No. 244 OCTOBER 2006

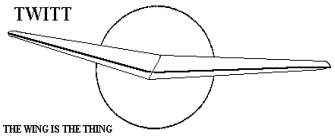
T.W.I.T.T. NEWSLETTER

Mike Hostage's recently refinished Pioneer IID on takeoff from the Chilhowee Gliderport in southeastern Tennessee and in flight over the expansive ridge line system adjacent to the Airport during the May Experimental Soaring Association's Eastern Workshop. Photo by: Leo Benetti-Longhini.

T.W.I.T.T.
The Wing Is The Thing
P.O. Box 20430
El Cajon, CA 92021

The number after your name indicates the ending year and month of your current subscription, i.e., **0610** means this is your last issue unless renewed.

Next TWITT meeting: Saturday, November 18, 2006, beginning at 1:30 pm at hanger A-4, Gillespie Field, El Cajon, CA (first hanger row on Joe Crosson Drive - Southeast side of Gillespie).



THE WING IS THE THING (T.W.I.T.T.)

T.W.I.T.T. is a non-profit organization whose membership seeks to promote the research and development of flying wings and other tailless aircraft by providing a forum for the exchange of ideas and experiences on an international basis. T.W.I.T.T. is affiliated with The Hunsaker Foundation, which is dedicated to furthering education and research in a variety of disciplines.

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Editor: Andy Kecskes
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Wt/#Issues	FRG	AUSTRALIA	AFRICA
1oz/1	1.75	1.75	1.00
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24oz/24	20.00	22.00	15.00
36oz/36	30.00	32.00	22.00
48oz/48	40.00	42.00	30.00
60oz/60	50.00	53.00	37.00

Meetings are held on the third Saturday of every other month (beginning with January), at 1:30 PM, at Hanger A-4, Gillespie Field, El Cajon, California (first row of hangers on the south end of Joe Crosson Drive (#1720), east side of Gillespie or Skid Row for those flying in).

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PRESIDENT'S CORNER

Well, it's time for another issue and I just don't know where the time goes in between them. I just finished putting the Sailplane Builder issue for third quarter to bed, and as you can see from the cover and inside I was able to use some of that material since it involved Mike Hostage's Pioneer IID.

These came from the ESA's Eastern Workshop held at the Chilhowee Gliderport in southeastern Tennessee in May 2006. Also at the workshop this year was Jim Marske talking about the history of the Pioneer II and what he has planned for the Pioneer 3. I will put more of this in next month's newsletter.

For those of you in the eastern area of the country, this is a good workshop to attend since they do a lot more hands on stuff than has been see lately at the Western Workshops. So it really doesn't matter what type of aircraft you are flying or building, the information is all-relevant. The next one will be on May 18-20, 2007 at Chilhowee.

We have a good program lined up for you in November, so make sure to mark you calendar for the 18th so you don't plan on anything else getting in the way. Doug Fronius always puts on a good presentation when he is telling us about what is going on at NorthropGrumman and this time he will cover their UAV flying wing program.

I have noted in one of the letter responses that I will be installing PayPal on the website in the near future. I think it is time we join the electronic age and make it easier, especially for our foreign members, to submit their membership subscriptions. The payment amount will be a little higher to help offset the processing costs from PayPal, since we are already pushing the breakeven point on mailed in subscriptions. I hope everyone will find it a more convenient way to pay each year. You will be able to use your own credit card, or your PayPal account, if you happen to have one for things like eBay.

Andy

NOVEMBER 18, 2006 PROGRAM

Doug Fronius will present a general update on the Unmanned Aircraft programs of Northrop Grumman in San Diego, followed by a more detailed brief on the X-47B Unmanned Combat Air Vehicle (UCAV) Northrop Grumman is developing. The X-47B is a >40,000 pound unmanned carrier based flying wing combat aircraft. The first prototype is under assembly. The aircraft will operate off existing aircraft carriers using the same catapults and arresting gear as current fighters, carrying imaging sensors and weapons.

Doug has been an employee of first Ryan Aeronautical and then Northrop Grumman Unmanned Systems for more than 20 years. He is currently the Program Director for the U S Navy VTUAV Fire Scout program. (Photos from: http://www.northropgrumman.com/unmanned/)

LETTERS TO THE EDITOR

September 2, 2006

Hi. I would like to join TWITT. Do you have an index of newsletter back issues?

Bruce McCaskey
Lochbuie, CO

(ed. – Thank you for joining TWITT. I hope you will enjoy the newsletters in the future and reading those of the past through the website link. You can find the member ID and password information in the masthead just above the subscription rates.

As for an index of what's in back issues, I am sorry to say one does not exist at this point in time. We have had several people attempt to put one together and found it to be a monumental task. We do have someone making another attempt, but I can't begin to even venture a guess as to when part of it will be publishable.)

September 6, 2006

On September 6, 2006 Ralph Wilcox passed away while surrounded by his family at the age of 90. There was a memorial service on September 17th in El Cajon that was attended by several of us from TWITT. Ralph was one of the earliest members of our group and attended almost every meeting until his health made it difficult for him.

Ralph had a very interesting background, including having Anne Lindbergh as a teacher while attending school in the mid-west and, flying with Bill Lear on the maiden flight of the Lear Jet. He moved to San Diego to become one of the many who joined the aircraft industry at Consolidated Vultee (CONVAIR). He also had his own company working with composites and building various after-market parts for light aircraft.

We will all miss Ralph. He always lent a helping hand when people had questions and was a fixture all around Gillespie Air Field.

September 21, 2006

Enclosed is a check for another couple years of your excellent TWITT newsletter. Looking at the expiration code by my name always requires me to mentally switch the two pairs of numbers, I'm a slow learner. I hope the Lockheed BWB is progressing

towards flight test and eventual production. It is so efficient and neat looking. It would he nice to build more airplanes in our battered country.

You might he interested in a little piece of aerodynamic history in Dad's perennially upcoming book (I hope), *Nick the Renegade Barnstormer.* Back in the early 1960's he flew for aeronautical engineer and pilot Don Funk who built AG planes based on the Fairchild PT-19 and 23. A new large metal wing was the major change. From the book:

"While I was there, Don was in the early stages of producing the Funk F-23's, which were Fairchild PT-23's highly modified for spraying and dusting. They had 240 horsepower Continental or *275* horsepower Jacobs engines with new large all metal wings that he designed. Also the wood horizontal and vertical stabilizers were replaced with metal construction. The wing center section was a twenty-foot flat structure between ten foot outer panels that had little dihedral. The small amount of dihedral was to improve the spray pattern, with not so much spray in the wing tip vortex. However the small amount of dihedral caused a problem in flight test. The FAA required that in a full slip, the airplane should recover on its own with the stick free floating and the rudder full in, but it wouldn't.

Don noticed that the ailerons were not in the neutral position, the asymmetrical airflow over the wings had displaced them. When he neutralized them with the stick, the airplane came out of the slip. He wondered how to utilize the airflow to move the ailerons. He solved it by adding fixed trim tabs on the trailing edge of the ailerons at the tips. To explain the shape of the unusual trim tabs, visualize a regular trim tab attached to the outer aft edges of the ailerons with two screws. Then visualize removing the outer screw and moving the outer end of the tab about three inches aft. Now the tab is skewed to the normal airflow over the wing. On the other aileron was an identical tab except that it was opposite. Of course the new enlarged tab was made in one piece, trapezoidal shaped. The cross airflow due to the slip lowered the aileron on the lowered wing which raised the wing. It was because the airflow on the lower wing was about perpendicular to the bent up portion of the trim tab and made it effective, while the airflow over the trim tab on the upper wing was more parallel to the bent up tab and was ineffective.

Don had FAA approval on it in two months. The FAA engineer said that it might have taken some companies a year to fix a problem like that. After he test flew the airplane with the new trim tabs, he said that this fix was in the engineering literature somewhere. Don said, "Oh, now you tell me!" Don had "reinvented the wheel." It was the simplest and most effective fix compared to springs, bungee cords, or bob weights."

There was an article in *Kitplanes* fairly recently about a variation on this theme using multiple canted vanes for stability. They used shafts trailing aft with a plate on each end.

Keep'em flying,

Larry Nicholson
Calcutta, OH

(ed. – Thanks for the multi-year renewal and the comment on the newsletter.

Although this was not a flying wing story, it could be relevant to an overall handling characteristic anyone might be having with their conventional or flying wing aircraft. I hope everyone is good a visualizing these types of things, since Larry wasn't able to include any type of drawing of the tap configuration.)

September 22, 2006

Here is where I started the CG on my model. I hope this helps.

Also, I found this picture at a sale and was wondering if anyone else had seen it and what became of it? Any production?

Sincerely,

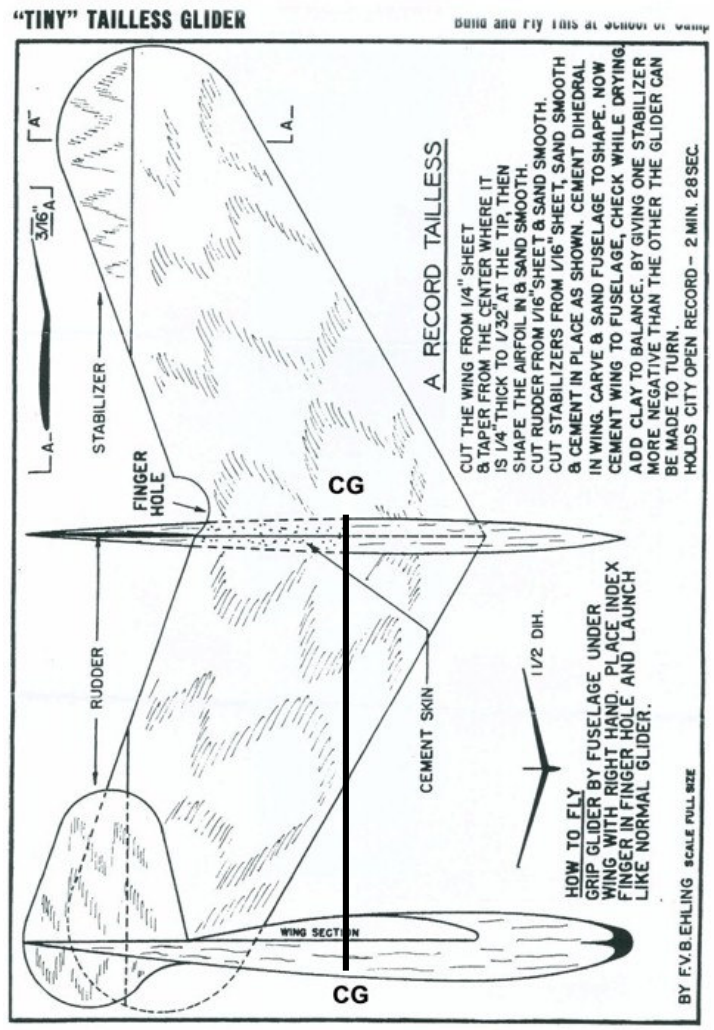
Larry Routson
Tulsa, OK

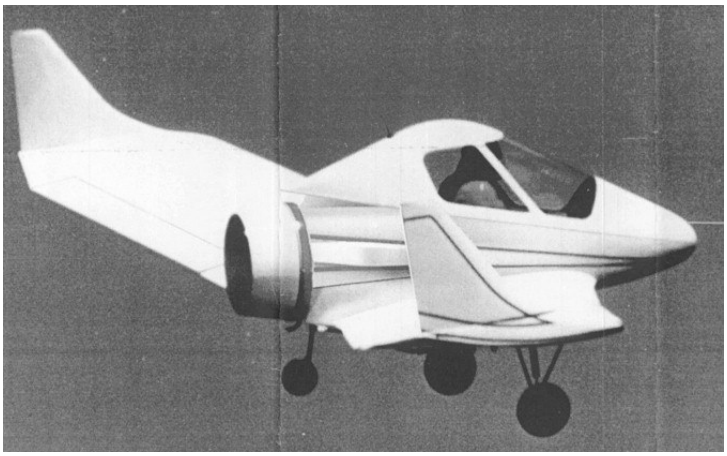
(ed. – I have included a smaller version of the original picture with the CG location indicated across both the profile and top views. I received a call from Larry Rice of Blackhawk Models who was intrigued by the model. His company plans on using the concept to produce a light, throwing model with a similar wing plan form but a fuselage shape of their own design. The neat thing, if it ever reaches production, will be having TWITT across the top of the wing with the website address below it. I will let you know if it comes out.

The following text accompanied the photo. It looks like maybe this was referring to the 1981 Oshkosh Air Show.

"Australian aircraft for US Air Show. An ultra-light Australian aircraft will lead the flying display at the Oshkosh Air Show at Milwaukee on August 17 this year. Designed and built on a flying wing concept in Adelaide, the $A10,000 Hornet 130S can cruise at 80 knots using only 7-9 liters (1½ - 2 gallons) of fuel an hour, has a stalling speed of 30 knots and takes off or

lands with a run of only 110m (360'). Australian Information Service photograph by Douglas McNaughton P81/121 4/6/81/6")





September 24, 2006

I got the first issue of the T.W.I.T.T. Newsletter, thank You very much. I wanted to enter the site for 'members only' but obviously I forgot the user name and login I used and therefore 'no way'. Anyway to find out or register a new one?

Thank you also for mentioning my joining in this newsletter. I sure feel proud to be probably the only member from Brazil.

I am not busy in reading through years of issues - unfortunately - but with finishing my Kit built SeaRey amphib and preparing for launching it in our biggest national airfair - www.expoaerobrasil.com.br - which will happen from 5th to 8th Oct. next. It is the first SeaRey in Brazil for sure. Although we have three national manufacturers of amphib ultralights down here, I think the SeaRey from Pogressive Aerodyne is a much better one and I decided I want to have one. The local competition will not be happy but I hope I will and some clients will too.

My interest 'Nurflügel' - I am German by the way - comes from a long way and I had some practical experience about 15 years ago: helping a friend to finish a Mitchell Wing B-10. I got the chance to fly it too as pilot nr. 3 - the first time I really felt like a test pilot - and I remember being the first to bring it down again without damaging the landing gear - after a very short and shaky flight. Unfortunately my friend had a fatal crash with it some weeks later at a speedy low-level fly-by for filming purpose. The center section of the wing collapsed and the 'cage' plus pilot and engine fell out of the sky from about 100 ft at about 90 mph forward speed. So I had no chance to improve my proficiency any further, and very mixed feelings towards tailless aircraft whatsoever since than.

But as passion is passion I kept interested in the subject.

A couple of years ago I got very interested in the project Leonardo from Dewald - www.dewald-leichtflugzeugbau.de - a flying wing with parabolic curved leading edge. Apparently tests with scaled models showed very stable flying characteristics and a two seater in tandem motorized version was built. But minor landing damage made them postpone the project to concentrate on more short-term money making activities.

The last time I spend some hours surfing in the web around the subject I came around TWITT, and studied more closely the Charles Fauvel auto-stable glider and motorglider wings and found also the Pelikan - a miniaturized mix of Fauvel and Robin, designed by Mr. Debreyet.

I got contact to Michel Mangenot who sells plans of the aircraft now called Le Vampyr and ordered a set. Plans arrived a week ago.

So I intend - while hopefully flying my SeaRey trouble free - to study them, and investigate if this would be a worthwhile new challenge. Any help,

opinions and inputs from the TWITT community would be very welcome.

I am also a founding member of ABRAEX (Associação Brasileira de Aviação Experimental) which is the Brazilian version of EAA.

Best regards

Claus L. Kiep
<clakiep@terra.com.br>

(ed. – I glad you enjoyed your first newsletter. As another reminder in case you missed it in a previous comment to a letter the user ID and password are always in the masthead on the first page.

We have had members from South America, but Claus is the first from Brazil according to my records.

Thanks for the update on your background and why you are interested in flying wings. We have heard over the years of mixed results with the Mitchell B-10, but it always seems to come down to building techniques and not something inherent in the design.

As for the Vampyr, I don't know of anyone who has built one yet, but there are knowledgeable people who participate in the Nurflugel bulletin board that might be of help. Go to www.nurflugel.com and find the link for subscribing. I have included a picture of the Pelican as a reminder of what this flying wing looks like.)

September 29, 2006

I am currently a member of the Mitchell wing forum, pilot, RC builder & flyer. I was searching for tailless aircraft technical data on the NACA archive, then did a Google on "tailless" and you turned up. I would appreciate an opportunity to join T.W.I.T.T. if at all possible.

I am equipped with a Comet 3HP mill, 14x40 lathe, Superflow Flow bench, gas & electric welding equipment, composite fabrication materials.

Experience includes, cylinder head and eng development in the old IMSA sports car series, both in the GTU and the Camel Light Prototype Sports car classes. Set up a composite vacuum molding process for body and component parts.

I find wings fascinating both for their technical and aesthetic qualities.

Bob Linder
Conway, AR 72034
<blinde@conwaycorp.net>

October 1, 2006

Membership Payment for TWITT

Please let me know if I can use a PayPal cash account (non-credit card) to pay my TWITT membership fees.

Thanks -

Bruce Rose
<bruce@falcondesign.com>

(ed. – I have written back to both Bob and Bruce thanking them for interest in joining TWITT. I am always glad to see new people going our group. It is interesting that we have seen a number of people inquiring about membership.

In answering Bruce I indicated I would be installing a PayPal option on the web site in the near future. It takes a few days to coordinate the link to the bank account and confirm some of the contact information. The PayPal pricing structure will be a little higher to help cover the additional cost of this payment option, since we are already on the border line of breaking even with the current subscription rate. However, I think it is time and will help enhance our member's payment option, especially for the overseas members who have difficulty in obtaining US dollars payment instruments.)

October 2, 2006

Koen – BULM Thoughts

We have e-mailed before, and I came across a discussion of your BULM concept on the TWITT site. First, some background, then my suggestion...

I went to a Sailplane Homebuilders Association seminar on flying wings several years ago and had a chance to meet Al Backstrom and Jim Marske and learn a lot about unswept/forward-swept plank- and Fauvel-type flying wings. By the way, Jim Marske has an excellent little booklet on flying wings which describes the evolution of his designs from simple planks to more sophisticated designs. Highly recommended.

A design concept that I have been reflecting on for many years is a very simple ultralight that requires little or no folding to trailer home. Except for very exotic 8' span lifting body concepts (perhaps with large, removable all-moving control surfaces) that means a tailless design of less than 8' overall length. It would simply ride sideways on a covered trailer.

Something as simple as a Dunne biplane (like the old Easy Riser ultralight) would work, but I keep coming back to the idea of a low aspect ratio plank-style flying wing, sort of a chunky and simplified Pelican. Roughly, I am thinking of a constant chord wing of about 6' chord and 24' span (3 x 8' sections), plus Wittman-style tapered wingtips, giving about 160 sq ft of wing area. High-, mid- or low-wing configurations, pusher or tractor, are all possibilities.

The reason I bring this up in relation to your BULM is a trick that Jim Marske learned from Al Backstrom.
Several early plank-style flying wings had large or even full-span elevons, which greatly reduced the efficiency of the wings and made for hard landings in the flare. Short-span elevons just didn't give control authority, and inboard elevators and outboard ailerons made for nasty stalls.

The trick Al learned with his constant-chord designs was to use short-span elevons, no larger than typical conventional ailerons, then add the necessary control volume back in by extending the elevons back beyond the trailing edge. In other words the elevons stick out because their chord is larger than the cut-out they occupy in the wing.

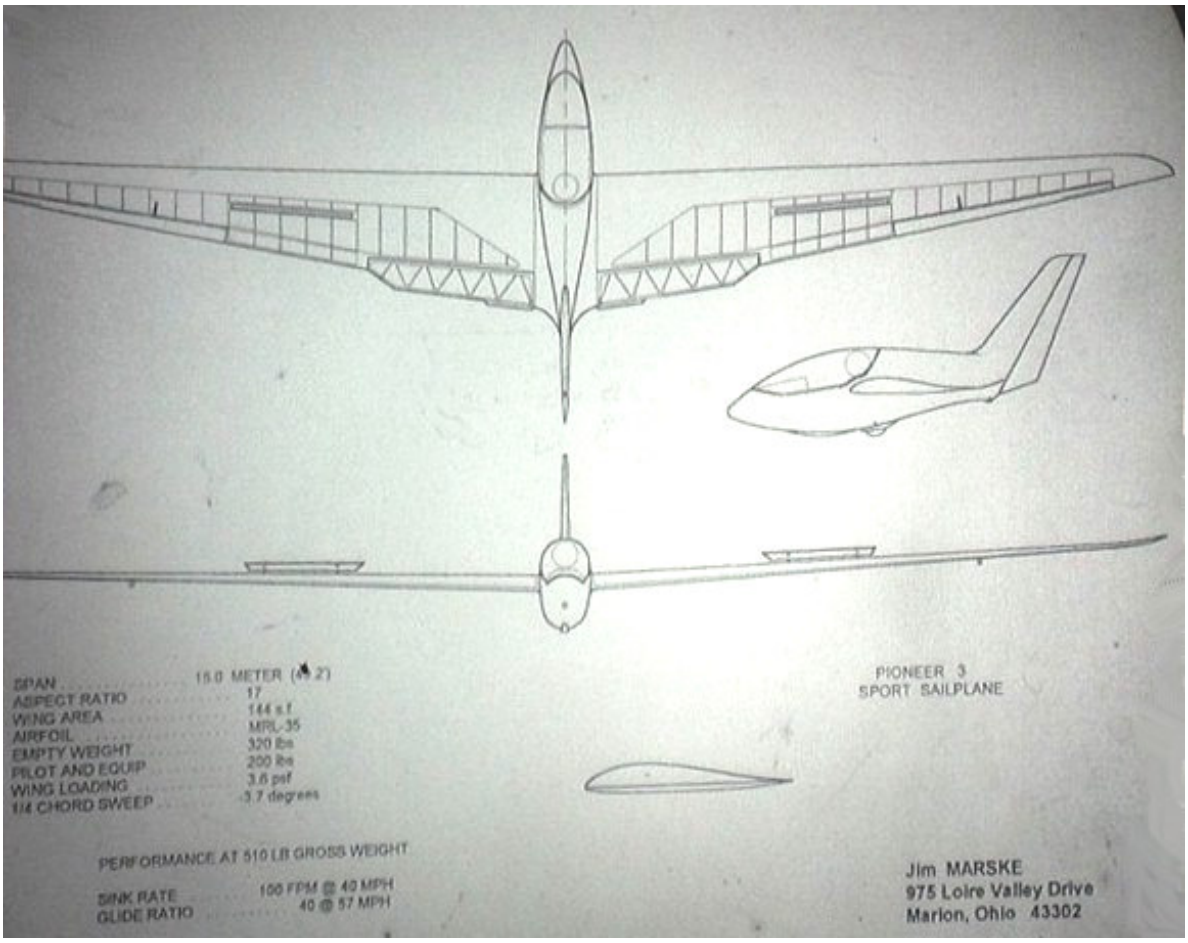
Of course, such a simple solution is not compatible with the ultra-high efficiency sailplane that was Marske's dream (like Genesis) and so they disappeared for his later designs, but it seems perfect for something like your BULM or my 8' Special.

I'll try to send you a sketch of the concept when I get home tonight, but I thought I'd send this note before I forget.

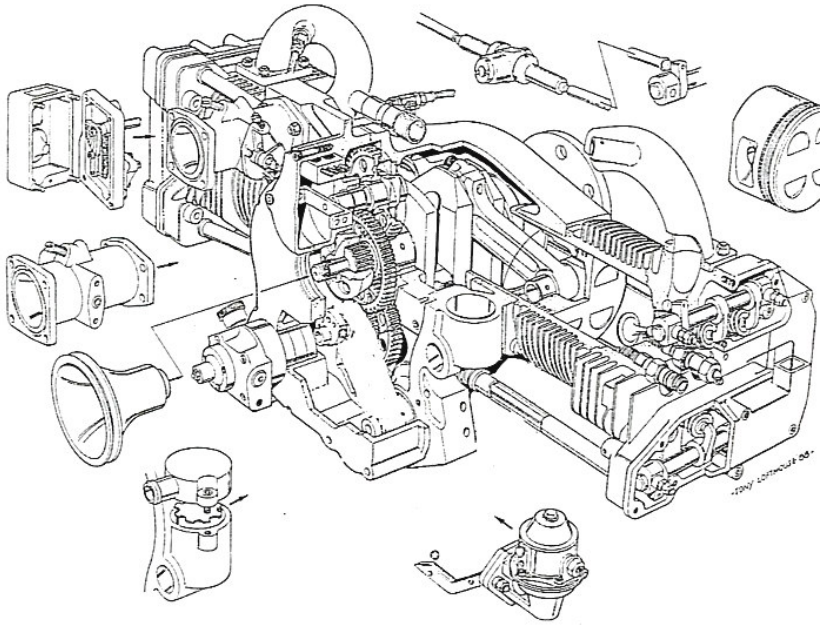
Cheers, and keep dreaming of fun flying machines,

Matthew
The Peillet-Long Family
Luxembourg City, Luxembourg
<owlnmole@yahoo.com>

(ed. – I have included a picture by Al McCarty of Mike Hostage's Pioneer IID that was at the recent Experimental Soaring Association Eastern Workshop that shows the type of configuration Matthew references. I have also included a 3-view of the Pioneer 3 that Jim Marske showed at the Workshop where you can see the extended chord of the elevator. This is one of the advantages of editing both of these organization's newsletters since they often cross over.)



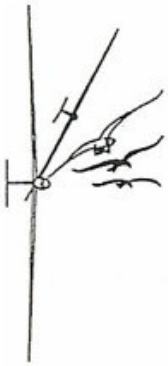
(ed. – I put this in last months newsletter but didn't have room for the chart and specifications sheet that Howard had also sent along. So here they are. It sounds like a really good deal if you have a project that needs this type of power plant and you can work something out with Howard.)



September 1, 2006

I have an EMDAIR 80 hp engine for sale. It is ready to run, has a fuel injection system, electronic ignition, etc. Bed style mounts need to be made for the application. If sold outright should bring $7,500. My idea is to pool it into a going project at not cost to
the project owner. Better than it setting here rotting. Would like it to be close (northern California) so I could help, but might not be possible.

Howard Allmon
<howardallmon@netzero.net>



FLITE-LITE, INC.

WESLAKE CF 122/E LIGHT AIRCRAFT ENGINE

This four stroke, dry sump, power unit is one of the range of Weslake engines designed specifically for light aircraft application, which demands a fuel efficient engine combined with high specific power, low propeller speed, lightness, simplicity, and longevity.(2000 hr.TBO)
It was designed and meets the full international airworthiness requirements of JAR-22. With four valves per cylinder, dual electronic ignition, fuel injection, an electronic engine management system, and built in electric starter, it is designed to run on 100LL AVGAS. The CF122/E is a direct drive unit with the capability of being installed in either a tractor or pusher configuration.

SPECIFICATIONS

Number of Cylinders	2	
Bore	115mm	4.53in
Stroke	96.5mm	3.80in
Displacement	2005cc	122.3ci
Compression Ratio	9.0:1	
Rated Take-off Power	63 Kw	85 Bhp
Rev/min at Take-off only	3200rpm	
Rated Power	60 KW	80 Bhp
Rev/min at Rated Power	3000 rpm	
75% Cruise Power	45 KW	60 Bhp
Rev/min at Cruise Power	2600 rpm	
Cruise Fuel Consumption	aprox 3.8 gph	
Fuel Injection System	Weber Alpha	
Ignition System	Weber Alpha	
Combustion Chamber	4 Valve, Dual Ignition	
Standard Equipment	Electric Starter	
	Engine Management System	
	Alternator	
Optional Equipment	Exhaust Muffler	
Dry Weight CF122/E	66 Kg	145 lbs
Width	740mm	29.1 in
Height	430mm	17.0 in
Length CF122/E	534mm	21.0 in

Weslake Air Services, Ltd, reserves the right to alter this specification.

(ed. – These are from the U-2 bulletin board messages.)

September 21, 2006

Alternative motors/ power plants

I don't have anything against Rotax or Herth. As a matter of fact, I'm trying a Kawasaki 440b with a 3.22 : belt reduction and a Kiev prop. But here are some alternative motors that will fly the U2 or B10. They come from the RC model world and they are VERY impressive. Starting with my favorite, the EVO. In particular, the Evo 300: 32hp 18lbs (this is NOT a typo) 4-cylinder. There is also a gear reduction available and electric start can be adapted. And if it's not enough power, there is a 6-cylinder version. http://forgues-research.com/ Also there is a 240cc twin from air hobbies. 28hp and about 12lbs. This motor was designed for the paraglider guys. Its not on their website but they've got it. http://www.aero-sports.com/airhobbies/index.html

Then there is 3W. They have a 25hp 240cc twin and a 50hp 480cc 4cyl (not on their web site but on

3W's). And they can come with duel plugs and electric start but they ARE pricy!
http://www.cactusaviation.com/Products/products.html
And the last gasser is ZDZ. I was told they don't sell to the manned flight people and that there 4cyl motor does not like to run in the pusher configuration but here it is anyway.
http://www.rcshowcase.com/html/ZDZ/zdz420b4.html

Posted by: "mitchelvictorywing"
mitchelvictorywing@yahoo.com

September 23, 2006

Alternative Engines - Geo/Suzuki

If you are interested in alternative engines for experimental aircraft you are invited to join the FlyGeo_uncensored group and learn about the fantastic Geo/Suzuki engines used in aircraft.
http://groups.yahoo.com/group/FlyGeo_uncensored
Both bolt on gearbox and cog belt redrives and all other aircraft conversion parts are available for very reasonable cost. Turbo versions are available also. Gearbox type redrives for around US$1750.
The Geo/Suzuki engine uses about half the fuel that the two stroke engines use.

Posted by: "John Smith" osletee@yahoo.com

September 25, 2006

Aren't those just a little bit big for the U-2?

Posted by: "Norman Masters"
libratiger62@yahoo.com

September 26, 2006

Yes, Big and heavy for our application. The purpose for this thread was to show that engines are available that are extremely light and will fly the U2. If someone were trying to loose weight in order to get into the ultralight category this is a good start. Most of the engines that are frequently used weigh between 50-70lbs when everything is added…redrive, starter, etc. Here are options that will weigh between 20-30lbs including starter, alternator, etc. And there are more companies that make motors that are smaller but give them some time and they may come around to the larger sizes. However, the trend now are large ELECTRIC motors. These setups are even lighter then gas and more powerful! But like all new things, they cost a lot more. Here are some but you will need at least 2 motors (10Kw each) and 2 speed controllers (schulze 40-160.. about $600). The Plettenberg Predator
http://www.icare-rc.com/plettenberg_predator.htm
And Steve Nue's motor is the M.O.M. (mother of all motors) that should be Very good. No website yet but you might find some info on www.rcuniverse.com
There is also WWW.ECYCLE.COM that has an 18Kw motor that is designed for "aerospace applications" 18Kw will fly a U2 but 30Kw will fly it better. And Lehner 3080 series
http://www.finedesignrc.com/motorslehner.asp
The real expensive part will be the lithium polymer batteries. And you will need lots of them.

Posted by: "Raymond Landa"
RaymondLanda@hotmail.com

October 2, 2006

Hi Raymond:

I very much enjoyed talking with you the other day and am looking forward to keeping in touch. Thanks for the leads on the motors that you were telling me about. Yes, a bit pricey but 'wow', some very nice packages. I really like the electric motors. I wonder what it would take to produce about 150 pounds of thrust, 75-85 for cruise, for about 2 hours flying time?
How much weight? Would double the batteries mean double the flying time? Or is there a ratio?
Also, the gas motors would work fine for the U-2 or the B-10. If someone wanted to keep the weight down, these would be the way to go.
Thanks again and we will keep in touch.

Posted by: "mitchellwing@earthlink.net"

October 2, 2006

Richard, its always a pleasure talking to you. Icare, the company that sells the Plettenberg motor, has some specs on their website. I think each motor can produce about 60lbs of thrust. So two motors will fly the U2 or B10 but three motors will do much better. Each motor is about 5lbs. and will each require a speed controller (ounces) and from what I have been told the Schulze speed controller can be set to belt drive so all three can turn one prop. Consequently the motors and speed controllers don't add up to much. .
The lightest batteries are Lithium Polymer but they are not cheap. NIcklemetal (D cell)are much cheaper but weigh almost twice as much. The best Lipos are in my opinion Tanic www.tanicpacks.com The most popular is ThunderPower www.thunderpower-

batteries.com The Plettenberg and Lehner motors use 10 to 12cell packs. If you need about 6hp for cruse thats about 5kw. A 12 cell pack is an average 45volts. So the motor will draw a little over 100 amps to produce 5kw. And if I did the math right, you will need 25 12cell 8000mah packs to stay in the air for 2 hours. Roughly at 3lbs and $1000 per pack that's about 75lbs and $25000 for batteries. The good news is the batteries are getting better and cheaper! In a few more years an electric U2 is very doable.

Posted by: RaymondLanda@hotmail.com

July 6, 2006

U-2 pure glider version

I searched older messages unable to find the answer, about the possibility to build an un-powered (pure glider) version of the U-2. I will appreciate comments if that kind of conversion was achieved or at least, considered.

Posted by: alejandro_bonfante@yahoo.com.ar

July 7, 2006

I initially was going to build a B-10 as a hang glider but have recently thought about building the U-2 as a class 4 hangglider. Don't know if it could be done or not but that's what it's all about isn't it, the challenge.

Posted by: "Pat Martin"
medevac121@hotmail.com

August 5, 2006

Pat & Alejandro,

I suppose you could build the U-2 as a pure glider. You would have to check weight and balance carefully. The U-2 would be a bit heavy with too high of a stall speed to be a hang glider, I think the B-10 would be a better choice.

Richard Avalon
"mitchellwing@earthlink.net"

September 14, 2006

Hang Gliding launch techniques have evolved from traditional foot launch to aero-tow, scooter tow, platform launch and etc. With this evolution I see it being easier to launch heavier gliders and pilots.

My question would be could the U-2 be built with lighter materials and techniques to be able to use these types of launches?

Can I achieve 103 legality?

Posted by: "Pat Martin"
medevac121@hotmail.com

September 15, 2006

As read via many posts over time, the B10 seems to outperform the U2 as a pure glider. Ask Tim Morley on the Mitchell Wing yahoo group, he was supposed to have had a U2 glider, to be flown with an A-frame like a flexwing, just like he did with his prone B10. Maybe Tim really had a U2 after the B10 and could say more about it.

Personally, I believe a B10 with a swift-like closed pod would be the best you can get for wood and money. If building from scratch you even could go back to the thinner main spar of which I have the plans, but I would recommend pulling the structure through a computer then and do a static 4G test when building.

The original B10 only weighed 37 Kilos, less than a Swift.

Posted by: "Johan Prins" johanprins@free.fr

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