



The Western New York Free Flight Society Presents the 50th Annual Empire State Free Flight Championships

2020

In cooperation with



Part of the
National Warplane Museum Series
of
Outdoor Free Flight Contests

Friday June 5 9AM to 5PM

A-B Classic Gas
A Nostalgia Gas (NFFS event)
Early 1/2A Nostalgia (NFFS event)
020 Replica
1/2A Old Favorites (see below)
Diesel Duration Event
E- 20 (NFFS provisional event)
Moffett
Old Time Rubber Fuselage
Nostalgia Rubber/Wakefield (NFFS event)
Classic Towline (J)(S/O) (NFFS event)
FAC No Cal Scale
FAC Jet Catapult Glider Scale
FAC Simplified Scale
FAC WW I Mass Launch

Saturday June 6 9AM to 5PM

1/2 A Classic Gas (J)(S/O)
C-D Classic Gas
B Nostalgia Gas (NFFS event)
1/4 A Nostalgia Gas (NFFS event)
Old Time Gas
Diesel Duration Event
Ebenezer
E- 36
Hand Launch Glider (J)(S/O)
Old Time Rubber Stick
Cloud Tramp
FAC 2 Bit + 1 Rubber
FAC Half Wakefield
FAC Dime Scale
FAC Jimmie Allen
FAC WW II Mass Launch
FAC Simplified Power Scale

Sunday June 7 9AM to 4PM

1/2 A Nostalgia Gas (NFFS event)
C Nostalgia Gas (NFFS event)
1/2 A Gas (J)
1/2 A - D Gas (S/O)
Diesel Duration Event Fly Off
36" Bungee Launch Glider
Catapult Glider (J)(S/O)
P-30 (J)(S/O)
FAC Embryo Endurance
FAC Old Time Rubber Fuselage
FAC Golden Age Monoplane & Multi wing
Combined
FAC Combined Race Planes Mass Launch
FAC Simplified Power Scale

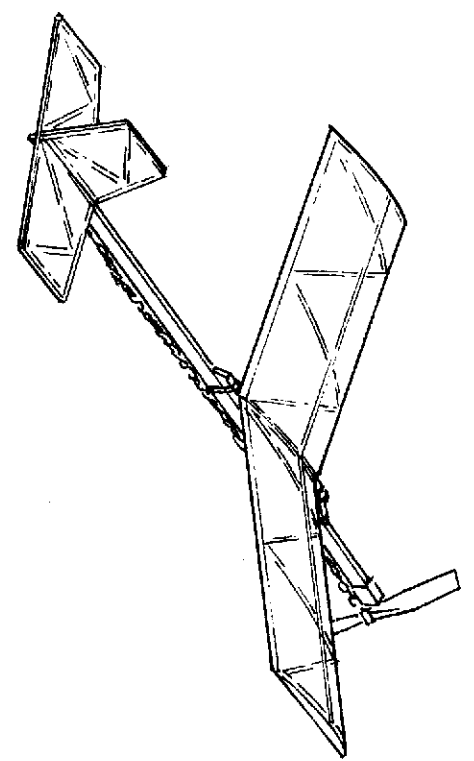
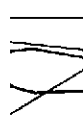
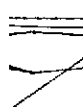
Rules for Empire State Free Flight Championships,

a category III meet except:

- Old Time Gas
16-second engine run for ignition (no glo)
12-second engine run for old time diesel
- 020 Replica, 12 second engine run
- Moffett & Old Time Rubber:
First three flights, 2 minute max,
Each additional flight, max increments by 1 minute
- 1/2A Old Favorites: Any power model using a nostalgia legal 1/2A engine or the Cox TD 049/051. All fixed surfaces, no composite structures except for the motor mount. NFFS nostalgia rules for engine runs and maxes. Diesel engines will be allowed 2 seconds additional engine run.
- Junior National Cup events
Classic Towline, 1/2 A Gas, P-30, Catapult Glider.
- Juniors can fly junior events any of the three contest days.
- Classic Towline: Straight Tow - no bunt NFFS Rules as of 2005. Alternate Bungee Launch per Great Grape Gathering specifics. Consult Great Grape Gathering rules or see CD at the contest. Contestants must provide their own bungee.
- Bungee glider: 36" or less wingspan, to be launched from a bungee consisting of 75 feet of line and no more than 25 ft. of 1/8" rubber (single strand), attached to a pole or stake fixed to the ground. Three qualifying flights of 60 seconds, fly offs in increments of 30 seconds. If you wish to safeguard your bungee do not leave it on the field when not actually in use. Contestants to provide their own launcher.
- National Cup – all events will be reported

- Diesel Duration Event
Three flights Friday and /or Saturday, 10 second engine run, 120 second max. Three maxes qualify for fly-off on Sunday with a 7 second run.
- CD for FAC events is Jim DeTar, email: jrdetar@yahoo.com
- FAC events will be flown to *Current FAC* rulebook unless otherwise noted.
- FAC Simplified Power Scale is a provisional event and Kanone worthy! Watch for rules in March/April FAC newsletter. Rules to be posted on FAC web site by April 2020. Similar to Simple Scale but some differences in bonus points.
- Max times are subject to CD's discretion based on field conditions
- Check in at CD's table for latest in field rules.
- AMA or MAAC Proof of membership required for all contestants and casual flyers.

Location: Geneseo, NY at the *National Warplane Museum*
Entry Fees: \$25 for all events includes registration & field use fee. Juniors, \$5 covers all events. Casual flyers *must* register with CD and pay \$5 field use fee.
Contest Director: Ruth Bane
Contact Ruth at 585-765-9363 or windwhip47@aol.com
Dinner: At the Yard of Ale on Saturday evening.



INSTRUCTIONS FOR THE "BLUE RIDGE SPECIAL"

BEFORE BEGINNING TO BUILD, read the instructions carefully and study the plan. Identify each piece of wood by its dimensions and be sure you know where it goes. Contact us if any parts are missing. You will need the following tools and materials to complete the model:

1. A flat building board at least 13"x19" in which you can stick pins.
2. Plastic kitchen wrap and masking tape.
3. About 50 straight pins, 3 or 4 new single edge razor blades, and 2 or 3 sandpaper emery boards or a small block of wood with a piece of fine 220 grit sandpaper glued to it. *Teethpicks*
4. 2 or 3 Q-tips or a small soft-bristle artist's brush.
5. A small spray can of one of the following: Clear artist's glaze, artist's fixative, or clear model aircraft dope. One of these may be obtained where art supplies are sold or at a hobby shop.
6. Elmer's Carpenter's Wood Glue or Franklin Titbond (both are nontoxic, water soluble and available at most hardware stores). These are stronger than most white glues and take less time to dry.

THE BLUE RIDGE SPECIAL

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BUILDING.

1. Tape the plan to the building board and tape a piece of plastic wrap over it. This will keep the glue from sticking to the plan. Make sure everything is **wrinkle free**.
2. **Begin with the wing, one panel at a time.**
 - a. Pin the leading and trailing edges to the plan. Straddle the pieces with pins as shown. **Do not** stick pins through the wood as this will weaken it. Dots on the plan indicate suggested pin positions.
 - b. Glue each end rib and dihedral rib in place. Trim any excess rib length from the rear (small end). Use the dihedral gauge to install the two dihedral ribs at the correct angle. Use pins as necessary.

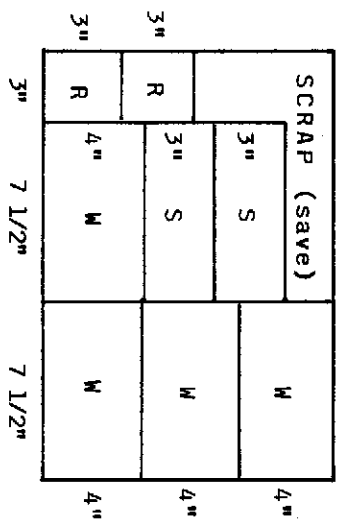
Apply the glue sparingly with a toothpick. Lots of glue makes a heavy model that won't fly well, and it won't be any stronger.

- c. Carefully trim and fit each diagonal rib as shown on the plan. Use pins as necessary.
 - d. Add the 1/16" square spar. It is necessary to trim the notch on each diagonal rib as shown. The fit should be snug but not forced.
- Allow the glue to dry thoroughly before removing the panel from the plan.**

3. Build the other wing panel and the stabilizer and rudder in a similar manner.
4. At this point it doesn't hurt to go over each joint with a little extra glue. Wipe it on with a toothpick.
5. Sand each piece gently and carefully, giving particular attention to rough joints, and to rounding the leading edge and tapering the trailing edge of the wing as shown on the plan. It is this step that separates the **beginners from the experts. Do neat work!**
6. Join the wing panels as shown on the plan before covering.

COVERING.

1. Cut the 12"x18" piece of tissue provided into pieces as indicated at the right. W stands for wing, S for stabilizer and R for rudder.
2. Mix a tablespoon of glue with an equal part of water in a small cup or jar lid. With a q-tip or small brush, coat the outline of one side of the rudder with the mixture. **DO NOT** coat the diagonal strips. The outline should be wet but not sloppy.



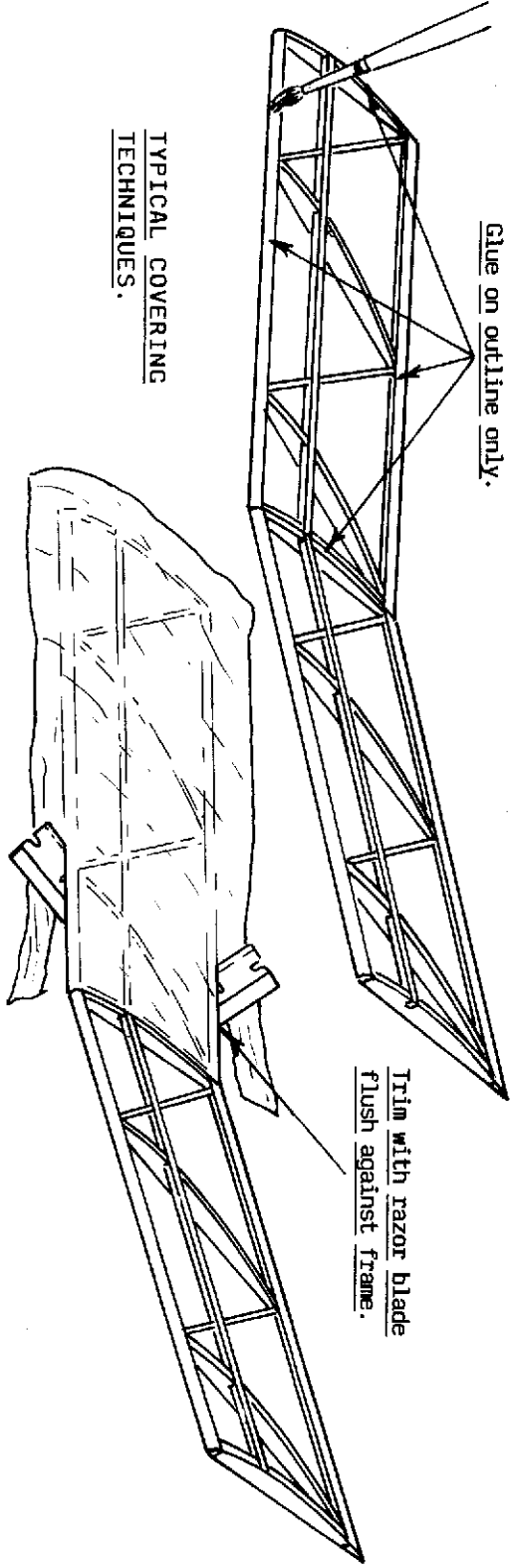
3. Lay the piece of tissue designated for the rudder over the coated side. Pull out any wrinkles. At this point, the covering should be smooth and wrinkle free. But don't attempt to pull it "drum tight" or you will add wrinkles. Set the rudder aside until the glue mixture dries.

4. Use a new razor blade to trim away the excess tissue from the rudder. Then cover the other side and cover the stabilizer in a similar manner. Again, don't coat the diagonal pieces of the stabilizer, only the outline and the 1/16"x1/8" center piece. Don't forget to trim one side before covering the other.

5. Cover the top of the wing first, one panel at a time. Apply the glue mixture only to the outline of the panel you are covering, i.e., the tip rib, center rib, and leading and trailing edges. Trim away the excess tissue when the glue mixture is dry. Overlap the tissue on the center ribs when covering the second panel. Cover the bottom of the wing similarly.

Glue on outline only.

Trim with razor blade flush against frame.



TYPICAL COVERING TECHNIQUES.

FINAL CONSTRUCTION STEPS.

1. Glue the stabilizer to the motor stick and the rudder to the stabilizer. Be sure to offset the rudder as shown on the plan, for turning flight.
2. Assemble the wing mount as shown on the plan and glue it to the wing. Do not glue the wing mount to the motor stick (basic flight adjustments are made by sliding the wing forward or back). Align as shown.
3. Add the rear motor hook. Glue and bind it in place with thread for safety.
4. Give the entire model one or two light coats of the fixative spray or clear dope, and allow it to dry thoroughly. This will tighten the tissue and increase its durability. If any sagging tissue or stubborn wrinkles remain, wet these with water to further shrink the tissue. Small wrinkles have no adverse effect on the flight.
5. Check the entire model for warps. Each panel of the wing, the stabilizer, and the rudder should be flat and with no warps or twists. If you find a warp, hold the warped part briefly near a source of low heat, not an open flame, while gently twisting in the opposite direction of the warp. It may be necessary to repeat this to remove a stubborn warp.

FLYING INSTRUCTIONS.

TAKE YOUR TIME. YOU'VE PUT IN A LOT OF EFFORT SO FAR. MAKE YOUR TEST AND ADJUSTMENT FLIGHTS WHEN THERE IS LITTLE OR NO WIND. CHOOSE A FIELD FREE OF TREES AT LEAST THE SIZE OF A SOFTBALL OR SOCCER FIELD. ONCE IT IS ADJUSTED THE "SPECIAL" CAN BE FLOWN IN UP TO TEN MPH WIND, BUT YOU WILL NEED MORE ROOM TO FLY IT THEN, AND SHOULD BE PREPARED TO CHASE IT. AVOID WET GRASS AND RAIN. Use the guide below to adjust the model.

PREPARING THE MOTOR. Use a 28" length of 1/8" rubber. Wet the ends of the strip with saliva, and tie it into a loop about 13" long with a square knot. Pull the ends tight (saliva keeps the rubber from chafing or being nicked when the knot is tied). This length of motor will allow some slack so that the propeller clutch can disengage and the propeller can "freewheel" when the motor is unwound (thus producing less drag and a longer flight). Wet the motor with 2-3 drops of a mild liquid soap before winding and after every few flights to give it a longer life. Rub it in well. It should be wet but not sloppy. Install the propeller and motor. Place the knot at the rear motor hook. (Otherwise the motor won't unwind properly.)

THE INITIAL WING POSITION should be approximately as shown on the plan.

TEST FLIGHTS. Make the first few flights with about 150 to 200 turns on the motor. Count them, don't guess! Launch the model with a gentle shove and the nose held slightly high. The model should climb gradually to the right in a 30' diameter circle, and float back to the ground with the propeller freewheeling. If everything looks o.k., increase the motor winds by about 50 turns per flight, making adjustments as necessary. Maximum "finger winds" (without stretch winding--see below) will be about 400-450.

In a perfect flight with the motor fully wound, the model should climb steeply to the right in a spiral about 30-50' in diameter, and float back down in a right circle (see the diagram at the left). If not, work through the following to correct any problems. **REMEMBER: LITTLE OR NO WIND** during testing!

GLIDE ADJUSTMENT. (Take care of glide problems first.)

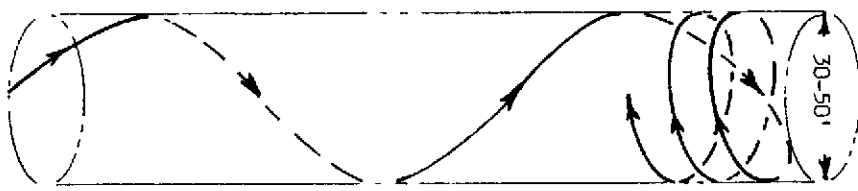
1. If the model stalls persistently (a), slide the wind back 1/8" at a time to correct this. If it dives (glides steep and fast) (b), slide the wing forward 1/8" at a time.

2. If the model circles too tightly to the right, breathe on the rudder while twisting its trailing edge to the left. This will remove the excess right turn. If the model glides straight or to the left, warp the rudder trailing edge to the right. Also check the motor stick to see if it is bent or bowed, and correct if necessary.

POWER ADJUSTMENT.

If any glide adjustments have been made since your last flight, test fly the model to see if any of the powered flight problems are still evident. They may have been corrected by the glide adjustments.

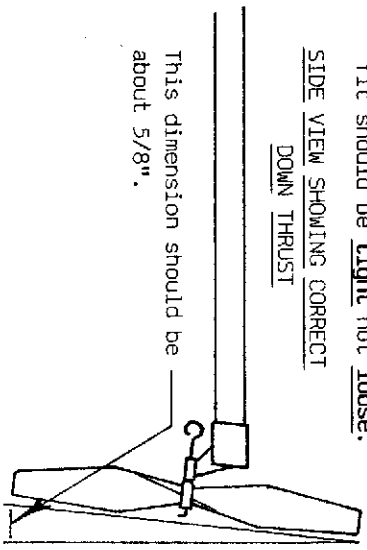
1. Refer to the diagram at the right.
 - a. If the model climbs or dives to the left or tries to fly straight, there is insufficient right thrust.
 - b. If the model chases its tail under power with little or no altitude gain, or dives in to the right, there is excessive right thrust.
 To adjust the right thrust, refer to the diagram below and GENTLY bend the white plastic propeller bearing to correct it.
2. If the model is not climbing:
 - a. Are you winding the motor enough? Use 450 or more turns for high flights.
 - b. Is the motor tired? Try a fresh one. Rubber gets "fatigued" after several flights.
 - c. Check for excessive down thrust. Refer to the diagram below. To correct, shim the motor stick nose to adjust and tighten the fit of the white plastic bearing. The fit should be tight not loose.



(a)

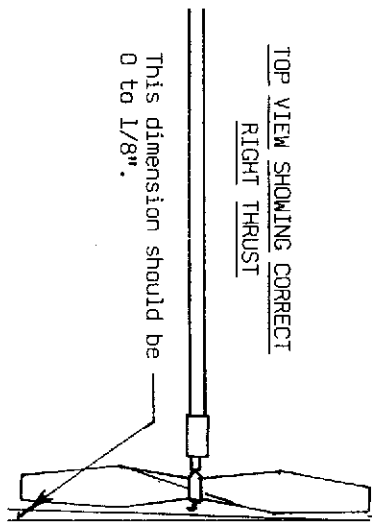
(b)

SIDE VIEW SHOWING CORRECT DOWN THRUST

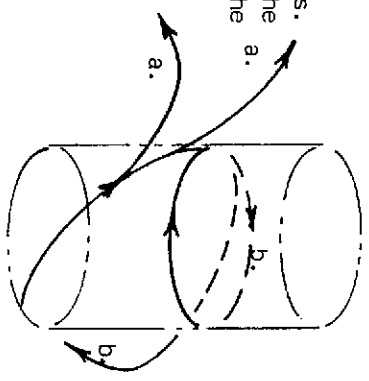


This dimension should be about 5/8".

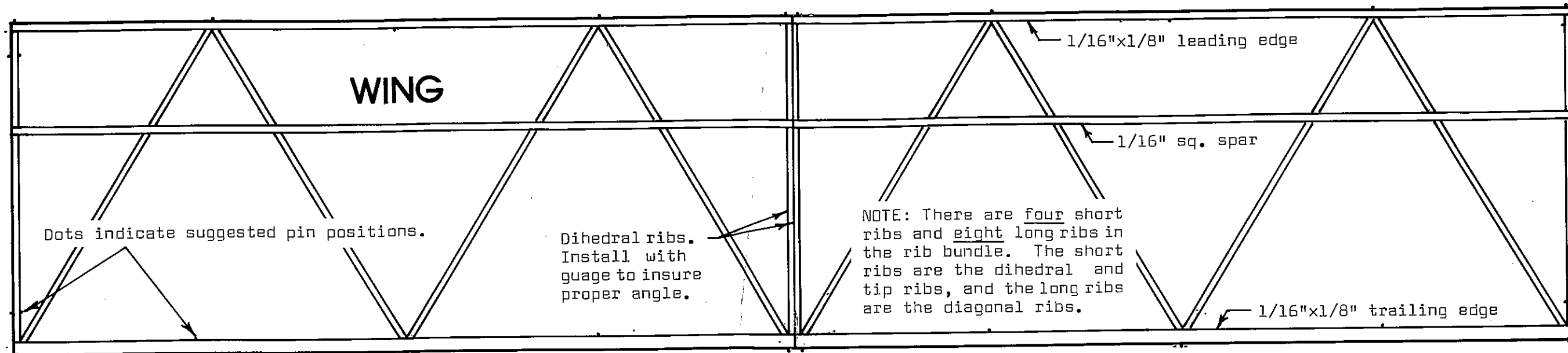
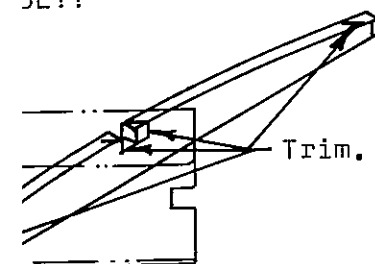
TOP VIEW SHOWING CORRECT RIGHT THRUST



This dimension should be 0 to 1/8".



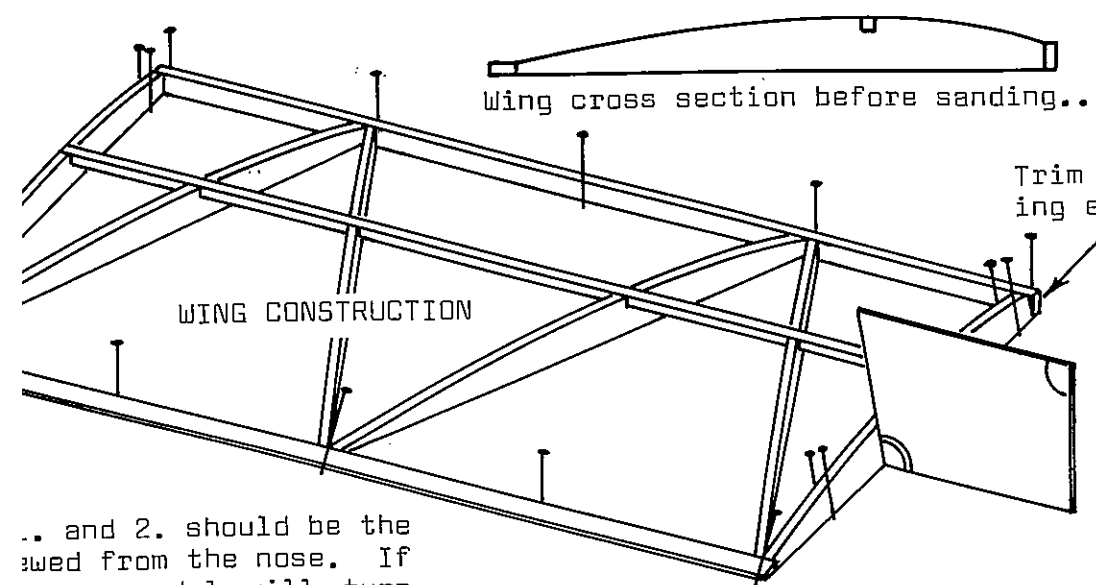
ly trim the leading trailing edge, and P each diagonal rib snugly. If ribs are 3, trim excess from <. USE A SHARP RA- DE!!



Dots indicate suggested pin positions.

Dihedral ribs. Install with guage to insure proper angle.

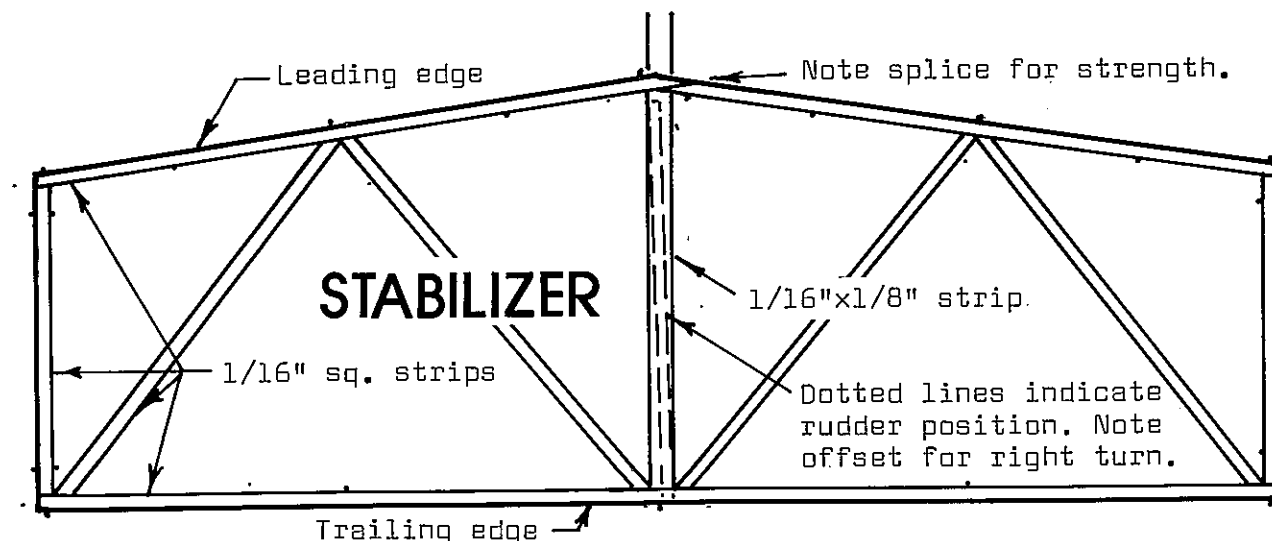
NOTE: There are four short ribs and eight long ribs in the rib bundle. The short ribs are the dihedral and tip ribs, and the long ribs are the diagonal ribs.



Wing cross section before sanding...

after sanding

Trim leading and trailing edge flush with rib.



STABILIZER

Note splice for strength.

1/16"x1/8" strip.

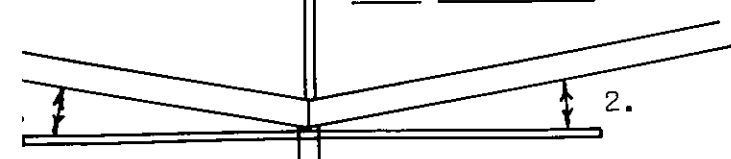
1/16" sq. strips

Dotted lines indicate rudder position. Note offset for right turn.

Trailing edge

.. and 2. should be the viewed from the nose. If arger, model will turn f 2. is larger, model on right.

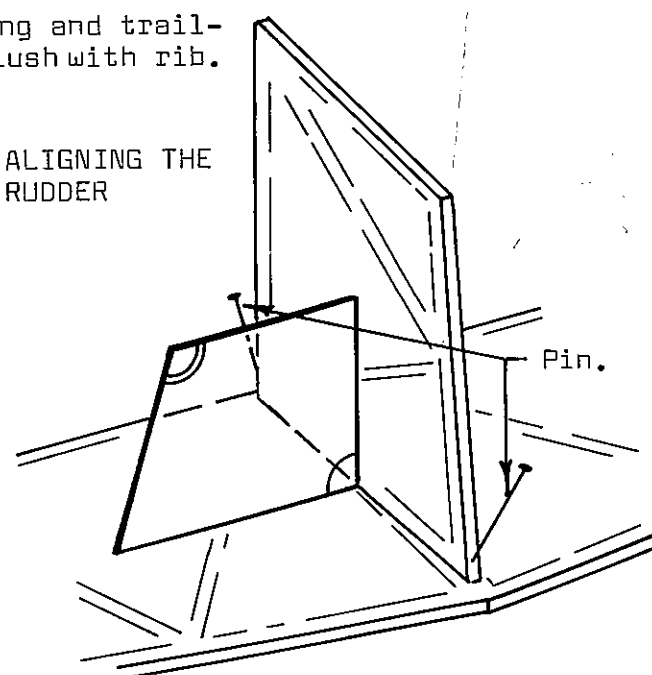
WING ALIGNMENT



Push prop hanger firmly on motor stick.

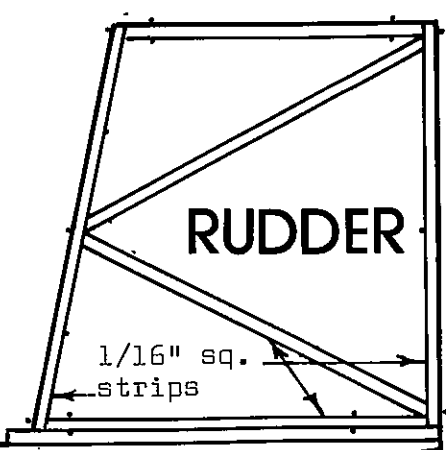
RUDDER AND DI- HEDRAL GUAGE. Make from an index card or thin cardboard.

ALIGNING THE RUDDER



Pin.

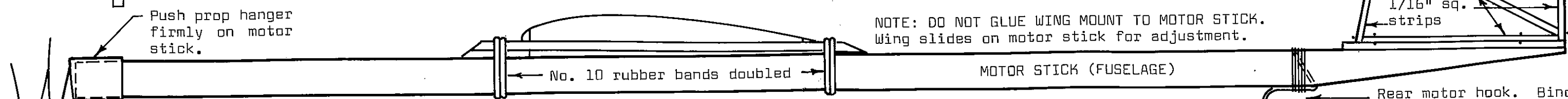
THE BLUE RIDGE SPECIAL
A HIGH FLYING RUBBER POWERED MODEL
BY BLUE RIDGE MODELS
ASHEVILLE, NORTH CAROLINA
Copyright 1977 all rights reserved



RUDDER

1/16" sq. strips

NOTE: DO NOT GLUE WING MOUNT TO MOTOR STICK. Wing slides on motor stick for adjustment.

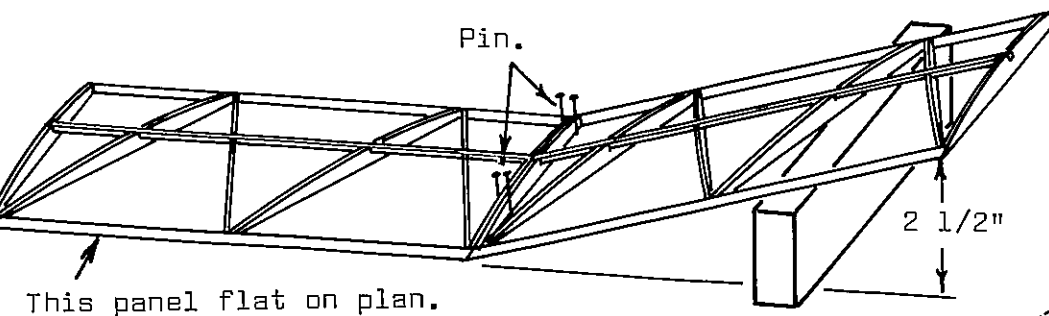


No. 10 rubber bands doubled

MOTOR STICK (FUSELAGE)

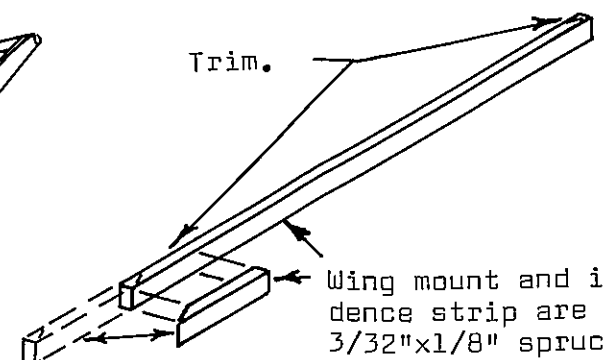
Rear motor hook. Bind with thread and glue.

ck up one wing panel /2" and glue panels ether for dihedral ore covering.



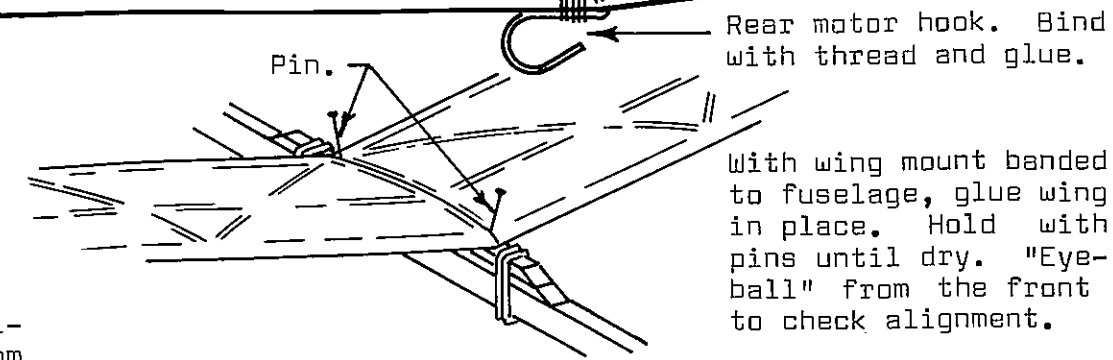
This panel flat on plan.

2 1/2"



Trim.

Wing mount and inci- dence strip are from 3/32"x1/8" spruce. Glue together.



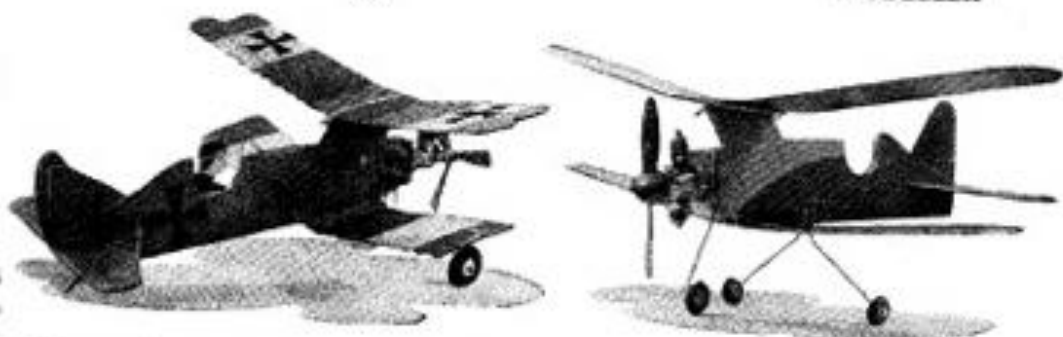
Pin.

Glue stabilizer and rudder to motor stick first.



EBENEZER

an all-sheet
balsa quickie
for free flight
with small engines
by B. C. Striegler



WITH THE WORST of the northern hemisphere winter behind us (we hope!) now is the time to start thinking of a new sport job to fill in time on the flying field. What better than this pee-wee solid sheet number that can be knocked out overnight from a few sheets of standard 3 in. wide balsa sheet?

Bert Striegler's prototypes seen above have a flight log which takes them back over three years of constant activity, amassing no less than 400 flights in the case of the "German" version with the Fokker type tail. With tricycle or standard undercarriage, radial or beam mounted engine, this little 20-in. span biplane will surprise you for its performance in spite of the flat plate aerofoil.

Plans below are one-third full-size, simply multiply the various measured dimensions three times and mark out directly on to balsa, using the actual measurements quoted as a guide. There's no need to be fussy over being exact in shape, just as long as you get those wing and tail angles right. The models shown above have flown on O.K. Cub #039, #049, Torpedo #035, Spitzzy #045, Allbon Dart and Merlin, so it's safe to assume that anything in the way of diesels from a Kalper to a Frog 80 will zoom Ebenezer aloft like a homesick angel.

P.S.—It takes off, too—after a long fast run, so if there is a runway on your flying field you can try some racehorse starts with your clubmates.

