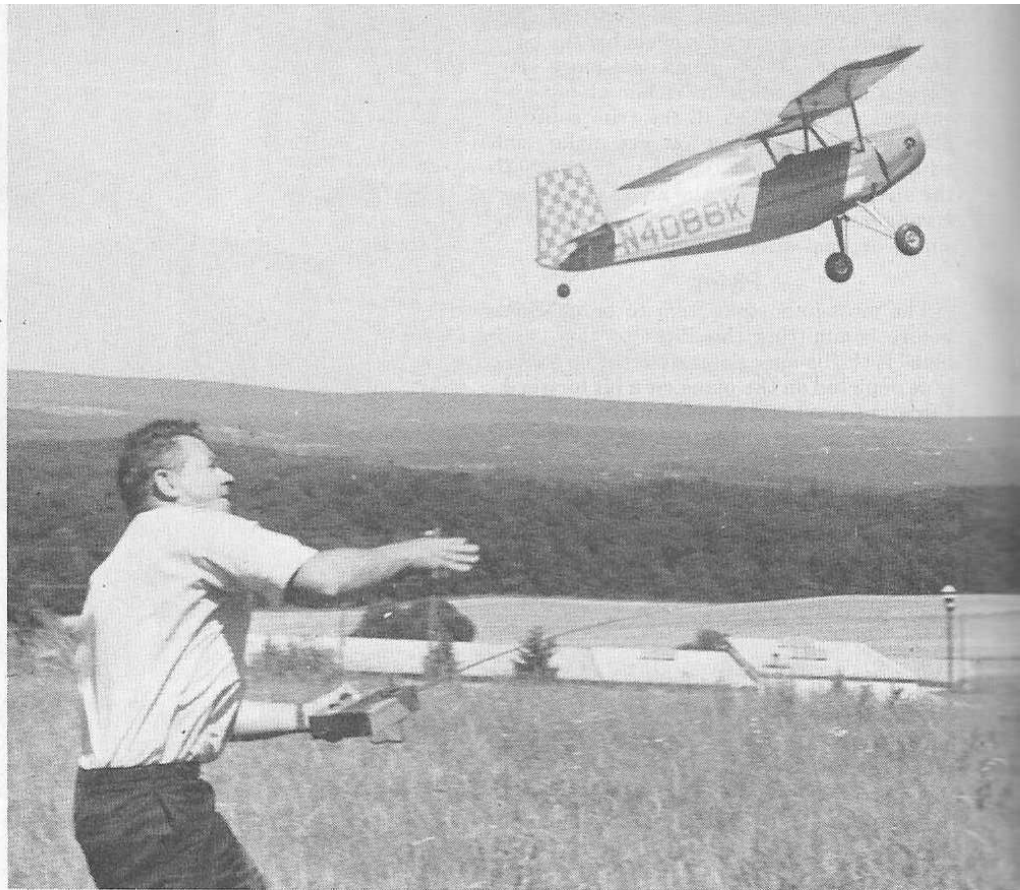


The Parasol "Jungster II"

by Al Wolsky

E.A.A. homebuilt types broaden the spectrum of aviation. This one makes a fine Stand-Off design, 3-channels enough.

Please do not make a crater in the roof, that's our office. A hillside heave on account of all the weeds and copperheads which bite the tires.



FM Staff Photos: Jim Boyd

The "Jungster II" is another homebuilt design which is part of the ever growing E.A.A. organization. It is the second of two designs by Rim Kaminskas an aero systems engineer of Los Angeles. In 1949 Mr. Kaminskas migrated to the United States from Lithuania. He had flown the highly maneuverable Bucker Jungmeister in Europe, and was unable to buy one in the U.S. It was not available to U.S. citizens, you couldn't buy a Jungmeister for love or even good folding money. However Rim as a trained aeronautical engineer sat down at his drawing board and designed his own midget sport biplane. This he called the "Jungster I," it was an $\frac{9}{10}$ scaled down "Jungmeister," it closely resembles its pappy the "BU-133."

In 1962 Rim started his second version of the Bucker type design. This time he selected a swept tapered wing parasol. He called his new jewel the "Jungster II" and powered it with a 180 horse Lycoming. It is of all wood and is built literally like a model airplane, with plywood and fabric covering. Wingspan is 21 feet and it has 15 degrees of sweepback in the wing. It weighs in at 740 pounds and cruises at 160 m.p.h. Climb is a fantastic 3500 feet per minute. It is stressed for aerobatics.

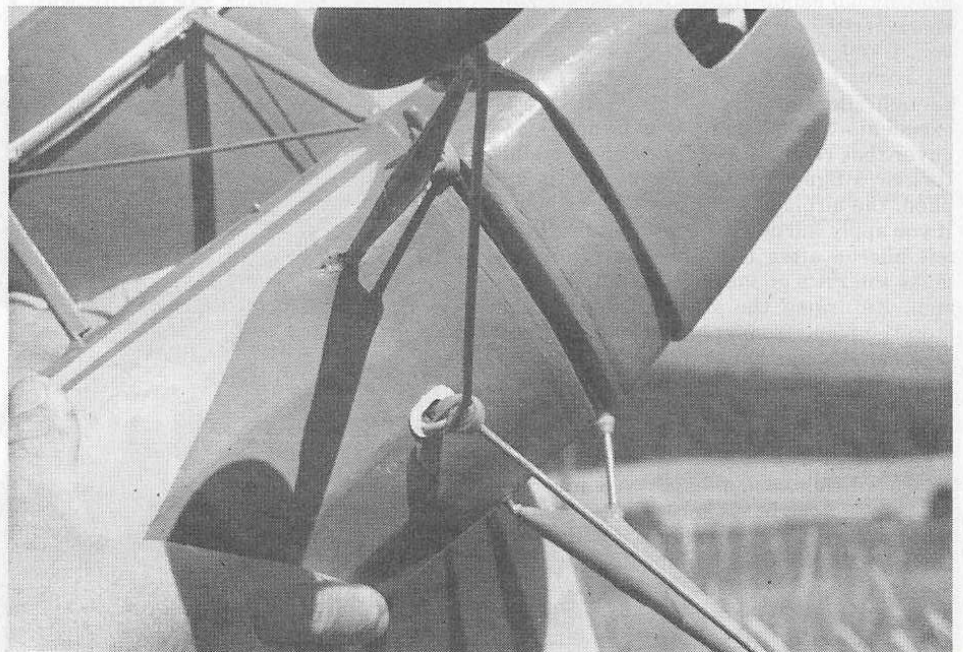
The model was designed from drawings and other information I gathered from K&S Aircraft Co. of Calgary, Alberta, Canada who sells drawings to construct the full size plane.

The model falls in the Stand-Off Scale category and flew right off the board. I have flown it with a .19, a .25 and would say a .35 would be the limit. It has shown no bad habits and is being flown on three channels using rudder, elevators and motor

control. Ailerons are shown on the plans, however they are not needed for general sport flying. The theory of a swept wing is roughly five degrees of sweepback gives the same effect as one degree of dihedral. So with the 15 degree sweepback in this wing this is equal to three degrees of dihedral. The model is not too difficult to construct, however one must be expected to have some experience in building a structure such as this.

The Fuselage

From the side view build two sides of $\frac{1}{4}$ " square balsa. For accuracy build one on top of the other with a sheet of Saran wrap between. Cut out all formers and firewall. When two sides are dry, remove, and at the tail taper insides to a thickness of $\frac{1}{8}$ ". Glue the sides together in this area. Place on the top view and add cross-pieces. It is time to epoxy the firewall in place, gear mount and two ply wing struc-



For gear-down, land upright. These new-fangled fixed gears solve everything. Note rubber bands to spreader bar. A spacious cowl, Kraft-Hayes mount within. Ship is rugged.



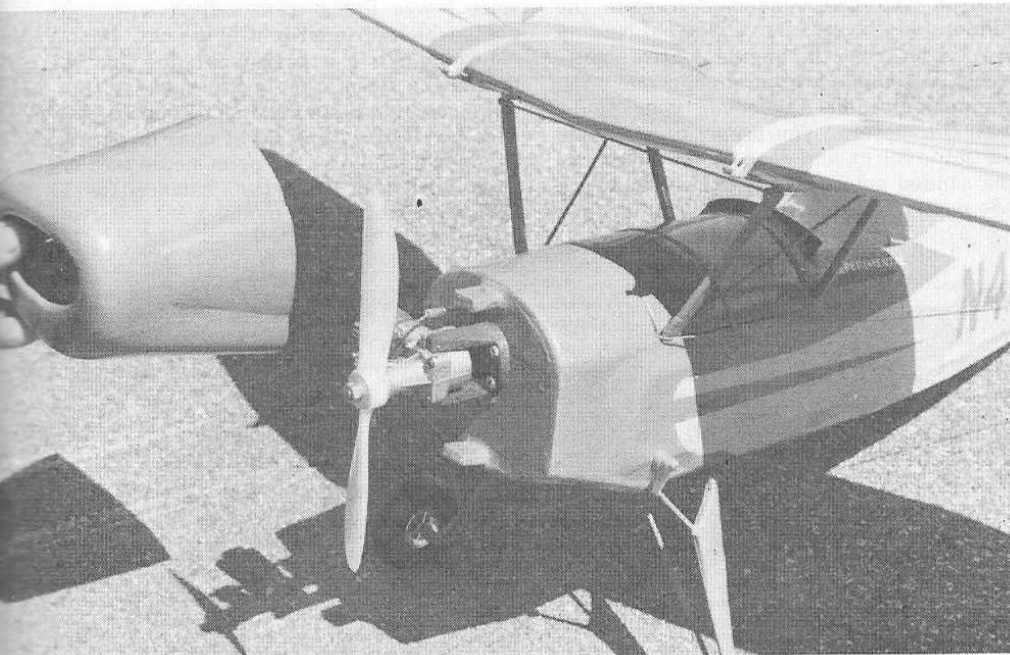
ture mounts. Next add the balsa formers.

At this point bend the wing mounts from coat hanger type wire. Note they are bound to the ply cross-pieces with wire. Form the other wire parts and wire all together with fine copper wire. The two wing cradle wires are of $\frac{1}{8}$ " dia. steel wire. Square up everything and when you are sure everything is right solder all joints together, making sure you get a good solid joint. Now you may add the stringers.

Bend the gear of $\frac{5}{32}$ " dia. wire and install with clips at rear. Notice the gear is pivoted at the rear and held at the front by two rubber bands. Bend the spreader wire and solder this in place. Plank the section under the wing and around nose and at the gear area. Notice the removeable hatch section under wing which this allows easy access to the radio.

The cowling can be made of fiberglass

or of balsa. I made one of balsa sheet. I cut a nose of $\frac{1}{2}$ " thick balsa and this was positioned in place at top and bottom with two $\frac{3}{32}$ " x 2" wide pieces. These extend back over the top of fuselage. Hold in place with rubber bands until dry, then fill in around with additional pieces. They will require soaking in water to conform to shape. Titebond was used and the result was a cowling in little time. Allow the glue to dry at least one day before removing



Remove the cowling and you have ready access to every side of the engine. A wide gear tread, well attached and braced. Parasol wing mount can take the stresses. Right: Servos rest within cockpit.



Al's Jungster II brings back the strip and tissue kind of structures, a favorite of many modelers. **Beneath:** Flight photos capture the aircraft at every angle, a sport-scale type that flies forever.

cowling. Mount your engine in place and make cut-outs in the cowl to fit and sand smooth. I painted the inside of cowl with epoxy. The exterior surface was doped and then covered with Silron.

Wing and Tail Assembly

The sweptback wing is not really too difficult to build if built in the following order. Cut out all ribs as called for. The trailing edges are of $\frac{1}{16}$ " balsa. Note the center section lower trailing edge, this should be cut accurately at the center joint. Pin one lower set of trailing edges over plan. Now block up the $\frac{1}{4}$ "x $\frac{3}{8}$ " hardwood spar off of plan $\frac{3}{8}$ ". This can be done with small blocks. Glue all ribs in place and add the top $\frac{1}{4}$ " square balsa spar and the $\frac{1}{4}$ " square leading edge. When this is dry, remove and turn over plan. Oil the plan to make transparent and built the other half of wing in the same manner. Notice the $\frac{1}{4}$ " ply dihedral brace. This also must be accurately cut to join the wing halves. Keep one half on the building board and raise the other half up 2" from the board. Epoxy the ply dihedral brace in position and make certain the trailing edge

joints are good fits. When the epoxy hardens add sheet to the leading edge and trailing edge. Also partial ribs to the center-section. Sheet the center out to rib #6 and add capstrips and tip pieces. If wing struts are desired, install blocks for mounting. The wing is designed so they are not needed for flying.

The fin rudder stabilizer and elevators are built up of $\frac{1}{4}$ " square and $\frac{1}{4}$ " sheet.

Finishing

Sand all frames smooth and round off edges and corners. Mount the engine and position servos, battery pack, pushrods etc. so the model balances at the point shown on plan. When this is found, glue or epoxy the servo mounting rails in place. Make the throttle control to engine, then turn on your radio and make certain the rudder and elevator move with no binding of rods and that the engine control works freely. When you are satisfied, remove the engine and radio and cover your model with the material you prefer to use. I am partial to Silron and dope. After all frames are sanded smooth I give the framework two coats of clear dope, sanding between

coats with #400 paper. The original was covered with yellow Silron and the clear dope was tinted with a small amount of yellow dope. In this way as the clear dope is applied you are slightly coloring all areas and giving the model a brilliant color without adding any real weight. The trim was done with red dope. I use Scotch tape as masking tape. This is a fast method requiring no sealing of the edges as would be required using regular masking tape. Just make sure the edge of Scotch tape that will receive the dope is smoothed out. Brush on two coats of color within the taped areas. Just before the last coat dries, carefully remove the tape. Pull the tape gently towards the inside of the doped area. Presto! You are finished with your trimming. The license numbers were cut from MonoKote trim film.

Flying Time

The flying of the "Jungster" should present no problem. I have had no trouble with this model in any way, and just think, when you get to the field with your own "Jungster II" you have a ship that is different and one that has never been modeled before. Double check the C.G. after it's complete, range check your radio and give it a try. You will be pleased. As a matter of fact I have hand launched mine with the transmitter in my left hand. This could not be done if it were not a stable ship, which it is in every way. I would like to hear comments from any of my fellow modelers who build the "Jungster II."

Additional Adjustment Information

I wish to add a bit of information as to the location of the center of gravity on the "Jungster." During the testing of the model I had about 12 flights without the cowling. I then decided to check whether the engine would perform enclosed by the cowl. To compensate for the additional weight, I moved the battery pack to the rear. The model flew as well as on previous flights, however on landing as speed dropped the model snap rolled in to the left. This was caused by a slight tail heavy condition. The model sustained no damage since I was flying from a field with tall grass which I use for test flying new ships.

I would like to stress a point, and that is, in case you attempt to fly this model with a tail heavy condition. The plane should balance level, or with a slight nose down attitude when held at the point noted on the plan. With the "Jungster" balanced as I have noted it is a fun model.

