

This is an email Renny sent me after the first incident. I think he would approve of my providing it to you, and whomever you deem officially needing to know its contents.

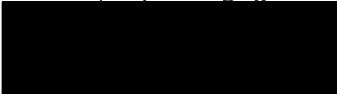
It confirms that he did not get slow and spin-stall the first time either. Whatever happened occurred above stall speed indicated plus a safety margin.

I could see his logger (ClearNav) in one of the photographs. That file is on the logger, and you might obtain it from their, assuming it is undamaged which it appeared maybe it was.

Also, in the correspondence below it appears that he sent the file to the manufacturer.

Best Regards,

Mike Abernathy
Founder, Rapid Imaging Software, Inc.



• From: Renny Rozzoni [REDACTED]
Subject: Re: Ventus 3F - CONFIDENTIAL - Update 4-2-18
Date: April 2, 2018 at 6:12:14 PM MDT
To: Michael Abernathy [REDACTED]

Mike,

Indeed two weeks is just fine.....

On the tailwheel, I am not sure of the weight....The one currently on the ship is 3.6KG or approx. 8 lbs. A non-lead one is perhaps 2 lbs? maybe? I am waiting to hear back from the factory.....

Now, the SH folks said that the loss of altitude in the recovery was probably..."normal..."

"If the glider really stalls while circling, with flap setting +2 it normally takes around 50 to 70 m to completely recover.....depending on the weight of the glider. If the stall happens in sinking air, then the altitude loss of the sinking air has to be added.."

It took Renny about 20 s to recover.....so if we assume a airmass sink of 1,5 m/s the altitude loss will add to 80 to 100 m.....

So i think the altitude loss is normal...assuming that he was flying through sinking airmass."

Sounds good on rechecking your W&B and I did see your previous comments about your Pagosa "experience." It does not hurt to doublecheck it all if nothing else for the "peace of mind..."

OK, that's it for now...I may hear from the S-H factory tomorrow, but there is probably not a lot more that I expect to hear until the ship is repaired and we complete a new W&B...

Now, if you are a b-ball fan, enjoy the big game tonight...if not, have a good evening. Thx - 3R

• On Mon, Apr 2, 2018 at 5:03 PM, Michael Abernathy [REDACTED] wrote:
Renny,

That is a good, sound plan.

I am glad to hear that the repair will only take a couple of weeks! And really early April is not prime soaring exactly. ;-)

How much difference in weight is the leaded tail wheel? That may help substantially in itself.

Any other interesting comments from the S-H folks?

I am going to recheck my own W&B, just to know my percentages exactly. There is a brass tailwheel available for the Stemme, but I am not very inclined to go that way at present. But I would like to know where in the range I am.

I will probably go out to the field soon and do 3 take-offs and landings, to become less rusty.

Best Regards,

Mike Abernathy

• On Apr 2, 2018, at 4:03 PM, Renny Rozzoni [REDACTED] wrote:

Mike,
Here's "where" we are.....

1. The outer wings should be repaired in about 2 weeks by Fidel....(It will not be cheap as the bolts for both wingtip wheels came out causing a "bit" of a hole...)
2. I am **not** going to use wing wheels with bolts anymore. I will be using those wingtip wheels made by Steve Hill, that are at **glued on**.
3. I have ordered a new **regular, "unleaded" tail wheel from Schempp-Hirth**.
4. When the wings are repaired we will do a complete W&B in its "as is" condition...We will then calculate the W&B.
5. Once we are satisfied that all is in order, we will, as a minimum, replace the "leaded" tail wheel with the "unleaded" tail wheel.
6. Other options may possibly be considered to move the CG forward from its current location (as you already know) of **12% in front of the rear limit** (it was recalculated at 413 mm behind the datum point with 430 mm as the rear limit), to **perhaps 30% - 35% forward of the rear limit** (per the very excellent article you sent me).

That's about it from here for now.....

Are we having fun yet?

Thanks - Renny

- On Mon, Apr 2, 2018 at 9:28 AM, Renny Rozzoni [REDACTED] wrote:
Mike,
Excellent comments.....and many words for the wise...

Just heard from Schempp-Hirth and more on that later....

Leaving for Moriarty right now.....

Thx - Renny

- On Mon, Apr 2, 2018 at 9:12 AM, Michael Abernathy [REDACTED] wrote:
So, based on these numbers the glider was at 12% of the range, which I think contributed significantly to your early landing. He says the optimal is 30 to 40%. So that is an easy fix. Well, it's as easy as it is to remove the weights. ;-)

I intend personally to make sure that mine is no less than 40%.

He makes another good point here. The theoretical improvement in handling is offset by the instability, which in turn becomes cockpit workload making the pilot tired sooner.

As you know my other experience is primarily in a 15M Discus, arguably one of the most forgiving airplanes in the world. Always felt like it was on rails, and hard to mess it up.

There are two settings on the Stemme "far forward CG" and "way far forward CG". It is actually hard to stall my airplane as currently configured, and with two pilots its nigh impossible. I bet mine is at 70% forward with just me in it.

But yet, I was still trained to be extremely careful about thermaling low and slow in the mountains. Garret who taught me to fly the Stemme went out of his way to explain and then demonstrate (safely) the dangers of thermaling too slow.

He points out that physics makes recovering a long-winged airplane take longer.

He also said (and I cannot explain why) that hi aspect ratio craft are way, way more vulnerable to side gusts, and side gusts are common when thermaling low in the mountains. The topographic swirls the wind in potentially wicked ways.

He took me up to 14 kft above Santa Fe baldy and spun the airplane. The result was absolutely unforgettable to me. (I probably have told you the story, sorry).

Thus educated, I set forth.

I flew to Pagosa springs there met up with my friend Al Whitesell.

We were flying in the mountains, and I got low - a few hundred feet above the rocks.

I looked down, and realized I had broken the rule - I was flying 55 in a thermal in a long winged ship while low in the mountains. <expletive>

Now the Stemme stalls at 42kts so whats the problem? Plus I have a way far forward CG! Relax? Don't dare!

While I tried to figure out how I was going to accelerate to 60 - my minimum low altitude thermaling speed - it happened.

A side gust hit the airplane, and it started to depart. Trees and rocks loomed and I began to descend.

I put in the correct control inputs, and waited (seemingly several hours) for them to take effect, which they did.

And I have not made that mistake since then.

I am glad you are moving your CG forward, I think it will be safer and even 40% will not adversely effect the performance at all.

I am very glad you felt the article was helpful.

Best Regards,

Mike Abernathy
Founder, Rapid Imaging Software, Inc.



- On Apr 2, 2018, at 8:18 AM, Renny Rozzoni  wrote:

Wow....Indeed....There you have it....and I just rolled over to the left **without any warning...**

Flight Characteristics and Safety

At aft C/G stability is minimal, especially in the roll axis, and the sailplane must be “flown” at all times to avoid air speed variations usually encountered when thermalling. Depending on experience and skill, the pilot may tire faster and his concentration can diminish, so that the theoretical advantage is greatly reduced. At the rearmost C/G the sailplane will enter a spin much easier at less than the minimum airspeed then at forward C/G, where spinning in many instances is not even possible. This can have deadly results, especially close to the ground.

Different sailplanes react differently, but the tendency is clear. Even an experienced contest pilot should be very wary of choosing the extreme rear most C/G position.

The C/G definitely influences the flight performance and efficiency.

A position in the forward half of the C/G envelope produces negative results and should be

avoided.

A good compromise is a C/G position about 30 to 40 % forward of the aftmost position.

Flying with the C/G at the rearmost position is endangering your life.

Check your C/G and do a weight/balance of your sailplane, and weigh yourself.

- On Mon, Apr 2, 2018 at 8:12 AM, Michael Abernathy [REDACTED] wrote:

Ok, that may be a little too far back, per Wilhelm.

Best Regards,

Mike Abernathy
Founder, Rapid Imaging Software, Inc.

- On Apr 2, 2018, at 8:06 AM, Renny Rozzoni [REDACTED] wrote:

Mike,

Interesting...The CG range is supposed to be between 290 mm and 430 mm aft of the datum plane. In my case the CG was calculated at 413 mm aft.

I would be interested in reading the article if you have a link...

Thx - 3R

- On Mon, Apr 2, 2018 at 7:47 AM, Michael Abernathy [REDACTED] wrote:

Good Morning Renny,

Thank you for this update.

I read a little about this and found a very interesting article by Wilhelm Dirks.

What percent forward of the aft-most position was the CG on this flight?

Best Regards,

Mike Abernathy
Founder, Rapid Imaging Software, Inc.

- On Apr 1, 2018, at 8:47 PM, Renny Rozzoni [REDACTED] wrote:

Mike,
I hope you had a Happy Easter!

I just wanted to let you now that there have been many emails flying around since Friday's exciting flight.....The factory folks are off until Tuesday so we will not hear from them tomorrow, but I am not necessarily optimistic that I expect any revelations...I have already been told that 100 folks have flown the V3 without issue, but I also know this is ONLY the second V3 w/FES built, so only a very few folks have flown it...and there are differences...(I also know that at least one of the other two V3 owners in the US had lead removed from the tail.....)

That all being said, I have recalculated the CG and there is little doubt that it needs to be moved forward. I will spare you the math, but as a minimum we are going to remove approx. 3KG of lead in the tail and redo the W&B with Steve Hill's assistance.....

On exactly "why" the ship rolled over to the left and seemingly stalled (while I had a groundspeed of perhaps 78-80 knots), we may not ever know, but if we move the CG forward I do believe that it will improve both the stalling and recovery characteristics...

So, I am looking forward to getting the ship repaired by Fidel, removing the "lead" and I and looking forward to flying it as soon as we can make these changes (including perhaps adding new wingtip wheels from Steve Hill)!

That's the latest...

Thx - 3R

Mike,
Thanks for your message...I'm fine today and just a bit tired.... ;-)
Good! Glad to hear you are doing well.

Now, I emailed Heinz (the US dealer) with the details on yesterday's incident and also the flight trace.....To cut to the chase, I do believe a gust rolled me over and then the left wing probably stalled...I also believe the rear location of CG delayed my recovery...
This makes sense.

So, the plan is to repair the outer wing, work with Steve on a W&B and then I do plan to remove some of the lead in the tail to **get the CG in the middle of the range.**
Excellent!

There is 10KG of lead in the tail and I did a calculation and to get it to the midpoint, we'll remove about 6KG.....We will see what the factory says....

That is a great idea.

OK, that's about it for now...

Have a Happy Easter!

On another topic, I got the funniest letter from Mark Mocho that I have read in a while. Mark had a challenging flight, beginning with a stiff quartering tailwind, and also had to overcome considerable rust. Long story short, he got some flying in but felt that his 6 months out of the cockpit is too long.

I intend to take this lesson to heart and get out this week on a calm day and get my rust layer reduced.

Wishing you a very Happy Easter,
Mike

Thx - Renny

- On Sat, Mar 31, 2018 at 7:48 AM, Michael Abernathy [REDACTED] wrote:

For sure!

Happy Good Friday, BTW!

My mind keeps going back our to discussing the large new vertical fin on this airplane. That must have increased the weight on the tail. Makes me wonder ...

How are you doing?

Best Regards,

Mike Abernathy
Founder, Rapid Imaging Software, Inc.
[REDACTED]

- On Mar 30, 2018, at 8:38 PM, Renny Rozzoni [REDACTED] wrote:

OK now, I essentially recovered at about 6,300 feet or about 100 ft AGL.....At 6,370 feet I was descending at a rate of 1,588 fpm....

Someone was definitely looking out for me and apparently it was not my time to make that "final glide...." ;-)

- On Mar 30, 2018, at 7:49 PM, Renny Rozzoni [REDACTED] wrote:

Mike,

First, thanks for your very kind comments.. I am having dinner shortly, but in my very preliminary review of the trace, my speed was just fine in the pattern....
That was exactly what I thought!

More info to come later....

Thank you for getting back to me. I know you were busy today but I was thinking about you.

Have a great evening!

Mike

Thx - 3R

On Fri, Mar 30, 2018 at 4:45 PM, MICHAEL ABERNATHY [REDACTED] wrote:

Congratulations on your excellent airmanship today. You kept your head and safely landed an airplane safely went dangerously squirrely on you, and it was on its maiden flight.

I have thought about this carefully. The fact that the airplane took a long time to recover given correct inputs strongly suggest some kind of CG issue or other issue.

You are the most careful pilot that I know, and you have a lot flying hours in gliders. I therefore believe that the problem today lays squarely with the aircraft, and not with anything you did.

Seriously, well done.

PS - I am curious what you learn from the logger file.

Best Regards,

Mike Abernathy