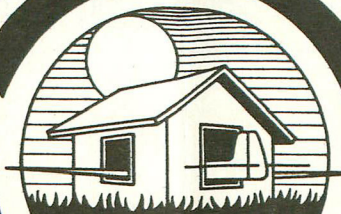


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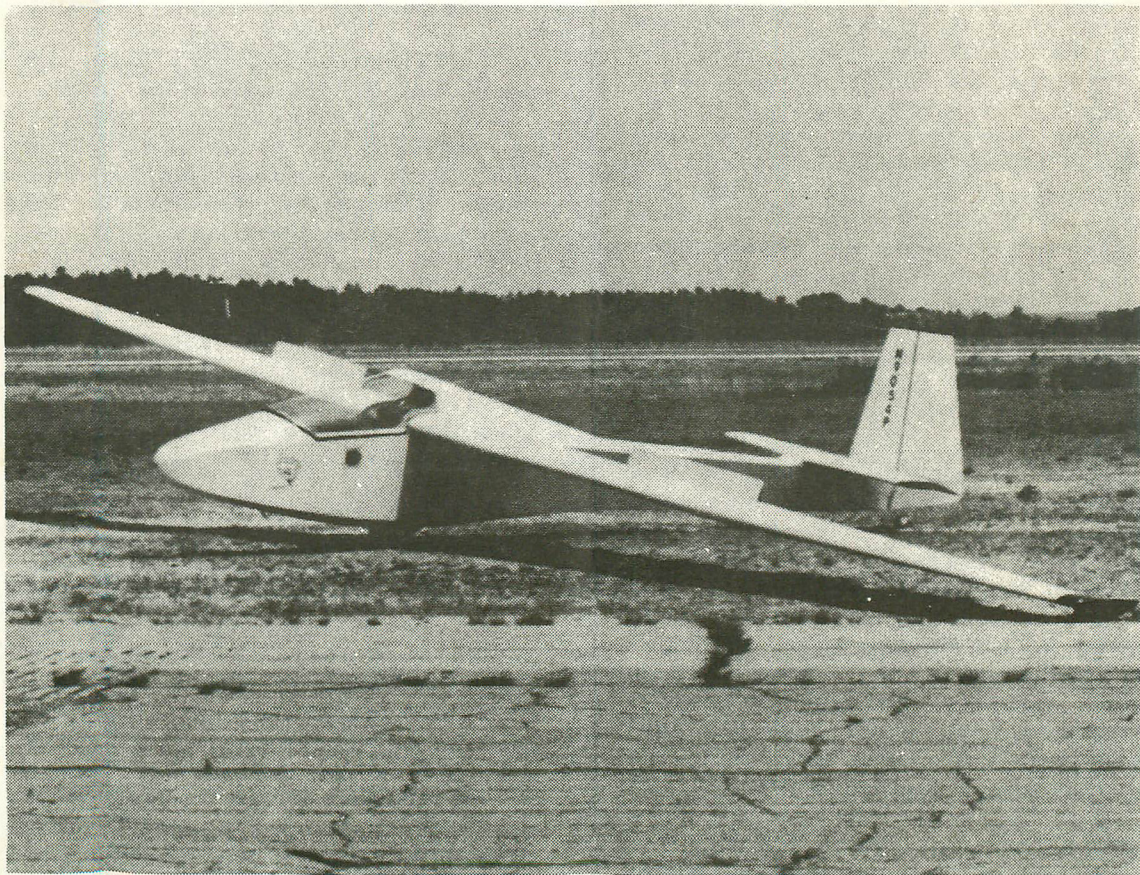


VIEW

SAILPLANE HOMEBUILDERS

ASSOCIATION NEWSLETTER

OCTOBER 1981





from the editor

"Where in the #*&%! is that newsletter they promised me when I signed up with this group." I'm sure words to that effect have been thought, if not spoken, by many members. Well, it's finally here, and is hopefully the start of a regular publication schedule. A lot has happened since the last issue, and most of it has helped establish a solid foundation for the Association, even if it has delayed the publication of the newsletter. The workshops, switching editors, getting artwork, photos, and copy prepared all contributed to the long interval between issues. My apologies to all of you. I do not anticipate a similar delay now that a production system has been worked out.

I'm afraid most of this editorial is going to be filled with explanations. Since the newsletter is only published every other month, I will try to pack as much into it as possible. This is the reason for the small type and photos. You may notice some spots of blank space in this issue. I felt it was more important at this point to get published rather than spend more time to prepare additional material to "fill it up". This also explains the lack of details about the photos on page 9. These were taken at Tehachapi during the workshop. Unfortunately I am unable to locate the notes I took while there to better identify the people and their sailplanes.

I'm looking forward to editing PLAN VIEW, and to hearing from you. The more input I get, the better the publication you will receive. More about that in the next issue.

(The following article was extracted from the Eaglet Newsletter, and written by its editor, Bernard E. Smith. -ed)

I talked with Larry Haig at some length to determine where Eaglet builders stood now that he has returned to a full time position with a Detroit engineering firm. Concerning the decision to return to work, Larry says that the financial rewards from aircraft design have not been adequate. In 1975 the Haigs started Am Eagle with savings of over \$30,000. By 1981 these resources had been exhausted. This precludes further development on either the Minibat or the Eaglet.

From the point of view of Eaglet builders, we will have to take the responsibility for any further development, though Larry says such hybrids should not be called Eaglets. Quoting Larry, "The Eaglet is a decent airplane. It is an adequate design which has been flown successfully both in the prototype stage and further proven by homebuilders." He feels that it has been reasonably successful. He does not contemplate any further design effort at this point. However, if any change is required for safety, he would follow up on it.



CLAMPING TECHNIQUES

By Doug Bell

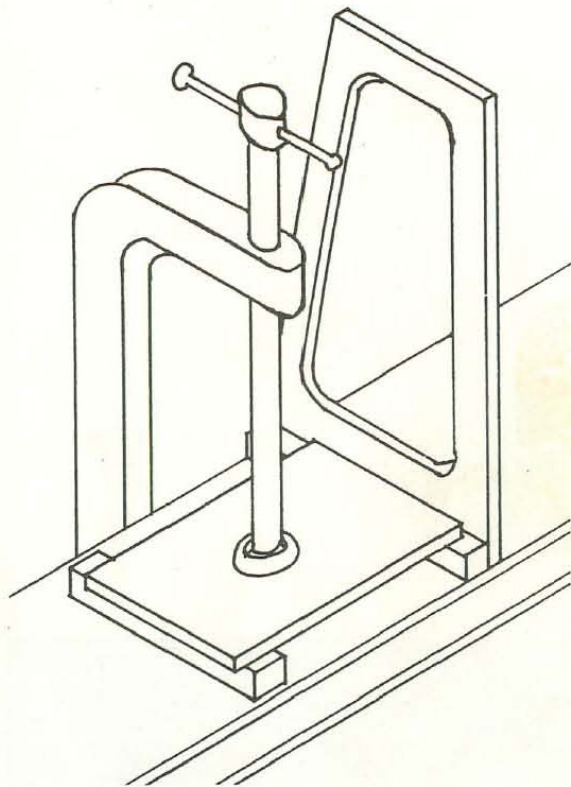
Whether your sailplane is made from wood, metal, or plastic, one of the most common operations in a homebuilt project is holding two pieces together while some bonding agent (glue, resin, etc.) sets. The standard staples, brads, screws, rivets, and a variety of commercially available clamps work in many cases. However, there are a number of times these are not suitable, and the homebuilder has to come up with his own methods. Here are two techniques that I hope you can use, and will give you some ideas for other applications.

BRIDGE CLAMP

This can be used where access is limited, parts are too thick for staples or nails, or too small for C-clamps. It is ideal for gluing ribs to the spar. With this method, a scrap piece of wood "bridges" from the piece being glued to a scrap piece of equal, or slightly greater, height. Rib cutouts from plywood ribs work quite well as bridges.

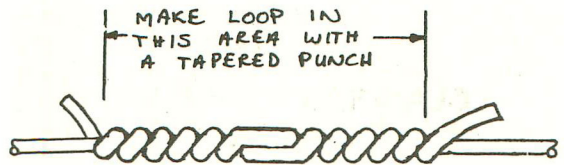
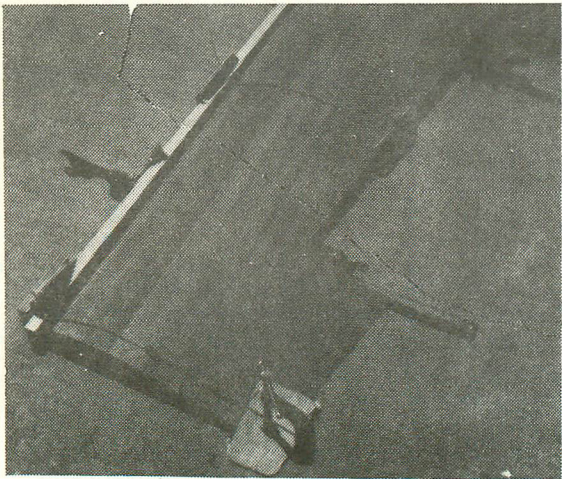
TORNIQUET CLAMP

Use this to cover long distances where you might normally use a bar clamp, but don't have enough for the job, or where pieces being clamped are not parallel.

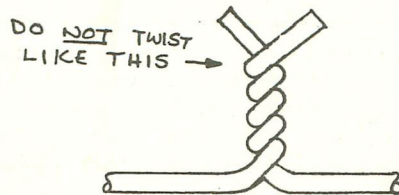


Several turns of bailing wire are wrapped between pressure blocks. A short dowel is used to twist the wraps, drawing the pieces together to the desired tension. This method was used to pull the plywood fuselage skins tight against the bulkheads on my Duster.

A variation of this method was used to hold the leading edge piece in place against the leading edge spar while gluing. Two wraps of wire were made around the wing (parallel to the chord), pulled tight by hand, and the ends twisted together so that they lay flat against the wing. Final tension was made by twisting a loop in the wires where they are joined, using a tapered punch to make the loop. The punch should be rotated between 180 and 270 degrees to form the loop. Any more and the wire will break. The tension in the wires is controlled by the size of the loop, not the number of times it is twisted. By using a tapered punch, the size of the loop can be controlled and the punch can be removed when the loop is complete. Believe me, if you try to use a screwdriver or dowel to make the loops, you will run into problems, or out of screwdrivers.



↑ TWIST WIRE ENDS TOGETHER LIKE THIS SO THAT THE TWIST WILL LIE FLAT AGAINST THE WING



When using bailing wire, be particularly careful that all parts of the structure are protected with wooden blocks. Do not use cardboard or other soft materials. There is a tremendous amount of pressure generated by the small diameter wire that will crush any structure that is not protected adequately.

The pictures and drawings show how some of these techniques were used to build my Duster. Notice that when gluing the root rib for the vertical stabilizer, one of the wire twists was replaced by a bar clamp, while another was replaced by a piece of threaded rod with nuts and washers.

DESIGN CONTEST UPDATE

Response to the SSA Homebuilt Sailplane Design Contest has been great. As of the deadline of Sept. 30, twenty-one preliminary design packages had been received. These will be evaluated by the judges during the month of October, and the survivors will continue on with the next phase of the contest.

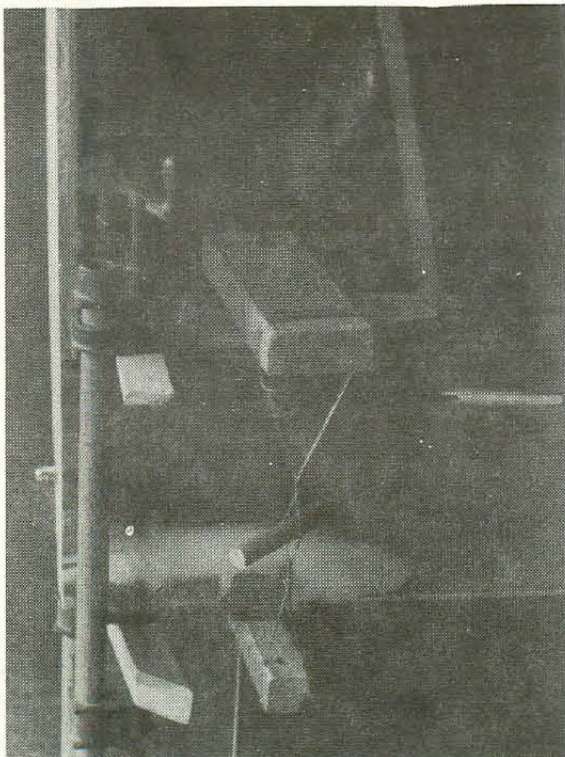
The contest has taken on an international status with designs being received from Canada, Japan, and Australia. These designers, as well as the American entrants, have given the judges a variety of

plans to consider. In addition to conventional configurations, there are flying wings, canards, and joined wing designs being evaluated.

There is just as much variety among the background of the designers as there is among their designs. Some of the more familiar names include George Appleby, Larry Haig, Jim Marske, John Monett, Vern Oldershaw, and Burt Rutan. Another eight to ten designers are working on plans, but missed the deadline. They all plan to continue their work, at least for the moment.

John McMasters, the chairman of the judging panel, has made arrangements between the SSA and AIAA to sponsor an identical contest for college and university engineering students.

With all this activity, the potential homebuilder will have the greatest opportunity to have a design that meets his personal desires than has previously been available. More information about the progress of the contest and related activities will be featured in future issues of PLAN VIEW.



(from page 6)

The ultralight movement has done much work in developing lightweight engines in the ten to thirty horsepower class. The twenty horsepower figure given above is used only as a representative figure. There are several engines currently available which would provide adequate power for the Komet, and no final selection has been made.

(The following article is a general description of Kevin Renshaw's entry in the SSA Home-built Sailplane design contest. On the opposite page is a three view drawing of his design, as well as a photo of the scale model he built. All information shown is from the preliminary design package submitted to SSA in September, and is used by permission. -ed)

The Komet is a semi-tailless sailplane designed to be constructed by homebuilders either from plans or from largely prefabricated kits. The primary concerns in designing this aircraft were to develop a configuration which could be built quickly and relatively inexpensively, yet be safe to fly and provide performance at least on the level of the 1-26.

The Komet is intended to be a licensed aircraft in the Experimental category, so at least a student pilot license would be required in order to fly it. The projected empty weight of the aircraft is above the 155 pound limit currently under consideration by the FAA for the definition of ultralight aircraft. It is recommended that a potential pilot follow the current SSA training syllabus at least as far as the solo phase before moving on to any of the homebuilt sailplanes.

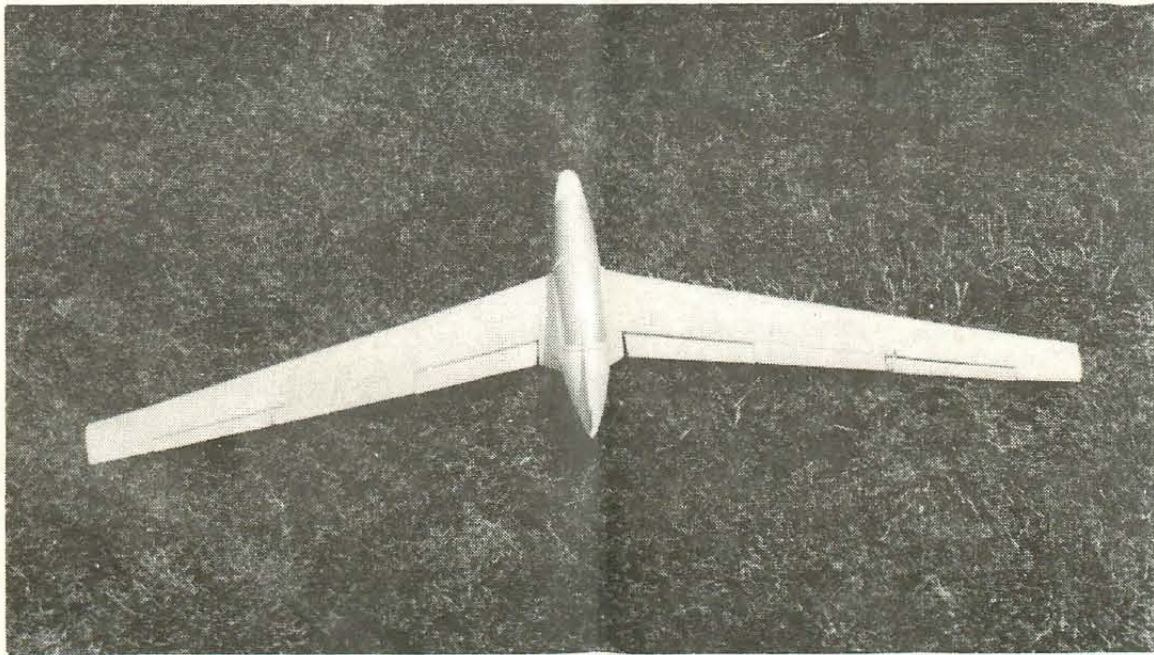
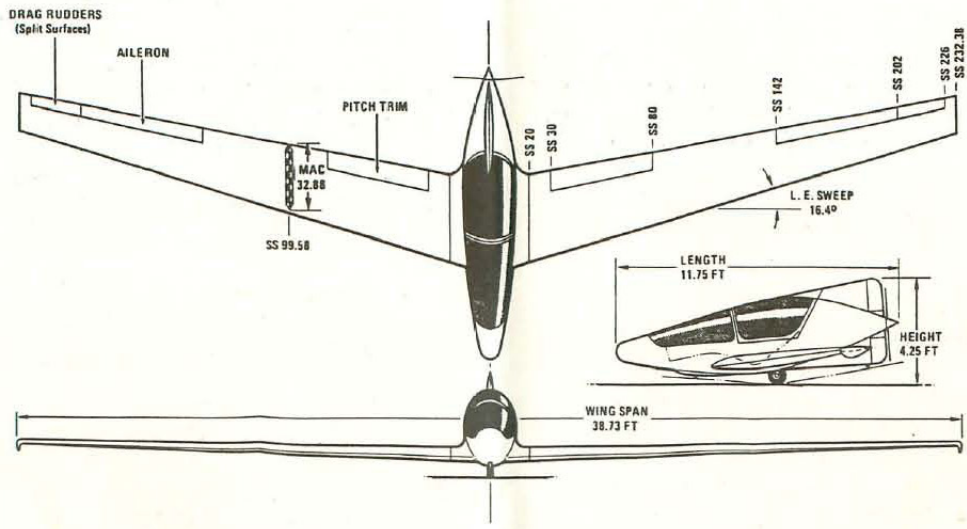
In the past, many people thought of tailless aircraft as unstable or difficult to fly. This is not true, as many of the most popular ultralight aircraft of today have shown. The Mitchell Wing series of ultralights and all of the Rogollo derivatives have

done much to change the way in which people think of "flying wings". A higher performance tailless sailplane design could become popular once the homebuilders realize some of the advantages inherent in this type design.

The design of the aft fuselage was dictated by the inclusion of a self-launching system. It was felt that a true self-launching capability should be included as opposed to a "sustainer" type which requires some other type of ground launch assistance. Many fields where glider operations are conducted have obstacles at the ends which make immediate establishment of a substantial positive climb gradient absolutely necessary. The idea of using an auto tow to get airborne, and then using a sustainer engine to hunt for thermals at low altitude in the vicinity of the field can be very hazardous, particularly if the field has an established traffic pattern.

The Komet incorporates a twenty horsepower two-cycle engine driving a pusher propellor via a belt drive reduction system. By using the pusher arrangement, the drag of the stopped propellor is minimized since the turbulent flow off the prop cannot cause flow separation on any other part of the aircraft as a tractor or overwing prop can. The short vertical surfaces immediately ahead of the prop serve to further reduce the drag of the aircraft when the engine is shut down. The lower surface also protects the propellor from striking the ground in case of over-rotation on take-off.

(continued page 5)



ELECTIONS HELD

During the Labor Day meetings at the Sailplane Homebuilders Workshops at Harris Hill and Tehachapi, nominations were called for at the special membership meetings scheduled for the purpose. The following were nominated:

President

Bruce Carmichael
Bob Smith

Eastern Vice President

David Hudnut

Midwest Vice President

Al Blackstrom
Bob Michener

Western Vice President

Jim Maupin

Secretary/Treasurer

Don Santee

Paid-up SHA members should find a ballot in this issue of the newsletter. In addition to the candidates, the membership is being asked to approve the changes indicated in the SHA bylaws. The original document was essentially a copy of the 1-26 Association bylaws and was put together somewhat in haste in an effort to get approval of Division Status from the SSA Board of Directors at the Phoenix Convention. Please mail your ballot to:

SHA Election Committee
36 Rockinghorse Lane
Rancho Palos Verdes, CA
90274

WOODSTOCK BUILDERS SURVEY

By Jim Maupin

This summer, when Woodstock plan number 250 went out, I printed a brief progress report on a pre-paid return addressed postcard, and mailed them to all the plans holders. The results of the survey are as follows.

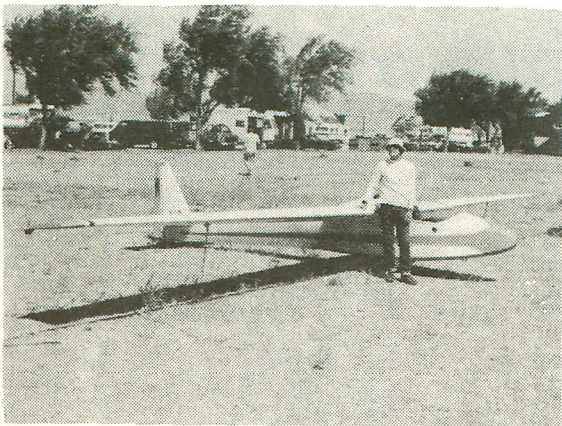
Complimentary sets*	6
Returned postcards	17
Not started	42
25% complete	13
50% complete	5
75% complete	1
Completed & flying	4
Total accounted for	88

*Complimentary plan sets were gifts to helpers in design and drafting.

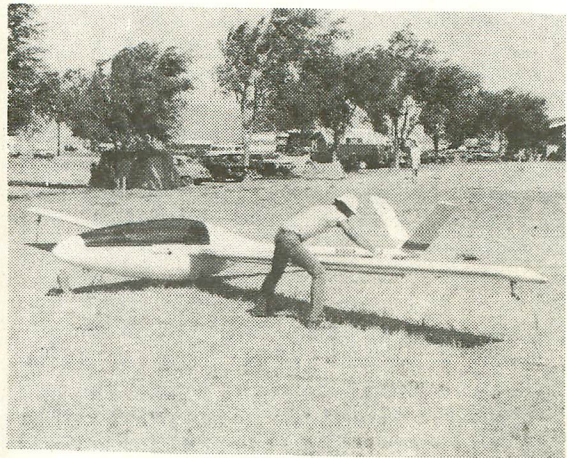
The only reasonable conclusion is that the other 162 are too busy

building to stop and mail a prepaid postcard! Right?

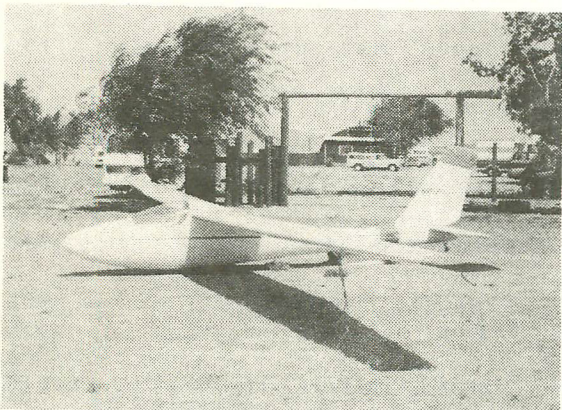
I do not want to write or edit a Woodstock column for our newsletter. It should be done by a builder or someone flying their Woodstock. How about a volunteer?



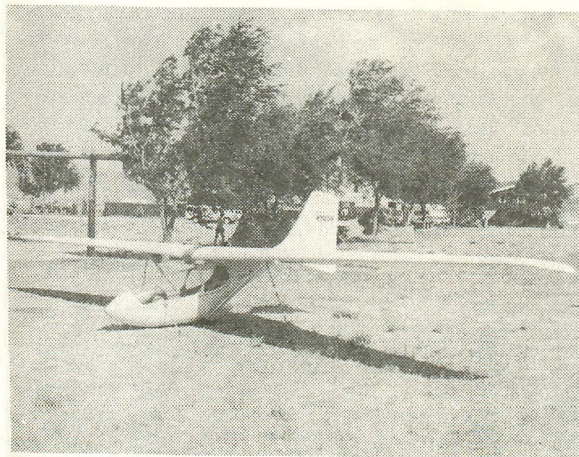
WOODSTOCK NUMBER ONE



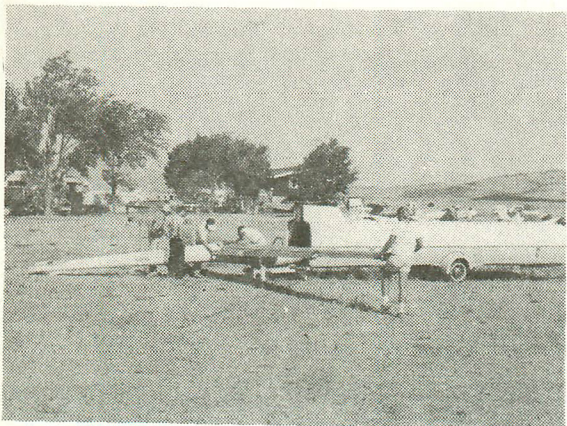
MONERAI WASHDOWN



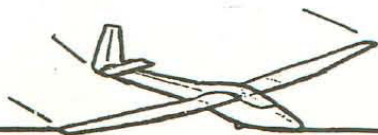
LAISTER LP-49



ENCLOSED COCKPIT MONARCH



HP-14 BEING ASSEMBLED



first flights

By Roy Hinton

Sunday, Sept. 13, was quite a day - the maiden flight of Woodstock #85. I took one auto tow, got up to about 10 feet and released. She acted perfectly and didn't want to come down. I didn't want to use the spoilers at that height, and she just floated and floated.

The aero tow to 4000 feet was uneventful, and even though Woodstock is much lighter than anything I have flown before, I had no difficulty keeping in position, despite some rough air for the first 1000 feet.

In free flight she acted beautifully, stalled very gently at 32 mph, and recovered easily. The spoilers are very effective and produce a satisfyingly steep glide angle. All in all, a real pleasure to fly. Unfortunately, it was not a good soaring day, so I cannot comment on that aspect of performance yet.

Here is a summary of flight and cost data for Woodstock #85.

First flight: Sept. 13, 1981
Flights to date: 3
Pilots: 1

Approx man-hours to build: 1150

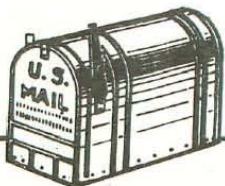
Approx. costs:

Wood:	\$ 560
Metal & hardware:	1,700
Misc. (glue, etc.)	260
Total for ship:	\$2,520

Enclosed trailer:	900
Instruments:	950

Total, ready to fly: \$4,370

Very sincere thanks to Jim Maupin for a beautiful little sailplane.



from the mailbox

Here are some photos taken April 4, 1981 at Nashua, N.H. during a shopping mall show where our local EAA chapter (336) had 17 aircraft on display for 3 days. Ray Morin of the FAA gave my Monera1 its final inspection during the show. Since I'm 6' 8" and weigh 225#, I've worked with Monnett and MIT Soaring to make certain mods (rudder pedals forward, battery aft in the tail boom, etc.) so it fits me.

I am currently flying a Blanik to get back proficiency lost while building (approx. 800 hrs. in 19 months), and expect to fly my new bird in early July, '81.

Jim McCulloch
Manchester, NH



LAST COMPLIMENTARY ISSUE



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