

T.W.I.T.T. NEWSLETTER



Shot of the JCD 03 PELICAN sitting ready for another flight. Note the forward opening canopy and tip section airfoil. This is also a good view of the vertical fin and the rudder combination. You can also just barely see the engine on the rear of the fuselage. For more on the Pelican, see inside.

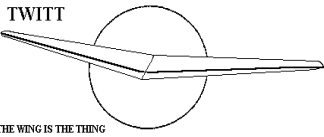
T.W.I.T.T.

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., 0111 means this is your last issue unless renewed.

Next TWITT meeting: Saturday, November 17, 2001, 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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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).

TABLE OF CONTENTS

President's Corner1
This Month's Program2
Letters to the Editor2
Available Plans/Reference Material.....9



PRESIDENT'S CORNER

Last month I put a picture of Thomas Bircher's LEA 23 on the cover and noted he was looking for a small jet engine for future experiments. Well, after talking with Thomas while he was on vacation in California I found out the jet engine was for the Prometheus two-seater, twin jet research motorglider (shown below). The outer wing panels serve to increase the effective span of the aircraft. I have put Thomas in touch with Bob Hoey so they can exchange information on tip configurations and performance.



As for the LEA 23, Thomas indicated the latest version, as shown on the cover, was flown successfully with a brushless electric motor as power. He said it flew well and was an improvement over previous models. It had carbon fiber spars and leading edges, which came in handy when it crashed into an aircraft on the airport. Apparently the carbon blanked out the radio antenna that was buried inside the wing and the wing went where it wanted to regardless of Thomas' attempts to recover it.

Up to the point of control departure, Thomas indicated he was pleased with the handling characteristics, but it needed more outer panel aileron surface. The middle section flap created a pitching down moment, but because of the change in reflex a pitch up was created for an almost neutral change in attitude.

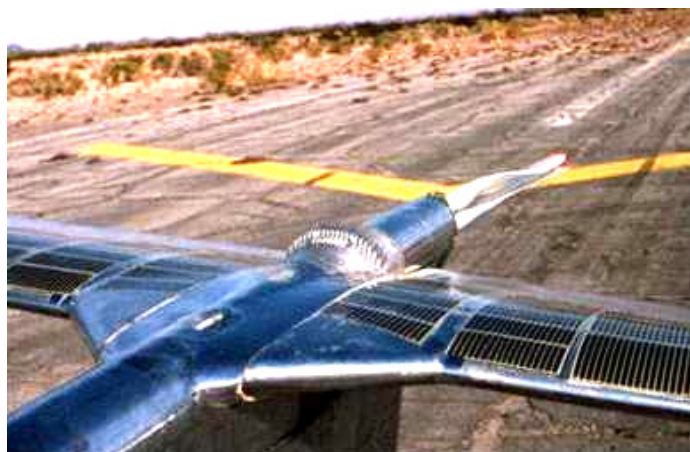
The model is now being rebuilt, but Thomas doesn't have an estimate of when flight-testing will resume. He is really enthused about its success.

Andy



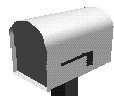
**NOVEMBER 17, 2001
PROGRAM**

We are pleased to announce **Eric Raymond**, of hang gliding and ultralight fame, will be our November speaker. Eric's presentation will cover moldless composite fabrication methods he has been developing, and their application to his solar and ultralight gliders. Eric designed, built and flew a solar powered aircraft coast to coast in the early 1990's. He will also give an overview of other developments worldwide in the field of electric aircraft. This system should be adaptable to many different types of aircraft, including a flying wing, and is solar powered. With the wing area of a flying wing to house the solar cells, a battery pack over the CG and, low overall drag, this seems like a perfect combination for a self-launching sailplane. He plans on showing some slides and video, and have sample constructions to pass around.



ABOVE: A view of SunSeeker's electric propulsion system and propeller in the streamlined position.

Eric's presentations at the SHA Western Workshops have all been well received, so mark you calendars, contact your friends and, come visit us.



**LETTERS TO THE
EDITOR**

October 25, 2001

TWITT:

Please renew my subscription for another year. I really enjoy the newsletter. I have enclosed \$20. Sorry to hear that Mr. Brown is not able to continue with the Mitchell wing project at this time. The parts he has published are excellent and I hope he finds time to continue sometime in the future. I am working on a B-10 project, which has a Honda Odyssey engine. If anyone has experience with this

engine, or the B-10 in general, I would like to hear from them.

Regarding the BKB article in the October 2001 newsletter concerning the almost vertical decent. Is this the same situation as occurs with free flight models using a "dethermalizer"? When the dethermalizer is activated, the horizontal stab flips up (like an extremely exaggerated up elevator), the nose pitches up momentarily and the model descends vertically, remaining perfectly level with no spin or spiral and at a slow speed.

Thanks,

Jerry A. Holsinger
1756 Flank Road
Petersburg, VA 23805

(ed. – Thanks for the nice comments on the newsletter. I don't really know how many people reading the newsletter are working on B-10s or have had past experience. Maybe this request will help bring them out and answer some of your questions. I will also put your request on the website section to see if we can get you in touch with others.

As for the BKB's vertical descent capabilities, it is my understanding that the rate of sink was high enough you wouldn't want to land using the technique. From what I recall, the pilot would exit the descent and return to conventional flight for the final landing, but it did result in using less runway than a normal final approach and landing. This could have benefits when landing out on a cross-country and only having small fields available. Hope that answers your question. If others know more than this, let us know.)

October 25, 2001

TWITT:

This may be the answer. Mr. R.S. Hoover, in your October newsletter is using a "NACA 0015", 24' span, 35 degree sweep, 72" root and 18" tip. Now with a +3 degrees at the root, and -7 degrees at the tip, would this be approximately 1 degree per foot?

I build models only. Love wings. I have been trying to find out what the Horten bell shaped curve is in simple language.

Eugene F. Turner
847 East Main Street
San Jacinto, CA 92583-4411

(ed. – First of all I have neglected to thank Eugene for his gift to TWITT. He contributed a box of material that included a large number of older, model flying wing plans. We are trying to compile a complete listing of them and possible reproduction prices for those who might be interested in building nostalgia type models.

Not being an engineer I don't know if his answer is correct, but there may be others out there who can offer a supporting or opposition one.)

October 20, 2001

TWITT:

Please find enclosed the sum of \$60 for the renewal of my subscription of the TWITT newsletter for the next two years. Thank you in advance.

I would also like to thank you so much for all the information I've gotten from the newsletter over the years. You really did a great job!

As you know, I am one of the few people who did fly many of the Horten tailless aircraft. Also, I worked together for seven years with Dr. Reimar Horten in Germany and Argentina. Hence, I know a lot about his flying wing designs. I wonder, however, why people of TWITT never contacted me with their questions concerning the Horten all-wing aircraft. There are not many of us eyewitnesses of those times and events left over. In a few years, all our memories will be gone!

Sincerely yours,

Karl Nickel

(ed. – First, thank you for the long-term renewal and thanks for the comments on the newsletter.

I guess my only answer to your question on why TWITT hasn't requested more information from you revolves around your prior publishing. We have all relied on the information you and Michael Wohlfahrt presented in Tailless Aircraft in Theory and Practice to explain many of the theories used by Horten. From your letter it appears you have much more to offer in this area and you are right about us needing to document it sooner rather than later.

At this point in time I am not sure how we can go about such an undertaking from our home in El Cajon. My first thought would be for you to begin audio or video recording those points you felt were the most important to be remembered in the future. I don't know if you have the equipment to do that or whether we have any other members in the Freiburg area that could assist you in this endeavor. You will have to tell us more about your capabilities.

If you have any pictures and historical documentation, I assume you will be leaving that to family members as part of your estate. However, if you feel there is some that should be preserved by an organization like TWITT, we would be most pleased to receive it. If you have information you would like to release now, we would be pleased to give it worldwide exposure through the website. This way others could see it and perhaps ask you questions not already answered.

So, I guess part of the solution to this is in your hands. Think it over and let us know how you think it would be to proceed from your perspective.)

(ed. – Since we were short of letters this month, I will use part of this section to pass along some of the information that has been showing up on the Nurflugel mailing list. Of

particular interest is the Pelican powered flying wing from France.)

October 4, 2001

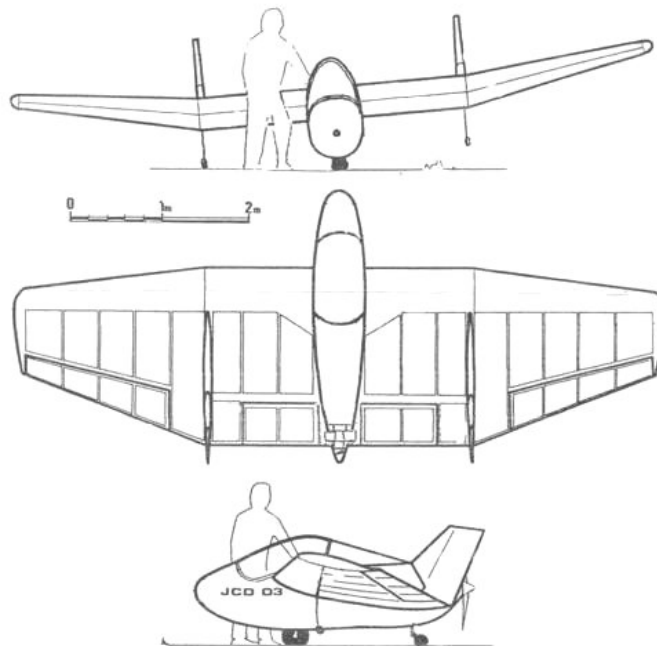
Koen VAN DE KERCKHOVE
(koen.vandekerckhove@hemiksem.be)
Subject: Pelican (rumors?)

Hello everybody,

It is not my style to tell rumors, but this one is nurflugel-related and might be interesting to some of you.

Somebody mailed me that Michel Mangenot, the man behind the production of the Pelican-kits, is planning to retire. I haven't got a confirmation yet, but I know that Michel Mangenot is not one of the youngest. So it might be true.

The history of this French flying wing (unswept) is very short. Only two were built. One was the prototype, which was constructed out of wood. Later a mold was made and this mold made two kits. One was finished and built by Jean Claude Debreyer, the designer of the Pelican. The other is probably still stored in the firm of Michel Mangenot. It was still there when I went to visit the firm (in 1999 or 2000).



Jean Claude flew his Pelican for 10 years. He calls himself a Sunday-flier. Has 200 hours in 20 years. JC told me that the Pelican is easy to fly, even for beginners.

I am very tempted to buy the second kit, but my money is spent on another project. But I worry about the molds. If Michel Mangenot retires, what will happen with the molds??? Will they be sold, will they be stored in an attic, will they be ... destroyed. I don't know. But people who need a place sometimes or change their lives do strange things.

My question: Is somebody interested in buying the molds and starting a small production himself (if it is true

that they will be sold)? Or is there somebody who can store the molds for future plans if Michel Mangenot needs to make space for other things.



ABOVE: Rudder being assembled. Note the small fin area at the right edged of the vertical portion of the rudder. (Photo courtesy of Koen Van De Kerckhove)

If Michel Mangenot truly is going on retirement and he finds nobody to buy the molds, I am thinking (very vague idea) about getting the molds and store them at my parents place (my place is too small). Maybe I can get an agreement with Michel Mangenot to get the molds for free and place them for rent to possible kit-makers and to give this rent to Michel Mangenot. Again, my ideas are still a bit vague! But I want to do a lot to save this flying wing from disappearing from the earth. I like it too much.

Are there any persons who have other ideas that can tempt Michel Mangenot to keep this flying wing alive if he fails to sell the molds. All ideas are welcome. How did other great kits stay alive?

Keep that brain spawning wings,

Koen (a bit emotional after receiving the retirement-message)

October 11, 2001

From: Mike Lee (rmlee98@pathwaynet.com)
Subject: Re: Pelican (rumors?)

I have had several emails from Michel, I keep pestering him for plans. I would encourage everyone to write him and inquire about plans. Without the molds the fiberglass work would be difficult to duplicate, but perhaps a redesign in wood and fabric is possible too. Would buy the other kit, I think it is reasonably priced, but the shipping to the US would be the killer, same with his molds, not practical except for someone with big bucks.

Koen... have you talked with JC now enough to have all the skinny on his Pelican. Were you able to get any construction photos? I would like to build it, if enough information could be obtained.

October 24 2001

From: warren bean (warrenbean@austin.rr.com)
Subject: Re: translation Pelican stuff

So any comments on the Pelican design philosophy? If I understand the various translations correctly the main points are these:

1. A thin high aspect ratio wing will be heavier than thick low aspect ratio wing. (I assume that the fact that either have to carry a load about equal to the dry weight of the craft has some impact on this.)
2. If the goal is to gain altitude under minimum power, than a wing with aspect ratio 4 was preferable over a high aspect glider type wing because lower weight of the shorter thicker wing is preferable over higher L/D of the higher aspect ration thin wing.

In general are these statements true? Can they be quantified?

October 24, 2001

From: Koen
Subject: [nurflugel] translation Pelican stuff

I like to thank all who did an effort to translate the French text. I hope that some of you can use the translation text in their site. I will in mine.

I just sent a letter (snail-mail, JC doesn't have e-mail) to Debreyer with a proposal that maybe can save this design from being stored in somebody's attic. It is a VERY UNCONVENTIONAL proposal (hey... it is a Koen-kind of thing). It could end into nothing, but with a bit of luck it might get some more Pelicans into the air at a low cost. I keep you informed. Cross your fingers ... it might help.

(ed. – This is the translated text Koen was referring to in the message above. Translated by Marc de Piolenc.)

The following is from Koen's correspondence with the Pelican's designer, J.C. Debreyer.

The JCD02 was the Pelican prototype, made of wood, equipped with a Peugeot 125 cc motorcycle engine and a 69 cm diameter propeller. Weight 60 kg empty. It flew well but its strength was probably inadequate. The JCD03 was practically the same design, but much more solidly constructed of epoxy/glass laminate. Heavier (80 kg) and provided with a single spar set further forward on the chord, the 17% ABRIAL section was not accurately followed and caused me to lose the advantage of the 12 horsepower of the SOLO 212 engine. The aft position of the engine made it impossible to increase the engine's weight, hence its power. The

ground clearance of the propeller did not allow a large propeller to be easily employed, which made for long takeoff runs with the 74 cm propeller.

The purpose of these two flying wings was to verify that for flight with minimum power, an aspect ratio 4 wing was needed, and not the narrow wing of a glider. To gain altitude it is better to save some weight than to increase aspect ratio. And as it happens, a narrower wing is a heavier wing. That is also the reason that I preferred a 17% thick wing instead of 12%. Struts would have had the same effect.

The single wheel landing gear also allows a considerable weight saving (the forces are transmitted directly to the pilot's buttocks, without extra material). Alas, the balance wheels were set too far aft, which made ground handling difficult in a crosswind. This airplane was very easy for anybody to fly who had 20 hours on a conventional airplane.

Though a limited span makes possible a light machine that can climb on low power, it does not allow soaring (glide ratio 10-12, 2 m/s sink). But cross-country flight is very pleasant with excellent vision forward and downward, worthy of a helicopter."

Koen Added: Well, that is it. With this letter JC Debreyer answered my questions about the different types of Pelican and why he choose to use a 17% high airfoil and not a lesser draggy 12% high NACA 23112. I still have the idea that the Pelican is a extraordinary design. It brings a closed cockpit, a stable platform, a extraordinary view and a eye-catcher to the beginning pilot. Man, how I will hate it if this little jewels molds will get lost in ones attic.

I will stay in contact with JC Debreyer and follow the only flying Pelican to his final destination (exposition at the local flying club in Romorantin, hanging at the roof of the club). I will try to get some pictures through JC Debreyer.

I sure hope you like the new info.

(ed. – With all of the above on the table, a series of discussions were started by several participants. I have tried to present the more interesting questions and answers as they pertain to the Pelican, so apologize in advance if there is an occasional break in the thought thread.)

October 25, 2001

From: Mike Lee (mikelee@chartermi.net)
Subject: Pelican Flight

Does anyone know where the CG should be on the Pelican?

How was the Pelican controlled in flight, relative to the two rudders? Should they operate independently, articulating only out and back to neutral, or joined together as a pair, and move in unison equally in each direction like the rudder on a conventional plane?



ABOVE: Here is a shot of the fuselage from the rear looking at the center section spar area. (Photo courtesy of Koen Van De Kerckhove)

(ed. – With all of the above on the table, a series of discussions were started by several participants. I have tried to present the more interesting questions and answers as they pertain to the Pelican, so apologize in advance if there is an occasional break in the thought thread.)

Are the rudders effective on the ground at low speeds, because lets face it, the fan is not blowing any air over them, as they are positioned at about the mid point on each wing half, and in line with the prop.

At what speed would they become effective on take off? In flight, are you flying with the ailerons only in a turn, or it necessary to control yaw with rudder inputs in a turn? The pictures I have seen do not clearly show whether there is a separate elevator type control surface, or is pitch controlled with a mixer of some kind ,using the ailerons as elevons?

The Pelican does have a very fat short wing with a wide chord. It looks easier to construct than a long wing with a narrow chord, and thinner airfoil. Which is more efficient? Many low Hp designs I have seen look more like gliders with long narrow wings, and everyone is always saying because of the wing tip vortices, that is the way to go, but the Pelican seems to disprove that? When the goal is to fly on low hp. not gliding? What is to be preferred?



ABOVE: A half-span shot while under construction. (Photo courtesy of Koen Van De Kerckhove)

October 25, 2001

From: Ron Taborek (taborek@netcom.ca)
 Guelph, ON, Canada
 Subject: Re: Pelican Flight

There have been some questions about the balance between horsepower and wing span for an aircraft like the Pelican. There is a technique for calculating such a balance for an aircraft design. One example of it is described in [Airplane Design Part 1.- Preliminary Sizing Of Airplanes](#), by Dr Jan Roskam.

Essentially, specifying the payload, range and performance requirements and applying equations for aircraft weight and performance lead to an answer. Specifying the payload and range leads to an estimate of the gross weight. Specifying stalling speed and landing performance leads to an estimate of wing loading. Specifying takeoff distance and cruise speed lead to estimates of power loading and climb and ceiling lead to estimates of aspect ratio.

The results are plotted on a graph with power loading on one axis and wing loading on the other. Lots of tradeoffs are done. The preferred aircraft usually has the least power loading and the highest wing loading of those that are feasible and just meet all the requirements.

I applied this technique to a two seat aircraft recently. It was a flying wing, although the method does not distinguish that fact. I specified a 400 lb payload and four hours fuel and arrived at a TOW of 1600 lb. Specifying takeoff from a 2000 ft strip on a warm day and a cruise speed of 150 mph each give different combinations of power loading and wing loading that are feasible. Climb and ceiling also result in the same sort of curves but with aspect ratio a factor. A warm day climb of 1000 fpm and a 17,000 ft ceiling led to an aspect ratio of 6. Landing in 1200 ft with a CLmax of 1.6 gave the required wing loading.

Plotting all this information on a plot of power loading vs wing loading, suggested that an aircraft with a power loading of 16 (100 HP) and a wing loading of 12 (wing area 133 sqft) with aspect ratio of 6 and Clmax of 1.6 would likely be a good starting point for a design to meet these requirements in the most economical manner.

This is a preliminary method. Subsequent detailed design may cause changes in the preliminary values.

October 26, 2001

From: Ronen Atour-Gad Yehiav
 (ryronen11@speedy.co.il)
 Subject: Re: Pelican stuff-CG does not compute

Here it is, step by step: (*ed. – This is Ronen's reply to Mike Lee's questions, indicated by the arrow.*)

- I thought the proper CG location was a function of the computing where the CL was and how it changes at different angles of attack.

Cl has no point of operation - it is a coefficient, not a force. CG does not change with AoA. For most parts, until stall, Nor does the lift move around that much.

- I guess I want to know where it should be on the Pelican, is it similar to conventional aircraft, you want a CG around 25-30% chord?

Mostly lift is at around 25% of chord. But - which chord? The Average Aerodynamic chord.

- Flying wings are a new concept to me, and when you start getting into pusher configurations, I guess the optimum location is often very different from a conventional tractor setup.

HUH? How so?

- Sometimes the CG should be almost at the leading edge I think. I never did understand why that was so.

Frankly, neither do I. I don't think I understand your statement above...

- It would seem there should be proper CG relative to any specific airfoil, but I guess there are other factors to consider, because I have seen one design where the CG was supposed to be at about the leading edge.

CG location depends very little on the type of airfoil. Trim may depend on it, but not CG.

- Graham's method helps you figure roughly where the CG will fall when you have a relatively scale layout of your wing and tail, and helps you figure the distance between them, that sort of thing if I understand correctly.

It has nothing to do with figuring any distances, apart of showing you where the average aeronautical center is located. Know that, and you can set CG easily. So, why a flying wing would be different?

- Maybe all this stuff is a little too basic for you guys here. I have been reading the posts here for some time and I admit it seems you guys are into some real

advanced theory here. If you don't have time for this basic stuff from a rank beginner I will understand.

No problem. And there is no more complicated theory for flying wings than for any other types of airplanes. Not until you try to pry the last 1% of performance improvement!

October 26, 2001

From: Mike Lee

Thank you for your well thought out response, I'm sorry, but if anyone can answer the questions I posted about the Pelican, I would still like to read them. I just don't seem to have the ability to plug this stuff into some graph and come up with an answer that I would have any confidence in. Particularly when there seems to be two or three different bell curves, which must intersect, with figures in #, Mph, Hp, weight in Kilograms, etc., up and down four sides of a graph. I can stare at that stuff for hours and not come up with any thing that makes sense to me. I guess that is why I didn't become an engineer.

When I was taking ground school for my private ticket, my instructor had to walk me through some of those, I guess my brain is just not wired for it.

October 28, 2001

From: Hugh Lorimer (lorimer@alpbach2.fsnet.co.uk)
Subject: "PELICAN"

Hi Andy, I have just spotted J.C. Debreyer's Pelican on the TWITT site. The design philosophy and layout would appear to be similar to my Sgian Dubh (SD), although the SD is bigger and heavier. There doesn't seem to be an "e" address? and I wouldn't mind a wee chat with him.

He refers to an "ABRIAL" section, what do you know of this section and has it reflex ? `cause I have never heard of such a thing. The other snag is that, if I could contact J.C.D., I don't speak a word of French.

The weather here all summer has been very poor, so nothing much has been done by way of testing, quite apart from the authorities reluctance to countenance such an action. Methinks I should get myself a partner in the good old U.S of A.

With all this crummy weather, I have had plenty of time on my hands, so I have finalized a third design of less outrageous layout, a more conventional high wing, taildragger, single seater using the same construction as the Iolaire and the Sgian Dubh. Most of the detail drawings are complete along with all the calculations that I think are required. Assembly starts this week.

Keep up the good work!



ABOVE: Pelican on landing approach.

October 29, 2001

From: Koen
Subject: Pelican stuff for Mike Lee (and all others)

1) I am happy to see you found your way to the nurflugel mailing list. This group is filled with professionals AND with model builders, bookworms and enthusiasts. You will find a lot of data there or guidance towards usable info. I will from now on contact you through the list. If I make a technical mistake, I am sure that others will correct me.

2) DOOOOOON'T GIVE UP ON THE PELICAN (or the unswept flying wings). I don't know if you are a patient type, but the last few months I found data about the Pelican, which was unknown for many years. I do think that I have a good contact with JC Debreyer. I do think that I might get the info you wish. I am close to getting pictures. I do hope for you that there are also construction pictures.

3) I saw your questions on the list. Pity, you didn't ask these questions the first time I was writing a letter to JC. I could have asked them. Well, I will put them in my next letter. I will search my own pictures too to see if I have a picture of the technical part of the Pelicans kit. I didn't place all the pictures on the Nest of Dragons-site.

4) It is a pity that the JCD02 was constructive less good than the JCD03. I still believe that a JCD03 - similar design can be made with wood, but I am not the person to ask how and I am not sure that you will be possible to keep the weight as low (when making the same strength as the JCD03). Things like this get me scratching my hair too. Not an engineer too.

5) About the design: a lot of other low power engined designs do indeed look like gliders with long and narrow wings. They started their design from the idea to get a low as possible sinkrate. If the sinkrate is low, the engine needs not much power to keep the airplane at the same height. This point of thinking is very common. JC Debreyer began his idea at another point. He wanted to

October 29, 2001

reduce the weight at the best. Long wings are heavy wings, that is right. Choosing a high airfoil makes it possible to make a lightweight spar. According to Jack Lambie's book I think to recall that a spar with double height is 4 times stronger ... or was it stiffer. Damn memory... Can anybody correct? Well, once you have a ultra low wing loading you might not have the best possible low sinkrate (the drag of the Pelicans wing is high due to its high airfoil), but it gives you a chance to use a light engine too. I still don't understand the link between low wing loading and low power. I know about low wing loading and low speed, but I never saw this other relation explained. Anyway, JC did design his JCD03 that way and it did work.

6) Further development of the Pelican: I do think that JC Debreyer has a very good design. It is compact, not much parts, little construction costs, little flying costs. But it could use a larger engine and a larger prop (most common comment). How can one do that? Well, I don't suggest to use a front placed prop, but I suggest to use a ducted fan. Place the engine central, make a duct from the point after the spar to the end of the fuselage. Use this duct as a constructional part so it gives rigidity to the fuselage. The prop might still be small, but the efficiency of the prop is higher. The engine placed after the spar may be heavier, due to the shorter distance to the CG. A rudder might be placed in the ducts end to ensure efficiency at low speeds. But you loose in the basic design of the Pelican, because you add weight. And this might get you into a totally new design which ask you look again at the size of the wings and the wanted performance (speed, low costs in flying or shorter take off). I myself would be super happy if I simply could build a Pelican like it is. But I just wonder how it would perform when a central engine would be placed (like Mr. Mangenot suggested first at my visit to the firm).

Man, again a loong mail. Sorry, folks.

PS. There was somebody who wanted to see pictures of the Pelican. My Pelican pages in the Nest of Dragons site (see link halfway the homepage of www.nurflugel.com) has some pictures of the unfinished kit and a Pelican scale model.



ABOVE: The contact point for Pelican kits. Availability may be limited or non-existent.

From: Mike Lee

Regarding the larger engine, the engine I have in mind weighs about 70#, and this is quite a bit more than the 10Hp JC uses. However, we have to redesign the thing anyway, so just move the Pilot forward. I weigh 3x more, or less (actual less, than the difference in weight of the engines) so I move forward a little to keep the CG in the right spot, (if we know where that is supposed to be). I was real surprised no one could really look at the design and say, well it should be about at the spar, by the look of things. And yes I know what is Mean Average Cord, but not all designs seem to follow the 25-30% of MAC, and the reasons are unclear to me. I have seen a design with a constant cord wing and pusher configuration, with the pilot out in front of the Leading edge and the CG was indicated in the picture to be about under his Butt, several inches in front of the leading edge. Totally new concept to me, I have been building RC for 35yrs, and I never flew anything like that, but I have never built and flown a Pusher either.

Thank you Koen, for your response, it came at just the right time, I was ready, after trying to pin this stuff down for about 2yrs. now, to just give up and build a traditional tractor design, and be content with sitting in all that prop blast, and be less than happy.

I did blow up the drawings I have of the Pelican this weekend, with the thought in mind of building a 1/3 size RC model to work out where the CG should be through flight tests, that is if it doesn't self destruct before I figure out about where that is.

October 29, 2001

From: Koen

Hello Andy,

Sure am happy that the Pelican gotten so much attention lately. It has been a very unknown airplane the last years. I am glad to be opening doors for the Pelican. It is a too much interesting type (referring to the idea of "a plane for the man of the street" and to "budget flying") to go by unnoticed.

It is very strange that I got in contact with JC Debreyer through a mailing list about flying fleas! I think I have a good contact with JC now. Sure hope to get some pixs soon.

About your contact ... let me guess... Euh ... Hmmm... Mike Lee, isn't it. (ed. - It was really Henry Matthews hm0062000@yahoo.com, and <http://www.luft46.com/hpmpub/hpmpub.html>)

Mike contacted me too. He hopes to construct a similar design. But he is near losing hope because he gets so little info. Pity, but I don't have the info he asks. I know that the JCD03 flew relatively a lot (JC has 200 hours, a real Sunday flyer). But I have no clue about the JCD02. I will ask in my next letter to JC.

The pilots of all JCD's will be JCD himself I think. I never heard or read about other pilots. But I will ask too.

I am happy to see Mike found his way to the mailing list. Sure hopes that he will not loose hope and will continue with his will to construct a unswept flying wing.



ABOVE: Early scale model being held by an unknown individual. Note the difference in the rudders between this model and the final prototype. The model has full height vertical stabilizers with rudders versus the version seen on page 4. (Photo courtesy of Koen Van De Kerckhove)