Coroplast!!!**

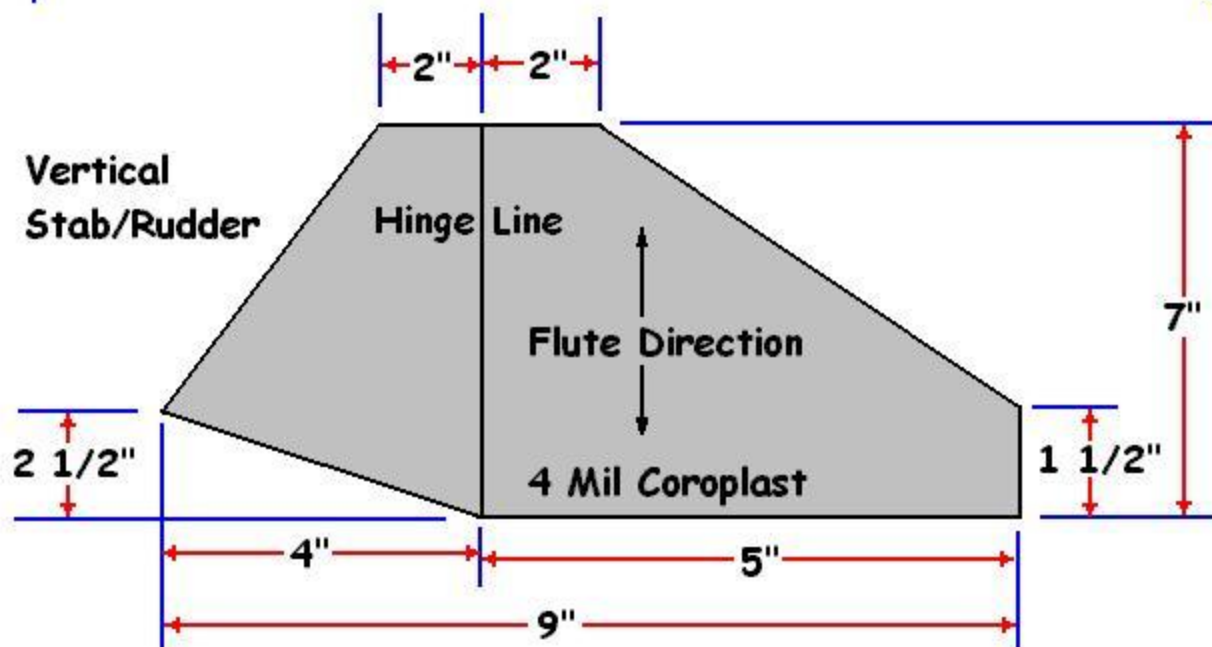
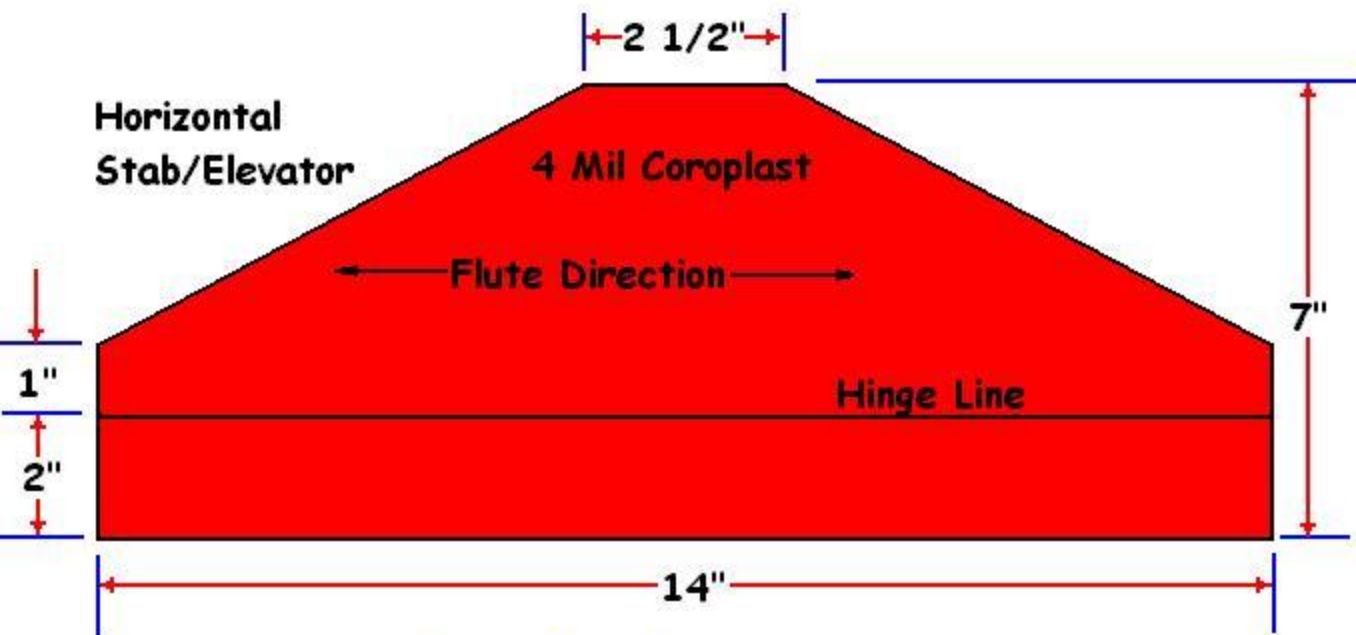
**See page 12
for the peewee
sized .15
powered
version!!!**



Engine: .25-.30
Wingspan: 42"
Fuselage length: 24"
3 Channel: Elevator,
Rudder, Throttle

Friday Night Special Fuselage

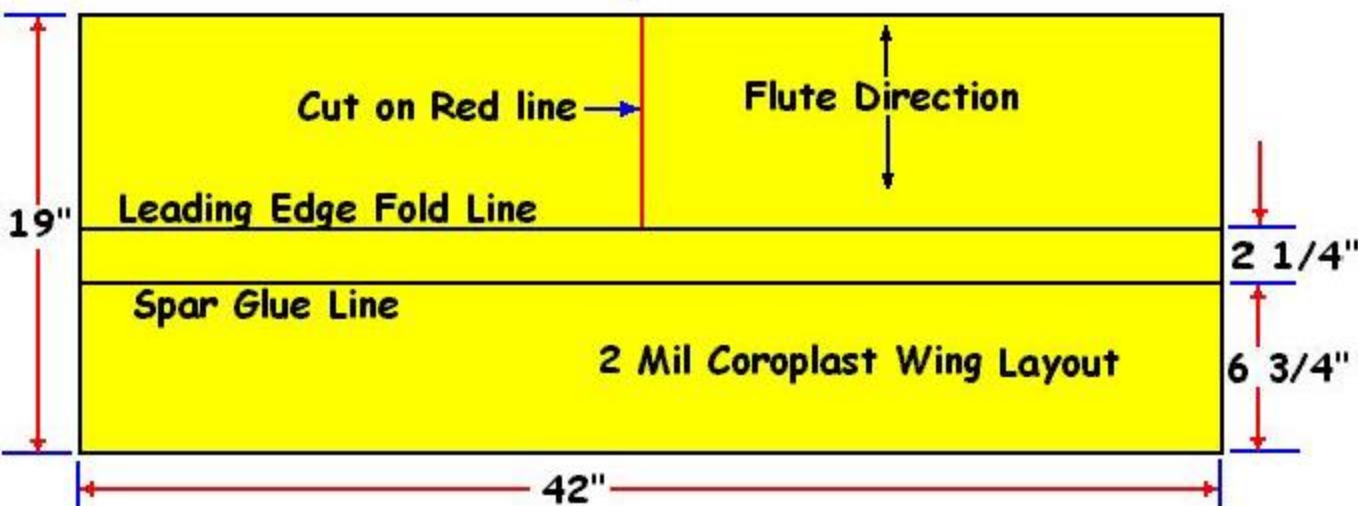
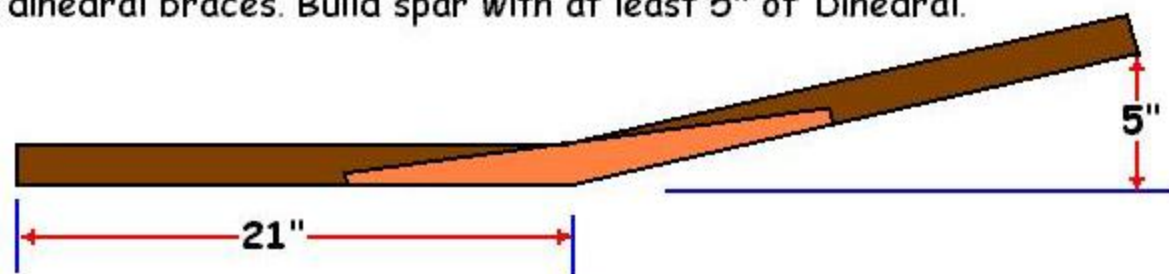
1. Cut Fuselage from 2 3/8" Canadian PVC Gutterpipe, be sure to save the piece from the rear fuselage cut out to make other PVC parts with.
2. There is NO down or right thrust.
3. Firewall is 1/2" Plywood or high density plastic. It can be cut for a flush fit with the front of the fuselage (Side View), or "stepped" on a table saw for greater impact strength (Top View). Secure with at least one small self tapping screw per fuselage side. Drill firewall for engine mount, fuel lines, and throttle pushrod. Fuel proof wood firewall with a coat of CA or paint.
4. Leave a 3/8" lip on the sides of the radio cut out hole
5. Wing hold down dowels are 3/16" x 4" long and spaced 10" apart. DO NOT INSTALL THEM AT THIS TIME. You will use dowel positioning to achieve proper CG at FINAL assembly. Make sure you fuel proof the wing Dowels with a coating of CA after installation.

Friday Night Special Tail Feathers

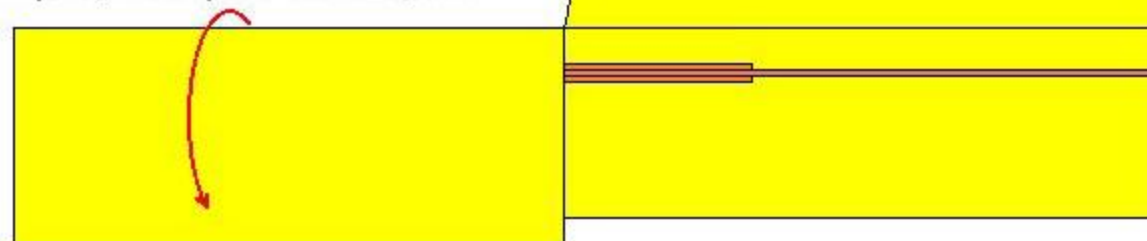
Create hinge by cutting away one side of a Coroplast flute

Friday Night Special Wing

Build your wing spar from two 21" sections of yardstick. Use the remaining yardstick pieces to shape and glue to each side as dihedral braces. Build spar with at least 5" of Dihedral.



Glue Spar down to one side, score LE with straight edge and small blunt tipped object, then fold and glue wing to spar and TE. Trim center of other panel, and repeat. Trim TE flush.



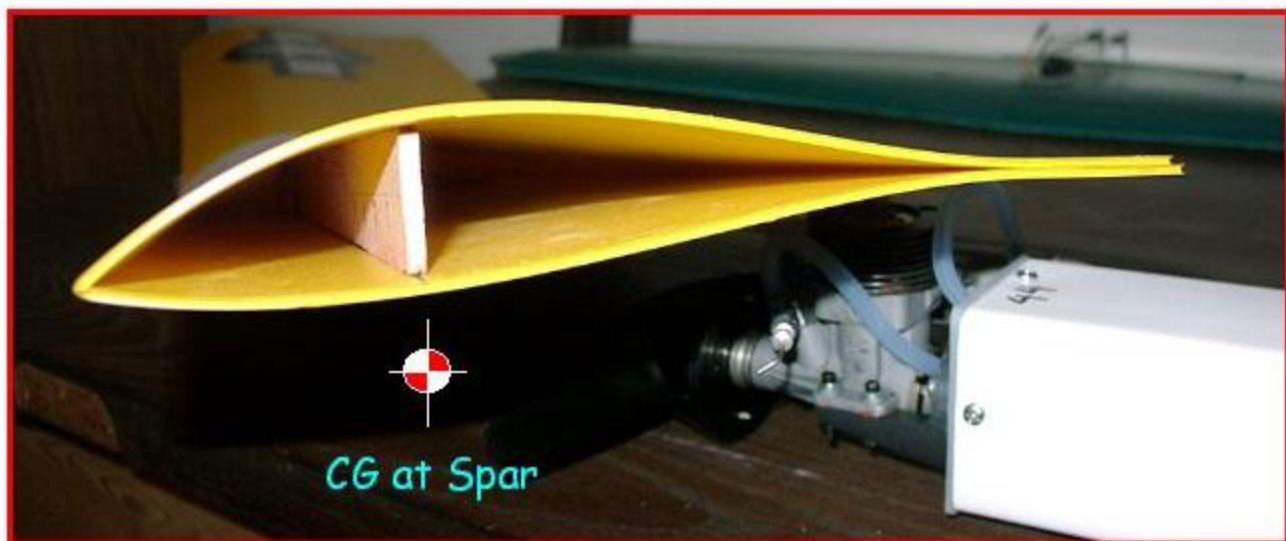
Insert scrap pushrod into LE and TE flute of wing wrap to prevent rubber band crush



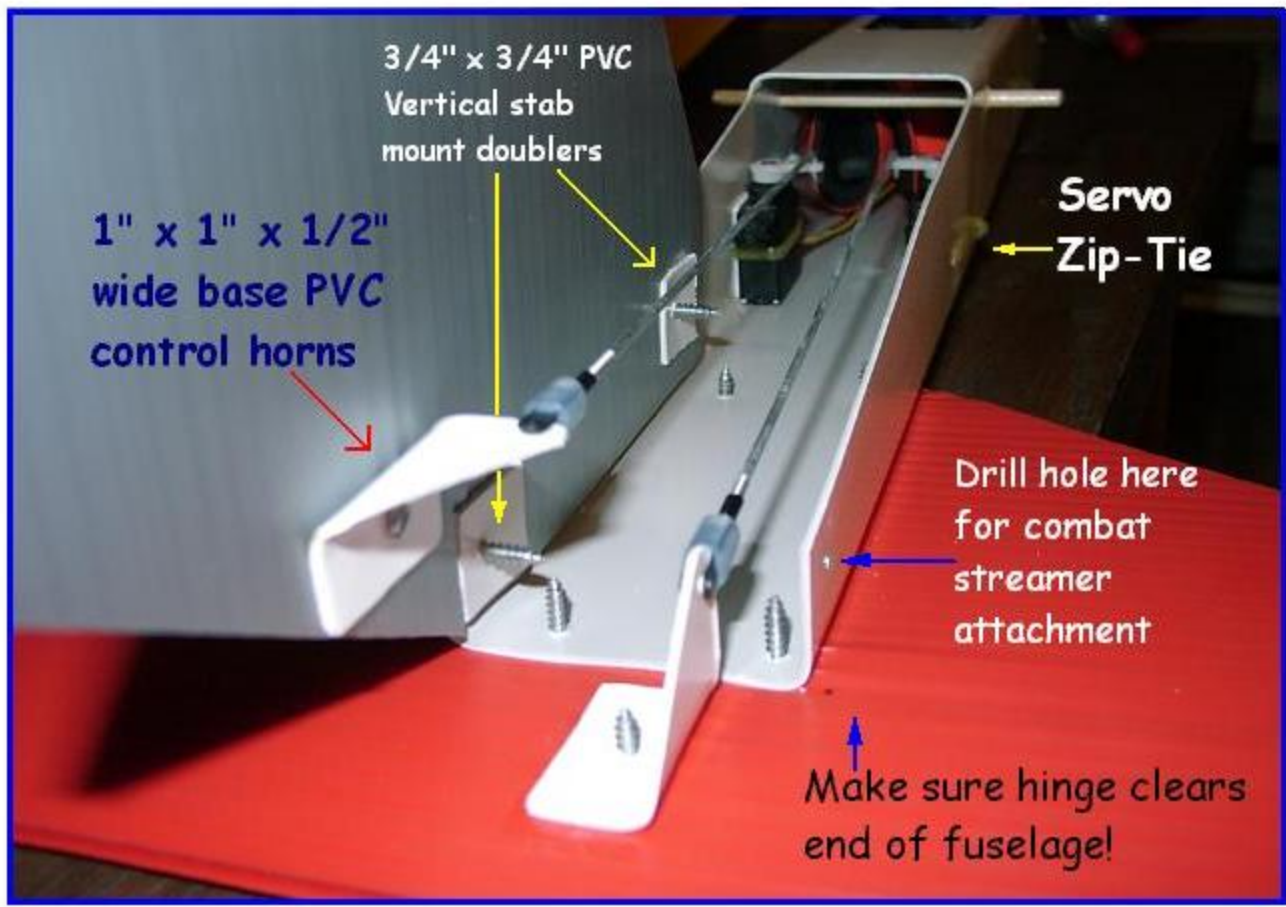
2 Mil Coroplast 4" wide wing center wrap. Glue to bottom, around LE, and to top, then trim TE flush.



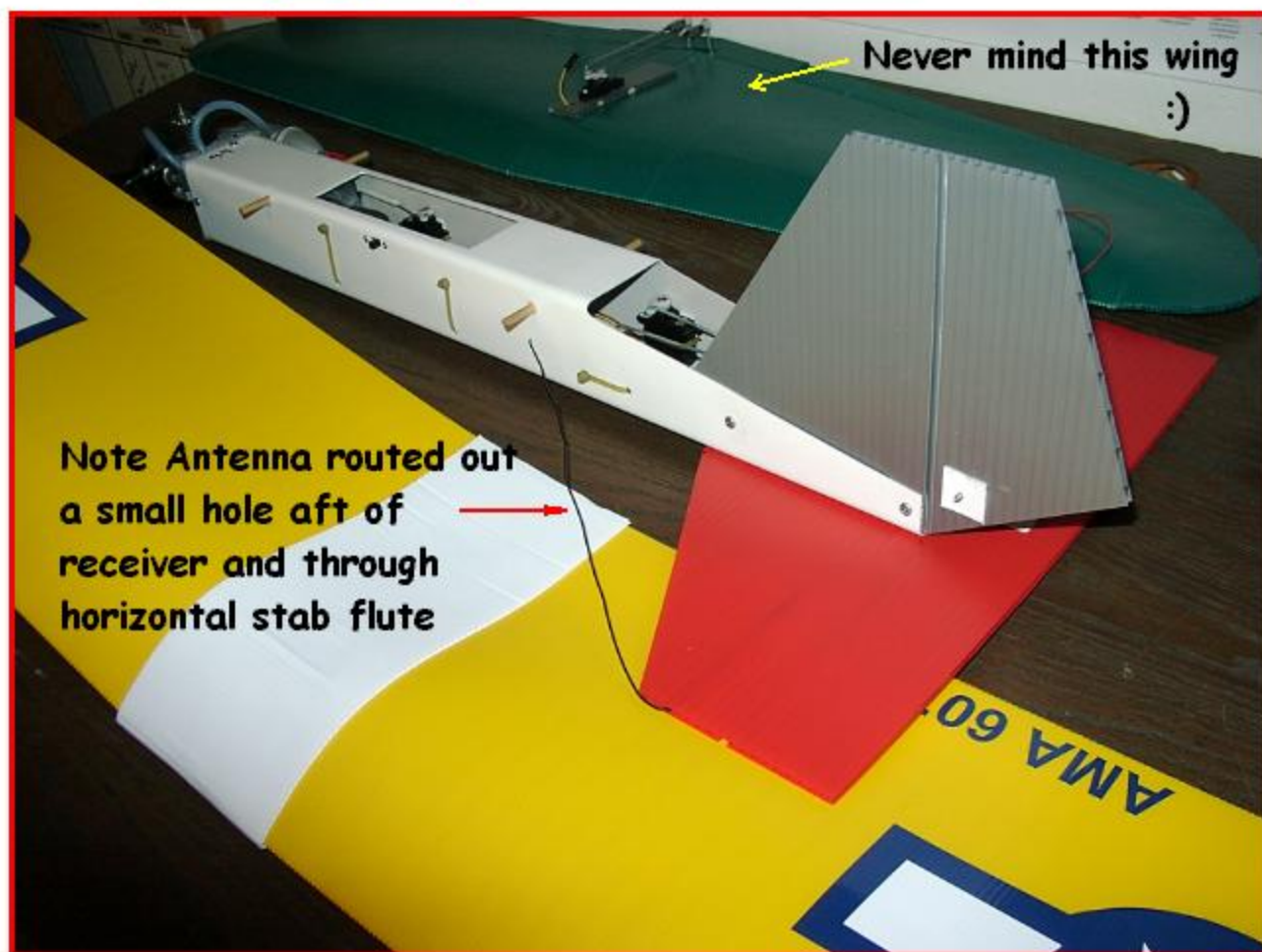
- 1 Fabricate wing spar as shown on wing drawing, glue together with medium CA.
- 2 Cut 2 Mil Coroplast wing as shown in the wing drawing and mark LE fold line and spar glue line.
- 3 Cut upper panels apart by cutting on red line only as shown on the wing drawing.
- 4 Score LE fold line with small blunt tipped object and straight edge (I like using a #1 phillips screwdriver). Test fold the leading edges.
- 5 Clean with Windex and flash all areas of Coroplast to be glued with a propane or butane torch. Practice on some scrap! When the coroplast buckles very very slightly...it's ready!
- 6 Glue spar down to one side using a bead of medium CA (other side of spar will be sticking up).
- 7 Fold wing over and glue to top of spar with bead of medium CA, and glue to TE with two rows of medium CA dots spaced every 1/4" or so. A 2 x 4 block of wood works great for holding the trailing edge down while glue sets. Go for a flat bottomed to slightly semi-symmetrical airfoil. Trim out a small amount of material from the center of the other top panel, and repeat step 7 for the other side of the wing. Trim top TE to be flush with bottom TE.
- 8 Glue 4" wide 2 Mil coroplast wing wrap around wing center and trim TE flush
- 9 Slide push rod scrap or coat hanger into TE and LE flute of wrap for rubber band protection.



Friday Night Special Tail Installation



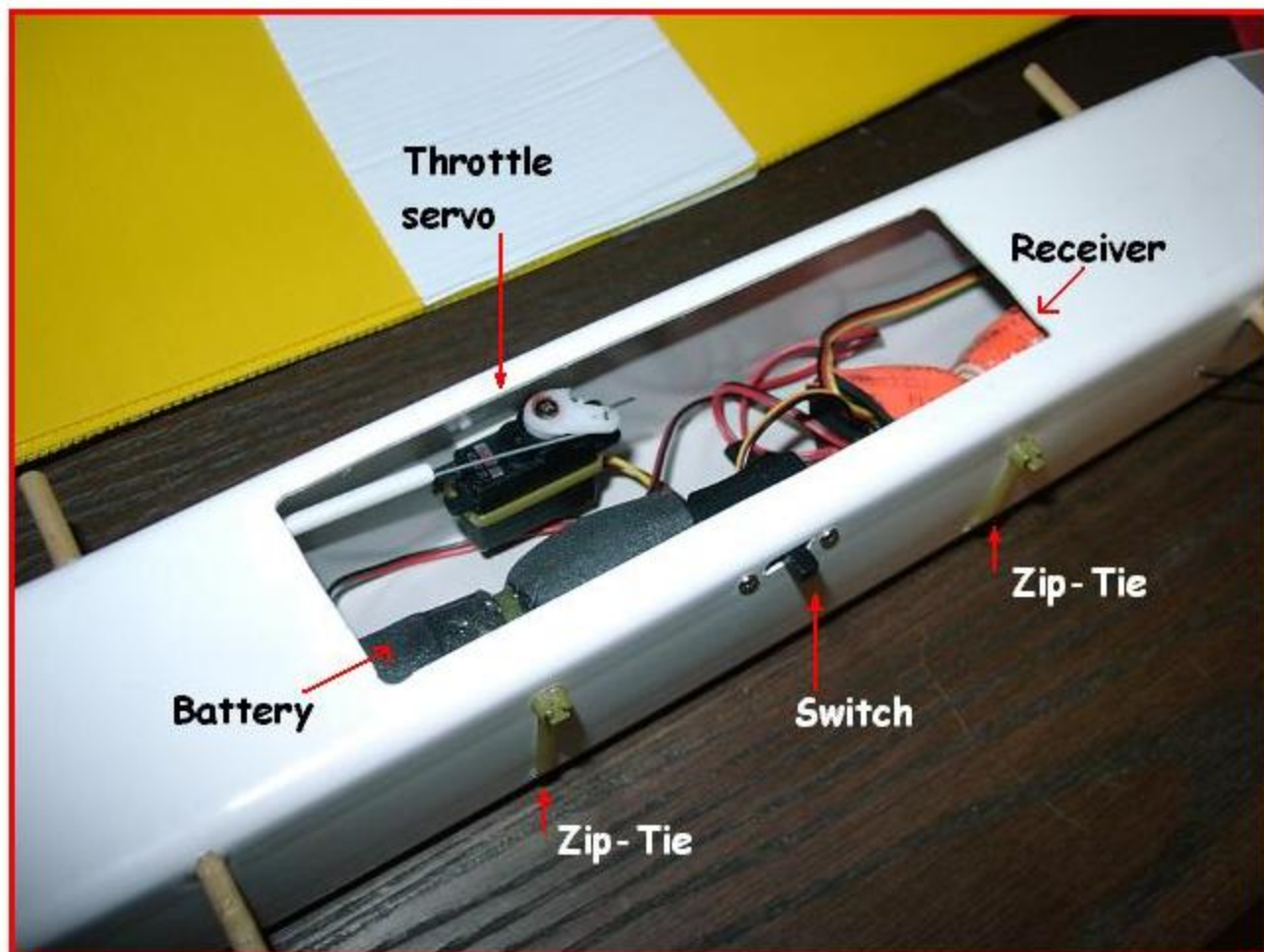
Friday Night Special Tail Installation



Tail Installation

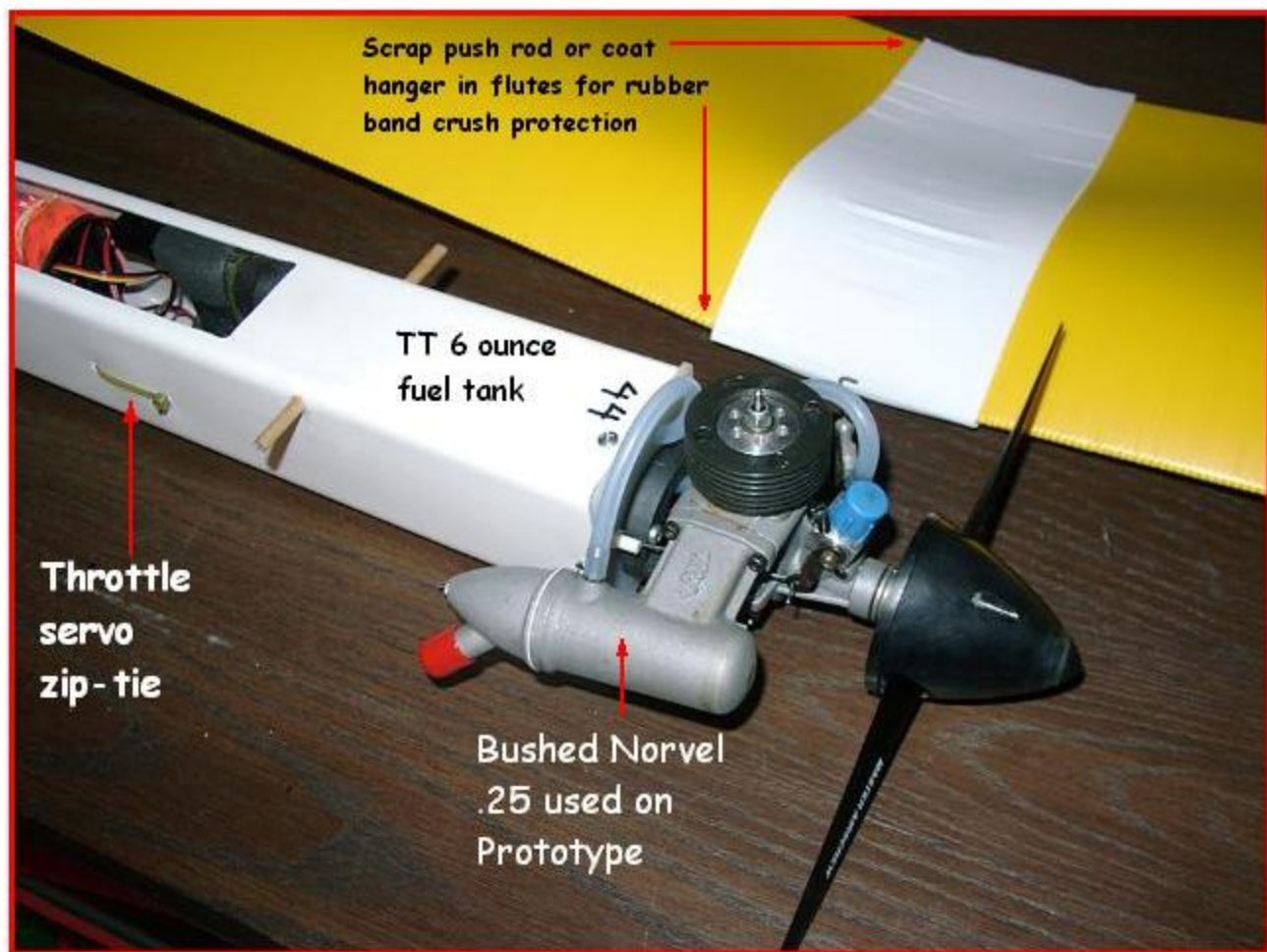
Study the pictures on pages 6 and 7 for how to install the tail feathers. It really doesn't matter which side of the fuselage the vertical stabilizer is mounted on. Location of the screws and doublers is not all that critical, just make sure the horizontal stab is mounted squarely, and the hinges clear the end of the fuselage. Mount control horns as close as possible to hinges. Metal snips make a great tool for cutting out small PVC parts.

Drill head side of screw holes large enough for screws to go through, and self tapping side very small for a good screw grip. Small drops of CA works great to "tack" parts together for drilling and assembly. Stick elevator and rudder servos to side of fuselage with two sided foam mounting tape, and drill for and secure with a zip-ties as shown. Position servos as far forward as possible in rear fuselage cut-out, but still have access to servo arms.



Radio Installation

Radio installation is very straight forward and simple. Drill for and install battery and receiver to side of fuselage with zip-ties. Make sure you wrap them in foam first. Drill for and install switch. Throttle, elevator, and rudder servos are all stuck to the side of the fuselage with two sided foam mounting tape (Hardware department at Wal-Mart) and further secured with zip-ties. **MAKE SURE YOU PLUG THE RUDDER SERVO LEAD INTO THE AILERON RECEPTICLE OF YOUR RECEIVER.** Drill a small hole in the fuselage just aft of the receiver, and route your antenna out, and through a flute of the horizontal stabilizer. Make sure you rig your throttle to fully close your carburetor, as you will need the ability to shut your engine OFF for power out landings.

Final Assembly

Fuel tank is wrapped in foam for a snug fit, be sure there is enough room for front wing dowel to clear tank! Engine is mounted conventionally. Be sure to "Clock" your prop to stop horizontally against the compression stroke of the engine for power out landings. Don't forget to put push rod scrap or coat hanger in LE and TE of wing wrap flutes for rubberband crush protection. With everything flight ready, Tape your wing to the fuselage, and move it for and aft until your plane balances perfectly level with a finger tip under each wing tip right under the spar. Mark the TE and LE position on the top of the fuselage. Remove wing. Measure 1/2" forward and 1/2" rear of TE and LE marks for wing dowel locations. Drill for and install 4" x 3/16 wing dowels as close to top of fuselage as possible without getting into gutterpipe corner radius. Be careful not to drill a hole in your fuel tank. Set your rudder for 3" total travel (1 1/2" each way) and elevator for 2" total travel (1" each way). Don't forget to drill a small hole in the rear fuselage for combat streamer attachment. Put some cool stickers on your plane and you're ready to go flying! **Follow ALL AMA safety guidelines...and HAVE FUN!!!**

Flying the Friday Night Special



Make sure you have your prop clocked to stop horizontal against the engine compression stroke, and that your throttle will shut your engine OFF for dead stick landings. Follow ALL AMA safety guidelines. Also make sure your plane's CG is at the wing spar. Don't even try to fly it in a tail heavy condition, but to get the most effectiveness from Rudder only steering, make sure it is not overly nose heavy either! MAKE SURE YOUR RUDDER SERVO IS PLUGGED INTO THE AILERON RECEPTICAL OF YOUR RECEIVER! The Friday Night Special is surprisingly stable, and could easily be used for training below half throttle...at 3/4 throttle it becomes a fun little plane to tear up the sky with...and at full throttle it is down right wicked! Flying a Rudder only plane takes some getting used to, and the first thing you will notice in flight is a slight tail "wag" as the vertical stab and wing dihedral work together to maintain stability...this is perfectly normal. You will be surprised at how much authority the rudder has for turning and rolls, but don't expect nice axial rolls...they will be barrell rolls, and be sure and pitch up about 45 degrees as you enter a roll. A little practice, and this can be a deadly weapon used to snag streamers in a dogfight! Make sure you have plenty of altitude, and have at the sticks for some of the wildest snap rolls and spins you've ever seen, and once you've learned the Friday Night Special's flight characteristics...fighting on the deck will be a breeze. Your #1 offensive weapon with this plane will be it's pitch response, as loops and banking turns are as tight as they come, and surprisingly, very little speed is bled off in these maneuvers, even as compared to the Spad Derelict and Dogfighter! At around \$3 per airframe, drop dead simplicity, and kick butt knock around fun...the Friday Night Special can't be beat, and would make a perfect club combat starter plane for pilots of all skill levels!

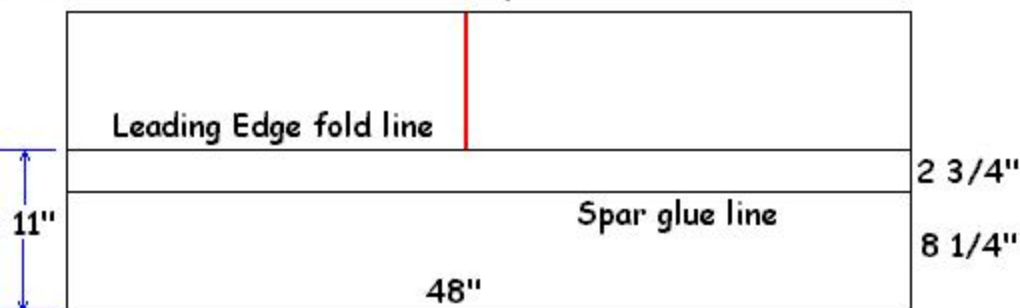
Page 11

Friday Night Special .40- .47 sized!

Use pages 1-10 and the following guidelines to "supersize" the Friday Night Special into a super simple totally fun .40 sized Sport/Trainer or Combat plane!

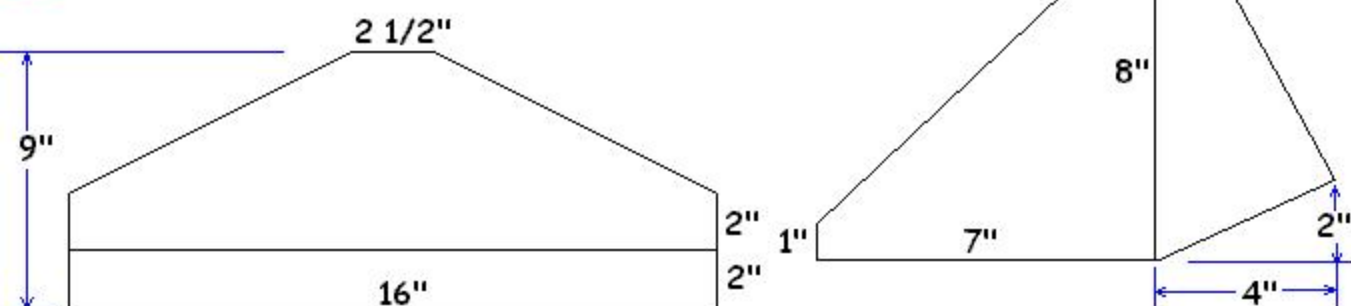


1. Use 2 1/2" O.D. American gutterpipe for the fuselage. The fuselage is 30" long. Enlarge the rear fuselage cutout to 10" long. The radio hole will stay the same size, but the front edge of the hole starts 8" from the front of the fuselage.
2. Use 1/4" x 4 1/2" long dowels for wing hold downs, and space them 12" apart.
3. Build the spar from 24" sections of yardstick, and increase dihedral to 7"
4. Build the wing from 4 Mil Coroplast using the following dimensions:



Note: 4 Mil Coroplast is much tougher to work with! Be ready for a fight! I used a 40 pound angle iron bar to weigh the LE down flat, while clamping the TE down while the glue set!

5. Build the tail to the following dimensions:



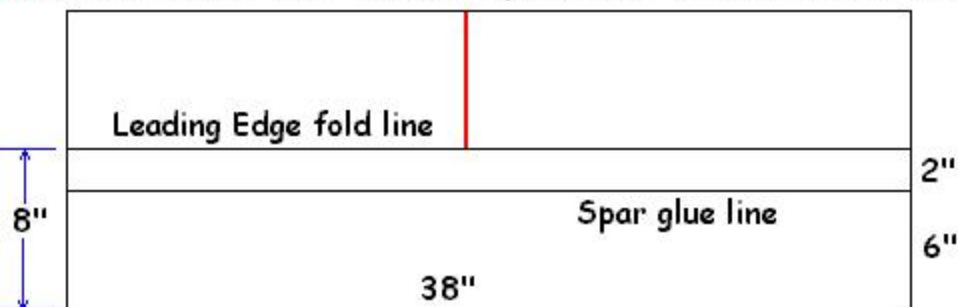
The prototype uses a TT pro .46, standard sized radio equipment, and a Hayes 8 ounce low profile fuel tank...go flying...and have fun!!!

Page 12

Use pages 1-10 and the following guidelines to "pewesize" the Friday Night Special into a super simple totally fun .15 sized Sport/Trainer or Combat plane!

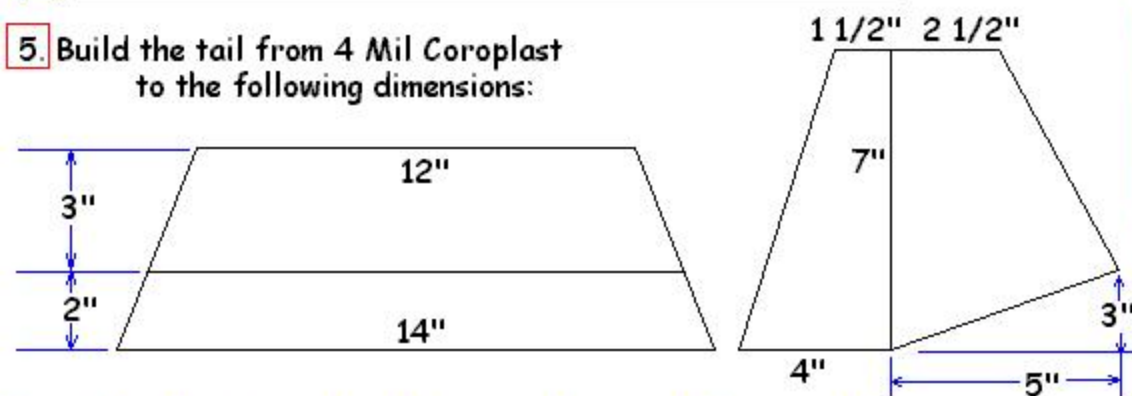


1. Use 2 3/8" O.D. Canadian gutterpipe for the fuselage. The fuselage is 20" long. Reduce the rear fuselage cutout to 7" long. The radio hole will stay the same size, but the front edge of the hole starts 4 1/2" from the front of the fuselage.
2. Use 3/16" x 4" long dowels for wing hold downs, and space them 9" apart.
3. Build the spar with 5" of dihedral from 19" sections of yardstick, cut down to 3/4" height.
4. Build the wing from 2 Mil Coroplast using the following dimensions:



Note: Optional 1" diameter lightening holes cut in bottom of fuselage for weight reduction.

5. Build the tail from 4 Mil Coroplast to the following dimensions:



Mount the elevator and rudder servo far enough forward to access servo arms at the rear of the radio access hole. The prototype uses a O.S. .15 fp, 7 x 4 APC prop, 4 ounce TT fuel tank, and HS-81 micro servos. Follow all AMA safety guidelines and HAVE FUN!!!