

National Soaring Museum Historical Journal

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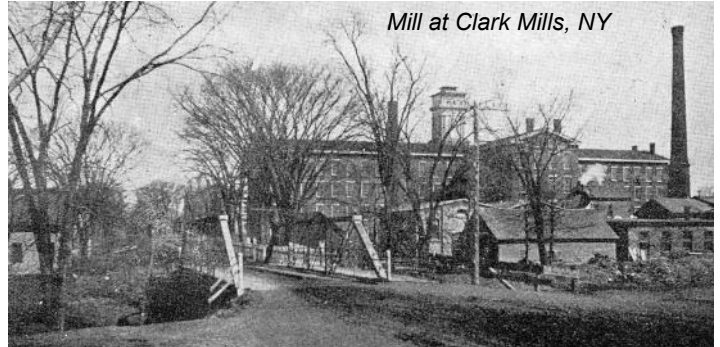
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Clark Mills Memories from WWII - Moe Acee

Like many other small towns in the U. S., my hometown of Clark Mills, NY, had many young men ready to enlist when we entered WWII after the attack on Pearl Harbor. Clark Mills is a mill town where there are many ethnic groups such as, Welsh, English, Irish, Polish, Syrian, German, Ukrainian, Italian, Dutch, Spanish and Irish. Some did not return. My cousin fought at Iwo Jima. He was thought to be dead and placed in a body bag when a corpsman noticed some movement and saved his life. The Rhodes family had a son, Carl (1916-1945), who was killed in the Bataan Death March or subsequent forced labor camps. The Ptak family had four sons in the Army, Navy and Air Corps. One son, Adolf Ptak, was killed flying an F6F Hellcat. Another son, Stanley Ptak, flew over 60 missions in a B-26 Marauder in the European theater. He won the Distinguished Flying Cross for piloting and saving his crew in a shot up B-26. The Moda family lost their son, Tony, in Operation Varsity. Tony was a paratrooper in the 513th Parachute Infantry Regiment, 17th Airborne Division. I interviewed one transport pilot, Fay Brandis, who delivered aircraft to various airbases in the European theater. He flew B-17s, B-24s, P-51's, P-47s, P-61 Black Widows and British Spitfires and Mosquitos and others. I also interviewed my uncle, Acee Acee, who taught Navy pilots at Colgate University during the war. Both had interesting stories to tell of their wartime experiences.



Mill at Clark Mills, NY



Fay Brandis with another local pilot from Clinton, NY after Fay delivered his P-51



Lt. Adolf Ptak in the cockpit of his F6F Hellcat



Sgt John Ptak (1918-2007) who was a crew chief on a C-46, and flew missions over the hump during WWII



C-46



Capt. Stan Ptak's damaged B-26 after returning from a mission.



Capt. Stan Ptak in the cockpit of his B-26



Capt. Stan Ptak receiving the DFC





*Bombs away!
This photo was taken from Capt. Stan Ptak's B-26*

Four Ptak brothers went to war from Clark Mills:

Matthew Ptak (1917-1987) served in the Civilian Conservation Corp from 1934-1937 and joined the U. S. Navy in 1941, retiring in 1961.

John Ptak (1918-2007) served in WWII in the Pacific Theater as an Air Force flight engineer and was honorably discharged in 1946.

Stanley Ptak (1921-2009) retired from the US Air Force as a Lt. Col after serving in three wars, World War II, Korea and the Cold War. He changed his surname to "Bird", which is the English translation of the Polish word, "Ptak". Capt. Stan made three passes over our hamlet on his way to the an east coast harbor where they shipped the B-26s.

Adolf Ptak (1922-1945) F6F Hellcat pilot in WWII.

Fay Brandis (1920-2015) He was an Air Force veteran of WWII in the 8th Air Force and obtained the rank of Major. His duties included the delivering of all types of combat aircraft during his 32 months in England. While in military flight training in Arcadia, FL, he married Mary Ellen Pearson of Ithaca, NY on May 25, 1942. In September 1945, he joined American Export Airlines, which later became American Overseas Airlines which, in turn, was purchased by Pan American World Airways in 1949. During his 35 years with the airlines, his command included the Boeing 747. After retiring from Pan Am in 1980, he became chief pilot for Oneida Limited. He retired from Oneida Ltd. in 1985. From 1985-1992, he flew as a freelance pilot for several Central New York corporations.

Tony Moda (1925-1945) Not yet 20 years old, Tony died in Operation Varsity, a successful airborne forces operation launched by Allied troops that took place toward the end of World War II. Involving more than 16,000 paratroopers and several thousand aircraft, it was the largest airborne operation in history to be conducted on a single day and in one location. Tony was buried in the Netherlands.

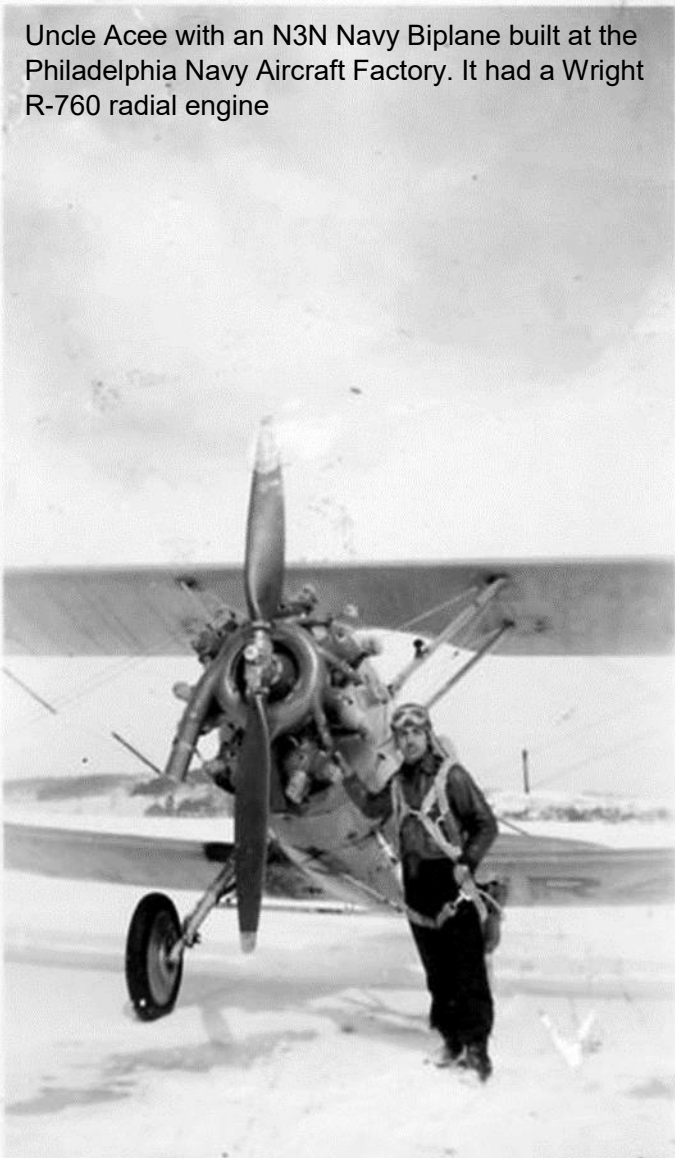


The Colgate Airport where my Uncle Acee taught Navy pilots. They used J-3s and N3N biplanes



C-47 transport aircraft drop hundreds of paratroopers as part of Operation Varsity

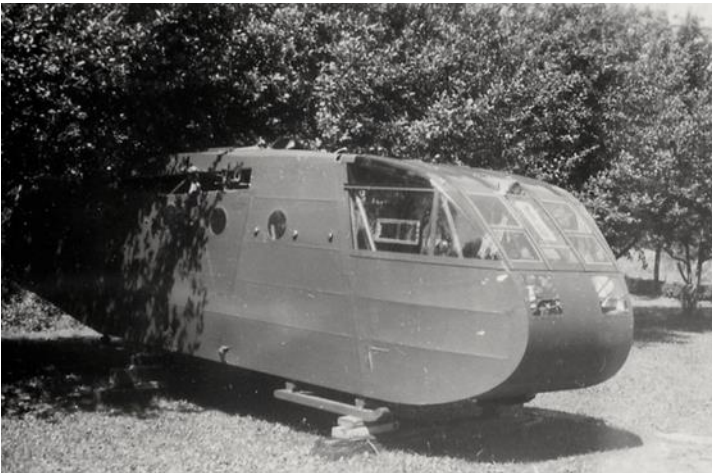
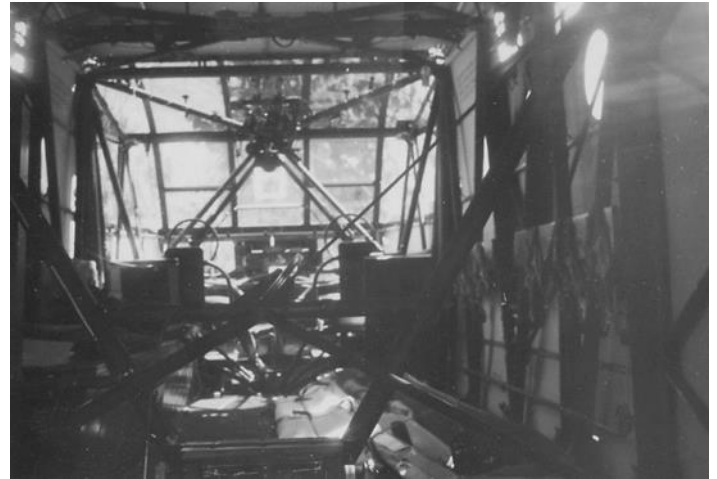
Uncle Acee with an N3N Navy Biplane built at the Philadelphia Navy Aircraft Factory. It had a Wright R-760 radial engine



Acee M. Acee (1916-2010) in the cockpit of the Wedell-Williams Racer he helped rebuild in the NYS School of Aviation in Utica, NY. His instructor was Stan Smith, Peter Smith's father.

At a very young age, my Uncle Acee had ambitions of becoming a pilot and acquired his private pilot's license at the age of 16 and furthered his flying career by becoming certified as an A&E (aircraft and engine) Mechanic. Acee went on to become a flight instructor, graduating from the New York State Aviation School in 1939. He was chief mechanic at the Utica Municipal airport in Marcy, NY during World War II, supervising 20 mechanics that supported wartime aircraft, he also instructed flying to Navy Cadets at Colgate University during the war, and served in the Army Air Corps. After the war, Acee instructed at the Riverside School of Aeronautics. He owned a J-3 Cub and was in his glory taking off and landing in hay fields, and various airports. In later years, he became a member of the Quiet Birdman (QB) Club and the OX-5 Club with his flying buddies. Acee received the prestigious "Charles Taylor Master Mechanics" award for 50 years of service for aviation mechanics from the FAA.





When the war came to an end the fate of the CG-4A was obvious: There wasn't a single possible civilian use for the airplane so it was surplused as quickly as possible, wherever possible. The airplanes themselves were practically useless, since they didn't even have enough instruments worth salvaging.

What did make them valuable was the military method of packing them for shipment. The glider broke down for packing in five gigantic crates. In typical military fashion, the crates weren't just boxes, but were made of the highest grade pine and fir available. The crates used so much lumber, it was said they could be used to build a small house. And that's what made them worth the \$50-\$150 bidders paid for the complete gliders.

Two men in Clark Mills purchased a Waco G-4 Glider in the shipping crates after the war, which they used to help build their homes.

Photos on this page show one of these Waco CG-4 gliders in the backyard of the Ptak family. We, as kids, would climb in the cockpit and pretend we were flying them. They had headsets and other equipment, including the tow rope. Folks would drag the crates out to the farm, push the glider junk out into the trees (after burning the wings) and use the boxes for the lumber.



Part of John Ptak's home is built from a Waco glider crate. As a newspaper boy, I delivered the evening Utica Observer Dispatch to the Ptak family.



Photos of the retrieval of the Kalamazoo Aviation History Museum's CG-4

The surplus sales around the major manufacturing sites sent glider components out into the surrounding countryside in wholesale lots. The production lines were stopped mid-step and whatever was laying around was sold. Partially completed components of all types were carried out of those sales in truckload lots. There is, for instance, a hangar at Sparta, Michigan, that used surplus CG-4A spars for beams.

Compounding the proliferation of glider parts going into barns and outbuildings was the diversified nature of the subcontractors. Many were located in small towns, so the bits and pieces they were manufacturing probably never made it more than a couple dozen miles away from the auction site. Most of the completed small parts weren't even worth carting off, since not many needed giant wing ribs or widgets that could only be used if you were building a CG-4A in your basement workshop. In all but a few cases, the stuff that couldn't be sold was simply burned.

The National Soaring Museum's CG-4A was purchased originally by Southport, NY resident, Harold Hudson, after the war and sold to our museum for restoration in 1981. Harold, like everyone else, had salvaged the lumber and put the glider itself behind the garage. Many parts were missing, but there was enough of the fuselage frame left to make our reconstructed example which is on display here today.



Finished CG-4A reconstruction at Kalamazoo

Long before the Korean war started, the CG-4A was almost entirely extinct or in the process of sinking into the soil in many forests and fields around the country. It was barely a memory except to those to flew it.

To those who sat at the WACO's controls, stretched out on the end of a 300 foot tow rope, watching tracers chase them through the still dark skies of a European dawn, the memories never faded.

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Budd Davison, [EAA/Sport Aviation](#), December 1994

Air Zoo - Kalamazoo Aviation History Museum

[https://en.wikipedia.org/wiki/Waco CG-4](https://en.wikipedia.org/wiki/Waco	CG-4)

https://en.wikipedia.org/wiki/Operation_Varsity

Editor's note: This article will bring back fond memories for many of our "oldtimers" of learning to fly a glider at the Schweizer Soaring School. What's it like to fly a glider? It may sound challenging, but when you get right down to it it's relatively easy, inexpensive, and fun (at least in 1961). Roy Terrell, a former Managing editor of Sports Illustrated, flew in the Navy, but six years later he learned to fly gliders at the famous Schweizer brothers Soaring School in Elmira New York. He wrote about the experience in this classic 1961 article, Silence In The Sky - probably one of the best articles on Soaring that has ever been written.

A SILENCE IN THE SKY by Roy Terrell

- reprinted from the November 6, 1961 issue of Sports Illustrated

In 1956 there were 600 sailplane pilots in the U. S., or about one for every 5,000 buzzards, an arrangement endorsed by both the Audubon Society and society in general. The sport of soaring was judged expensive and dangerous. Airport operators conspired to keep gliders from cluttering up their traff9c patterns, and small boys with air rifles considered them better targets than the neighbors' cats. In "Government by the People", Burns and Peltason included the Soaring Society of America among oddball organizations, along with the American Sunbathers' Association and the Blizzard Men of 1888.

Then, slowly, soaring began to grow. Denied governmental subsidies available in Europe - there are 50,000 sailplane pilots in Germany alone - unencouraged by artificial stimulation of any kind and handicapped by a shortage of facilities, the long-winged little craft began to dot the skies in ever-increasing numbers over the Pacific beaches and the ranges of the Sierra, over the plains of Texas and the Appalachian ridges. Much of the impetus was supplied by former military pilots, disenchanted with the failure of private aviation to live up to its postwar promise, yet unwilling to divorce themselves completely from the sky. By 1958 the number of registered soaring addicts in the U.S. had grown to 1,350, and there are more than 3,000 of them today. The numbers are still modest as sporting booms go, and because of an old law concerning the gravitational acceleration of terrestrial bodies toward the center of the earth, sailing in the sky will perhaps never attain the popularity of sailing on the sea. Yet the buzzards are beginning to look worried.

One of the centers of this esoteric sport is in Elmira, NY, partly because of its topography, partly because of the presence there of three brothers named Schweizer. Elmira is located in that rolling, wooded area of New York state lying between the Finger Lakes and the Pennsylvania border, and it is known as the Glider Capital of America, at least in Elmira. You come down Route 17, past Binghamton, where Whitey Ford struck out 151 batters one year, along the Susquehanna River, past Owego and Waverly, and eventually you find yourself in Elmira. Mark Twain is buried there, and all of the motels are named Tom Sawyer or Huck Finn. They might try calling one "The Man That Corrupted Hadleyburg" and see what that would do for the tourist business.

Outside Elmira, in a sleepy little valley to the west, sprawls the village of Horseheads, where local legend says there was once an Indian massacre and local cynics say there was once a slaughterhouse. Outside Horseheads sits Chemung County Airport, and on the other side of the airport sits the Schweizer Aircraft Corporation and its appendage, the Schweizer Soaring School. In 1957, 500 sailplane flights were logged there. This year there will be almost 5,000.



Just as it is difficult to reach the Schweizer Soaring School without passing Mark Twain, it is almost impossible to get to the Schweizers themselves without starting at Otto Lilienthal. Lilienthal was a crazy Pomeranian who in 1891 built a contraption of peeled willow rods, covered it with a waxed fabric and, by galloping furiously off a hill and into space while wearing this thing, managed to become the first glider pilot. Eventually he crashed and killed himself, of course, but not before setting a record flight of 900 feet and contaminating others with his madness. Especially despondent were the Pomeranians, who used to gather by the hundreds to watch old Otto perform and now found themselves with nothing to do on Sunday afternoons but raise those funny-looking little dogs. Lilienthal was the first glider pilot. The first soaring pilot was Orville Wright. While testing a stabilizing device for his newfangled aeroplane, Orville launched himself in a glider one day in 1911, caught a slope wave and went up instead of down. He remained aloft for nine minutes and 45 seconds. It was a record, but hardly anyone was excited, least of all Orville, who had work to do back on the ground. After World War I the Germans took over. Denied an air force by the Versailles Treaty, they turned to gliders and established an operating base in the Rhön Mountains. There the Germans really discovered soaring and built the first true sailplanes, feathery little craft with long tapered wings that would do much more than merely slide down the sky. Day after day the fledgling Luftwaffe pilots soared, rather than glided, flying higher and higher, spanning ever greater distances. Usually they rode the strong winds that roared up the ridges, but one day a pilot named Max Kegel was sucked up in a thunderstorm and doubled the old distance record before he could get down. Then a young Austrian, Robert Kronfeld, discovered that upwinds exist even under light cumulus-cloud formations, and off Robert went across country, hopping from one cloud base to another. In 1928 he soared from the Wasserkuppe to Himmeldankberg and back to the Wasserkuppe, which is hard enough to pronounce without having to fly it.

And that same year soaring came to America. At the instigation of J. C. Penney, who must have figured that sailplane pilots wore out a lot of pants, the Germans brought a glider to Cape Cod. From the spot where the Pilgrim Fathers once spent part of a miserable winter munching on maize, they soared off Corn Hill.

The first U.S. soaring meet was held in 1930 at Elmira, and that October a famed German pilot and designer named Wolf Hirth made an historic flight. Eschewing cloud formations and ridge currents, Hirth took off cross-country from Elmira, depending for his lift only upon thermals, those helpful bubbles of hot air that arise on sunny days from plowed fields and the tin roofs of factories and old automobile junk heaps. He landed 54 miles away near Apalachin. In 1932 the Soaring Society of America was formed. Originally it was called the American Soaring Society, but the members changed the name in a hurry when they began to think about a letterhead. But soaring didn't really begin to grow in America until the Schweizer boys, Ernie and Paul and Will, came along.

The Schweizers were Swiss, sons of the chef at the old Carnegie Hall Restaurant, and they can remember their father toiling over a special omelette for Fritz Kreisler, who was something of a personal pet. They used to slip backstage and watch Toscanini warm up. But most of their time, when not in school, was spent in the family barn at Peekskill. They were building a glider. "Papa couldn't drive a nail," says Ernie, "and he wasn't very sympathetic with our project. As a matter of fact, he didn't know about it. When he came home from the city, we always told him we'd been playing ball."



"Ernie really designed the glider," says Paul, who is a year younger and who later became the family's prize competitive sailplane pilot. "That was in '29. Ernie was 16 then, a senior in high school. I helped. Will was only 11, not old enough to do very much. Ernie was always the genius of the family. He used to win all the math and physics prizes in school, without cracking a book. He worked out the stress analyses on that first glider from some article he read. It was rudimentary but rather impressive just the same." The most impressive thing was that it flew, or at least glided. A gang of neighborhood kids would launch it with an elastic shock cord, and off Ernie or Paul would go, gliding down the sloping meadow near their home. They seldom got higher than 10 feet off the ground, and although Paul once piled into a stone wall at the end of the field, no one was ever hurt.

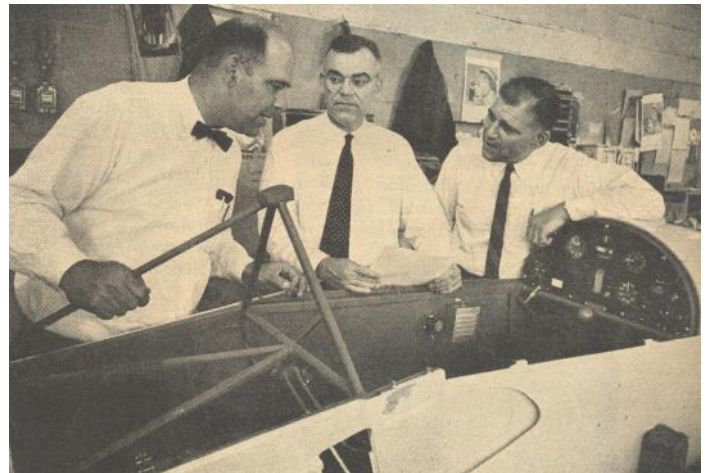
"That was because of Ernie, too," says Paul. "He always had a mania for safety. He was conservative, even as a kid. He built gliders that could take a real beating. I remember how stunned he was when he first heard of a major glider accident and learned the details. Dry rot in a balsa wood wing. 'How could anyone be so careless?' he said."

Today Ernie Schweizer is as intolerant as ever toward shoddy construction and design. A big, balding man, whose only outside interests are photography and fishing, he wanders through his factory with a slide rule in each hand, strewing pipe ashes everywhere, his shirttail hanging over the seat of his pants—and he still builds the world's safest gliders. In 1939, a few years after the two older brothers graduated from New York University with degrees in aeronautical engineering, they moved to Elmira. And that is where the Schweizers are now, in a little valley below Harris Hill, building sailplanes.

Ernie is the design man, the engineer. Paul, a bachelor who says he is married to soaring and that no one else will have him, handles most of the business details and acts as contact man with soaring enthusiasts all over the world. Will has three sons and a daughter who play golf and tennis and ski and argue heatedly year round over the relative merits of the Cleveland Browns and New York Giants; Will deals with the firms that subcontract to the Schweizers. It is a good team, and anyone who soars in America today is in their debt.



Paul Schweizer with the prototype 2-22



Ernie, Paul and Will



Paul, Major Dent and Ernie with the TG-2



Paul, Ernie and Will (Bill) Schweizer

The Schweizer factory looks, at least to the uninitiated eye, like Boeing's Seattle bomber plant in miniature. At one end sailplanes begin in a hopeless welter of tubular steel and sheet aluminum and welding sparks. A few days later they emerge from the other end, glistening and dainty, ready to soar off into the skies over Texas and California and Canada and Pakistan.

There are about 300 employees at the plant, and they manage to sneak away from organized labor's most popular innovation, the legal coffee break, often enough to get an amazing amount of work done. Many of them went to work there during World War II, when the Schweizers built training sailplanes for the Army and Navy and subcontracted parts for the C-46 and C-82. After the war there was a slump when all the training sailplanes the Schweizers built came back to glut the market and haunt them, but in 1956 business began to pick up again. That year the factory turned out one sailplane a month. Today the plant produces two a week, half of them scheduled for civilian consumption, the rest to fulfill a foreign military contract. The Schweizers sell three production models: the 2-22, a trainer (\$3,450 assembled, \$2,675 in kit form); the 1-26, a single-place, all-metal sailplane (\$3,395 assembled, \$2,095 kit); and the high-performance 1-23 (\$5,295 assembled). They are planning to go into production soon on a high-performance two-seater, which can be flown in competition by either one or two men and will also answer the growing demand for a good family sailplane. The Schweizers also build the Grumman AG-Cat, a crop duster, and do subcontract work for Grumman, Fairchild, Bell, Sperry Rand and Republic. "It's not a big business," said Paul Schweizer. "The subcontracts keep us going. I guess we could build metal boats or luggage and make more money. But we like to build sailplanes. This is our life and we enjoy it. Come along to ground school."

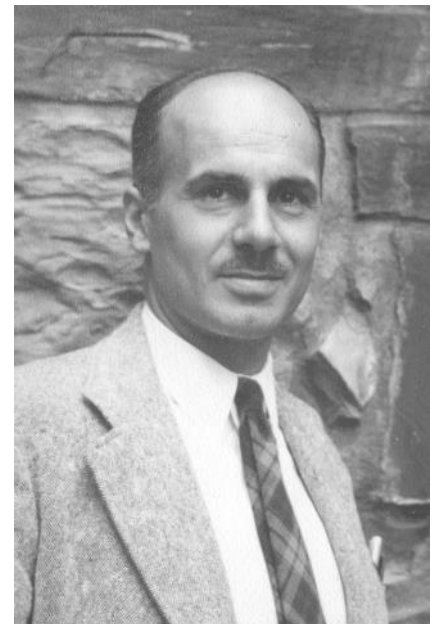
I hadn't flown anything in six years, but suddenly there I was, in ground school with three other would-be glider pilots. One was a beginner, who had never flown before. "I don't like airplanes," he said, "but I've always been fascinated by soaring." The other two were licensed power pilots.

The ground school instructor was Tony Doherty, who also happens to be the sales manager. On weekends, when business is heavy, he sometimes flies a towplane, too. It is that kind of school. "The first thing I want to impress upon you," Doherty told the class, "is that soaring is safe. When it began there were crashes, and a few people were killed. The sport received a lot of bad publicity. Well, we've more than lived that down. Today, an accident of any kind is extremely rare. In 20,000 flights at this school we have had only one injury, very minor. A woman tried to three-point a 2-22 and strained her back. The last fatal accident at Chemung County Airport occurred 15 years ago. A tow car overturned and killed the driver.

"Ninety percent of the students we get now," he explained, "are power pilots. We had 25 airline captains go through here last year. Flying a power plane can become monotonous; too much mechanization, too much noise, not enough sport. If you have an exciting flight in a powerplane, it means something was unusual, something went wrong. In a sailplane almost every flight is exciting." "Oh?" said a student.

"In a pleasant way, of course," said Doherty. "Soaring is fun. And for a pilot who already knows how to fly and knows something about FAA regulations, meteorology and aerodynamics, soaring is easy. A little dual instruction and off you go."

Doherty looked the class over and smiled. "A child," he said, "can fly one of these." Maybe, I thought, I should go home and send one of my sons up here. Still, it was very reassuring.



William E. "Tony" Doherty



Doherty told us about the Schweizer sailplanes we were to fly, which was even more assuring. These are truly remarkable machines. The 1-26, for example, without its fabric covering, looks like a replacement part for the Brooklyn Bridge. Built around a frame of tubular steel rods, it is stressed to withstand $9\frac{1}{2}$ positive Gs and $6\frac{1}{2}$ negative Gs, far more than any light plane, more than most military types. You can roll a 1-26 and loop it and even do outside maneuvers in complete safety, if you happen to be unbalanced enough to enjoy outside maneuvers. Because the 1-26 weighs less than 400 pounds, yet boasts such amazing structural strength, it is possible to dive one into the ground from 300 feet and walk away. No such guarantee comes with the 1-26, but it has been done. There is little point in making a sailplane so sturdy, but that is the way Ernie Schweizer operates. We don't mind giving up a little performance," he says, "to keep people alive."

"Chances are," said Doherty, "you'll never find out how tough they are. You have to work pretty hard to get in trouble. A well-designed sailplane is almost impossible to spin. There is no motor, so there is no torque, and you can recover from a stall in 30 or 40 feet. The spoilers on the wings—they resemble the dive brakes on a jet—enable you to control your descent. Spot landings are very simple. Because the sailplane is so light, the brakes are unusually effective. And because there is only one main landing wheel, crosswind landings are no trouble at all. Even after you touch down, you can keep the upwind wing lowered. You can hardly ground-loop one if you try." Still," he said, "these are airplanes. They will come down. And for some reason, power pilots have the most difficulty remembering this. At first, an experienced pilot doesn't completely trust a sailplane. Then, after a few flights, he shifts to the other extreme; he thinks he can stay up forever. We borrow a skin-diving phrase and call it rapture of the heights. So don't get overconfident. Plan your flight, watch the terrain and your altitude, always be sure that you can reach the airport. If you are forced to land on a highway or in some farmer's field, you won't have any trouble. But it's embarrassing, and we have to come after you and take the wings off the plane and load it on a trailer. It's much easier to land here." Everyone made a vow to stay out of farmers' fields. Doherty issued a few more warnings. "Never," he said, "get out of a sailplane on the ground with the towrope attached. When the tow pilot gets the signal from your wingman that you are all buckled in, ready to go, and the towline is hooked up, he calls the tower for takeoff clearance. When he gets the green light he goes. If the sailplane pilot has suddenly remembered that he left his sunglasses or cigarettes or something behind and gets out, off the towplane goes without him, trailing an empty glider behind. It has happened. If you have to go to the bathroom," said Doherty, "first pull the release knob."

Then Bernie Carris came in and led the class to the flight line. Carris is 39 years old, and he has been chief flight instructor for the Schweizers since 1950. He was a B-17 tail gunner during the war, not a pilot, but one day from his home in Big Flats, just the other side of the airport, he wandered over to see what this soaring business was all about. He hasn't escaped yet. He has pilot's wrinkles around his eyes now, a quiet sense of humor and an extremely brown head. "I don't know what happened to my hair," he says. "It was all there until I began to teach people how to soar." In 1960 Carris took a strange sailplane to Odessa, Texas (SI, Aug. 22, 1960) and finished second in the national championships. Last summer he won the Eastern Open, scoring almost twice as many points as his nearest opponent. He is one of the finest competitive soaring pilots in the world. The first flight was in a 2-22. The first digit means that this is a two-place sailplane. The 22 means that this is the 22nd sailplane design that the Schweizers have produced. The 2-22 is not very handsome. Most sailplanes are lovely, delicate creatures, all grace and curves and smooth skin, like pretty girls on a picnic. The 2-22 looks more like one of the ants. It has a high wing and external struts and the fuselage is angular and chunky. It does not go very fast. But it is simple and safe and sturdy and not unhandsome in a functional way. We looked it over to see that everything was attached, and climbed in. The cockpit of a sailplane is so bare that you think you have crawled into someone's bathtub by mistake. There is a stick, of course, and rudder pedals. There is an altimeter, a bank indicator (a ball but no needle), a rate of climb and a variometer, which shows, by means of two small pellets in parallel tubes, whether the airplane is rising or sinking in the air. There is the spoiler control handle, which also activates the brake, and a tow-hook release knob. That is all. No radio equipment, no oxygen gear, not even a throttle. I was thinking about the throttle when the towplane took off.



Bernie Carris

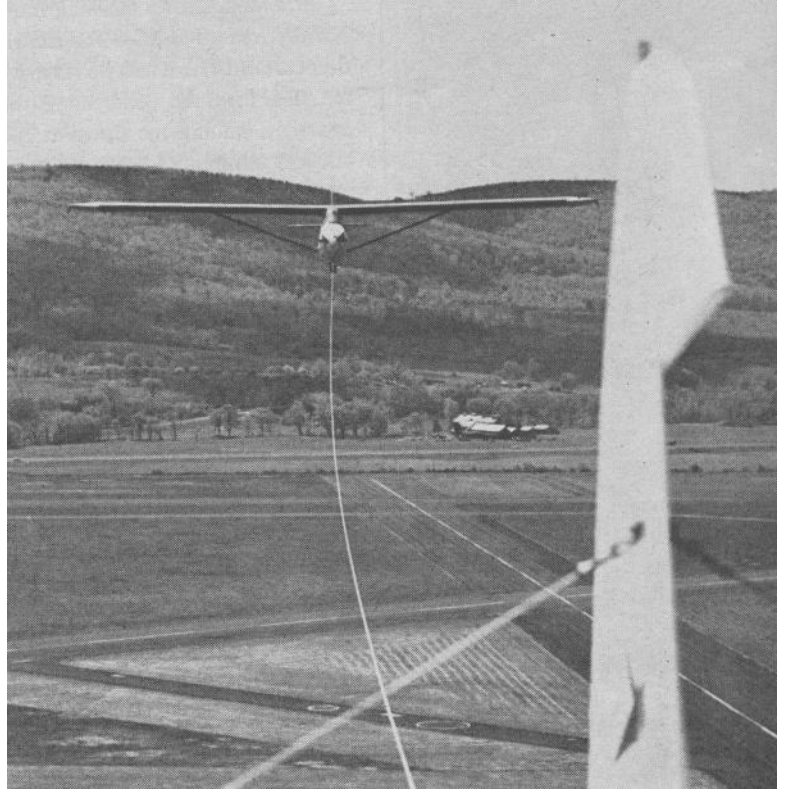


The 2-22 bumped gently along for a few feet and hopped into the air. Carris held it low to the ground until the tow-plane, a Piper Super Cub, became airborne, too. Then he reached forward from the rear seat and tapped me on the shoulder. "You've got it," said Carris, who does not waste much time. "Just keep the wings of the towplane on the horizon." There was a slight haze hanging across the field that morning, and I had some trouble finding the horizon. I had trouble finding the towplane, too, since it kept disappearing beneath my nose. The tow pilot seemed to be very erratic. "You're too high," said Carris. "It's hard for him to climb when you're pulling his tail up." This made sense, so I pushed forward on the stick. The towplane reappeared - and so did the towrope, with a huge sag in the middle of the line. As soon as I leveled off, the towplane took up the slack with a jerk. My head bounced like a punching bag. The towline, 200 feet of quarter-inch Manila, began to look like embroidery thread.

"Do towropes ever break?" I asked. "Not often," said Carris. "About a dozen a year. There's no danger. At altitude you soar if you can find some lift, or else you make a normal landing somewhere. If a break occurs on takeoff, you land on the airport, straight ahead. If you've run out of airport, you turn back and land downwind. I know," he grinned, "that's suicide in an airplane. But no airplane has the maneuverability of these things. And you can land so short that a downwind landing is perfectly safe."

As we jerked along, up past 1,000 feet, Carris explained how to keep slack out of the towrope. "The main thing," he said, "is not to get too high." He forgot to mention that you could also get too low. I was about to ask him why the towplane was suddenly moving so high up when there was a terrific yank at the stick, the right wing dropped, we buffeted about the sky—and then all was quiet, the towplane far above us now. Slipstream?" I asked meekly.

"This position," said Carris very quietly, "is called low tow. I was going to demonstrate it later, but so long as we're down here.... Well, there is an easier way of reaching this spot. First you move out to one side of the towplane, away from the slipstream. Next you push over, gently, until you are well below, then slide across into position underneath. It's a good tow position. Very comfortable, with good visibility of the towplane. The reason we don't use it more often is that in case the towrope breaks when you're down here it sometimes comes back through the windshield." I went back to high tow, evading most of the slipstream.



Climbing out of field after take-off, a Schweizer 2-22 trails at the end of a 200-ft. towrope

The air was very bumpy, and I realized that I wasn't helping any with a deathlike grip on the stick. As any pilot knows, the secret is to relax. "Relax," I told myself. It didn't work very well. "Let your lower jaw go limp," I told myself. I let my lower jaw go limp. We hit a bump, and I bit my tongue. I must have said something, forgetting that two men can converse in reasonably normal tones in the cockpit of a sailplane. "O.K.," said Carris, "I'll take it for a while." I sat back and looked around, relaxing at last. What a lot of poetic nonsense, I thought, had been written about soaring. I didn't feel like a bird at all, gliding effortlessly on silent wings across a cloud-sprinkled sky, detached in body and soul from the grubby earth below. We weren't even detached from the towplane yet, and this had been damned hard work. Maybe it was a silent world compared to flying a power plane but not so silent as all that. The wind whistled around the canopy much as it would in a convertible driving down the highway at 60 miles an hour, and the wings rattled when we hit a bump. As for the ground, it didn't look so grubby to me. I wouldn't have objected to being down there right now. Then Carris pulled the release knob, and I began to see what the poets meant. The towplane dived away, and we wheeled off in a great circle, alone in the sky. Without the encumbering necessity of the towrope, the sailplane felt lighter, somehow, as if it belonged up there, as if gravity no longer applied and there was no real reason why we should ever come down. With the growl of the towplane gone and the air speed down to 40 miles an hour, it was quiet. A diesel engine pulling a string of boxcars on the Erie tracks 4,000 feet below honked at a crossing; I had never heard locomotives while flying at 4,000 feet before. I grinned and looked over my shoulder at Carris, who grinned back.

You've got it," he said.

I did some turns, then some tighter turns. The little sailplane responded beautifully to all its controls; with its light wing loading, it had a turning radius not much larger than a sea gull's. I tried some stalls, and I got the feel of the spoilers. For 10 minutes I swung through the air like a porpoise in the sea. Then I looked at the altimeter and noticed that we had lost less than 1,000 feet. "You've been getting some lift somewhere," said Carris. "There are no thermals up here today. I think we're running into a wave. Let me see if I can find it." A wave is a rarity at Elmira. They occur most frequently in areas where strong winds blow across the mountains, and the best example in America, one of the best in the world, is on the lee side of the Sierra. There the Pacific winds blow across the high peaks and are sucked down behind. When they hit the ground they bounce back up to tremendous heights.

The world altitude record for sailplanes, set by Paul Bikle last February in the Bishop Wave, using oxygen, is 46,267 feet, which is about as high as man dares fly without pressurization. No such gigantic wave as this ever occurs around Elmira, of course, where the hills rise only a few hundred feet above the valley floor, but on the right day, with the right wind conditions, there are waves. We found one that day and rode it up to 6,500 feet. This surpassed the American altitude record of 1934. There is no physical evidence of a wave's existence, but the sailplane has instruments to define its boundaries. When we were in the wave the little green pellet on the "up" side of the variometer bubbled at the 400-or 500-or 600-feet-a-minute mark. When we ran out of the wave the red pellet on the "down" side would move up to 200 or 300 feet a minute, which is the normal sinking rate of the 2-22. Then we would turn the sailplane back into the wave, and soar again.

Eventually Carris said: "Let's go down." Since we were almost over the airport, he opened the spoilers to brake our descent, and pointed the nose down. In a few minutes we were on the ground. I realized then that my legs were cramped and that I had forgotten to loosen my safety belt or shoulder harness for comfort while in the air. We had flown 32 minutes after release. It seemed like a long time. We went back up, to 2,500 feet, and I made a landing. As I turned onto the final approach, Carris said: "Open your spoilers. You're way too high." So I jerked them back, and we came down like a rock. We hit like one, too, but after one bounce the sailplane stayed on the ground. It ran about six feet and stopped, with a smell of burned rubber. "You had the spoiler handle back all the way," said Carris. "Your brakes were on when you touched down. It isn't necessary to stop quite that short. O.K., let's go try again." The third flight was over the ridge on Harris Hill. The wind had moved around to the northwest, and we found it blowing up the hill from the valley. At least Carris found it. From a release altitude of only 1,000 feet we soared for 35 minutes. He would get us up to 2,500 feet, which was about as high as the ridge current ran that morning, then turn the sailplane over to me, and I would lose the altitude he had gained. Sometimes, sinking, I would pass one of the broad-winged hawks that soar so smugly along Harris Hill, and it would wheel gracefully out of the way, wearing a sneer. "The secret," said Carris, "is to stay away from the ridge, 50 or 100 yards, on the valley side. Not over the ridgeline itself. Watch the hawks." On our fourth flight we looked for thermals and found nothing. I was doing all the flying now. My tow technique had smoothed out; my landings began to look less like a rubber ball. And then after our fourth landing a strange thing happened. Carris climbed out of the sailplane.

"O.K.," he said. "It's yours."

I was 500 feet in the air before I realized that this was my sailplane solo. Carris had told me to release at 2,000 feet, but I didn't dare. I was 4,000 before I worked up the courage to pull the knob, and Erwin Jones, the tow pilot, later told me he was beginning to wonder if I was ever going to let go. And then I was by myself in the sky and reacting like any novice on his first solo. I was alive with joy, lightheaded with the exhilaration of freedom, of detachment. There was no one to tell me what to do or how I should do it. I was the boss. I could shout, I could sing. I could soar on silent wings all over the dad-blamed place and never come down unless I felt like it. Only I came down right away. I looked for the wave. I couldn't find it. I looked for a thermal, frantically. No thermals. I headed for the ridge in desperation. There was no ridge wind for me. The little red pellet hung there inexorably, pulling me down at 200, 300, 400 feet a minute. I looked at the altimeter: 1,000 feet. And I remembered what Tony Doherty had said about farmers' fields. I turned for the airport and just made it.

I sat there in the cockpit, waiting for someone to come help pull the sailplane 200 yards farther up the field, where it should have been. I hated to look at Carris and Jones when they came trotting up. "Congratulations," said Jones, "but what are you doing back so soon?"

"Let's have lunch," said Carris. "Maybe this afternoon you can find some lift."

That afternoon I found some lift. From a release point of 3,000 feet I soared for one hour 39 minutes. The wave had departed by then, and this was a day that was never to produce a thermal, but I found the ridge wind, finally, all by myself. It wasn't easy. I had plenty of altitude, enough to fly up and down the track, repeatedly, over which Carris and I had soared that morning with such success. Once in a while the little green pellet would jump up and hang there, and I would gain a few hundred feet. But I always lost whatever mysterious gust had sent me aloft, and I would descend. I flew away from the ridge, I flew atop it, I crisscrossed back and forth. I hoped some magic road sign would appear in the sky. But nothing happened. I sank and I sank, slowly and gracefully but surely, toward the ground. I was down to 1,200 feet and resigned to returning home when it happened.

I felt a boost, a strong boost, under the wings of the plane. The variometer leaped up, to 800 feet a minute, and my altimeter began to whirl, to 1,500 feet, to 3,000, to 3,500, finally to 4,000 feet, far above the point where I had released. For the first time I was really soaring. There must have been a silly grin on my face; there would be a silly grin if I were to experience it again today.



Tow pilot-instructor, Irwin Jones, demonstrates to puzzled student, Roy Terrell, an intricacy of the art

For this is the thrill of soaring. Discovering that you can climb into the sky without a motor and stay there. With only your own skill and knowledge and the slender wings of the fine little aircraft which carries you, sailing along over the patterns of the earth below, across the contours of the valleys and the hills, on and on and on. I realized then why people write poetic nonsense about soaring—and why it is not really such nonsense after all. I flew up and down that ridge for more than an hour. Daring, I ventured away and then turned back, confident that I could find the ridge wind again - and I always did. I looked for the hawks so that I could sneer back. I saw another sailplane below, and I rocked my wings in comradeship. I was having fun.

I returned to the airport only because I wanted to. I had been up that day for almost four hours, and I couldn't sit anymore. I was stiff when I climbed out of the plane - and a little proud. Carris grinned. "I thought we were going to have to come out there," he said, "and shoot you down."

I spent seven days in Elmira and, except for Friday when it rained, I soared every day. Most of my flight time was in the 1-26, a lovely little sailplane more sensitive, more responsive than the 2-22. I learned how to direct a towplane without radio communication by sliding far out to one side on the rope and pulling the towplane's nose around in the direction I wanted to go. I learned that by proper use of the spoilers and by side-slipping I could land a sailplane on a dime. In the seven days I learned a great deal about thermals, for this is the way a man can always soar, where there are no ridges, where there are no waves. When warm air rises in the sky and cools to the condensation point, cumulus clouds are formed, so it is wise for a sailplane pilot to look for cumulus clouds. It is the round, firm cumulus that you seek, for then the cloud is still forming; the cumulus is disappearing when it begins to send out telltale wisps and shreds, and no lift is to be found there. Some days, when the vapor content of the air is too low, there are no clouds, even though thermals exist. Then you search for light ground areas, plowed fields, where thermals like to form.

I learned that a thermal is conelike in shape, narrow near the ground, increasing in diameter as it rises, and that a good sailplane pilot circles tightly inside, like a soaring buzzard. Thermals move with the wind, and one that starts here may culminate in a cloud over there, downwind, two or three or five miles away. I learned that you stay with a good thermal, which may register 1,000 or 1,200 feet a minute on your variometer, until the rate of ascent drops down to 300 or 400 feet, then you leave it and look for another. Unless you are desperate, when 200 feet a minute, 100 feet a minute, anything will do. Especially in flying cross-country. Carris and I flew cross-country to Endicott one day, and I was desperate most of the time. We flew the 2-25, a famous old two-place competitive sailplane that the Schweizers built for experimental purposes in 1954. It has been in soaring contests all over the world, and once it held the two-place altitude record of 44,000 feet. It is a beautiful thing, so large that it dwarfs most sailplanes, but as maneuverable as a butterfly. The Schweizers had painted it recently, a gleaming aqua and white, and they rolled it out of the hangar on a Saturday morning and turned it over to Carris and me.



The thermals were light that morning, and there was a strong wind from the northwest. But we picked up a little lift over the ridge and then we headed into the wind, toward Corning, and we found a light thermal or two to keep us going. Then the lift ran out, and we sank to 800 feet.

"I guess we're going to have to land," said Carris, who has done this a thousand times. "See if you can reach that little airport over there beyond that hill." So I turned—and ran through a thermal. I turned back to get into it and evidently turned the wrong way, like a drunk looking for his hat. This happens frequently, and the only thing to do is try to find the thermal again by turning in the opposite direction. When I did we hit it and went up to 3,000 feet.

"Good," said Carris. "This wind is pretty strong. We'd better get back toward the airport. I think we have enough altitude now." Just before we got to the field, we found another thermal, a good one, and we circled and circled up to 4,500 feet. "Well," said Carris, "what do you know. We might as well go on for a while. Try it downwind this time. Over there." And he pointed to the southwest.

We found another thermal at 1,500 feet just west of Waverly, where Route 17 almost dips into Pennsylvania, and another, a very weak one, east of town, to keep us going. But then, south of Owego, we couldn't find anything. We hit one bad sink area that dropped us remorselessly 1,000 feet in two minutes, and soon we were down to 1,500 feet, without a sign of a cloud.

We went down to 1,200 feet, to 1,000 - and Carris began to look for a field. Then, at 600 feet, with some of the neighboring hills already above us, we found a wind blowing up a little ridge. We arose, briefly, and then the ridge current ran into a thermal. Up we went, like a kite, to 4,000 wonderful feet. I wondered if Carris was perspiring, too.

We crossed over the Tri-Cities Airport, and we still had 3,000 feet. Carris looked at his watch. It was after one o'clock. "In five minutes," he said, "we'll have been up for three hours. There must be a restaurant somewhere down there. What do you say?"

That was about all of the cross-country. We landed and called back to Elmira to tell them where to send the towplane. We ate lunch and explained to an endless horde of weekend power pilots how the 2-25 got into the air and what made it stay there and why. Some of them were fascinated; some of them looked at us and shook their heads. On Sunday, just before I left, Paul Schweizer had them roll out a 1-23. This is one of the famous mass-production sailplane competition sailplanes, which have performed with great distinction against even the custom-built American and foreign sailplanes of the world. "This isn't ordinarily part of the course," he said, "but we thought maybe you might like to fly the 1-23."

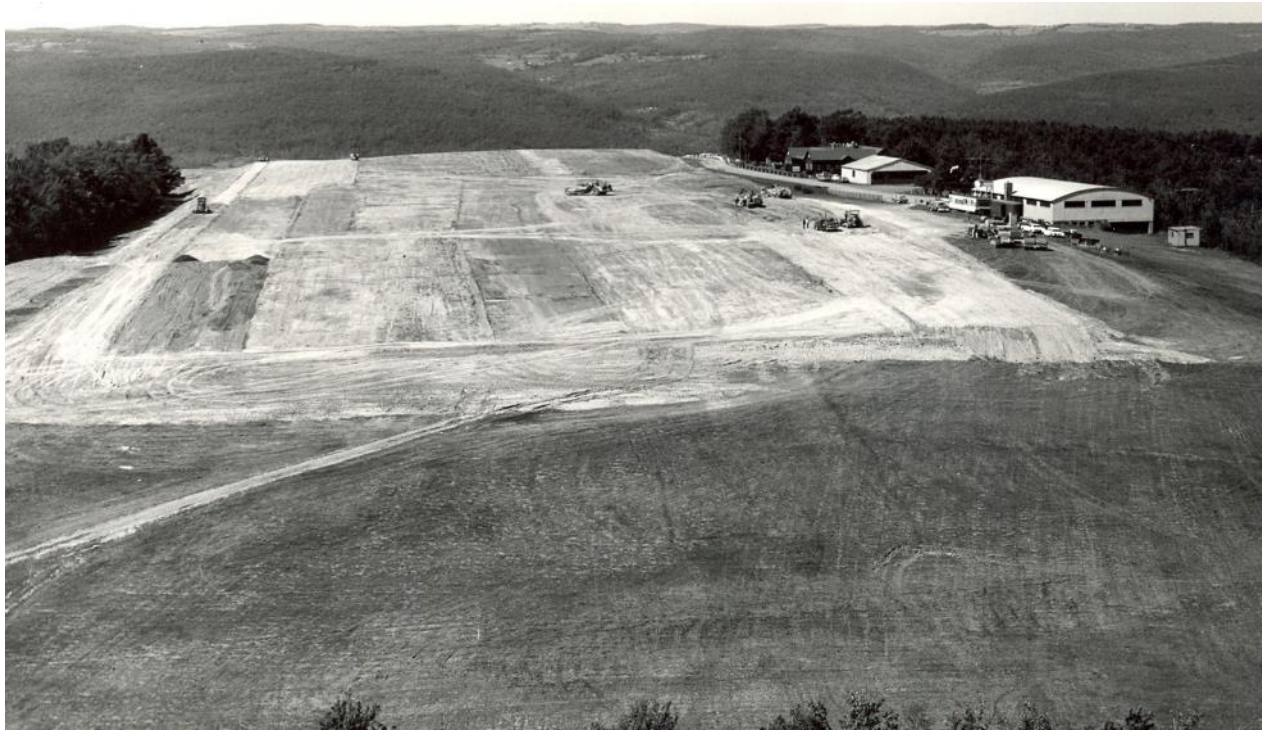
"You won't have any trouble," said Carris, as he locked the canopy. "It's just like the 1-26, only faster."

It was a gloomy day, and there were no thermals, but there was good lift around the edge of the thunderstorms that crossed the valley that morning, and the 1-23 scorned the earth below. We went across the sky over Chemung County Airport like a swallow. We circled Harris Hill, standing on one wing. We flashed down the ridge, scattering hawks behind us. We climbed to 5,000 feet. I did some wingovers and lazy eights. I started to do a loop and changed my mind. "Watch it, boy," I said. "You're not that kind of a pilot anymore." Finally, because I had to catch a flight for home, I took the 1-23 back to the airport, whirled around the field one more time and slid down the sky to a landing. Like a feather.

Carris, I decided, was a good instructor. More than that, he was a pleasant man to spend a long afternoon with at an airport in Endicott, N.Y. I shook his hand. The Schweizers came out and shook hands, too. Maybe they were only happy to get their nice sailplane back, but they were far too hospitable to mention that. "Come back," they said. "Anytime."

I haven't yet, but next spring, as soon as the thermals start firming up a little, maybe I will. You can't keep an old sailplane pilot on the ground.





Building the runways on Harris Hill

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