U S U A FLYING CLUB 1 NEWSLETTER

February 1988

FROM THE LEFT SEAT

by Paul McCLung

I haven't got a whole lot to pass on to you about dynamite Club plans so I'll just do a diary number on you. You know already that I (finally) got through my check ride and am now a proud and licensed pilot. I made an "official" observance of that status by taking Rob Brooke out for a ride in a Cessna 152 rented from Manassas Airport (yes, he paid his share). We had a nice couple of hours, flew down to Orange County airport over the snowy fields, had a coke, flew back. We got a chance to fly, talk some and kind of experience the differences between flying a rented Cessna at 95 miles an hour and knocking around the sky in an ultralight. Advantages: we could fly together - share the experience, take turns flying the plane, team up on the navigation (not a BIG chore getting to Orange County); we could go some faster, shortening our airtime going and coming; we could take advantage of radio contact to improve safety in the pattern and to know what runway was active at the moment without having to fly around and observe other traffic; we could feel the satisfaction of managing a faster and more complex piece of machinery. Disadvantages: the view was a lot more constricted; the thing cost a pile of money for 1.6 hours in the air; the scheduling of the plane was so tight that we couldn't afford the time to have a decent lunch at Orange County; we spent so much time in big patterns at the two airports that the only landings we had time for were the landings we had to make, no time for practise or fun. Well, you pays your money, you takes your choice. But don't ever make the mistake of assuming that flying GA on a pilot's license is <u>better</u> than ultralighting. It's just <u>different</u>.

The new hangars at Whitman Strip are all done but the shouting. This project has gone along at an amazing rate and I want to offer my own personal congratulations to the crew who achieved this goal. I am always particularly pleased when I see the members of this club pull together and bring something like this to completion. We really can do anything we set our minds to. Way to go, fellows!

I still have not appointed a Safety Officer or a Program Chairman for the Club for 1988. I have been hoping to get volunteers, but that hasn't happened. I guess I'm going to have to beat the bushes. If anyone has urges in those directions, please let me know. It'll make bush-beating a lot easier.

Andy Schaffer and I were down at Whitman Strip the weekend of January 23rd and got in some ultralight flying in the mud (it was a warmish weekend). It was great to feel the air in my face and to feel that this wonderful sport can happen any time of the year. Spring doesn't seem so far off now.

We've sold completely out of Club patches and will be ordering more. I think we'll change the colors, but the design will be the same. I'm also looking into getting some Club T-shirts printed up and am seeking permission from USUA to incorporate the USUA logo into the design. I'll let you know how it goes. Any suggestions will be welcome.

Fly Safely!

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ADVISORIES

Again, a reminder that it is a new year and once again, time to render unto Caesar. The dues are flowing in, but it is not a torrent. If a dollar sign appears by your name on the mailing label of your NEWSLETTER, take the time to send in a check (or call the Editor and tell him to shape up his records, if you've already paid). As in years past, the April NEWSLETTER will be the last mailed to those who haven't paid their dues.

It was, perhaps, not made completely clear in last month's newsletter that people who will be using Whitman Strip on a regular basis are expected to sign a copy of the new rules. Sign 'em and send 'em in to the Club Secretary. This is not asked merely to increase the weight of bureaucracy which you have to bear, but to underline that the Board feels that observance of these rules is crucial to the preservation of Whitman Strip and to exact from you a tangible symbol that you will abide by them.

The "Kudos" article in last month's newsletter flushed out one more signed copy of the new rules for Whitman Strip, this from Tom Simmons, our V.P. That makes two pilots who can fly at Whitman knowing they're playing by the rules. Tom made the excellent suggestion that a second copy of the rules accompany this newsletter so that signing and sending a copy wouldn't leave people without their own copies. Done!

There was some space spent in last month's newsletter concerning Paul McClung's difficulties with his check ride examiner. After all was said and done the check ride was accomplished and Paul now has his pilot's license. And, without as much fuss, but with an equal amount of effort and trepidation, USUA #1 member Rick Matson has also passed his check ride and has just received his pilot's license. Congratulations go to both Paul and Rick for having weathered the storms and achieved this increasingly difficult goal.

At last month's meeting, member George Lutz announced that the date had been set for the EAA 186 Spring Fly-in at Winchester Airport. Again this year, the Spring Fly-in is scheduled to coincide with Winchester's Apple Blossom Festival. The Fly-in dates are April 30 - May 1. The NEWSLETTER will provide steadily intensifying hype as the date nears, as the EAA 186 fly-ins are banner events in our flying year. But mark it on your calendar and save the weekend.

It was also mentioned at the meeting that George Lutz, in addition to having been elected President of EAA 186 for the year in progress, was also selected as "Flying Instructor of the Year" for the Mid-Atlantic Region by his fellow pilots. If any of you have an opportunity, be sure to congratulate George on this double honor.

NEW PLANE

by Rob Brooke

Last month, I got so much done that I wrote a whole article just listing my accomplishments without going into detail. I've gotten some more stuff done that I'll tell you about but I wanted first to pass along some experiences and detail coming out of last month's efforts.

I continue to be less than favorably impressed with Kolb's instruction manual. I am now convinced that no amount of study can prevent screw-ups from happening, screw-ups that could so easily be prevented by simple additions to the manual. The result is hours wasted - either getting off on the wrong foot and having to reset to zero and start over, or hours spent having to undo and redo something that didn't come out right (I maintain that the mark of a good craftsman is not so much his ability to do something perfectly the first time as his willingness to fix it when he gets

(NEW PLANE, cont.)
it wrong). Also, I must amend the statement that I made in the first article of this series about the kit being complete. As I have burrowed into the supply of small hardware in the course of construction, I have discovered a little item or two to be missing or too much of one thing and not enough of another. It has never been a problem. The Kolb Company has been super-responsive to my telephoned complaints and the missing parts have invariably arrived within a couple of days, without question and without charge. The Kolb Company <u>really</u> wants to satisfy (Now if I could just rewrite that manual....).

Kolb wings go together fast and the second one about twice as fast as the first. Three things speed the work. The first is experience; on the second wing, you're not constantly buried in the plans and manual - you already know how it goes. The second is the benefits of mass production. There are a number of tangs and gussets and things that have to be fashioned. Each time I had to stop to make a tang or a gusset, I made for both wings. Thus, when I got to the second wing, I already had a stockpile of all the requisite parts and, it seemed, the wing went together in a fury of riveting with no digressions. The third thing was that ancient art form, the Duck Walk. The wings are constructed horizontally with each end supported by a level surface. I used my workbench at one end and a nice true piece of 2 X 10 clamped to my table saw at the other. This put the wing about waist high. This proved convenient, since I could work above the wing at an easy height and I could get under it with some space to work-necessary, since there's a lot of stuff that must be done from below. But boy, did I do a lot of duck walking. The first wing damn near wiped out my leg muscles but by the second, I was getting "in shape" and had better mobility.

Ailerons proved to be pretty easy. Since each aileron is 13' long, there was no way I could build one on a bench, so I chose the second alternative offered by the manual and built 'em on the floor. Kneepads came in handy, as I spent the better part of two days crawling around on the floor like a kindergartner. It paid off <u>not</u> making the lift struts before the ailerons since a 12' length of thick-walled tubing destined for the lift struts made a perfect straightedge for the 5/16" trailing edges of the ailerons. By using this straightedge, the flatness of the floor and by putting nails in the floor to hold things in place, they came out straight and square.

Several tools have been very useful during the project and anyone building a Kolb should consider begging/borrowing them:

Right-angle drive for the electric drill - some holes can't be drilled any other way.

Spring clamps with vinyl coated jaws - useful for holding things in place temporarily and indispensible during covering.

C-clamps (I'm using the el cheapo pressed steel variety. They work fine and cost a fraction of the machinist's cast version) - also useful for holding things in place, especially work being drilled on the drill press.

Jorgensen clamps, also called handscrews. These wooden clamps have a long reach, they will open to clamp very large items and the wood of their jaws won't scratch the aluminum.

I bought twenty #31 (slightly larger than 1/8") drill bits. I'll probably dull or break them all by project's end. But having a pile of new, sharp bits on hand takes the worry out of drilling steel and keeps the work flowing along.

So where am I on this project? All components of the airplane are completed as far as metal work is concerned except for steps which must wait until covering is complete. Fuselage, empennage, landing gear, wings, ailerons, lift

(NEW PLANE, cont.)
struts, controls, muffler mounts- all built. The empennage has been attached and the bracing wires rigged and swaged. Now the smaller pieces like stabilizers and control surfaces can be covered at home in the shop. The wings and fuselage will have to wait for warmer weather. Final installation of engine and engine controls will wait until covering and painting is complete.

The new look this month is that I have started covering some of the small stuff. Both elevators are now covered and waiting for the obligatory three coats of dope. I had thought to be able to cover and dope the control surfaces and stabilizers in my shop during the remaining cold of winter. Such is not to be. The solvents in the glue and dope are so strong and volatile that even the small amounts used in gluing the cloth to the structure stinks up the whole house. Doping the complete area of the covered pieces inside the house is unthinkable. So I'll have to wait for moderate weather (above 40 degrees) to continue covering in the shop- so I can keep some windows open. In order to dope the covered pieces, I'll wait for weather in the fifties so I can work comfortably outside.

The good part is that, although stinky and time-consuming, covering is FUN! As a model airplane builder many years ago, I got the same satisfaction covering the wings of my creations, seeing something skeletal gain substance and form, seeing the covering shrink, lose its wrinkles, become taut and smooth. The framework of an elevator looks sort of like an elevator; once it's covered, it <u>is</u> an elevator. The new fabrics have it all over the silkspan and butyrate dope I used in my youth. Now, you glue it on and <u>ZAP</u>, a household iron will shrink that stuff drum-head tight in a flash.

Stay tuned. If the weather smiles, this Firestar will be a lot closer to being an airplane next month.

<u>FREEDOM?</u>

We ultralight pilots are, as a group, pretty sensitive to freedom. At least that's the impression you get as you listen to all the quarreling about whether we might be giving up some if we were to support the FAR 103 modifications suggested by USUA. But freedom gets nibbled at in a lot of other ways than regulation by the FAA.

Coincidentally, both Fairfax County, Virginia and the City of Rockville, Maryland are considering ordinances which would put a crimp in our freedom, if passed. We pilots tend to think about freedom in terms of our ability to fly when and where we want. The freedoms at issue in Fairfax County and Rockville don't have to do with flying but will still affect us.

Some folks in Fairfax County want to outlaw any form of repair, restoration or maintenance on any powered vehicle of any sort in any area zoned residential. Want to change the spark plugs in your car? Forget it. Homebuilt aircraft or home-assembled ultralight? Forget it. Pull the engine on your motorcycle? Forget it.

Rockville hasn't gone quite as overboard as Fairfax County. In Rockville, the same coneheads as those in Fairfax County want to prevent any storage, restoration or repair of <u>aircraft</u> in residential areas unless within an enclosed structure. So if one wanted to have his ultralight at home for a few days, recover the wings, pull some maintenance on the engine, he'd have to have it indoors - garage or other structure - in order to do it.

The only action we can take is to get ourselves out to the hearings and town meetings and speak up vociferously in defense of our freedom to live as we wish. Given our relatively small numbers, we

(FREEDOM?, cont.)
will have to make up for in volume what we lack in strength. Howl loudly, brethren. Otherwise, we shall all have to paint our houses the same color and watch the same TV shows.

You and I know the hard times upon which general (especially recreational) aviation has been falling. The only perceptible refuges of the sport are home-built aircraft and ultralight aviation. We must resist, at the local level, any trend which puts a crimp in those activities.

GETTING THERE

by Rob Brooke

I've been having so much fun writing the ongoing New Plane articles, I thought I'd start another series. Besides, there's no Safety Officer appointed yet to take up the slack in this newsletter.

The series will deal with cross-country pilotage, something I've had some success with. As a "gimmick" to hang the series together, I'll dedicate each article to one of the various instruments or other navigational aids upon which I have come to depend. Each article will deal with why it's important to me and how I use it. The items which will be featured, each in its own article, are: 1. the sectional (or terminal area) chart; 2. the magnetic compass; 3. the altimeter; 4. the airspeed indicator; 5. the lowly wristwatch.

I'd like to emphasize that it's important, at least during the learning phase, to fly alone. When you fly into unknown territory with another plane or two for company, you may have done your homework well but your execution will always be compromised by the urge to "stay together". So plan on starting small and making more and more challenging flights entirely alone, until you feel completely confident in your ability to get from here to there.

So let's launch into the first in this series, the aeronautical chart and the role it plays in a successful cross-country flight. The chart serves two main purposes: 1. it is the main source of information in the flight's planning stage and 2. it is the road map, the "I'm not lost" insurance policy during the flight. Let's talk about those two roles.

When you first sit down to plan a challenging cross-country, you'll haul out the chart and find on it your departure point and your destination. Now, using your trusty chart you will, in your mind, fly the route, making decisions about course, altitudes, gas stops, all based on the information available on the chart. Your first step will probably be to lay out what seems to you to be the best course. Given our terrain and the presence of some rigidly controlled airspace (in which ultralights are rightly unwelcome), the course is not always a straight line.

If the destination lies on the other side of a mountain range, you might wish to compromise the straight-line course in order to fly through a pass or over a ridge line lower in height. If the straight-line course lies through a portion of a TCA which extends to the surface, you must plot a course around it. The same is true for prohibited and restricted areas.

Before committing yourself,you will also need to estimate distance and decide whether you need to include a fuel stop. The course planning will have to accommodate the fuel stop. (In estimating distance, use statute miles if your air speed indicator reads MPH, nautical miles if it reads knots.)

Typically, as you go about this planning, you will lay out a course which consists of segments of straight lines. The best way to plan for an easy flight is to lay

(GETTING THERE, cont.)
out the various segments of the course so that each heading change will occur over some salient and easy-to-recognize landmark. These can be radio towers, major highway intersections, recognizable lakes and rivers, other airports, coastal features of the Potomac River or the Chesapeake Bay, etc.

Having made your decisions, lay out the course on the chart, connecting all the segments getting from here to there. I use a thinline black felt-tip pen, such as a Flair or Pilot Fineliner. Such a line is a lot more visible than a pencil line when you're referring to the chart in the air from a knee-board. Now, find the magnetic compass course of each segment from a convenient compass rose on the chart (there's a compass rose around each VOR antenna depicted on the chart) and write the compass course at the beginning of each segment with an arrow showing flight direction. If your plans include retracing your path back home, write the reciprocal course at the other end of the segment with an arrow showing flight direction.

The last step in the planning operation is to <u>study</u> the route you've decided on and make some decisions about altitude. Flying over a big ridge? You'll want to clear the ridge line by at least 1000' as an insurance policy against turbulence. Flying under a TCA/ARSA? You must not fly up into the controlled airspace. Flying over a large, inhospitable landing area such as the Chesapeake Bay or a wide portion of the Potomac River? What altitude will guarantee gliding distance to a safe landing if your engine should take a sabbatical? You can write these decisions on the chart or memorize them as a result of your study.

Also in your study, you will want to learn a little about the main landmarks along your route. You don't want to have to discover them all en route, when chart study is not as easy. When you see, during the flight, an 800' high radio tower emerging out of the haze ahead, just to the left of your course, it is immensely satisfying if you have been expecting it. It tells you immediately that everything is humming along just as it ought. And if it does not present itself after a decent interval, that is important news, too, though not nearly so welcome.

And now for the second role, the road map, the "I'm not lost" insurance. Like it or not, successful cross-country flight, unless it's one you've made enough times to know well, is not attended by much relaxed looking at scenery. If you are flying into unknown territory, you should be spending <u>full time</u> keeping track of where you are and where you are headed. In general, this means justifying <u>every</u> landmark you can find with the chart and, by seeking landmarks out ahead and by reference to your compass, ensuring that you never get uncomfortably far from what your planning and study have made partially known to you, your predicted course. This is very important early in the flight, when the hitherto unknown effect of the wind must be noticed and corrected for. If you do not notice in the first ten minutes of your flight that a cross-wind is setting you significantly to one side of your course, in twenty minutes <u>nothing</u> will look familiar. Couple this with the normal tension you will feel if you're inexperienced and it will all add up to L-O-S-T lost.

I fly with a knee board which fastens around my thigh with a big elastic and has a clipboard-style clip to hold the chart. Even with my bifocals, I can read the chart well without touching it. The only time it gets dicey is if my course line runs off the fold in the chart. Then I have to take the chart out of the clip and refold it or turn it over. This evolution needs to be planned in advanced and the chart folded in such a way that the course can continue to be exposed with a minimum of chart-

(GETTING THERE, cont.)

opening. The best is if you can simply flip it over and re-clip it with the other side up. It also helps to have a stable enough airplane that it won't go into gyrations if your hand is off the stick for a second or two. For goodness sake, think "firm grip" when you take that chart in your hands. If you are over "terra incognita" and your chart makes a flight of its own, you're going to start feeling like Lewis and Clarke in about ten minutes.

So buy yourself a Washington Sectional chart and a Washington Terminal Area chart and set yourself to learning what a goldmine of information is there. Such a chart is the "open sesame" to years of satisfying aerial travel. One or two successful cross-country flights based on the kind of chart-work I have described here, and there's nowhere you won't go.

Next month we take up the use and abuse of another major ultralight navigation aid, the magnetic compass.

FLIGHT PLAN

Feb 4 - Club Meeting, 7:30 at the Washington Gas Light Springfield Center.

W H I T M A N S T R I P

Edward Whitman, Prop.

Welcome to Whitman Strip, the best site of ultralight aviation activity in the National Capital Area. Our rules are few, but are intended to keep our operation safe, trouble-free and un-annoying to our neighbors. Please read them and abide by them.

Thank you.

Ed Whitman

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1. Pattern altitude for ultralights is 500' AGL, for other aircraft, 1000' AGL. The ultralight pattern should always be kept east of the power lines adjacent to the field.

2. Always fly a left-hand pattern. Always use the north-south runway unless a crosswind is beyond the capability of the craft.

3. No flying below 1200' AGL in the vicinity of Whitman Strip unless in the pattern for landing or departure. Contour flying anywhere in the vicinity of the field is **not** permitted.

4. On final or departure over Rt. 611, maintain at least 30' of altitude over the road.

5. Pilots, ultralight and otherwise, will fly in accordance with all applicable FAR's.

6. Do not obstruct taxiing aircrafts' access to the hangars. Aircraft will park next to the fence; cars will park next to the fence or west of the hangar area.

7. Don't litter. Use trash containers provided. Take trash with you whenever convenient.

* * * GENERAL INFORMATION * * *

The United States Ultralight Association's Flying Club #1 is a non-profit, educational club dedicated to the sport of recreational ultralight flying.

Meetings are held at 7:30 P.M. on the first Thursday of each month in the auditorium of the Springfield Operations Center of the Washington Gas Light Company, unless stated otherwise in the newsletter. To reach the WGL Center, take the Edsall Road West exit from I-395; turn left at the second light (Industrial Road); continue until the "Y" in the road; bear right and continue until you reach the WGL Center at 6801 Industrial Road on the left.

1988 CHAPTER OFFICERS

PRESIDENT	Paul McClung	703/860-2919
VICE PRESIDENT	Tom Simmons	703/548-7420
SECRETARY	Rob Brooke	301/279-2816
TREASURER	Steve Osten	703/644-5514
NEWSLETTER EDITOR	Rob Brooke	301/279-2816

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*** Members are encouraged to submit items for inclusion in this newsletter. Articles and non-commercial classified ads will be run, space available, free of charge for current members. Commercial ad rates are: full page - $20.00; 1/2 page - $10.00; 1/4 page - $5.50; business card - $3.00.

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MEMBERSHIP APPLICATION Mail to: Rob Brooke USUA Flying Club 1
Dues: $15.00 1809 McAuliffe Drive, Rockville,Md 20851

NAME: _____ DUES INCLUDED: _____

ADDRESS: _____

PHONE H: (___)___-____ W: (___)___-____

UL'S OWNED: _____ USUF#:_____

USUA#: _____ EXAMINER? __ 2-PL?__ EAA#: _____ AOPA#: _____

FAA RATING: _____ DEALER: _____

INTERESTS: _____

_____

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THE NEWSLETTER

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FLYING CLUB
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