

The Frequent Flyer

The Monthly Newsletter of Caesar Creek Soaring Club

April 2002

A New Sailplane Designer Takes Flight

(Part 2)

By: Chuck Lohre

I asked about the huge library they must have of pilot reports such as the ones I read in Fred Thomas's book. "We don't have as many of those as you might think," Michael said. Racing pilots are not very good at explaining to the designers what a sailplane's characteristics are, he explained. I leaned forward and patted my butt as I related what some of the pilots at the 2000 15-meter Championships in Mifflin, PA, had told me about learning how to fly in competition: "Put a black T-shirt over your instruments and fly by the seat of your pants." Gerhard nodded in agreement. AS's driving force is meeting the market for racing ships.

Soon Michael must accept Gerhard's mantle as his career launches. "I feel a heavy responsibility being the future of Schleicher," Michael said. Many potential sailplane designers have joined the Akaflieds and have become so obsessed by the sailplanes being designed and built there that their studies suffer, but not Michael. In addition to designing components for the FS 33 and being club president for a year he

Upcoming Events

Crew Chief Meeting
April 20th at 9:30 AM

Ridge Camp
April 21st — 30th
Julian, PA

Media Day
May 4th — 5th

May Day Party
Saturday, May 4th, after flying
Spring Garden Burgers for Everyone

WMGM Ox Roast
Sunday, May 26th
The CCSC Tradition Continues

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maintained straight A academic marks. Both Martin and Gerhard were also actively involved in the design and construction of sailplanes at the Akaflieds. Gerhard's experience lead him to design the first fiberglass production model unlimited racing class sailplane, the ASW 12.

"This job is a dream come true," Michael said. For a whiz-kid sailplane designer, I was struck by Michael's statement and its underlying modesty. I asked him how he got the job. Was there a competition? Did he have to design some test component? I kept probing about "the process." He finally admitted yes to all the above and that he had come out the winner. He will lead the current airframe evolution in design by using the latest in materials, computer-aided design and computer-operated machine tools. I saw for myself new ASW 28 wing molds made completely out of material milled by a CNC (Computer Numerically Controlled) machine tool.

Michael's favorite plane is the FS 31. It's a two-seater with a 17-meter span, made with the prototype wings of the Grob Twin Astir and a fuselage shape that became the basis of the ASH 25. The fuselage employed new methods of construction with hybrid Kevlar fabrics. Michael worked on the aileron bearings for the Akaflieg Stuttgart's FS 33 in 1993. This latest project of the Akaflieg is a two-seater sailplane with a 20-meter span. Minimal weight was one of the prime objectives of the design. It has a 374 kg. (748 lb.) empty weight. Carbon fiber reinforced plastic was used for the entire structure. The craft an empennage from Schempp-Hirth Nimbus and cockpit controls from Alexander Schleicher. With a typical 10-year design and construction timeframe it's not possible for class

members to participate in a project's full length. While in school Michael interned with Schempp-Hirth for several months. It is there that he saw for the first time the assembly line techniques used for producing more than one glider in 10 years. For Michael to have worked at Schempp-Hirth is quite unique. Since the

time when young Rudolf Kaiser worked for both Schleicher and Scheibe (for some time) 40 years ago, it has never happened again that an engineer left one major glider manufacturer to work for another.

But back to the barrage of questions. I asked Michael about the design process. Who was in charge? Did the owners have much influence? What was the process? Michael said that Gerhard, Martin and owner Edgar Kremer along with Kremer's sons Uli and Peter worked very well together. It was a combined effort. The racing community or the market called for certain sailplane designs and the engineers worked together to deliver the product. He enjoyed the company's camaraderie and joked about the factory's rural location. When I drove by the factory on my way back to Frankfurt after the obligatory visit to the nearby famous Wasserkuppe slope soaring site and the soaring museum, I saw Michael leaving the AS plant on his bicycle. What an image it was to see the wonderful life he represents, a brilliant designer working at a world-class company in the German countryside, riding his bike home!

There was one moment in my visit when I experienced the Schleicher "Zeitgeist." After Martin and I had finished the factory tour we went to the engineering department where I expected to meet Michael. I shared some copies of SOARING magazine and gave draftsman Manfred Munch a CD with some photos taken of their designs in the States. Michael walked in and introduced himself. From the drafting room we went to a corner office where a scale model of a sailplane engine compartment immediately caught my eye. I asked about it, but Michael said it was top secret. We sat down and I immediately started asking Michael some background questions. There was another gentleman in the room intently concentrating on a chart and making calculations on a computer. After a salvo of introductory questions, I got down to asking about aerodynamic design problems. I was interested in the future paths of sailplane design. When I asked Michael if designers will ever achieve an elliptical lift distribution, the gentleman jumped out of his seat and exclaimed, "That is not the point. If you had an elliptical lift distribution the wing would stall all at once." Not what you want in forgiving stall characteristics. He confirmed with Michael that lift distribution optimization has reached about 94% and there is not much room for improvement in that area. I got the design problems wrong on that point. I apologized and after introducing myself asked him his name. "I'm the "W" in ASW," Gerhard Waibel said. Even though I had never met Gerhard, I was embarrassed I hadn't guessed it must be him. How secure in his accomplishments Gerhard must be to allow this young designer to soak up the limelight. Michael looked relieved as the attention shifted away from him.

I asked Gerhard if he thought sailplanes could get much lighter. "There is room for improvement," he said. "A light but strong plane will give you better thermalling capability and more flexibility for adding weight in the form of ballast." Martin Heide had told me earlier that, "Carbon fiber has gone from \$500 to \$10 per kilo in the last 10 years. I wouldn't have been able to design the tailboom on the ASH 25 without it." I mentioned that Thomas's book states that the two challenges sailplane designers face are the climbing phase and the running phase of flight. "With the airfoils AS uses today the climb problem has been solved, the next challenge is improving interthermal speeds," Gerhard replied. Years of research into micro turbulence aerodynamic effects has culminated most recently in improved climb capabilities in late afternoon convection on blue thermal days. Upon reading Michael's article "The Effect of Insect Contamination on Average Cross-Country Speed" presented at the XXVI OSTIV Congress and published in the July 2001 issue of *Technical Soaring*, I began to comprehend just how detailed each phase of flight and what a wide a range of airspeeds are studied to produce a complete picture of soaring aerodynamics. Michael's conclusion is that, besides generally higher sink rates, insect contamination changes the shape of the polar. Minimum sink speeds increase by 5-10 kts. Consequently circles are better flown more slowly than too fast (within safety limits). The average cross-country speed is most affected during poor thermal conditions and frequent thermals. Water ballast should be dropped earlier in the day.

I look forward to Michael's new designs. I'm sure no stone will be left unturned in the pursuit of improved performance. It's more complicated than it seems. These guys are refining incredibly superior ships to begin with. The difference in performance between a 45:1 and a 46:1 glide ratio is only a couple of feet per minute, yet, every precious foot of altitude is treasured by racing pilots.

Visiting Schleicher firsthand was exhilarating and I left with a renewed appreciation for the competitive spirit in all of us. It became obvious to me that sailplane innovation is a race of industrial design, but if you look behind the scene of any industry you'll no doubt discover heated competition.

Edgar Kremer might wish for Gerhard to just open his head and pour all his experience and knowledge into Michael's. As this is impossible, the young man may as well push his desk up against the older man's for the next few years. After all, it seemed to work years ago when a wunderkind named Gerhard Waibel pushed his new desk up against that of the meister Rudy Kaiser.

Attention Crew Chiefs:

There will be a mandatory crew chiefs meeting on April 20th at 9:30 AM. All crew chiefs and assistants should attend. If unable to attend, please contact Mike Karraker at 513-932-6251 or e-mail at karrakmc@aol.com.

Media Day **May 4- 5, 2002**

Rain day

May 11- 12, 2002

Purpose: To introduce the local media to the sport of soaring.

We invite local media to come for introductory sailplane rides. The flights may be video taped by another aircraft, or from the cockpit as you fly. Your ride will be in a two-passenger club ship piloted by a commercially rated club member who is volunteering their time to introduce you to the sport.

Why would we do this? Good question ! We have a very special event coming up in January 2003. We have been given the task of hosting the Soaring Society of America's annual convention in Dayton the weekend of January 23 - 25, 2003. This convention consists of static aircraft displays, exhibitor booths, and lectures on the newest innovations and various issues that effect soaring in the US. The general public is welcome to attend.

In connection to the general celebration of flight in Dayton, our convention is one of the first events to begin the 2003 Century of Flight celebration.

Any public announcements to help us get the word out to the general public would really be appreciated.

Introduction to Soaring
Flights begin at 11A.M – 4 P.M.
Hot dogs, chips, drinks, will be served all day.

Minutes of the CCSC Board Meeting March 2, 2002

Location: Clubhouse at Caesar Creek Soaring Club

Present: Jim Miceli, Jim Lowe, Mike Karraker, John Murray, Dick Eckels, Greg Crook, Bill Parr, Don Burns.

Absent: Jim Price.

Guests: Pat DeNaples, Joe Jackson, Larry Kirkbride, Bill Maxwell, Rob Cluxton, Dick Holzwarth, Dana Colvin, Aaron Sorrell, John Lubon, Henry Meyerrose, Rolf Hegele, Rich Carraway, Jeff Chiles.

The meeting was called to order at 9:37 AM

The minutes of the previous meeting were read and approved.

Jim Lowe reported we had about 3000 tows spread over 12 months. The SSD lease payment will be paid this month. A tow fee increase of 10 cents per 100 feet was proposed to help meet our expenses.

There was a discussion about how to ascertain, at the flight line, whether a member is current in their dues payments. At present, the honor system is used.

Greg Crook reported that the Kings Island Conference Center annual banquet costs were a bargain compared to the other available facilities in the area. There was a long discussion about the Coke machine stocking and expired products problem. It appears the main problem is that we do not purchase as much Coke products as the company prefers. It may be more cost effective for us to own our own machine, and purchase products from local retailers, than to lease a machine with a minimum stocking requirement.

John Murray reported that a more powerful tractor is needed to tow a gang mower. SSD and CCSC agreed to have a joint board meeting to discuss the tractor issue. The annual clean up day is April 6th with April 7th the rain day.

Mike Karraker reported about floating crew problems. Floating crew members need to notify the crew chief when they are unable to make their crews. Crew chiefs need to make sure all tow pilots are current before towing.

Meeting adjourned 12:35 PM. Submitted by Don Burns, CCSC secretary

Minutes of SSD Board Meeting March 16, 2002

Location: Clubhouse, 5285 Elbon Road, Waynesville

Present: Joe Jackson (Coordinator with CCSC), John Lubon (President), William Maxwell, Robert Root, Dieter Schmidt (Secretary). **Absent:** Pat DeNapels (Treasurer), Robert Gaertner, Charles Lohre (Assistant Treasurer), Norbert Maurer.

The meeting was called to order at 10:50. The minutes from the last SSD Board meeting on February 16, 2002 were approved with the remark that the repair of the wooden deck at the clubhouse is a maintenance item and the cost should be born by CCSC. A treasurer's report was not available.

Old Business: The person buying the 200 acres south of the airport has indicated that it is under consideration to build aircraft hangars there if access to our runway would be possible. A discussion ensued if it is feasible to build such an access and if the granting of access would change the nature of the CCSC airport significantly.

Brian Stoops reported that he has not finalized the plans for the construction of the third trailer hangar. His concern is the increased cost of the hangar caused by 1) inflation, 2) larger bays and 3) only a small number of bays. He was wondering if the length of the lease could be extended to make the purchase of a bay in the new hangar more attractive. The pros and cons of his request were discussed but not voted upon.

The need for better grass cutting equipment was discussed again. Without any specific data on the initial cost and

on the maintenance cost of such equipment no action was taken except to study the grass cutting needs further.

New Business: The lease with CCSC includes a stipulation that CCSC has to enforce the requirement that *all private aircraft flying off the field carry adequate liability insurance*. Joe Jackson will remind CCSC that it is time to check again that this requirement is met.

The annual shareholders meeting of SSD will be held Tuesday, April 9th, at 7p.m. Dick Holzwarth, David Menchen and the three incumbents, Norbert Maurer, Bill Maxwell and Robert Root are running for the three positions on the SSD Board.

The April meeting of the SSD board will be at 6:00 p.m., before the stockholder's meeting and again after that meeting for the purpose of electing the officers.

Meeting adjourned at 12:10. Respectfully submitted by Dieter Schmidt, Secretary SSD.

Marvin Frost 1910-2002

Marv Frost died last month in Seattle WA, where he had been living with his daughter, Nancy, the past several years. He was 91 years old, one of the oldest members of CCSC and SSD, and, as one of the founders of the Soaring Society of Dayton in 1948, he was the longest continuous member of our club. His support and council were instrumental in the forming of CCSC and in the development of our glider port.

Marv was a CFGI and helped train many of us to fly and/or transition from power to soaring flight. He was a skilled craftsman, building and restoring several gliders. One of his projects, a restored 1936 Huetter I-17, was donated to the National Soaring Museum in Elmira, where it is now on display. Marv began his soaring 55 years ago, about a year before the founding of SSD. He earned his Silver C Badge #123 in 1954; his Gold C Badge #41 in 1966; his Diamonds Goal in 1954 and Diamond Altitude in 1966. When one considers that in the USA we are currently awarding Gold badges in the 2350's and Silver in the 6290's, Marv, in his quiet way, was a pioneer in our sport. Incidentally, his diamond altitude flight, over Pike's Peak, to 30,900 feet, was flown in a Schweizer 1-26.

In 1998, Marv was made the first Honorary Life member of CCSC/SSD.

Marv's daughter Nancy writes:

"The final plans for his funeral are now set on April 22 at St. Albert the Great Catholic Church in Kettering, Ohio. It is located on the corner of Far Hills and Dorothy Lane. The Mass starts at noon and we will have a small gathering before the Mass in the Church Gathering Room. Also we will have a luncheon at the Church after we return from the burial at David's Cemetery, which is quite close to the church. Hope all of you, who can, will join us."



Come join Bob Root and Pat De Naples on their 28th annual Spring Ridge Soaring Camp at Tom Knauff's and Doris Grove's Ridge Soaring Gliderport in Julian, PA. In 1975, Bob, Pat and John Bennet mined three diamonds, a Silver Badge, and three Gold Badges in two days in the same 1-26 in those fabulous hills of Pennsylvania. There's lots more treasures yet in those hills waiting for you, too.

We plan to leave on April 21st for a ten-day camp. To date the following will also be there: Mel Williams, Jim Hurst, Bill Maxwell, Max Marshall, Jim Price and Rolf Hegele.

If you're interested, contact Pat or Bob for more info. Bring your own pick, shovel and pan.

Region 6 South Contest August 25-30, 2002

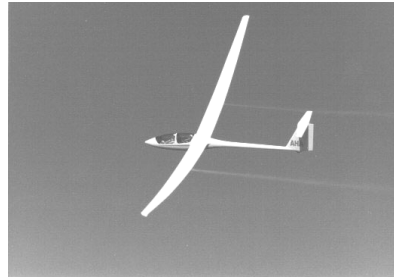
Chuck Lohre - Contest Manager.
Jim Price - Competition Director.

Volunteers Needed!!!

Please contact:
Chuck Lohre
3015 Beaver Ave.
Cincinnati, OH 45213
513-731-3429 or chuck@luhre.com

Classifieds

For Sale: One-fifth share of Big Wings, ASH-25E, including Cobra trailer, competition instruments, new winglets and 55-1 L/D. Contact Greg Crook at 513-494-1350 or email gregcrook@att.net.



For Sale:
16.6 meter tips for ASW20L, \$475
Contact Paul Gunn at 248-444-7089 or pgunn@mail.cbf.com

Camp Site People: Trailers Wanted!!!

Do you have a trailer you would be willing to rent for a week in July? The Women Soaring Pilots are coming to CCSC during the week of July 8-12. Some of the women would like to enjoy a week totally immersed in soaring by renting a trailer at CCSC. Would you be willing to share your trailer?

The women will pay \$100 for the use of your trailer beginning 3:00 p.m. on Sunday, July 7 and ending at 3:00 p.m. on Friday, July 12. This arrangement helps both you and the club. Fifty dollars will go to you, which covers the cost of your trailer for two months. Not bad for giving it up for one week! The remainder of the money will go to the club to cover the extra showers, electricity, etc. incurred by the seminar. This was a win-win situation at the last seminar, and we think it can be again.

If you are willing to rent your trailer, please let me know. The lucky woman who rents your trailer will thank you. (More importantly, she will pay you for it.) Contact me at sorrell@erinet.com or 937-855-7135 if you are willing to participate. Thanks. Janet Sorrell

Recap of Towpilot's Meeting March 23rd

For those of you who missed the Towpilot's meeting on March 23rd here are a few brief, but important, excerpts from the meeting:

- 1) A reminder to all of us of the currency requirements for towing from FAR 61.69. In brief, it basically states that (a) you have to make 3 flights as PIC of a glider OR (b) three tows while accompanied by a pilot who has complied with (a) above. Since we are not currently approved to put two pilots in a Pawnee that basically means all of us need to comply with (a).
- 2) John Antrim's operational/maintenance notes included reminders on correct control position for taxiing including use of the trim crank to the aft position. Please idle at or above 1000 RPM when on the ground to minimize camshaft wear. Be conservative with fuel and avoid using 909 to tow the ASH or DUO, especially when density altitude is above field elevation. Also, be aware that slightly lower RPM's during takeoff may be attributed to high angles of attack (propeller disc loading) and to lower your pitch attitude accordingly. See John Antrim for further diatribe on these issues. A BIG, BIG, BIG, Thank you to John for all the hard work on keeping up on towplane maintenance.
- 3) Some revisions to the UOP's regarding checkout procedures were discussed and were decided against. UOP revision to reflect FAR numbering changes will go ahead.
- 4) A reminder that "downwind" landings are to be considered standard to minimize wear and tear on the towplanes and ropes, and to improve operational efficiency. Frequently, the wind shifts during the day due to the Little Miami River valley's influence and what started out as a normal into the wind glider launch ends up being slightly downwind or crosswind anyway. As always however, safety is first. If you feel uncomfortable landing downwind on a high wind day, don't do it.
- 5) Vary arrival and departure patterns to avoid flying over the same area in rapid succession.
- 6) Volunteers are needed for the week of the Women's Soaring seminar the first full week of July and for the Region 6 South contest the last week of August. Contact me for further information.
- 7) Beverages, brats and burgers were consumed and a good time was had by all, up until the neck of the keg ruptured and spewed forth it's content's onto the clubhouse floor. Another big thanks to the grill and mop operators that night: Barb and Bill Gabbard, George Greene, and Fred Hawk and his new fiancée Rochelle.

Rob Cluxton
Chief Towpilot
rcluxton@cinci.rr.com
513-233-0116

Spring is here again and everyone should prepare themselves for the upcoming flying season. Please review the Club UOP's. Please note that aerobatic maneuvers, including wingovers, are not permitted in club ships. Please note when your BFR is due. It is the pilot's responsibility to ensure they schedule their BFR in advance, and not expect to utilize an instructor who is scheduled for crew duty on that day.

Currency is also an item that each individual is responsible for. The crew chief will have a list of individuals who are not current according to CCSC policies and if your name is on that list, you will need a field check from an instructor before you can fly solo. Please help the crew chiefs out on this.

Also remember that CCSC has a designated parking area for cars. Please utilize it and do not park down by the flight line. Please also note there is no parking on the staging area. The only vehicle that should be out there is the one that towed the trailer out for that days flying.

Everyone in the club needs to help out and be on crew. Please do your part and sign up for a crew today. Mike Karraker

Here are the Most Valuable People in the Club

Crew Schedule

Date	Crew Chief	Tow Pilots	Instructors	Ground Crew
1st Sat & 11/30	J. Chiles A. Sorrell	J. Armor D. Colvin	R. Hennig W. Miley C. De Berry	J. Beaupre, T. Bresser, G. Daugherty, J. Lowe, P. Nord, Dave Edwards
1st Sun & 12/29	M. Karraker R. Carraway	M. Maurer N. Maurer D. Schmidt	A. Swanson J. Sorrell	W. Van Beukelen, W. Schmid, B. Towne, J. Pruden, D. Rawson, Lynch
2nd Sat & 8/31	R. Root D. Staarmann	J. Antrim R. Anderson	J. Price J. Hurst M. Williams	J. Biernacki, B. Connolly, W. Detert, S. Trefzger, J. Benner, C. Sheets, R. Lorenz
2nd Sun & 9/29	D. Menchen J. Muth	L. Kirkbride F. Hawk T. Holloran	G. Wade T. Rudolf	R. Anderson, M. & L. McKosky, K. Menchen, P. Pedersen, J. Palfery, M. Debeque
3rd Sat & 6/29	R. Griffiths B. Gaerttner	D. Dreager T. Murphy R. Hegele		B. Boesel, R. Weaver, D. Klenbanow, D. Rivers, E. Lopez, H. Huester
3rd Sun & 6/30	J. Morari B. Paar	G. Owen B. Oagley	R. Eckels* J. Walasek	J. Homan, K. Sorrell, A. Colvin, T. Huester, J. Koons, M. Keller, K. Robertson
4th Sat & 3/30	J. Miceli J. Murray	T. Bales G. Byars S. Day	J. Jackson**	T. Spillane, C. Lohre, H. Meyerrose, E. Saladin, B. Stoops
4th Sun & 3/31	R. Holzwarth M. Statt	F. Paynter A. Widner R. Scheper	G. Penner	D. Burns, D. Carr, R. Cedar, G. Crook, W. Gabbard, J. & P. Lubon, D. Hoskins, G. Stengel
Floating Crew		T. Buker R. Cluxton R. Garrison E. Gieselman J. Goebel G. McDowell E. Rutherford D. Taschuk G. Tyler	T. Buker R. Cluxton R. Garrison J. Goebel G. McDowell E. Rutherford G. Tyler	

*Designated Examiner **Chief Instructor

If you are not assigned to a crew and would like to be, contact Mike Karraker at 513-932-6251

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