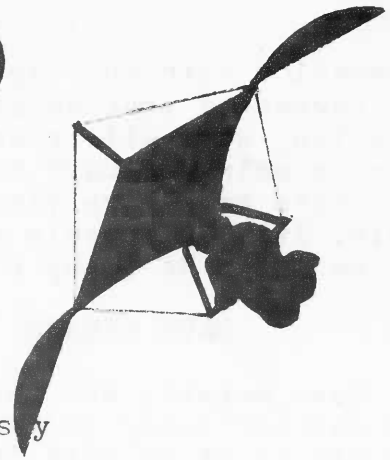


WINGRAFT



NEWSLETTER OF THE WESTERN MASS HANG GLIDING ASSN.

Volume 1, Number 2 NOVEMBER 1975 Editor: M. Morrissy

Well, we're back for a second issue, so we must be doing something right! Thank you for all the positive comments on the first edition; a bit of encouragement goes a long way when it comes time to go through the hassle of putting this opus together. Also, thanks to our advertizers; if it wasn't them, we couldn't afford to print this paper.

Club news is still the main reason for this paper's existence, but we will remain dedicated to the proposition that a well-informed flyer is a safer flyer. For that reason we will continue to present technical articles and flying tips along with the news. We know that technical stuff can be dull, but remember it's important - ignorance can kill you in this sport!

We'll be adding a couple of new features in this issue, which we hope to continue on a monthly basis. One is a series of pieces on the various flying sites in the region, and for our introductory article, we're featuring Mt Greylock. The second is a monthly piece on one of the manufacturers whose products are available in the area. This month we look at Ultralite Products, for the simple reason that it's the outfit that yours truly is most familiar with. Next month, if I can get Bob Stewart to help me out, we'll feature Sky Sports.

MEETING NOTICE

The next monthly meeting of the WMHGA will be on Wednesday, December 3, at 7:30 PM, at the American Legion

post on New Ludlow Road, Fairview. That's just off of Route 33, for new members, and meetings are always held here on the first Wednesday of the month.

Starting with the December meeting, we have some new attractions. For entertainment, we'll be showing films and slides on a regular basis. The film for December will be "The New Freedom" by Free Flight Systems (sound and color - just bring the popcorn.) Also, we will be displaying some of the hot new ships that you've probably seen in the sky, but may not have had a chance to examine on the ground. At this meeting, we'll have either a Kestral or a Dragonfly, maybe both.

BOOGIE TIME!

At the November meeting it was suggested that WMHGA hold a Christmas party. In view of the fact that everyone usually has to attend about a million Christmas parties, we decided to hold it in February, so maybe it will become a Valentine's Day party or something. We'll most likely hold it at the Legion hall, and it will feature a pot luck supper and probably a band, afterwards. Sharon Chandler seems to get volunteered as the organizer (she's real good at this stuff). If you (or any friends, mothers, etc.) know how to make anything tasty, please talk to Sharon. You can reach her at MGS in the afternoons (584-7233). Also, we thought it would be nice to invite Mitch Drozdal and Don Hicks, to let them know that we appreciate their

cooperation with our flying. It was also suggested that we charge for admission, with all proceeds above expenses going to Dave Menard's family. Let's have some ideas on this affair. It's definitely going to happen, so let's do it up right.

DAVE MENARD

Dave Menard, who most of you know was seriously injured when he flew off of Mt Holyoke in a strong downhill wind, is making progress. At last report he was able to talk a bit - just a few words at a time, so far - and had been allowed out of the hospital for a few hours on a couple of occasions, in the company of his family. He is able to recognize his family, and remembers flying hang gliders, although he still has no recall of the accident. He is expected to start walking a little in the near future, and his doctors now say that a complete recovery is possible. Whether it will happen, remains to be seen. It may take a few years of intensive therapy before the answer is known. Luckily for his wife and kids, the VA has undertaken the financial responsibility for his care.

UPDATE ON SKINNER PARK

Implementation of WMHGA's regulation system at Skinner has gone smoothly so far. Head Ranger Doug Peters is in favor of making permits available at the top of the mountain next year, eliminating the trip to Amherst. This looks probable. In the meantime, if you are on the list, you still must go to DNR headquarters at UMass and sign a waiver and get your permit in order to fly the top of the mountain.

All WMHGA members who have Class 3 or 4 and GSI insurance are on the list. Class 4 pilots from outside the club can get on the list, as long as they have GSI, and if you fit into this category, contact Chuck LaVersa at (413)625-2409. Class 3's from outside WMHGA are being considered, but

at present, they must still join the WMHGA and demonstrate their ability individually to Chuck.

NEW SITES OPENING (MAYBE)

WMHGA is working on two new flying sites in the Valley - North Sugarloaf, just to the north of Sugarloaf state reservation in Sunderland; and Poet's Seat in Greenfield.

North Sugarloaf is part of the State Reservation, and negotiations with the DNR may take time. It looks good for the spring, and in the meantime, it must remain a guerilla site. It is a 600 foot cliff, with a small but soarable ridge. The ridge forms a small bowl, and an alternate take-off point faces southwest, which will be great in the summer, when the south winds blow out our other sites. The main takeoff faces due west.

Poet's Seat is a 250 foot cliff which faces west, and should be a good place for Class 2 and 3 pilots to learn how to cliff launch. The landing area is a softball field in downtown Greenfield, giving us our first urban flying site! We should be able to announce it's opening at the next club meeting - everything looks good so far.

Access at both sites is good. Poet's Seat has a road right to the top, which is always open; North Sugarloaf has a road, but it requires a four-wheel-drive vehicle to get up it, once we get permission to be up there. However, as a walk up, it is not a difficult walk at all, either. Much easier than Mitch's, for example.

UPDATE ON MT TOM

No progress has been made in getting the road to the top open, and it doesn't look promising. Police have been called on pilots for just walking on the road, and these incidents have slowed negotiations even further. The more we hassle these people, the less chance we have of ever being able to drive up the mountain in the future. Right now, the ONLY legitimate way up the mountain is to walk up the powerline, or the trail that parallels it. The trail is

the easier of the two routes, by the way.

Suggestions that we approach the ski area for the use of their lifts are for naught - it's been checked out and would require major modifications to the structure of the mid-station, or extra lift attendants, or both. At this point, there is just no way we could make all that hassle and expense worth their while.

GREYLOCK The Big One

Located in North Adams, the northwest corner of the state, Mt Greylock has the triple distinction of being the highest peak in the state, the biggest flyable mountain in southern New England, and the state's first "government approved" flying site. It is operated by the state DNR as a state reservation, and flying operations are the responsibility of Doug Weeks Jr. of New Ashford.

The mountain is the highest point of a soarable ridge, has 2200 feet of vertical drop, and faces southeast. Regulation is tight, and starting immediately, is being more strictly enforced than ever. The reason for this is that a new ranger, who hates hang gliding, has taken over the park, and he wants to end Weeks' arrangements. It is vital that we all go by the book, and not give him an excuse to do so.

To fly the mountain, every pilot must check in at the Visitors' Center on the access road from Rt 7 in New Ashford, and get a day permit. To get a permit, you must present credentials attesting to a Class 4S or equivalent rating, and individual GSI membership. The alternative is to be on a list of approved flyers which is prepared by Doug Weeks. To get on that list, you must fly with Weeks at Petersburg Pass, which requires a Class 3 and GSI. (We will be featuring Petersburg here soon.)

Anyone caught on top of the hill with a glider set up, and no pass, is banned from flying Greylock for a year, under pain of arrest and prosecution.

Access is by car, on excellently maintained roads. There are two take off points on the mountain (facing 135 and 140° on the compass); one on the

road just below the summit, where you can run right off the road, between a space in the guard rail, and out over the valley, and one at the top. The road launch is like a cliff takeoff, but the drop is only a few feet at first. It is normally used in soaring conditions. The other is at the very top of the mountain, and is the regular launch point.

At first glance it looks awful! The hill isn't very steep, and you must run like crazy in order to get off before plowing into a clump of bushes. The run is over a mess of sharp, imbedded rocks, which are sharp enough to bruise your feet in sneakers (so wear boots!) and they just sit there, waiting to trip you and make you stunch. However, you'll soon find that the hill IS steep enough, and running over the rocks isn't so bad, as the kite supports a lot of your weight, making it easy. The secret is to hold the kite down until the last second, so you get well above stall speed. Let it up just in time to skim your feet over the bushes, and you're off.

NOTE: Due to the situation with the new ranger, NO LANDSCAPING WILL BE TOLERATED! So don't get any ideas about removing those bushes. There IS enough room to take off now.

Once you're in the air, the hill falls away steeply, and a couple of seconds out, the lift will hit hard. Be alert, and avoid an accidental stall at this point. If you do blow it, you'll crash into relatively soft brush and trees, so you aren't likely to get hurt. The takeoff is both easier and safer than it looks!

Greylock does feature one unusual hazard, though - air traffic! Sailplanes soar this ridge regularly, and they release from their tow planes just a few feet out from our launch point. On their passes, they often pass the takeoff at eye level, just a few feet out from the ridge. You feel like you could almost reach out and touch them, and you COULD take off right into one! So check for on-coming aircraft before you start to run!

The ridge extends quite a ways

in both directions, so if the lift is soarable, you have plenty of room to work it. If there isn't enough ridge lift, you may still be able to soar. The valley below pumps out some of the most incredible thermals you've ever seen! Picture a whole golf course producing one giant thermal, with multiple cores, each bigger than any whole thermal you've ever seen! On a good day, it's said, you can soar on thermals without even doing 360's!

Even on a non-soaring day, just a straight shot down takes over five minutes; it's almost all play time, too, since the landing area is big enough that you needn't worry much about hitting it, and the alternate landing zone is so big, you couldn't possibly miss! The main LZ is a big cow pasture, straight out from the takeoff. It has no obstructions but a set of street wires on the left side, and sometimes a group of cows. Beware - when the cows are in the field, the fence is electrified! If the cows aren't out, the current is turned off. The alternate LZ is the Greylock Glen golf course, and if you can't hit that, give up. Pilots have soared cross-country and landed in various parts of North Adams, but we don't recommend this unless you are very familiar with the area.

So that's Greylock. It's the best we've got, and if we all take the trouble to go by the book, we should have it for a long time.

GRACIOUS GREYLOCK
By Chuck LaVersa

November 12th, I was startled to full consciousness by a call from Doug Weeks at 8:00 AM. He told me that Flight Service was calling for southeast winds at 10 to 14 knots. Even though John Quill was calling for rain, it looked like a good chance to soar "the Lock", so we formed a safari immediately.

Well, you know there were complications, and our "immediate" safari didn't arrive at the visitor's center until 11:00 AM. Needless to say, after getting our permits, we dashed to the

Adams lookout takeoff and set up. Doug Weeks and Brooks Ellison joined Mick Morrissey, Spencer Smith and myself to complete the crew.

Brooks wind-dummied for us in marginal soaring conditions, climbing out in his Seagull III like a rocket. He turned north, but found nothing. Mick followed him off in his Redtail, turned right, and also found very little to work with. They flew down together in fairly smooth conditions. Next off was Spencer in his Kestral, and I followed in Mick's new Dragonfly.

Those marginal conditions were not so marginal for us, and we made a twenty-minute arial ballet that was very exciting to be part of. (Ed; and to watch, too!) I'm sure we must have looked like a pair of barn swallows as we dipped and swerved in the lift, one following the other, then blasting by each other in opposite directions at L/D in a downwind run. Spencer received the tactical maneuver of the day award for working the chimney. There was a chimney of the only really solid lift on the whole mountain, and because of its size, it was hard to stay in. While I was trying to hover in the middle of it, Spencer came blasting by downwind, about 80 feet below me. He turned into the ridge and began a 270 degree turn into the heart of the chimney, gaining about 120 feet. By the time he finished the turn, he was well above me, following me south along the ridge. The Red Baron would have been proud. Then Doug Weeks jumped into the tail end of this fun, and showed us some lift that we had not used.

Like five birds, we all landed in the LZ and packed up. Our thanks go to Bob Vicari of Adams for giving us a ride back to the top, where our vehicles were parked. There we said goodbye in the cold rain that had finally arrived. It's always a pleasure to do "the 'Lock". The road will be closed by snow soon - the weather there can get severe - but I'm looking forward to next spring. I'd like to be 1000 feet above takeoff there. Hope you can join me.

MORE SITES CLOSED

In the past few weeks, police have informed flyers that hang gliding is no longer allowed at Hospital Hill at Northampton State Hospital, and at South Hadley High School. The reason given at the high school is fear of liability, so maybe we can get that one back with GSI site insurance. At the hospital, the reason is interference with horseback riding at Smith College, whose riding field overlaps the landing area. It is feared that kites will spook the horses, leading to accidents and injuries. We're working on both of them, and hopefully we can get them back - they're the two best training hills in the area.

AIRFLOW

We've had two good suggestions on learning how air flows over the terrain. Terry Sweeney suggests you pay attention to the water, the next time you happen across a stream. The stream flows over obstructions in its bed exactly as air flows over obstacles in its path. Sue McGuire suggests that it would be worth while to monitor a course in fluid dynamics at the university. This should cost nothing, and be well worth any glider pilot's time.

DIVING OUT OF YOUR TURNS?

If you are, you're probably sideslipping, as a result of not pushing out on the bar enough in the turn. Chuck LaVersa has two suggestions on how to avoid this common error. One is to familiarize yourself with how far your nose appears to be above the horizon in level flight. Then when you turn, be sure you don't let the nose drop below that level.

The other suggestion is to put a wind streamer on your front wires, and keep an eye on it in your turns. The ribbon should blow straight back at you all through the turn. If it blows towards the outside of the turn, you are sideslipping, and should push out more.

Avoid sideslipping, and you'll find that your turns are quicker, sharper and more precise, and also involve much less altitude loss.

UP, Inc. (Ultralite Products) Small But Solid

"The Porsche of hanggliders" is how Pete Brock likes to describe the ships produced by UP, Inc., the company he founded and heads. Peter came to hang gliding from auto racing, a sport in which he attained a great deal of success in with his Team BRE (Brock Racing Enterprises), which handled all of Datsun's factory backed racing efforts in the US for most of the 60's and early 70's. BRE had reached the point of total domination of Trans-Am racing, achieved great success at other forms of auto racing, and seemed headed for a long and profitable career in the racing and performance parts business. Then Peter discovered hang gliding, three years ago, and from that time, BRE was doomed.

UP originally entered the field as a hardware specialist, and quickly made a reputation for quality to such a degree that competing manufacturers began advertizing their use of UP components. Soon thereafter, the introduction of the Brock 82 marked the company's entry into the manufacture of complete gliders. Next the "S" model and the Redtail Series added a line of hybrid Rogallo wings, and with the acquisition of designer Roy Haggard and his Dragonfly, the present UP lineup was complete.

Despite UP's national reputation and it's recent forays into the Eastern market, the company refuses to make the jump into mass production. Brock takes great pride in thinking of UP as a small custom shop, where each kite is hand crafted and test flown prior to delivery. Every kite must have a perfectly-assembled airframe, every sail must fly perfectly smooth, with no hint of flap or wrinkles at any speed, and each ship has to trim out for hands-off flight, or the glider is scrapped or rebuilt.

It is this total committment to quality, and a design philosophy of doing everything the best possible way, instead of in a way that's almost as good but costs less, that

accounts for the fact that UP's kites cost a bit more than the competition. The expense of running a top grade operation on a small sales volume also contributes to this. Peter has been heard to remark that he wants to make the finest gliders possible, regardless of cost, and if someone wants to go around jumping off cliffs in the cheapest thing he can find, let him do business elsewhere.

UP's line of kites consists of: Brock 82, a standard Rogallo with an 82° nose, 1½" airframe tubing, a 4° sail, and with deflexers and a 3½° sail available as optional equipment. Brock 82-S, the "hot standard" with a keel tensioner to give the keel an "S" shape, deflexers as regular equipment, a one-foot shorter keel, and a 4° sail.

Redtail, a competition ship with a two-foot cut keel, otherwise similar to the 82-S, except for a 3½° sail.

SRT (Super Redtail), an "experts only" competition ship with a four-foot cut keel and a stronger airframe, otherwise similar to the Redtail.

Dragonfly, pride of the fleet, this is the original wide-nose, short-keel, truncated tip glider. Nose angle is 115°, with twenty foot wings with two foot truncated tips on an eleven foot keel. Designed to soar in almost no wind, yet penetrate even the strongest wind conditions, its success can be measured by the number of copies it has inspired.

For the future, there's a line of towing equipment in the works, headlined by the tow Dragonfly which is being developed with Bill Noyes; a line of balloon-drop hardware, and possibly more goodies from Haggard's drawing board. Large-scale mass production is NOT being considered.

TRIM

What it is - How it works

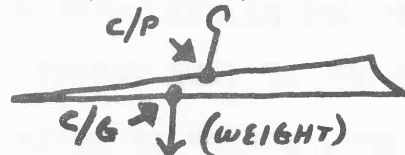
Everybody seems to know that if a ship is properly trimmed, it will fly itself, with no help from the pilot. But, incredibly enough, there are pilots in the area who have been through flight training without being

given any understanding of how an aircraft is trimmed. Most flyers realize that the C/G location has something to do with it, but beyond that, they're at a loss.

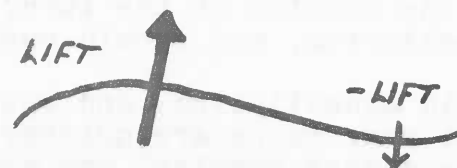
As you know, there is something called the Center of Pressure (C/P). This is the point on the aircraft where the aerodynamic forces acting upon it, are in equilibrium. Think of it as something like the C/G, but the opposite. Instead of the point where the weight of the ship balances out to form the balance point, it is the point where lift and drag balance out. You can think of any aircraft (not just gliders) as being suspended from the C/P as from a hook, as it flies along.



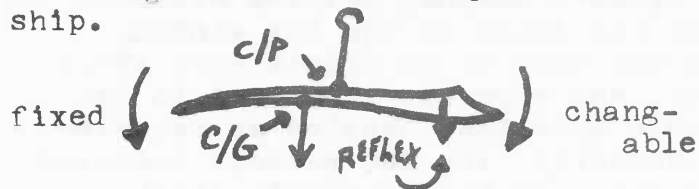
Now to place the C/G. In order to make the tail of the craft want to stay behind the nose, we put the C/P behind the C/G. This gives the ship directional stability. The extreme example of this is an arrow, with the C/G at the far nose, and the C/P at the extreme tail. So you lay out the C/P and C/G like this:



As a result, the ship flies straight, but the nose is being pulled down by the forward-located C/G. To compensate for this effect, we need a force to pull down on the tail. For this reason, we use a reflexed airfoil. In a ragwing, we reflex the keel to give the sail its reflexed airfoil. (Other aircraft use their horizontal stabilizers to get the same effect.) The upward curve at the end of the airfoil is enough to produce negative lift in that part of the wing, like this:



Now, the force pulling down on the nose is constant, as it is provided by the weight of the aircraft. However, the force pulling down on the tail is an aerodynamic force, and it changes with the airspeed of the ship.



The faster you go, the stronger this force gets, pulling the tail down and slowing the glider. If you go too slow, the force decreases, allowing the nose to drop, accelerating the glider. If these forces are in proper alignment - i.e., if the ship is in trim - they will balance each other at the speed which corresponds to the best cruising speed of the aircraft. Note that an aircraft is trimmed for a certain airspeed, not a certain attitude or glide angle. It will assume whatever attitude or glide path is required to maintain the speed for which it is trimmed.

DIVE RECOVERY

Is There Really Such Thing
As A Terminal Dive?

Experience proves that a properly trimmed Rogallo wing CAN recover from a full-luff vertical dive. Also, experience shows that it will not do so all the time. Is it possible to determine when it will, and when it won't? Research says yes.

Once a glider sets vertical, there are four things that can happen. One is that it may go inverted, normally followed by catastrophic airframe failure. This can happen due to the design of the glider, or due to bad luck and caprecious winds. Second, the glider may refill its sail and pull out, but do so so fast that the airframe fails under G loads, or it swoops up into a whip stall, followed by another vertical dive. Third, the glider may refill its sail and pull out, but take so long to do so that it will not level out and slow down within any reasonable amount of altitude. The fourth possibility is

that the glider will refill its sail and pull out quickly enough to get out of trouble (assuming the dive did not start at very low altitude) but not so quickly as to break up the aircraft or whip stall it. It seems that which of these things a particular glider will do is determined by the relationship between the location of the C/G and C/P.

It is possible to have a layout of C/G and C/P that will allow acceptable trim for level flight, yet does not lead to acceptable dive recovery characteristics.

Whether or not your ship will recover from a vertical dive depends upon whether the designer made use of this research when he layed out the plans for the aircraft. Not all hang glider designers these days are familiar with the amount of research that has been done on the Rogallo wing, and it would behoove you to find out whether whoever designed the ship you fly is in this category. If so, as the song says, we "won't forget to put roses on your grave."

Something to keep in mind: you may have read that your glider meets the HMA category One specifications. You may also have read that Cat One specs call for suitable recovery characteristics in a full luff dive. Therefore, your glider is OK, right? WRONG! The HMA flight test program is not yet under way, and only the construction materials section of Cat One have been implemented. AT PRESENT, THERE ARE NO HMA FLIGHT TEST CERTIFIED GLIDERS ON THE MARKET. Once the flight test program has been started, it will not be so easy to advertize that a glider meets HMA specs.

CLASS FOUR RATINGS

Class 4's are going to be hard to get through WMHGA...will require considerable experience on many sites as well as a required reading list. You can't get a Cl 4 just by flying Skinner and Tom a lot. A Class 4 is supposed to be an all-around EXPERT, not just a class three who's done some soaring and survived for a while.

NATIONAL PARKS
Making Progress?

The New York Times reports that hang gliding is being allowed to continue at Yosemite - the park service has decided that it is ludicrous to ban the sport while allowing such a variety of other activities, many of which are blatantly commercial, to continue. No mention was made of how this decision will affect flying in any other National Park sites. It's a step in the right direction!

ODDS 'n' ENDS

There's been talk of holding a series of inter-club meets, between WMHGA and organizations like the NEHGA, ConnHGA, the Windward Kite & Glider Club, and the like. These would be informal, fun oriented affairs, with low-key competition for all classes of flyers. Class 1's might fly from the mid-station of the Slot, Class 2's from the three white birch trees, and Class 3's and above from the top of the moun-

tain. Return matches could be held at sites run by the other clubs, such as Sundown and places down in the Eastern part of the state. We'll have more news on these events... I hear that Paul Kjoller put in a day at Mitch's Marina, helping Mitch take his docks in for the winter. Too bad more of us didn't know about this, and show up. It's good to let people know that they're appreciated. ...Recently, the NBC network featured a special on Mike Harker's flight from Mt Fuji in Japan - a 12,000 ft extinct volcano. What a dynamite site - but it's a walk-up! We're sure it was worth the walk, though. Right after the show, Paul Kjoller received a phone call from someone who was watching a kite soaring at Mt Tom, and was wondering if the flyer needed some help...NYHGA has a new magazine, similar to Ground Skimmer. Cover photo for the first issue is a shot of Bob Albright launching from the top of Skinner...Happy Landings!

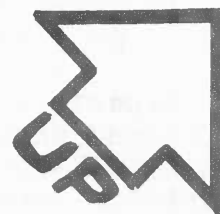
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And don't forget, we also have new gliders from Ultralite Products, Seagull Aircraft, Pliable Moose Delta Wing, Zephyr Aircraft, and Bill Bennett's Delta Wing Kites and Gliders. Also, towing equipment, flight instruments, books, magazines, hardware, accessories, and everything you could ever need to increase your flying pleasure. C'mon over and browse.

Thinking of Christmas? Hint around to your friends that MGS now has gift certificates available. Also, don't miss seeing Don Daedera's great new book, Hang Gliding: the Flyingest Flying. This is the greatest book yet on our sport, full of out-of-sight color photography, and a text that's exciting reading for flyers and non-flyers alike. A great gift.

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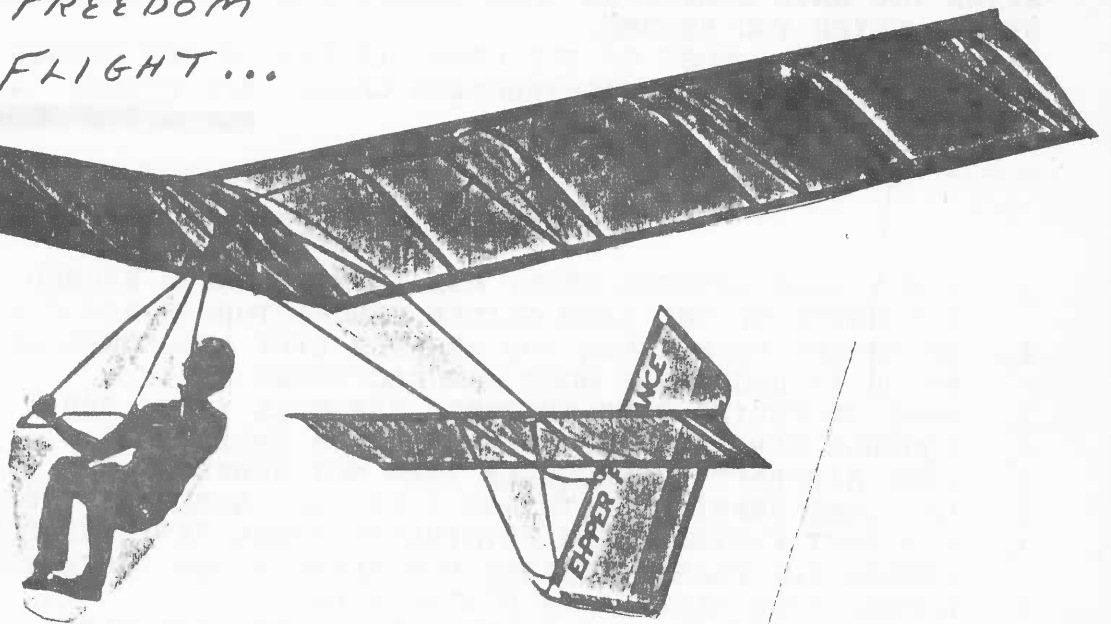
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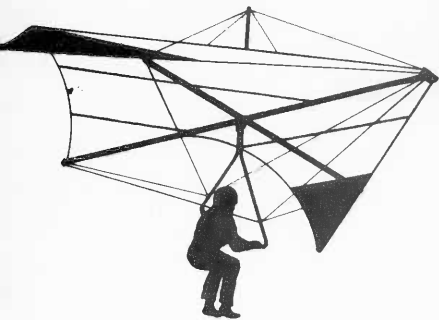


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5. (AN) AIRCRAFT TURNBUCKLES (NEW NOT SURPLUS)
6. ALL LOAD BEARING BOLTS ARE 5/16 (AN) AIRCRAFT TYPE.
7. AIRCRAFT FLYING CABLE (STAINLESS STEEL 7X7X3/32 CONSTRUCTION, LOWER CABLES ARE PLASTIC COATED FOR ADDED PILOT PROTECTION.
8. DOUBLE NICO SLEEVES ON FLYING WIRES.
9. STAINLESS STEEL NOSE PLATE, TANGS, AND SHACKLES.
10. EXTRA STRONG DELRIN SADDLES AT KEEL/CROSSBAR JUNCTION AND AT LEADING EDGE/CROSSBAR JUNCTION.
11. ALL BOLTS, NUTS, AND WASHERS ARE (AN) AIRCRAFT TYPE.
12. SET UP AND BREAK DOWN TIME APPROXIMATELY 10 MINUTES OR LESS WITH NO TOOLS REQUIRES. GLIDER FOLDS INTO A TUBULAR FORM FOR EASY TRANSPORTATION.
13. 3.8 OZ STABILIZED DACRON SAILS (FINEST MATERIAL AVAILABLE) CUSTOM MADE BY A PROFESSIONAL SAIL MAKER, IN THE FOLLOWING COLORS:
WHITE, GOLD, SPECIAL GOLD, ORANGE, RED, PURPLE, DARK BLUE, LIGHT BLUE, LIME, GREEN & BLACK. SOLID COLORS OR ANY THREE COLOR COMBINATIONS PER GLIDER AT NO EXTRA COST. (DOUBLE ZIG ZAG STITCH ON ALL SAILS.)
14. GLIDERS AVAILABLE FOR PERSONS 70 POUNDS UP TO 240 POUNDS.
FOR FURTHER INFORMATION, CALL BOB POULES (413)783-8260 OR
RON TETRAULT (413)594-4661