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Photo Front Cover:

"I christen thee 'Winged Victory'." With these words Ms. Jane Ball, leading starlet of the picture of the same name, christens the Laister-Kauffmann TG-4A (Yankee Doodle Two). Selected to assist her in the opening ceremonies at the Fox Theater in St. Louis, January 9, 1945, were Jack Laister, John R. Kauffmann, and AAF heroes who had recently returned from foreign campaigns. The glider is a two-place trainer, many of which were used by the Army Air Forces for the glider training programs.

Restoring The Franklin PS-2; or It Seemed Like A Good Idea At The Time

By Jack Wyman

"It turned out better than we thought," he said. Visitors and friends smiled with that, "Oh-You're-Just-Being-Modest-Look," but Jack Wyman said that it was not false modesty. "It's not. The truth is this is our first restoration ever." He described how they did it and used a big-screen PowerPoint presentation to illustrate.

The Franklin PS-2 was the number one factory-built American glider of the 1930s. A total of 57 were built at the Franklin Glider Corporation in Ypsilanti, MI between 1930 and 1934. PS-2s won National Soaring Championships in Elmira in 1930, 1931, 1933 and 1934. Michiganders Joe Feather, Chuck Franklin and Jack and Dody Wyman, finished restoring the historic G451Y only hours before the opening ceremonies at the 1995 International Vintage Sailplane Meet. Jack made special mention of Brian Van Wagnen, whose guidance and help proved invaluable. Lach Ohman and others were extremely helpful, he said. "The three guys barely got through the project without fisticuffs and yet miraculously, we remain good friends." Their meticulously re-crafted green and ivory PS-2 won the Best Restoration Award as well as the Frank Gross Restoration Award at the 1995 meet. Since then it was flown or shown at several Michigan glider clubs as well as vintage meets in Lawrenceville, IL, Waynesboro, VA, and back on Harris Hill for the 2000 and 2005 IVSMs.

"We finally decided to donate it to the National Soaring Museum before one of us crunched it," Wyman said. "By the way, it's easy to fly, a real kick in the pants."

PS-2 Specifications

Wingspan - 36 ft.
Wing chord - 5 ft.
Wing area - 180 sq. ft.
Length - 22 ft.
Empty weight - 220 lbs.

(Note: "These were factory specs. G451Y weights 320 lbs. Did we put on 100 lbs of paint? Who knows.")

Gross weight - 400 lbs.
Wing loading - 2.2 lbs per square ft.
Minimum sink rate - 2.5 ft. per sec.
Maximum glide angle - 15 to 1

(Wyman-"I don't believe it. I would guess more like 10 to 1. If you are landing into a 10 or 15-mile headwind, it's like a magic carpet. Everything is quiet and smooth and suddenly you're stopped.")

Original price - \$675, Trailer \$78 (1930)

Pioneer airman and Soaring Hall of Famer (1955) Lewin B. Barringer said, "The Franklin PS-2 was the best known and most popular glider in America. I have yet to see its equal anywhere." (1937)

Wyman related the story of the ship's development. Roswell E. Franklin was an engineering professor at the University of Michigan in the 20s and 30s. In 1930 he designed a primary glider in response to the early primaries. He expanded the basic layout and started production. The Texaco Eaglet, a modified PS-2, was the glider in which famous barnstormer and racer Frank Hawks was aero-towed across the United States. Even though 1930 was at the nadir of the Great Depression, the Franklin Glider Corporation produced 57 PS-2s before production ended 4 years

later. The factory building in Ypsilanti, still standing, now houses a school bus maintenance facility.

Wyman said that when R.E.'s 11 year-old son Chuck was young, he used to hang around soaring contests to be with his dad. One day he was sitting in a glider and his dad thought he would give young Chuck a quick demonstration of what it was like to be towed behind a car. Laughing, Wyman said, "So he's going down the runway, as Chuck tells the story, and he pulled back on the stick, and he's flying! And he's been flying ever since."

Wyman met Chuck Franklin in the early 60s and they talked about soaring. Chuck gave him a glider ride. Wyman reflected, "At that time I had a crummy job and no money. About 15 years later I went for another ride with Chuck. At that time I had a little money, so I joined a soaring club." He met Dody at the same club, a little grass strip west of Ann Arbor. Hanging on the back wall of the club's hangar was an old wing that was more of a curiosity than anything of current use. He and Dody bought a K-6 and flew it at Elmira during the 1980 Standard Class Nationals. "We met NSM Director Peter Smith's father, Stan Smith, here and saw the National Soaring Museum."

Wyman's running commentary included shots of G451Y during its glory days, other PS-2s, and the G451Y restoration crew working on various stages of assembly. He laughed as he came to one photo from the 1930s of a motorized Franklin with a snap-on motor attached to the PS-2's removable cowl-

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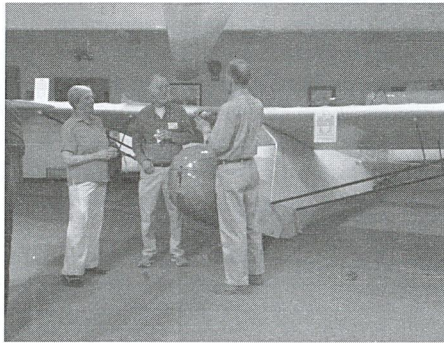
"Try to visualize this," he said. "You start this thing up, and the cowling takes off, with the glider still sitting there!"

In 1982 Joe Feather and Jack Wyman decided to work on the old glider wing at the back of that airport hangar wall. The wings, as well as other barely recognizable components, were from a Franklin PS-2. They talked to Chuck Franklin who okayed the idea. Chuck's house was built by R.E. Franklin in the 30s, and had PS-2 fixtures and pieces that he wanted to get rid of, lying around the basement. "We basically spent 13 years building this thing." With stops and starts it got to be late '94 before they agreed the time was now or never. Work started in earnest, and the neophyte restorers were determined to finish the job in time for the '95 IVSM. As the deadline drew closer, they worked harder and harder. "That last month was a killer," Wyman winced. They made ribs from the original pattern. Their first worktable was a large piece of plywood over two sawhorses. "At this stage that's all we had," he said.

One of the interesting things about Franklin ribs was that no gussets were used, as in typical gliders of that time. (Gussets are small triangular pieces of wood inserted into structural members at a joint for reinforcement.) The PS-2 used strips wide enough to be their own gussets. Another photo showed a steel plate with a lot of pins that went through, so you could build either left-handed or right-handed ribs, depending on the position of the pins. "A lot of this stuff I can't remember because we were working so fast. Lots of assemblies and reassemblies," Wyman said. The restorers also tried to duplicate the original wire fittings, where solid wire was used, instead of cable. They wrapped it in a loop, slid flattened coil springs up to capture the loop of wire, then soldered it. He said that they probably wasted a couple of weeks trying to duplicate the

project finally went forward using modern cables and fittings. "We figured that it was quite important that the wings don't fall apart," he quipped.

Joe Feather had a steam box that was used in the next step, forming and splicing the plywood for the wings' leading edges. A block of balsa was used for the transition from the relatively thick leading edge to the thinner wing tip. Wyman said that his college degree was in Fine Arts, but the only time he could recall its use was "in shaping that balsa wood". Wyman explained that the wings' compression ribs were designed to take the stress from the criss-crossed wires that were trying to pull back the front



Jack and Dody Wyman with Karl Striedieck and their beautifully restored Franklin PS-2.

and back spars together, and to keep the wing rigid. The wing tip skids were made from photos and guesswork. Some of the early tip skids on PS-2s were spring-loaded, but the G451Y group opted for fixed springless ones. They used old wing struts that Chuck sandblasted, "again, figuring that it's important that the wings don't fall off."

To get the proper wing washout (the angle or twist at the wingtip to the mean chord of the airfoil) Wyman went off in the woods with binoculars, and looked back for some distance away at the newly assembled wings fitted to the fuselage. He lined them up and could tell quite accurately from that vantage point what the washout angle should be. With Joe Feather manning the wings, Wyman would yell at Joe who would tweak the

precise angle. "It seemed to work because it was perfect when the tweekers finally flew it." They had 30 days to IVSM and the ship wasn't even covered or painted.

A friend of theirs, Brian Van Wagnen, an American Airlines captain and expert aircraft restorer, offered to let them come over to his shop for final assembly. As this was to be their first experience with fabric, he coached them in the technique of covering.

Wyman said that they made surprisingly few mistakes through the last six months. They had heat-shrunk the wing covering tight and were ready to start rib stitching when they noticed that several of the ribs were misaligned. Quite a few had warped from the cover tightening and the fabric had stuck to the ribs. Brian Van Wagnen had the answer with a "special tool" he designed, otherwise known as "the plumber's friend." He took the device and violently smashed down on the adjacent fabric, pulling it up, separating the material from the rib - without damage! "I couldn't believe he didn't break the ribs," Wyman exclaimed. "We got all the fabric unstuck, kinda nudged the ribs into position, then stitched them in place. Disaster averted." With the Franklin's five-foot wing chord, it took a 30 foot length of thread to stitch each rib. Stitching was sometimes done using a curved needle in difficult places to sew. Brian coached and lectured them for about five minutes each morning and monitored their progress. Then Jack, Dody, Joe, Chuck and whoever else fell under the spell of the project worked for the rest of the day. Two weeks to go.

Brian immediately saw how helpless they were at spray painting and, once again, totally saved the project. Even though Brian had a breathing device for fresh air, Joe and Jack did not, and were breathing fumes. At one point the shop interior became so foggy that they were afraid to turn on the lights for fear that a

spark would start a fire. Wyman said, "I distinctly remember, I was so exhausted, I didn't care." Sometimes, Brian moved outside to what he called "the world's largest paint room." How would they know when it was too humid to paint outdoors? Brian as usual, had an innovative answer. There was a stand of pine trees about 500 ft away, if he could see the pine trees clearly, it was OK for painting. If the trees looked misty, it was not.

They did not have enough time to replicate the complete color scheme of the early PS-2s, but did decide to do the contrasting color on the nose. To mark out a fair curve on the very irregular fuselage surface, they came up with the idea of using an old band saw blade to get a graceful curve. There was about a three-inch gap between the curved

blade and the fabric. Joe Feather stood back with binoculars and told Jack where to pencil dot the fabric. Wyman penciled probably hundreds of dots following the band saw curve. They followed the markings with masking tape and ended up with a bright green and ivory combination that was used on a lot of the old Franklins. All agreed that it

Discussing the cockpit, Wyman said that one of the features that R.E. employed to prevent confusion was the use of a bar for the brake and a ring for the release. Another advancement was the use of pedals for the rudder control instead of the wooden bar used in primary gliders. Many of the early gliders did not have instruments at all, but G451Y had to have the basics to conform to FAR regulations. Chuck found some, including a 10,000 ft. altimeter that they hoped

to use as a variometer, but with a scale like that, reading would be difficult.

They moved to trial assemblies. Lach Ohman, who used to work for Dick Schreder in Bryan, Ohio, made the gap cover for the wings. Chuck's sister Joan, who actually did some work on the early Franklins, sent the guys green and ivory T-shirts long distance from California. "She helped us stay on track," they all agreed.

"And G451Y took first place. Unbelievable!" Wyman said. He added, "Without Brian's instruction, facilities, painting (and humor) there was absolutely no way we could have finished the Franklin in time for IVSM '95, and maybe not even IVSM '00, or even IVSM '05. As Brian told us many times, 'You guys owe me BIG time'."

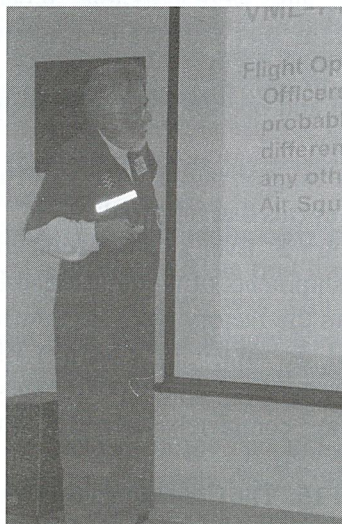
He closed saying, "Boy do we ever."

The 18-Month Life of Marine Glider Group 71 January 1942-June 1943

By Dr. Norbert Wethington

Dr. Norb Wethington of Fremont, OH, an Oberlin Affiliate Scholar, has followed the Navy/Marine military use of gliders from its inception in January 1941. At that time a junior planner wrote a report on the experiences of the British with the construction and deployment of military gliders. Wethington's report on Marine Glider Group 71 illustrates the Marine Corps Division of Aviation's response.

Four weeks after the stunning success of the German glider and paratroop invasion of Crete in May 1941, Commander Ralph Barnaby and his team at the Naval Aviation Modification Unit (NAMU) rapidly advanced their glider planning. The initial glider proposal of the Marine Corps Division of Aviation of September 18, 1941, called for "one hundred 12-man transport gliders, 50



Dr. Wethington

training gliders, 150 pilots and 500 enlisted men."

In October 1941, the Navy purchased 13 Schweizer TG-2 two-place gliders, then in production for the Army, and re-classified them as LNS-1's. At

about the same time, the Pratt Read Company of Deep River, Connecticut, a pre-war piano manufacturer, obtained a contract to build a prototype two-place training glider. Dr. Wethington said that the hand-crafted LNE-1 prototype was designed by some Sikorsky people and built from scratch on the Pratt Read shop floor. As soon as the weather broke on March 7, 1942, the prototype LNE-1, Bu. #31505 was taken to the New Haven, CT airport, assembled, and tested by Robert Stanley, an experienced glider builder and pilot.

Three months earlier the Navy had officially created a glider detachment made up of 14 officers and 56 enlisted men. Concurrently, construction was approved for facilities at Edenton, NC, Eagle Mountain Lake, TX, and Stillwater, OK. In April 1942 the Navy officially

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upgraded the unit to Marine Glider Group 71 (MLG-71). The unit consisted of a Headquarters Squadron, a Service Squadron and Marine Glider Squadron 711 (VML-711). It was initially based at the Page Field Marine Corps Air Station in Parris Island, SC. Aircraft allocation included 10 of the 13 Schweizer LNS-1's. Page Field was the first temporary home of MLG-71 because a planned anti-submarine helium-filled airship group was not ready to occupy the facility.

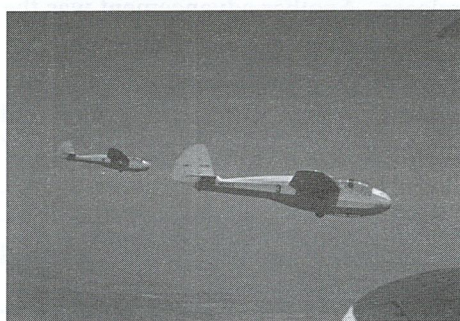
Lt. Col. Vernon M. Guyman was the founding commander of MLG-71.⁽¹⁾ Both winches and tow planes were used to get the gliders airborne. The winches were powered by surplus automotive engines. The tow planes were the famous "yellow perils," the Naval Aircraft Factory 1936, N3N's.⁽²⁾

MLG-71 was relocated to MCAS Eagle Mountain Lake, TX, in November 1942. The new location had many advantages over Page Field. The inland lake was large and calmer than the Atlantic. Its shoreline was a gradual slope, perfect for the amphibious gliders the Marines were expected to fly in combat conditions.

Marine planners kept incrementally increasing the intended size of the program. To be completed in 1944, the proposal included three regiments of glider-borne infantry (one to each of the three Marine divisions) made up of 10,000 men (including 2,410 glider pilots and 1,023 co-pilots), 1,080 troop-carrying gliders, 500 cargo and 180 training gliders, along with 440 spares. Glider Infantry Base, MCAS Eagle Mountain was to be in full operation by January 15, 1943, with Edenton, NC one month later.

Dr. Wethington said that as the preparations for Eagle Mountain Lake and Edenton were moving forward, back in Washington planners were having second thoughts as to whether troop-carrying gliders could work in the island-hop-

ping campaigns slated for the Pacific Theatre. He also mentioned that both Army, Air Force and Navy/Marine instructors did not like using civilian soaring-type trainers. These trainers did not have the same flight characteristics as the much larger and more ungainly troop-carrying cargo gliders. Additionally, "while there was an abundance of training gliders, the various contracts for the troop-carrying models for the Marines were in shambles," he said.



Schweizer LNS-1 Marine training gliders of Marine Group 71 being towed from Paige Field, Parris Island, SC, May 1942. This unit also used Pratt-Read LNE-1 training gliders

The invasion of Guadalcanal in October 1942 proved that water-borne Marine assaults were workable. It became apparent that sufficient numbers of troop-carrying gliders could not be completed and operational soon enough to be effective.

Wethington outlined the sequence of 1943 events that followed:

January 5: Even as production continued, shipments of the Pratt Read LNE-1 from the factory were suspended.

April 5: With production of the Schweizer LNS-1 previously cancelled, the Navy completely stopped production of the LNE-1.

April 15: The Commandant of the Marine Corps, Maj. Gen. Thomas Holcomb, recommended that the glider program "be liquidated."

May 18: Secretary of the Navy William F. "Frank" Knox approved.

June 24: MLG-71 was officially deactivated. All combat personnel were

transferred to MCAS Cherry Point for reassignment.

August 4: All existing combat unit gliders were shifted to the Army Air Corps.

"Glider were part of the combat doctrine of the Marine Corps for the sum total of 34 months. MGL-71 existed for eighteen," Dr. Wethington said.

The shut-down of the four Navy/Marine amphibious glider transport production lines added another dimension to an already complicated situation. "Under loud protests the troop transport glider assembly lines at two manufacturers, Sneed Aircraft and G & A Aviation,⁽³⁾ were shut down immediately. They had not yet even started on their contractual obligations." Allied Aircraft was one of the two firms that had already started production and completed a flying version when the program terminated; the other was Bristol Aircraft's XLRQ-1.⁽⁴⁾

In 1943 Col. Guyman recommended that because of their limited usefulness, all the civilian "soaring" training gliders be considered surplus. These "soaring" trainers were sent to Sother Field in Americus, GA and processed for sale.

Fast forward to 2008. Dr. Wethington updated and identified the locations of some of the surviving Navy trainers. "Three of the active-duty Marine Corps Schweizer LNS-1's are now on display in aviation museums: Wings of Eagles Discovery Center, Elmira-Corning Regional Airport; Air Zoo in Kalamazoo, MI; and the National Museum of Naval Aviation in Pensacola, FL. Although several Schweizer TG-2's are still airworthy, it is doubtful whether any of those have Navy ancestries," he said.

Jan Scott has restored two Pratt Read LNE-1's. One in airworthy condition is at Scott Airpark near Lovettsville, VA. The other is the National Soaring Museum's, on loan to the New England Air Museum, Bradley International Airport, CT. Other LNE-1's are on display

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at Wings of Eagles Discovery Center, Elmira-Corning Regional Airport; Hoosier Warbirds Museum, Dekalb Regional Airport, Auburn, IN; Bonanzaville Aviation Museum in Fargo, ND; and the Aviation Museum of Kentucky, Bluegrass Municipal Airport in Lexington, KY.

Summarizing, Dr. Wethington said, "The Navy/Marine Corps glider program was the source of military doctrinal controversy from its very beginning!" While Captain Barnaby's dedication to soaring got it started, there was a succession of serious training, production and strategy missteps.⁽⁵⁾ These led to the conclusion that Marine assaults planned for the Pa-

cific Theatre were geographically unsuited for glider-borne operations.

He closed in saying, "The entire program from start to finish lasted 34 months. Both the LNE-1 and the LNS-1, however, had a major impact on the history of soaring in the United States."

⁽¹⁾ After World War I soldiering in France, Guyman became a marine aviator in 1926. He went on to win the Navy Cross for a rescue of wounded in the Nicaraguan campaign and retired in 1949 as a Brigadier General.

⁽²⁾ During WWII and beyond, the vast majority of Navy and Marine Pilots were trained on the Naval Aircraft N3N.

⁽³⁾ G&A Aviation was the successor to the well-known Pitcairn Aircraft, famous for the 1932, PCA-3 fixed wing, and the 1936, PA-36 wingless autogyros.

⁽⁴⁾ Both were considered test oddities and were kept by the Navy well after the war. Only two Allied XLRA-1 troop-carrying gliders were made. The Air Cadet Museum in Arkansas is restoring the XLRA-1 for display.

⁽⁵⁾ "The manufacturing contracts for the Marine Corps" dedicated amphibious troop-carrying gliders were disasters from the start, Dr. Wethington said.

A Conversation With George Lauman

NSM trustees Lisa Setz and Bertha Ryan talked with George Lauman of Ithaca and Sedona, AZ, about national gliding contests in Elmira during the 1930s.

"On the Rhodes farm; what a wonderful group that was," nonagenarian Lauman said. The farm was the site of one of the contest launching sites adjacent to what is now Harris Hill. "They put out a wonderful meal. Such a line to eat; you had to wait for a place at the table, and they would serve you. You could always find a friend to talk to at breakfast or lunch."

Lauman said that they started on South Mountain (overlooking the Chemung Valley). "I don't know how they found the other sites. In a couple of years they had five or six. That was to catch the surface winds as they came from different directions. 'Course it doesn't matter today where the ridge is." He said that an airplane tows you off into the wind.

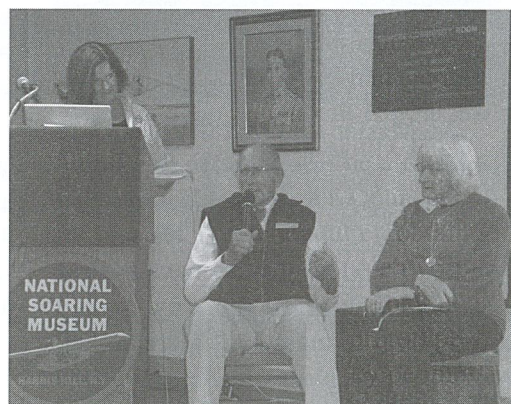
Gliding got started gliding off slopes, "but it's not soaring, it's just gliding. That's what I got started in -- gliding." He said that he couldn't talk much about soaring, because he's never done any

soaring, and wouldn't want to get any further than a Silver "C".

He remarked that a 16-year-old kid who gets interested in something like flight doesn't care what happens, he just wants to be a part of it. "I still have a tremendous interest in it, but I can't do a lot of things, just recall the memories."

When asked about the early contests, Lauman said "The first time I had a chance to crew was with the Detroit ABC Club's Johnny Novak for a day or two." Then he was also with Art Schultz.

He recalled in the late 1930s Udo Fischer had a Franklin PS-2. "He was of German descent and wanted a better ship than the PS-2 that he had. So he got a (Göppingen-1) Wolf, the second or third imported from Germany, and sold his PS-2." Lauman was crew chief for Fischer during the next couple of contests. "I was there when he flew the Wolf out over the Valley doing aerobat-



Lisa Setz (left), George Lauman and Bertha Ryan

ics, and the wing broke off! He was high enough over the Valley so he could bail out, but he always had difficulty getting in or out. I saw the chute open out of the side of the ship, and there he was on the end of the lines, and he made it down safely." He didn't know what happened to the ship, "maybe somebody else remembers."

When asked about the difference in those 1932 thru 1938 contests and the

present, he said that was a big question. "Now you go to a contest and 'ZOOM', they're gone. You have to wait around 'til they're back. It's not the fun that it was in those years." Regarding the transition to thermal soaring, he said that af-

ter the gliders were launched in those days, we wondered where they all went. They didn't land at the foot of the hill, they disappeared! It was a wonderful feeling that they could get away from the ridge and go somewhere."

Looking at Bertha and Lisa, then to the audience, he closed saying "Thank you very much for listening to an old man who loves gliding."

Ridge Soaring and Some Memorable Flights

By L.Roy McMaster

Roy McMaster "powerpointed" the audience with him as he and the rest of Karl Striedieck's Eagle Squadron scorched, skimmed, thermalled, and sweated down the beautiful, sometimes treacherous and always surprising Appalachian ridges.

McMaster said that the place from which he was privileged to fly all these years was Karl Striedieck's Eagle Field (near State College, PA). He said that the folded ridges that we have in Pennsylvania extend all the way down to Knoxville, Tennessee. "There are only two or three places in the world with similar ridge structures."

The northeast end of the ridge is east-west and curves as you go down, then goes like a lazy letter "s," which means that you have to-the-right wind systems working all the way. A northern flow is needed on the northeast and south ends. In the middle a southwest flow is needed. "It's kind of hard to get that all coming together, making the whole thing work," McMaster said.

McMaster was invited to Eagle Field for his first ridge flight with Striedieck in October 1974. In the 34-year period

since, McMaster has logged about 55 long ridge flights "worth recording," for a total of 271 hours and a distance of 14,400 miles. Some quick mathematically-oriented viewers murmured, "Phew, more than half way around the world."

All launches down there with Karl are pulley-tow. One end of the line is attached to a stake and extended through a pulley attached to the car. The other end (with a small parachute to prevent tangling) is attached to the sailplane release. "It's a quite exciting 34 to 54 seconds. You don't need a wing runner, a holder will do. The acceleration is so rapid....8 to 80 mph or so." Whoosh, and you're high enough to make a right turn over the trees, into the ridge left and you're on your way. There are actually two runways, one for airplanes and the other, a parallel paved traction launching runway for Karl's new Chevy Suburban.

McMaster noted that wind configurations along the chain that would allow for world soaring records occur only every 5 to 10 years. "And we haven't had one in the last four years



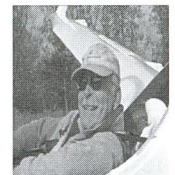
Karl Striedieck



Roy McMaster



John Good



John Seymour



Richard Kellerman



Sam "Pepe" Sayre



Karl and Iris Striedieck

that's been a suitable day," he lamented.

"The Eagle Squadron is kind of a loose organization that we describe with Karl as the leader. Another major player

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is John Seymour. Others include John Good, Peggy Sawyer, Richard Kellerman, Wil Schuemann and Dale Kramer."

And then there's "Aunt Agatha," otherwise known as the late Hanna Reitsch, the internationally-known German soaring champion and former Luftwaffe rocket test pilot. On April 7, 1979, "Aunt Agatha" flew an out and return 804 kilometers on the ridge. Hanna Reitsch spent several weeks at Striedieck's. He was trying to protect her privacy and introduced her as his Aunt Agatha, "and with his German background it was believable," McMaster said.



Hanna Reitsch

To allow the diminutive Reitsch to fly, Karl welded extensions to the dive brakes and landing gear. "There were two days in a row where we flew 1,000 km." The second day, April 7, Wil Schuemann and McMaster did it with Reitsch. McMaster said later that there were some paperwork problems and that she had done the entire flight. "I was able to certify the flight to the German authorities to their satisfaction. She returned to Germany and died a few

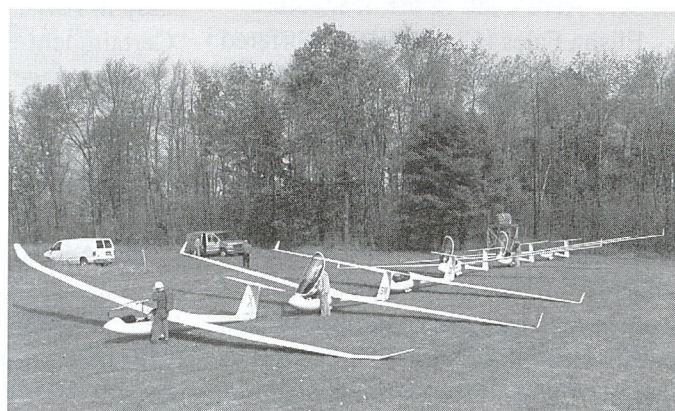
months later of a heart attack at the age of 67. The award was made posthumously. Shortly thereafter, Doris Grove became the first American woman to complete 1,000 km on the ridge."

A fire tower is one of the things unique to Eagle Field. When the fire towers that were no longer used were auctioned off, Karl put in a bid of \$300 and won. It cost him \$1,000 for the crane to remove the tower and another two or three months to put it back up. "It's a great perch for birders and others to watch the great migrations."

In 1967-68 Karl started going after the 1,000 km records first set by Al Parker in 1964. Striedieck had been an F-102 pilot in the Pennsylvania National Guard. One day at 40,000 feet, he looked down and saw this vast ridge system. Later, while consulting Penn State University's three-dimensional maps of the whole Appalachian chain, he thought, "Hey this could work." McMaster said that Striedieck pioneered the whole thing. "I remember we were all shocked with his March world record .. in a Schleicher K-8."

In 1977 Striedieck (ASW-17) and McMaster (Standard Cirrus) flew a world out-and-return record. "I could kinda see him once in a while, but that was it," McMaster said. In 1977 Karl flew the first 1,000 km to Oak Ridge, Tennessee and back. However there was something that the authorities didn't like about his picture. "So a month later he went out and did it again."

McMaster mentioned his top 10 flights by distance. He said that if you're going to fly the ridge, you're going to have to get up early. They've had many at-



Eagle Field

tempts where twilight is up in the east and the ridge is still working. The full length of the day is needed. "The limiting thing is the amount of sunlight that you have," he said. "I reached 680 miles average and a little over 10 hours per flight, some in the 12 to 13 hour range." To the delight of viewers, he showed SeeYou three dimensional flight tracings Eagle Ridge to Gadsen Alabama, describing problems and decisions he faced with changing weather characteristics and ridge inconsistencies along the way.

Snow squalls, fickle winds, equipment malfunctions, doubtful choices, landouts and bitter disappointments are all common along the ridge.....BUT so are brilliant feats of airmanship, exhilarating feelings of personal accomplishment, scenery unmatched in few places in the world, and sailplane performance.

Roy McMaster's Ten Longest Eagle Field Ridge Missions:

	Date	Sailplane	TP	Finish	TO>LDG Duration	1,000 KM Miles	Comment
1	05/12/94	ASW-20B	Mt. Grove, State College, Sunrise Dam	Williamsport	9.90	902	World Free Dist. 3-Turn REJECTED GPS flight evidence, KS, SM
2	05/02/86	ASW-20B	Kingsport, TN, Pamplin, VA	Eagle Field	12.80	847	World Triangle Record, 1,263 KM, KS, XT, SM @68 mph
3	03/17/76	Std. Cirrus	Lock Haven, Mendota, VA	Lock Haven, PA	12.25	807	World O&R Record, 1,000KM Diploma, US #7, 1,299 KM, KS in ASW-17
4	04/18/97	ASW-20B	Straight Out to Birmingham, AL, Shelby Co. Airport	Birmingham, AL	12.40	775	KS made it to Selma, AL, 50 miles further. (Double aero tow back to Eagle Field - 2 days via Knoxville Downtown Island Airport!)
5	04/06/79	ASW-20a	Tazewell, VA	Eagle Field	8.50	638	(1026 KM)
6	04/07/79	ASW-20a	Mt. Grove	Eagle Field	9.00	630	Karl, Wil Schueman & Hanna Reitsch
7	03/23/80	ASW-20a	Florida attempt	Carterville, GA	6.00	597	(Double Aero Tow home w/ KS in ASW-17)
8	03/08/75	Std. Cirrus	Rosedale, Va	Front Royal, VA	10.25	555	KS, Unsuccessful World Record O&R attempt
9	06/07/77	Std. Cirrus	Straight Out	St. George, SC	12.33	545	US Std. Class Dist. Record
10	10/07/81	ASW-20a	VA #71 & Moccasin Creek	Sherando, VA	7.75	508	Unsuccessful World Record attempt
				Ten Best Flights	101.18	6,804	
				Average	10.12	680	

History of Gliding At MIT

By Ira A. Blieden

Ira Blieden, Lexington, MA, MIT alumnus, said that his presentation would encompass the history of the MIT Aeronautical Engineering Society (AES) Glider Clubs from 1910 to the formation of the MIT Soaring Association in 1969.

An article in the November 16, 1909 edition of "The Tech," the Massachusetts Institute of Technology daily newspaper, had predicted the organization of an MIT Aero Club in the near future.

Elisha Fales (Class of 1910) offered the use of his glider. Later he and classmate Gorton James built a monoplane glider and flew it to Waban (Newton, MA). A second glider, a biplane, was also built. The two 20-foot wingspan gliders, the Dalrymple 33-foot glider, and gliders from other aeronautical societies were invited by a Mr. Clantlin, manager of the Harvard Aviation Field, to use its facilities. "Mr. Clantlin built a gliding slope with tracks. Designed by A.A. Merrill, the slope was on wheels and ball bearings and could be turned into the wind," Blieden said.

Dr. Otto Koppen (c/o 1924) and Edmond T. Allen (c/o 1923) designed a new Aeronautical Engineering Society

pounds.⁽¹⁾ Allen flew the constantly repaired and modified MIT glider he nicknamed the "Kiwi" at Clermont-Ferrand, France, and the German Wasserkuppe. When the American crew and "Kiwi" arrived in France aboard the S.S. Savoie, French Customs stopped them. Never noted for their flexibility, Customs couldn't figure out the classification of the crated arrival. Not an airplane, not a kite, what? With help from the embassy in Paris, the matter was clarified. "Certainment-et voila," it was listed as a baby carriage! Allen led the glidermen to the meet site at Combegrasse, some 22 miles from Clermont-Ferrand in the hills of Auvergne. Tech won a bronze plaque and one glider was damaged.

The Aeronautical Engineering Society designed and built the "409" glider in 1927. Possibly designed by Benjamin K. Kelsey, an aeronautical instructor, it was registered as "409" with the Department of Commerce. The "409" had a wingspan of 44 feet with a wing area of 220 square feet, an empty weight of 250 pounds, and a useful load of 185 pounds. Blieden showed a film clip of the "409" that same year being launched and flown by AESers at Wellfleet, Cape Cod, MA.

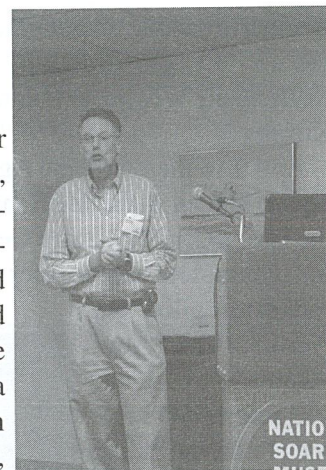
In 1931 AES designed a new glider supervised by Dr. Koppen. The new ship had a wingspan of 30 feet, a wing chord of 4 feet (tapered) and weighed 110 pounds. The fuselage was unique in that it was made of duralumin and weighed only 11 pounds. That fall "409" was badly damaged at Wellfleet, and in November it was retired.

The following year gliding became the chief objective of the AES. In a purchase coordinated by Dr. Karl Lange, the German-built "Professor" was acquired in 1933 from the Cape Cod Gliding School at Wellfleet. Designed by

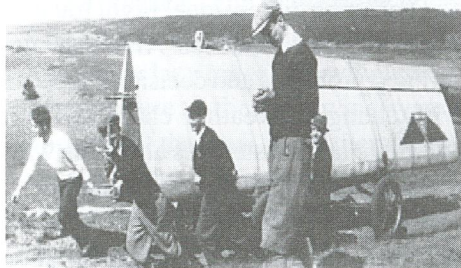
Alexander Lippisch, the plywood "Professor" had a closed monoplane fuselage, a wingspan of 55 feet, weighed 200 pounds,

and had a glide ratio of 15-to-1. In 1934, Zenas Crocker donated two gliders to the AES: a Zögling(primary) and a Prüfling. With the "Professor" and Franklin PS-2, the club now had four gliders. Another was added when Heraclio Alfaro donated his two-seater to the club.⁽²⁾ The Franklin PS-2 and "Professor" were entered in the Fifth Nationals where Emerson Melhouse took second place in "Professor" with a 6-hour, 2-minute flight. The AES was awarded the Sherman-Fairchild Cup for longest flight. The following year the club acquired another PS-2, "Allaire" N454Y. The 1935 Elmira nationals saw AES in third place in the ground competition.

The club built a launching winch in 1937 using a 1930 Chrysler truck chassis. It had one mile of solid steel 1/10th inch black oiled-tempered cable. The other bad news of 1941 (besides Pearl Harbor) was that the "Allaire" burnt up, "just outside the Braintree fire station," with only the fuselage salvageable. AES ceased glider operations during the war. With the resumption of activity in March 1946, the club aircraft roster was gradually expanded until by 1960 it included a Franklin PS-2, three Schweizers (SGU 2-22, 1-7, 1-19), a Laister-Kauffmann 10A and a Cub towplane. Key people included Dick Seaman, Bertha Ryan,



Ira Blieden



"Taking glider to Wellfleet for tryout"
Boston Herald 5/3/31

Credit: The MIT Museum and Historical Collection

glider in 1922. It had a Martin #2 airfoil, three-axis control, and weighed 72

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Lloyd Licher, Walter Cannon, Rose Marie Pratt, Sture (Steve) Bloom, Tom Priestly, Paul Skogstad, Bernie Paiewonsky, Prof. Bisplinghoff (faculty advisor), Prof. Koppen, Dick Comey, Parker Leonard, Edwin Moore and many others. By 1952 the Chrysler winch was considered underpowered and was decommissioned in favor of a Buick chassis, with the old Chrysler drum and a replacement Cadillac engine.

In 1948 a club member flew the PS-



*Boston Herald 5/11/31
Credit: The MIT Museum
and Historical Collections*

2 between two trees, ending the club's flying for the season, and also the glider's use. In the fall the club purchased the Schweizer 2-22, including the trailer from a dealer in Maine for \$325. In 1949, Dick Seaman edited SSA's "Soaring" magazine from a printing office near the MIT campus.

A minor 2-22 accident occurred on the 13th flight on April 1, 1950, at Coonamessett Airport. Major repair work was required and that ended summer flying for AES. Later the club bought a 1-19 from a ex-dealer in Maine for \$150. For a short time, October 1950 to early 1951, the base commander allowed the club to fly from Fort Devens, a military airport and reservation. The repaired 2-22 returned to service and was now flying from Groton, MA in December, with snow on the ground, using a winch. That year the club bought a

Schweizer 1-19 from an ex-Marine dealer for \$150.

The AES purchased the Schweizer SGU 1-7 "Pterodactyl"⁽³⁾ from the defunct Harvard University Altosaurus Glider Club in 1951. Lloyd Licher wrote to V.T. Hamlin, cartoonist for the Alley Oop comic strip, and Hamlin sent back a drawing of Alley in the back of a Pterodactyl. The club painted Alley riding the prehistoric avian on the side of its 1-7.



Alley Oop cartoonist V.T. Hamlin's Pterodactyl design on the 1937 Schweizer SGU 1-7 on display in the National Soaring Museum

The club purchased a J-3 Cub towplane that year. Initial tows were done at Canton airport with Rose Marie Pratt, the primary tow pilot, and Dick Seaman checking out Bertha Ryan and others on tow.

The AES acquired its fourth glider in 1952, a WWII surplus trainer, the Laister-Kaufman LK-10. That winter they sold the 1-19, along with the PS-2 trailer, to the Vultures of Michigan. In '53 they were aero-towing mostly the two-place ships in Fitchburg. Bertha was also towing, but she did not operate the winch because she had not yet learned to drive a car! Two years later, the 2-22's wings needed recovering. Walter Cannon did the job in his Lincoln, MA barn. Gliding continued with a reorganized club through 1960.

Follow up on the 1950's:

◆ Lloyd Licher bought the 1-7 that needed re-covering from the club for \$75, married Rose Marie Pratt (club tow-pilot) and settled near Santa Monica, CA. Both began work at Douglas Aircraft. Lloyd towed the 1-7 behind his 1940 Plymouth to Wichita, KA.

◆ The fabric went bad on the Cub tow plane and it was eventually sold to some AES members. It was towed to California by Haig Parechanian, and is

owned by Jackie F. Martin, San Marcos, CA.

◆ Lew Hull currently owns the 2-22.

◆ Eric Tasker, formerly of Abbingdon, MA, most recently owned the LK-10.

◆ The Franklin PS-2 is at the Southwest Soaring Museum in Moriarity, NM.

By 1969 the club had been restructured into the Massachusetts Institute of Technology Soaring Association, thanks to the inspiration of Professor Ernest Steinhoff. The concept was to build a club around the MIT faculty, research associates, staff and students who had some kind of flying experience. The Prospectus included:

- Flying and ground training be considered as an elective lab for MIT students
- Estimated membership
- Endowment expectations from MIT alumni
- Proposed initial fleet- 1 towplane, 2-2 seater trainers, 2 single-place trainers, total \$22,100
- Constitution- A 22-page document defining "MIT Soaring Association"

MITSA was organized as a non-profit 501(G)(7) corporation in the Commonwealth of Massachusetts on June 23, 1960. It qualified as a tax deductible donee, with legal work being done by club member Roy Bourgeois. Dr. Charles Stark Draper became Honorary President, provided for the use of the MIT Flight Facility, and co-signed bank notes for the purchase of gliders.⁽⁴⁾

Bliesen scrolled through aircraft of the early MITSA years: Ka-7 (damaged in a windstorm and replaced), Slingsby T-53, 1-26, two Schweizer 2-33's, Schweizer 1-34 (damaged on a landout and replaced with another 1-34), Blanik 1-13; Tow Planes - Aeronca Scout and Cessna 182, both owned by Joe Blucher.

After 1972:

Blanik L-13 (donated by William Stamper

after his wife died), 2 Blanik L-23's (one totaled in 2004), Blanik L-33; Tow Planes - Cessna 180 (owned by Joe Blucher and then by Ken McDowell and Larry Ryan, and finally by MITSA), Cessna 182.

In 2002 The Massachusetts Institute of Technology Soaring Association merged with the Greater Boston Soaring Club, Blieden closed by showing a 1980 photo of a smiling Sue and Ira Blieden in the cockpit of a 2-33.

⁽¹⁾ "A European Competition," story that appeared in the 1996, vol. 16-#1, *NSM Historical Journal*. Allen tested some of the most famous ships of the 1930's and 40's.

⁽²⁾ Blieden also mentioned 1934 was the year that Lt. Hank Harris had a fatal accident at the Big Flats, NY airport while auto towing in a 1917 Hudson touring car. The newly created Elmira soaring site was referred to as Harris Hill.

⁽³⁾ The Schweizer SGU 1-7 made its first flight in 1937 and established the design philosophy that was to be used in many of the later Schweizer aircraft. The AES 1-7 (N23026) was the second of that line to be built, and the first to be

sold. The "Pterodactyl" was last owned by Ralph Heide, El Segundo, CA, and he donated it to the NSM in 1998. It was restored by Dr. Walter Cannon of Palo Alto, CA, and is now on display in the NSM's Schweizer Gallery.

⁽⁴⁾ Other key people of the early years were: Chip Collins, Art Lapoite, Jim Nash Webber, Alex Nedzel, Bill Angell, Raouf Ismail, Jack Carter, Sam Francis, Bill Nockles, Tom Imrich.

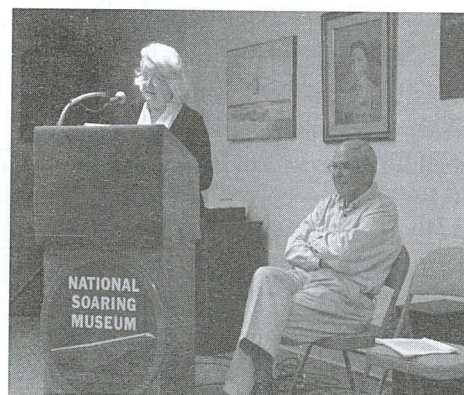
Others include: T. Guy Spencer, Michael T. Froidevaux, Joe Blucher, Steve Fried, Dick Usen, Harris Baron, Roy Bourgeois, Steve Bussolari, Rick Sheppe, Tom Thompson, Kim Vandiver, Paul Bauer, Walter Lob, "and many others," according to Blieden.

Wolf Hirth - Letters From The War Years

Translated and Read By Heinz and Elsbeth Weissenbuehler

International soaring icon Wolf Hirth was a factory owner in Nabern-Teck in Germany during World War II. Post-war he carried on a lively correspondence with American soaring friends he had met and flown with while in the United States.

The National Soaring Museum has many of these letters in its archives. NSM volunteers Heinz and Elsbeth Weissenbuehler of Horseheads, NY, translated them from German to English. They read excerpts from some of the Hirth letters written to Gustav (Gus) Scheurer to give Symposium attendees a sense of conditions in wartime and post-war Germany. Both Heinz and Elsbeth were in Germany during World War II, and have an intimate knowledge of living conditions at that time.



Elsbeth and Heinz
Weissenbuehler

"The Second Larger Attack on Stuttgart on March 11, 1943 - How I Experienced It"

By Wolf Hirth

"On this Thursday evening I sat in my apartment in the factory at Nabern-Teck, when at 22:35 hours the sirens announced an air raid warning. We had not, as usual, been warned by telephone. Seven minutes later I heard the first airplane flying over our area. Soon after I was told by my air raid guard that firebombs had been dropped over Stuttgart. And that we could see considerable anti-aircraft operations.

I immediately called my wife in Vaihingen, and immediately heard in her voice that she was in deep fear. The flare bombs were hanging up there in great numbers and the anti-aircraft were shooting worse than ever. Apparently heavy bombs had fallen already, too. My wife was in the house with two little children, Barbara (their daughter) and Charlotte Dierich, the latter on a visit from Berlin. In our neighborhood there were only two men. One of them does not count because he had too much fear.

I called our fire watch and asked their leader, Theyer, to find two volunteers who wanted to drive to Stuttgart with me. Instead (of the two mentioned above) I put camp boss Brandstetter in the car. A Mrs. Traub also wanted to go.

What a horribly beautiful picture in front of us on the highway to Stuttgart as we got closer. The air without pause was filled with anti-aircraft grenade lightning, with large shining lights for a fraction of a second of anti-aircraft and bomb explosions under the horizon. Bomb explosions could not be directly observed, because everything near the ground was in fog and smoke. As we raced up to Fildern our little BMW had to struggle, but always managed it with good speed. From the north, the Neckar Valley near Essilingen or Oberturkheim, came one pearl string after another of reddish small-caliber anti-aircraft fire. It accompanied us as long as we could see, until we drove into the woods behind Ecterdingen. It seemed there were one or two airplanes flying back and forth or circling between us and the Neckar Valley. I had the parking lights on and was following the white line on the autobahn. Up to now I was happy I could drive with the brighter Bosch camouflage inserts because, I told myself, in the woods I was well protected from sight. About 3 kilometers before exit Stuttgart southwest (crossing with the road Vaihingen-Boeblingen) things became lively. First my BMW made a jump, then several times hit hard objects, made jumps again and rolled. I had been driving over something lying in the road. Then came some, later hundreds, of burning incendiary bombs, some in the street, some next to the road in the woods. It was just like a giant Christmas party. I had to continuously drive in a zig-zag line in order not to drive directly over the incendiary bombs. About 500 meters before the exit we heard strong engine noise. My passengers who could look out back, hollered to me, "He's dropping incendiary bombs on us!" A short glance to the rear showed me two, three burning, splashing firebombs that dropped about 20 meters behind the BMW on the highway.

Brandstetter said that there were 20 to 30 bombs that fell across the highway between the BMW and the overpass. He could observe well how the firebombs on

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Wolf Hirth

the cement cover (surface) of the highway jumped up to 2 meters high and only then started to burn. Some of them exploded with such a bang that it could be heard over the noise of the BMW and the crackling of the burning woods. The next morning Brandstetter could discover the difference between normal firebombs and some with an explosive charge added-on, that had not exploded or burnt. On the bottom end of the bomb is a 50 mm long hexagonal steel piece. If this has on the face a 25 millimeter screw with a slot, this steel piece is filled with an explosive charge.

I had assumed that a low-flying bomber had seen the car in the brightly lit area and wanted to hit us to stop the civil defense forces in the burning region. I quickly drove down the road to Vaihingen, where 68 to 100 firebombs were shining. I had not gone very far when Brandstetter shouted, "He's diving on us!" Right after the plane roared over us at low altitude, the trees were rustling and to the right of us about 30 meters in the woods, a demolition bomb exploded. These woods were (next to) a steep dropping-off valley into which the high explosive bomb fell. Otherwise, the BMW would not have driven any more. So we only felt the pressure punch against the car. After that, I advised to open the windows so that (in) a new attack we would not be hurt by splintering glass.

I now decided to put the lights out all the way, stop the car where there was no firebomb laying, and disappear to the observer above. Then, I got held up again because two trees were lying across the street. I had to drive on the sidewalk. There I could force my way through the tree crowns in first gear. Then I got into the thick smoke of a burning house, making it impossible to see, and we had to stop. I stayed there for 10 or 20 seconds. The smoke let us disappear. This way the enemy airplane also lost us.

Only two days later my colleague, Boehm, pointed out to me that my tail lights were shining upwards with too much intensity. Either the blue light was not blue enough or the blue color had faded. There is no doubt that the Anglo-American machine in the dark forest had first recognized us on (by) our tail light, and then could easily follow the BMW in the brightly lit firebomb area. Now I had it painted deep blue. I (would) rather have the police punish me than be pursued by an enemy bomber.

The next day at the highway exit where we got out, about 100 meters from where we were attacked a four engine bomber was found. I can very well imagine that the pilot after dropping the bomb put the airplane in a steep turn to see if he had hit me. Probably understandable. As there were very high pine there, it could be possible that he got hung up on one wing. Maybe he wanted to attack with machine guns yet, because he saw that I would soon get into the smoke and disappear. There was a picture of this bomber in the newspaper. The whole crew was dead. It said that anti-aircraft guns shot him down.

The worry about my wife and the child and house would not let me rest. The smoke and fog were so heavy that sometimes I had to drive along the curbstones. Fires were already raging to the left and right of the road. Sadly, at this time I had to recognize that the firebombs had advanced to our settlement. Several houses were already burning. A few seconds later we stopped in front of our door and found there my upset wife. She had one of the most difficult hours of

her life behind her. I asked immediately about firebombs in our home and she said, "Yes, it was burning in the first story!" When I asked who put it out, she said quietly, "They went out by themselves." Naturally I stumbled as fast as possible into the first story. With the flashlight after searching the rooms, I found the fire almost out. We were lucky that the bombs had penetrated the floor and not the cabinets or the beds. Only one was glowing considerably under the floor. A supporting beam was badly burned. A firebomb was stuck in the roof. In front of the house a fifth one bored into the road. Numbers 6 to 12 put a hole one-and-a-half meters deep into the garden and yards behind the house. In our small area 250 to 300 firebombs came down maybe more.

Actually in my house 70 percent of the windows were broken, 5 doors ripped out of their frames, the roof was half open, and in the walls some two-finger-wide cracks."

Hirth's letter continued describing the efforts putting out the fires. "Most of the sprayers became unusable because of sand in the water, or feathers from saved but torn beds. Lack of water was not a problem. Everywhere bathtubs and washtubs were full. But few helped in carrying the water. Over and over we saw people talking, instead of carrying water!"

**The Weissenbuehlers read another of Hirth's letters written after the war
to Gus Schuerer thanking him for a parcel from America
Stuttgart-Vaihingen
August 18, 1946**

"Dear Gus,

Last Wednesday I wrote you a few lines from Nabern to announce to you the arrival of your second charitable gift parcel. It got to us in perfect condition and gave us again much joy. Again, sincere thanks for it.

Next morning I left early with my wood gas car on a business trip to Augsburg and Munich. About the business background I am not allowed to write, because only private messages are permitted. But I want to describe to you one of these trips, which should not be totally without interest to you.

My car is actually an old, beautiful 50 hp Mercedes, which I am driving for 10 years already. But because we cannot get gasoline for longer trips yet, I installed a wood gas generator a year ago, with a rotary cut-off (large three-way tap) of my own design, to be able to start with gasoline. Because to start the motor with wood gas, is most of the time the biggest difficulty. But the car uses a lot of gas for our circumstances, namely one gallon for every 14 or 15 miles. Before that I drove a 1935 Ford V-8 for a few years. But that only ran on wood gas, and gave me a lot of trouble. All these wood gas crates are rigged up by amateurs and are rarely perfect in every detail. Only its smallest four-cylinder Daimler-Benz was equipped with a wood gas generator, built in series production, which guarantees that it works fairly dependably. My six-cylinder Mercedes during the last year has been repaired or updated through-and-through. Because of the troubles at the end of the war, a lot was lost or stolen, for example the two front seats. Three months ago the differential broke, and two months ago, the clutch. Since that time it was in the factory for repair. Altogether that cost more than the new car originally. But for now there are no new cars available here.

So early Thursday morning I took off with my wife, who accompanies me most of the time to help me lift the heavy wood bags up to the kettle to pour the firewood in. But I also need her for emergency cases, so that she can go to the next telephone for me. Because of my defective undercarriage, I cannot walk too far any more. (ed. Hirth wore a full leg prosthesis as a result of a motorcycle accident that occurred several years previously in which he lost a leg.)

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We had not driven 15 miles when the cable to the hand gas lever broke, which I needed because of my one leg. After a cobbled-up emergency repair, we drove on. After three-and-one-half hours we were in Augsburg. Besides, going uphill continually, one needs first gear and drives about 12 to 14 miles per hour.

One learns to practice patience after in the past one (car) roared up the same hill at 40 miles per hour. Of course one also has a trailer with eight sacks of wood hanging in the back. As a precaution, one always takes a whole wood supply along. Even if you get wood in the road, it is often wet, or of such bad quality that your car sometimes does not run at all any more.

On our highway to Munich there was quite a lot of traffic. Of course half of the vehicles were American Army or the military government and trucks. But there are also already again many German cars, and amazingly many with gasoline. Apparently, they must know better than I how to get their hands on it. In Augsburg I also visited my friend Karl Baur who accompanied me in 1925 to Japan, China and the Philippines. Last month he was in the USA for three months, and had some interesting stories to tell. I did not stay overnight in Munich, but drove 30 miles up along the Jsar River to the Borsch Farm.

We stayed with the widow of old father Borsch and young Robert Borsch, who is not 18 years old, and quite an intelligent fellow. In the beginning yet, I taught him to fly gliders. Since then, we are friends. The Borsch, there are actually five farms, a large agricultural operation with about 300 workers. Naturally, the poultry farm was the most interesting to me. Friday we stayed the whole day there, so I could recover from the agitation of the last two weeks.

Saturday we went very early to Munich for the business part. But around noon in the Export model show that one could build if one would already have enough raw materials and coal. In the afternoon the two of us went again on the autobahn in a westerly direction towards the sinking sun. We were about 9 o'clock in Nabern, and after a one-and-one-half hour stay, in Stuttgart at midnight.

The grain harvest had been brought in all over as we could see from the road. On the meadows they are now working on the second hay crop on the fields, tilling up early potatoes. Then come the corn, the beets, cabbage and all the valuable foodstuffs that one sees with entirely different eyes in lean years of need, than in years of plenty. Sadly enough, the apple harvest is not going to be anything to brag about. That is serious because apples as winter fruit are extraordinarily important for us. Much preserving cannot be done anymore, because sugar for us is the greatest bottleneck. In the past it mainly came from what is now the Russian zone. It does not make much sense to send sugar either, because it is too heavy. But if later you send us another package again, please add a few packs of baking powder, if that is readily available to you. We don't get much, and often it is no good. I could use some cigarette paper. Tobacco we make ourselves, but of course it is not very good.

No rush! Eventually OK .. and another wish, a couple of small cans of powdered milk, if that is available. I use it with coffee, very sparingly. In large cans they go bad before they are used up because our refrigerator is out of order for the last two years.

So that was, again, a small section of our private life that may look entirely different from yours in the richest country on earth.

With heartfelt greetings, from my wife and little Barbara, who both thank you for all the beautiful things.

*I am your old friend,
Wolf Hirth*

For a few seconds the Symposium audience remained silent, probably reflecting on the grim living conditions that existed in Germany at that time, then broke into loud applause.

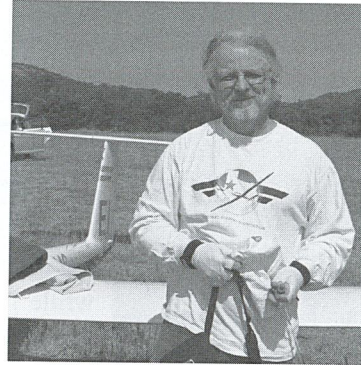
**37th Ralph Stanton Barnaby Lecture
September 27, 2008 Wichita, Kansas
Speaker: James K. "Chip" Garner**



The National Soaring Museum began the Barnaby Lecture series in 1971. They reflect historic and noteworthy achievements in motorless flight, and are given by prominent individuals in the field.

Captain Ralph Stanton Barnaby, USN (1895-1986) was a naval aviator, sculptor, and musician. His career included many milestones in US soaring history. He held US Glider Pilot's Certificate Number 1, dated May 26, 1930, signed by his friend, Orville Wright and on display at the National Soaring Museum. In 1929 he broke the Wright Brothers record by soaring 15 minutes and 6 seconds over the dunes at Truro, Cape Cod, MA.

He was launched in a glider from the airship Los Angeles on January 31, 1930 (the same Prüfling in which he won his #1 Certificate.) He helped form the Soaring Society of America (1932) and at one time or another held every one of its offices. In 1991 a substantial bequest to the NSM from the Barnaby estate was announced to continue support for this lecture series.



Chip Garner had already soloed at the age of 16. Flying his first contest in 1980 at El Mirage, he discovered a whole new world of motorless flight racing. He has flown over 50 contests since, including four world championships. He is a four-time national champion and flies with the Moriarity-based Albuquerque Soaring Club.

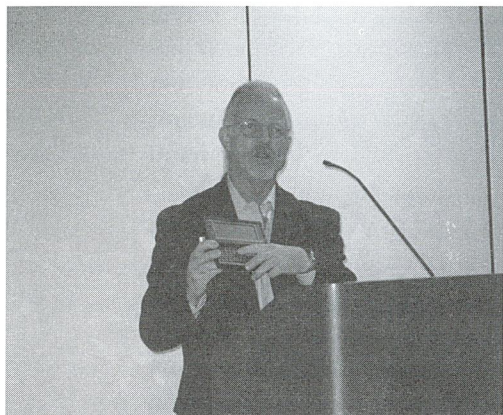
A high school dropout, Garner's career pendulum swung from making and teaching pottery for a few years to marriage, a son, and a return to academia with a BS from UCSB in mechanical engineering. Next came an engineering position with TRW Energy Development Group in the early 80's, working on fusion and fusion-fission hybrid reactor conceptual designs. There followed a second son and an MS in engineering from UCLA. He later worked on space station solar dynamic power systems, and systems engineering analysis and software support to several NASA and DOD electro-optical space instrument programs. In the early 90s, as senior engineer he focused on nuclear safety programs with Science and Engineering Associates, Inc.

Consultant, systems designer and finally independent businessman, he directed his talents to soaring. In 1990 he began designing Glide Navigator, the first moving map using a Hewlett-Packard DOS-based hand held computer. He worked with Cambridge Instruments including the Palm/Pocket-NAV, L-NAV, S-NAV and the 302. After Cambridge he continued his work on Glide Navigator II and an extension of the Cambridge Pocket NAV software. Currently he is founder and principal of Garner Total Energy, a software company that works on interactive websites, rapid prototyping instruments and glider instruments. One of Garner's major projects is the software for the NK ClearNAV flight computer for sailplanes.

37th Ralph Stanton Barnaby Lecture

"The Evolution of Software In Soaring Instruments"

James K. "Chip" Garner

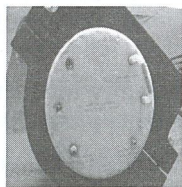


"Chip" Garner

Chip Garner opened by saying, "I am really going to talk about the areas that software has affected in variometry, navigation and glides.... Rules couldn't look like they do now without a lot of software behind them." He referred to Wil Schuemann's "white B-Box" as basically a "pneumatic computer." "So the software would be changing orifices and lengths of tubes and things, but it actually is running a program in a way." Garner thinks that Schuemann is taking first and second derivatives and "doing all sorts of tricky things with them." The B-Box is a pneumatic computer that apparently solved the total energy problem without responding to horizontal gusts. Modern instruments have been capable of doing the same thing for some time.

Garner added that he has been interested in the total energy problem for a long time and Schuemann solved it over 40 years ago with this B-Box. He said that there was no reason why software can't do everything he did in that box.

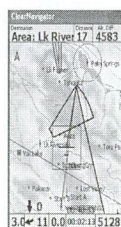
Wil Schueman's B-Box still out performs everything



There have been attempts for many years at electronic total energy, "and electronics remain a failure," he said. "but the fact is that so far the impact of software on variometry has been minimal."

Then the speaker moved on to navigation. He recalled that meanwhile glide computers began navigating via integrating speed over time with a lot of pilot adjustments to the distance. GPS (Global Positioning System) came along, and greatly simplified this, and navigation in general. Final glides could be done a lot easier. Dave Ellis understood this, and started the PDA revolution. With Garner, he began developing the Glide Navigator Project, the first moving map, using the DOS-based Hewlett Packard 95 computer. Garner's aim was to do inexpensively what others were doing with an expensive GPS and glide computers like the L-Nav. Glides depend on glider performance, the weight of the glider, the wind and where you are in relation to where you are going. "It was easy to put a moving map up on this.

Figure 2



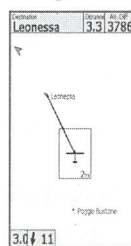
that it's actually gotten to the point where it is an advantage in a contest to have

the moving map with you (Fig 2).

Bringing up feedback with contest rules he said, "You may remember that when we went to GPS they suddenly went from those sectors that we took pictures of, to small circles. You had to come out from the front of the gate. If you got the direction wrong, you had to go through a chute or it wouldn't count." He said that the rules were fooling around in the 'what-is-possible phase.' But it seems like it's starting to settle out on things that work well. There are two tasks that seem to be sticking around: regular racing/speed tasks and area tasks. Scoring has become a "trust the computer thing" with the exception of the Grand Prix in which everyone starts at the same time. "I think that we've gotten carried away with computers and the rules. Someday it's going to improve."

As he closed, Chip Garner asked if there were any questions. An audience member said, "Chip, back there on that variometry that you're working on. It's my sense that the pilots who do the best are pilots that don't depend on their variometers to tell them whether they are in a thermal or not. They depend on what their butts feel like." That brought a wave of laughter to which the ever-resourceful Garner responded. "Well, we're working on the electronic butt," and then proceeded to elaborate (tongue-in-cheek) on how to relate the variometer to butt signals. Extending the repartee, some wit in the audience quipped, "Would that be software or hardware?"

Figure 1



The problem was navigating," he said. The pilot is trying to get from here to there, and Garner did it as simply as possible (Fig 1). He said

2008 Soaring Hall Of Fame Induction



*United States Soaring Hall of Fame members greet 2008 inductee Richard Butler (left):
Bertha Ryan (1972), Virginia M. Schweizer (1971),
George B. Moffatt (1963), Karl H. Striedieck (1980).*

From The Archives



*“Pop Khrone displays his sailplane Minimoa at City Hall Park, Ft. Worth before the contest”
It now hangs in the Main Gallery of the National Soaring Museum.*

From The Archives



"Second Annual Pacific Coast Mid-Winter Soaring Championships, February 28 & 29, 1948. John Robinson in Zanonía doing 'nip-ups', at Torrey Pines Gliderport for newsreels. Young and old alike are captivated by spectacular performances of sailplanes; part of the 6,000 people who enjoyed the meet." Caption and photo by James R. Spurgeon, San Diego, California.

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Anyone is invited to contribute material and pictures with identification about historical soaring activities, renovation of old sailplanes, soaring pioneers, unusual uses of sailplanes, etc. Manuscripts are subject to whatever revisions, additions, or deletions are necessary to make the material conform to the space limitations and standards of the NSM. Material that is to be returned must be accompanied by a self-addressed stamped envelope. No compensations other than credit will be given.

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