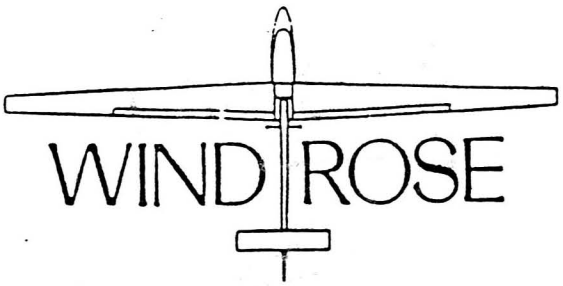


Thank you for your interest in the WINDROSE self-launching sailplane. The design philosophy behind its conception was the criteria of the Sailplane Homebuilders Design Contest--simple, inexpensive, quick to build and self-launching.

Our early studies led us to believe that "quick-to-build" should take precedence over other factors. (Woodstock sailplanes are still being built for under $1500, but being built of a lot of pieces of wood it takes time.) We studied various wing construction first. Our conclusion was that if we could eliminate all internal controls, all cables, pulleys, brackets, push tubes, hinges, etc., we could really make a quick-to-build wing.

The Windrose wing is, therefore, made of 5 blocks of foam, each 4 feet long, hot wire cut with a rib pattern at each end. Each piece has a notch top and bottom to take the spar cap. These foam blocks have 3/8" dowling pushed into the foam on 8" centers between the spar caps and are then glued together on a 20 foot table (the only jig used in the Windrose construction.) The unidirectional fiberglass spar cap is laid into the notch on one side and that side of the wing is skinned, all in one session. The following day the wing is turned over and the second spar cap and skin are applied. Truly quick-to-build, Doug Lamont called them "the six day wings."

Roll control is provided by two 12 foot long ailerons mounted inboard with piano hinges pop riveted to the wings. They are identical at both ends, and therefore easy to build. They are driven by 2 vertical push rods inside the fuselage. Glide path control is provided by a delta shaped spoiler at the center of the wing.

I BUILDING

JIGS: The only jig needed to build the Windrose is a 20'x30" table on which the wings are built.

SPACE: More is always better. Each wing is 21ft. long. A two car garage will suffice.

TIME: We estimate the glider can be scratch built in about 700 man hours. Kits or partial kits would reduce this time.

COST: Interestingly enough, the major materials cost almost the same. Epoxy, glass and foam all cost about $3.00 a pound. Of course there is waste, acetone, tools like brushes, etc.

Approximate costs:

Basic Glider	$2000.00
Engine	800.00
Instruments, Prop, Tank, etc.	1200.00
Total	$4000.00

II ENGINE

We use a Cuyuna UL II-2 with stock accessories modified to our drawings. It is rated at 35 HP at 6500 RPM. We are turning it 6200 in climb. Drawing and book tell you how to make the prop. Or, it is available from kit manufacturer. This engine is easily rigged to air restarts. Drawings show how.

III TESTING

The Proofloading is complete. (It was not at Tehachapi last September.) Wings to 8 G's+. Horizontal tail, vertical tail and fuselage in bending and torsion. It is very stiff now.
Flight: Tests are complete. It will climb to 2000 ft. in less than 10 minutes with any pilot at almost any density altitude. It has been climbed under power to 13,000 AGL. The roll rate 45° to 45° is 3 seconds. Stalls and spins (4 turns) are normal. Performance is about as calculated L/D 29 @52mph. VNE 132 mph.

IV Some other features of Windrose include:

1. Pilot protection. There is a 6" square plywood box under the pilot, and extending 2 feet forward of the rudder pedals. There is a 6"x10" plywood box separating the pilot from the engine compartment.

2. The safety tow hook opens automatically when the tow rope reaches an angle of about 70° below the horizontal.

3. The horizontal tail is one piece, rectangular in shape. It is balanced and has 2 springs and a bob weight at the stick.

4. The basic fuselage structure is formed by two 6" wide plywood boxes, one forming the tail boom, the other going forward under the pilot. They are joined by two ½" plywood slabs, and this "pylon" is closed with 1/8" plywood front and back. The engine, pilot's seat, tail and all the controls are fastened to these boxes.

PLANS: Are complete and extensive. Over 200 square feet of drawings plus a detailed instruction booklet. They are $175.00 in the USA or Canada and $195.00 airmail overseas.

To:
Jim Maupin Ltd
Star Route 3, Box 4300-37
Tehachapi, CA 93561

Enclosed please find $175.00 (US and Canadian residents) or $195.00 (for airmail overseas). Payment is for one set of registered set of plans for the Windrose Sailplane. I agree not to reproduce the drawings or instructions in whole or in part, without prior permission.

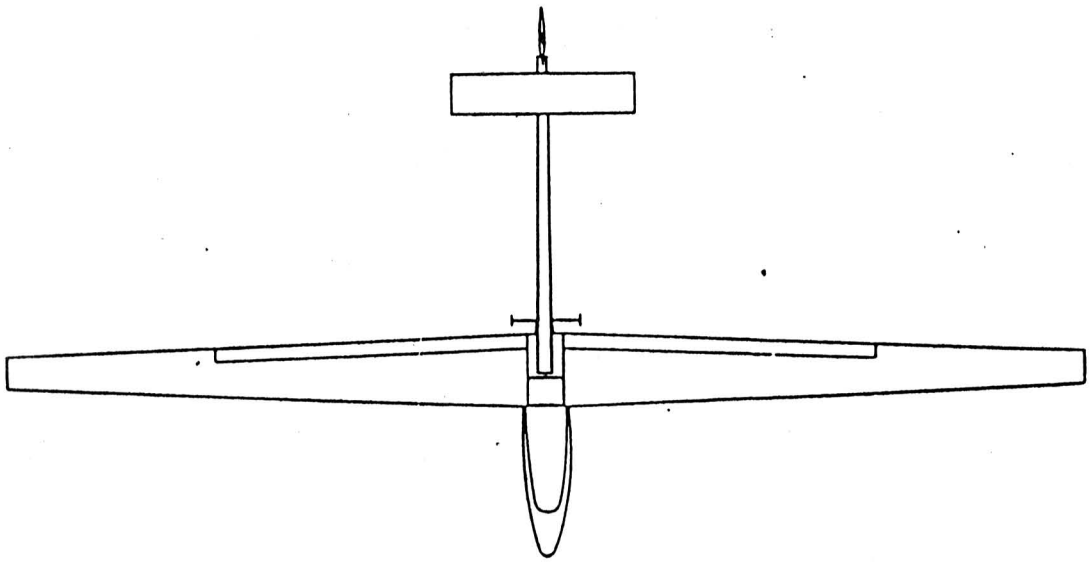
Name _____

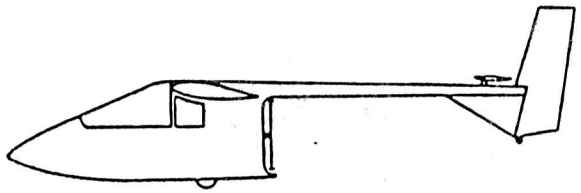
Address _____

City _____ State _____ ZIP _____

Date _____ Signature _____

WIND ROSE





SPECIFICATIONS

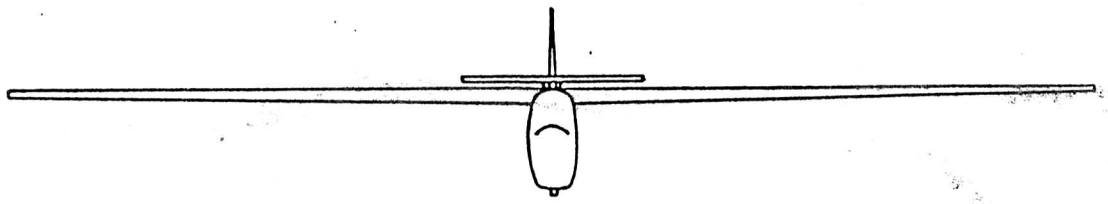
SPAN	41.5 FT
LENGTH	21.6 FT
AREA	96.0 FT²
A/R	17.9

PERFORMANCE

TAKEOFF RUN 700 FT
RATE OF CLIMB 500 FT/MIN
POWER 33 HP AT 6200 RPM
L/D MAX 29/1 AT 52 MPH
MIN SINK 2.3 F/S AT 46 MPH

NORMAL

EMPTY WT.	512 LBS.	MANEUVERING SPEED	88 MPH
PAY LOAD	188 LBS.	MAX. SPEED ROUGH AIR	100 MPH
GROSS	700 LBS	MAX SPEED SMOOTH AIR	132 MPH V_{NE}
W/L	7.3 LBS/FT²		

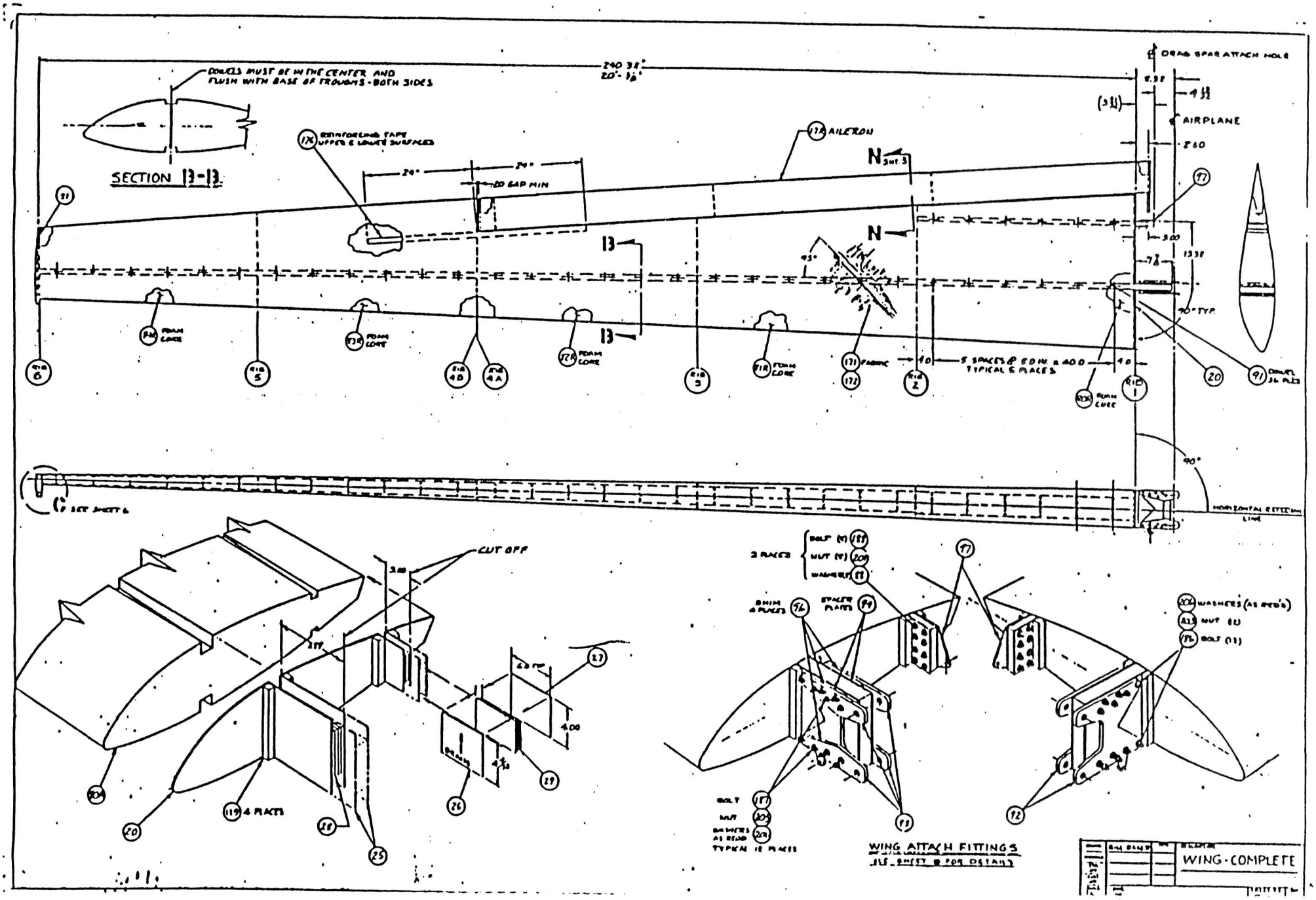


MAXIMUM

EMPTY WT.	512 LBS.	MANEUVERING SPEED	84 MPH
PAY LOAD	228 LBS.	MAX. SPEED ROUGH AIR	96 MPH
GROSS	740 LBS	MAX SPEED SMOOTH AIR	127 MPH V_{NE}
W/L	7.7 LBS/FT²		

WINDROSE

DRAWING SAMPLE
NO SCALE.



A HIGH PERFORMANCE WINDROSE

Having had considerable success with inboard ailerons on the Windrose, and designed, proofloaded and flight tested a glider with carbon (graphite) spars, we began a design study of longer wings for the Windrose some time ago. These wings would use carbon for spar caps, have a double taper platform, and increase the span to 15 meters. Since carbon is twice as strong as fiberglass, and has a modulus of elasticity high enough that you don't have to add extra material just for stiffness as is the case with glass, the new wings would weigh the same as the old wings, maybe slightly less.

We recently finished the design, and worked up the drawings. These wings are now under construction by three builders.

These wings retrofit to the basic Windrose. The only change is a new drag spar fitting on the fuseloge.

Enclosed is a 3 view showing the new wings and performance comparison.

Carbon is not cheap, but it doesn't take a whole lot. We estimate the increased cost to be about $400.00. But this does not seem an inordinate price to pay for so dramatic an improvement in performance. The new figues assume the use of the Rotax 503 engine of 46 hp at 6500 RPM.

The drawings and book for building the 15 M wings are $50.00.

There will be some magazine stories on the high performance Windrose, but these are often published long after the fact, and I though you might appreciate this information as soon as it was available.

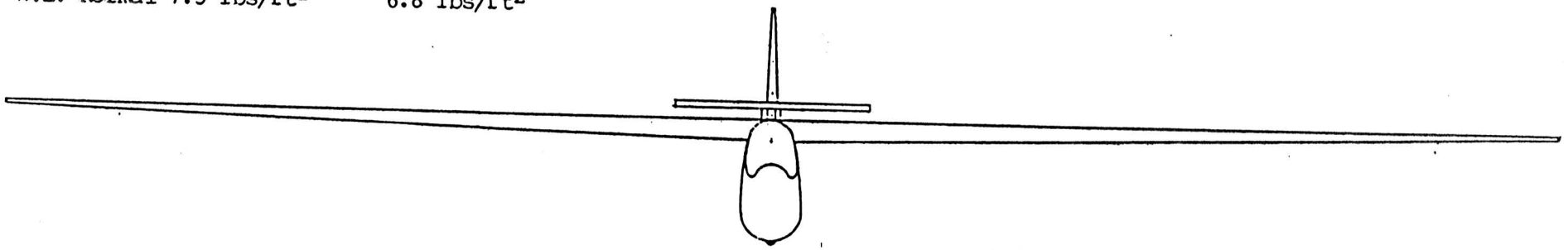
Approximate Costs		13M	15M
Basic Glider		$2,000.00	$2,400.00
Engine		$ 800.00	$1,400.00
Inst. Prop. Tank	etc.	$1,200.00	$1,200.00

Best regards,

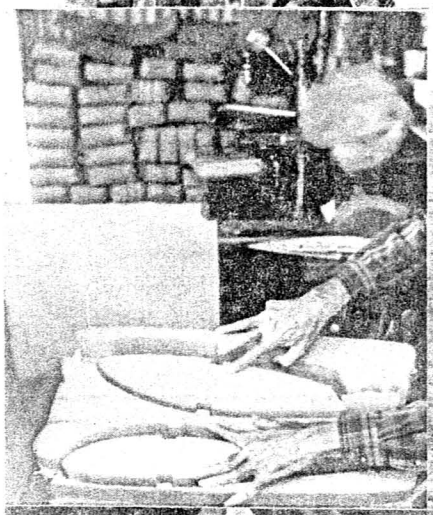
Jim Maupin

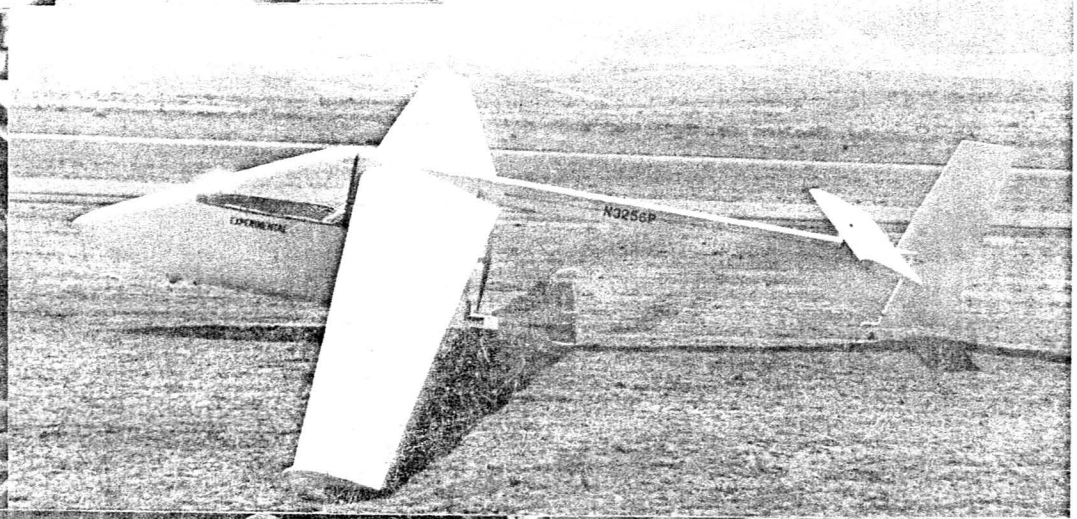
WIND ROSE

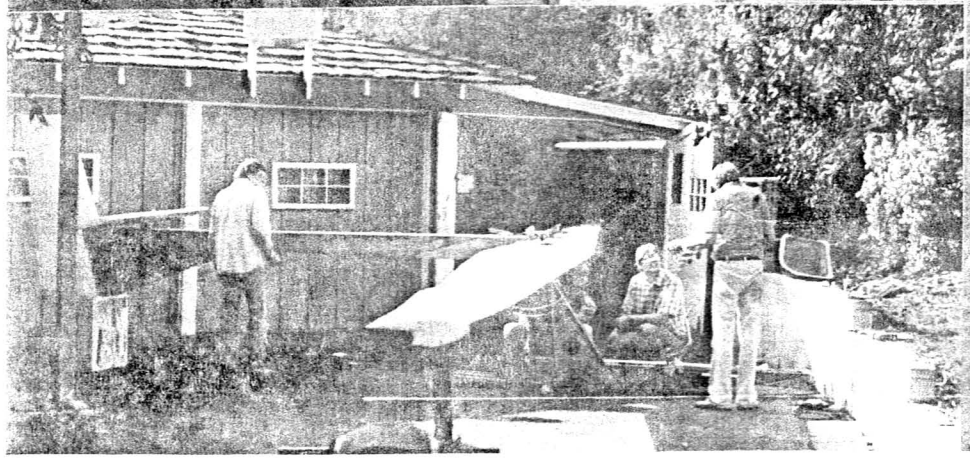
	13 Meter	15 Meter
Span	41.5 ft	48.84 ft
Area	96.0 ft^2	102.66 ft^2
A/R	17.9/1	23.26/1
Cuyuna	33 hp/6200rpm	Rotax 503 46hp/6500 rpm
Take off	700 ft	500 ft
Climb	500 ft/min	700 ft/min
LD Max	29/1 at 52mph	38/1 at 51mph
Min Sink	2.3 ft/S at 46mph	1.85 f/s at 46mph
W.L. Normal	7.3 lbs/ft^2	6.8 lbs/ft^2

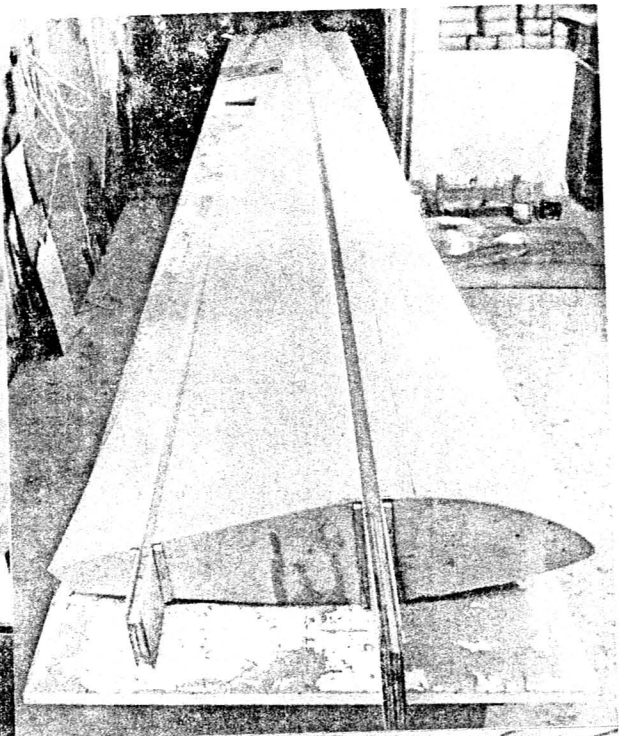


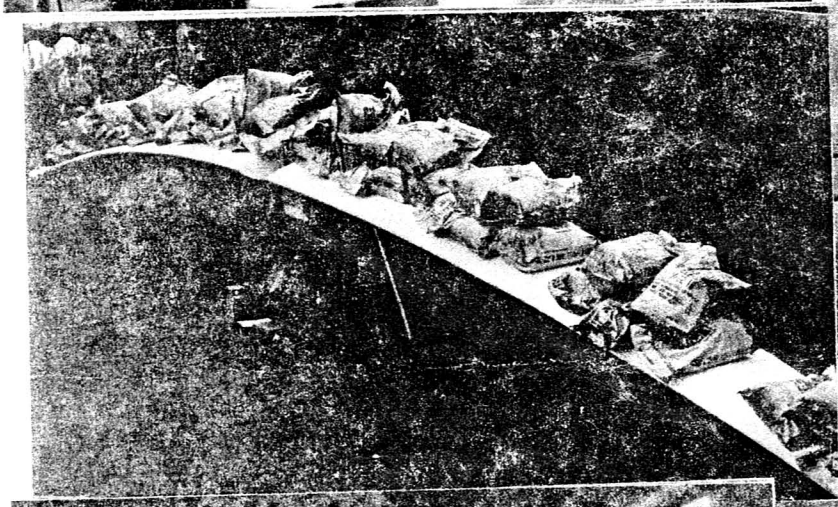
WIND ROSE

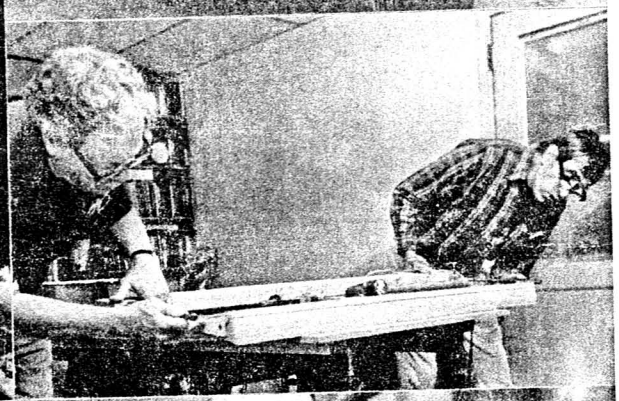


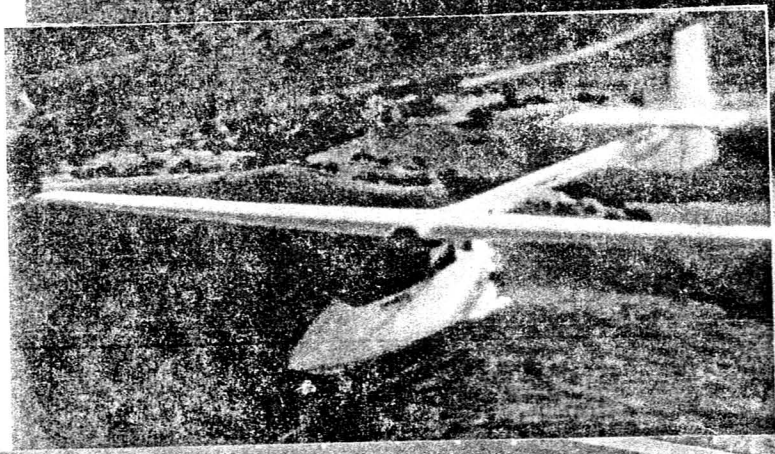


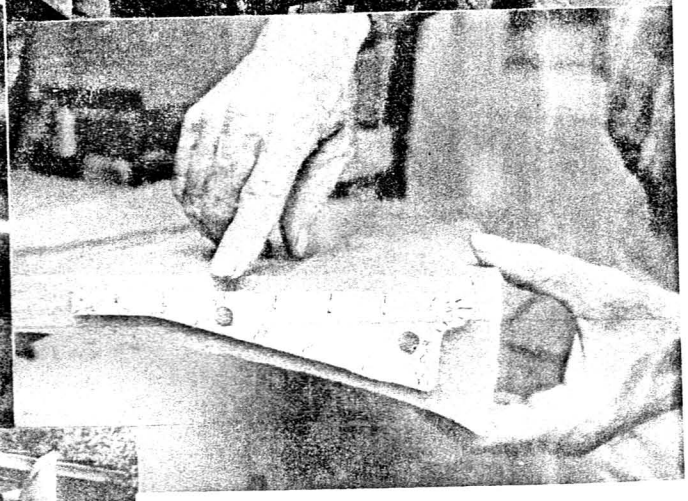


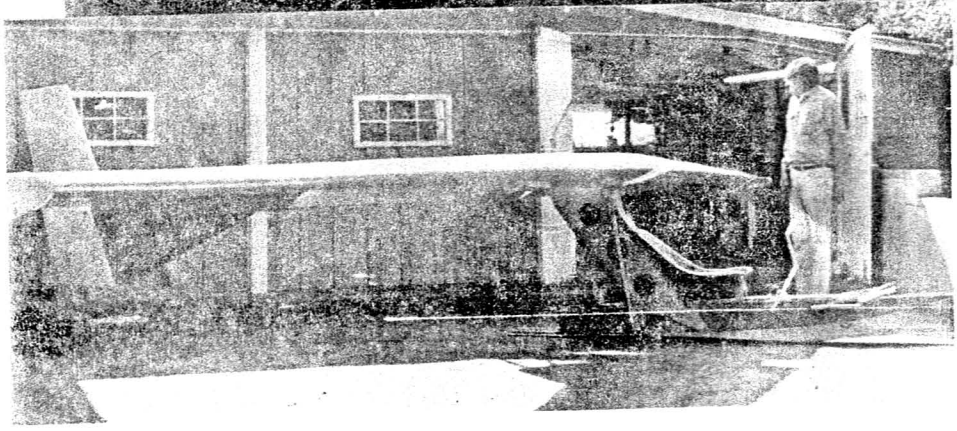












WIND ROSE