

1995 at Neuhausen ob Eck in the south-western sector of the Schwabischen Alps.

— William Malpas

### DIAMANT 30TH ANNIVERSARY A SUCCESS

The 30th anniversary (September 4, 1994) of the Diamant first flight was a resounding success. Memories of this event will last a lifetime. There were eight sailplanes and twelve owners in attendance, along with friends and families during the three day weekend. The opportunity to see so many Diamants together, came as a shock as most owners are used to being the only one at their respective fields. Meetings with the Diamant co-designers were capped by the humor of Tom Bircher recalling early construction stories. Unfortunately, Rene Comte could not attend. And Jurg Von Voornveld flew the Ka-6 winged "Ka-Bi-Vo" 30 years after he last flew it at the University of Zurich.

Co-owners Bob and Doug Fronius brought their plane from San Diego, California while Dan Pierson of Compton, California brought both his HBV #5 and 19 m #54. Dan also brought 18-M ship #27, the oldest existing 18-M Diamant. Steve and Paul Calderon, brothers and co-owners came from the San Francisco Bay area with #11, the first 16.5 m made. Steven Hundley, another 16.5 m owner,

brought #45 all the way from Dallas, Texas. John Weis from El Centro, California, had his 16.5-M #50 delivered and he flew in for the weekend. The eighth Diamant in attendance, 16.5 m #51, owned by Phil Glass, is permanently based at Mountain Valley Airport. Other Diamant owners visiting or staying for the whole weekend without sailplanes included: Bill Williams, Jack and Sharron Emery, Ray and Paula Poquette, and Art Babiarz Jr. and Dad Art Sr.

Thanks go to Larry and Jane Barrett for making the facilities available for our group, to the organizers of the Sailplane Homebuilder's Western Workshop for space in the "Bird-House" hangar, to Donna Joe and husband Bob who handled registration, and special honors to Bill Boulton who helped out everywhere.

### IN MEMORIAM

A few years ago, Joe Scott and I started taking glider lessons, suffering through our student pilot agonies together and eventually becoming soaring buddies. In October of 1993, we drove to Elmira intending to prepare our sailplanes for winter storage. When the fog cleared we realized that we had a glorious Indian Summer day on our hands and quickly changed plans and decided to fly instead.

We launched from Harris Hill, Joe in his 1-34 and I in my 1-35. The Super Cub pulled us up into a sky so intensely blue

that our sailplanes almost seemed to be swimming through the atmosphere rather than flying. No clouds were present to mark thermals for us, but, on the other hand, nothing obscured our horizon. For a moment, a migrating hawk shared a thermal with us and then effortlessly climbed away into the vastness of the sky above, leaving us behind to scratch and claw for every foot of altitude.

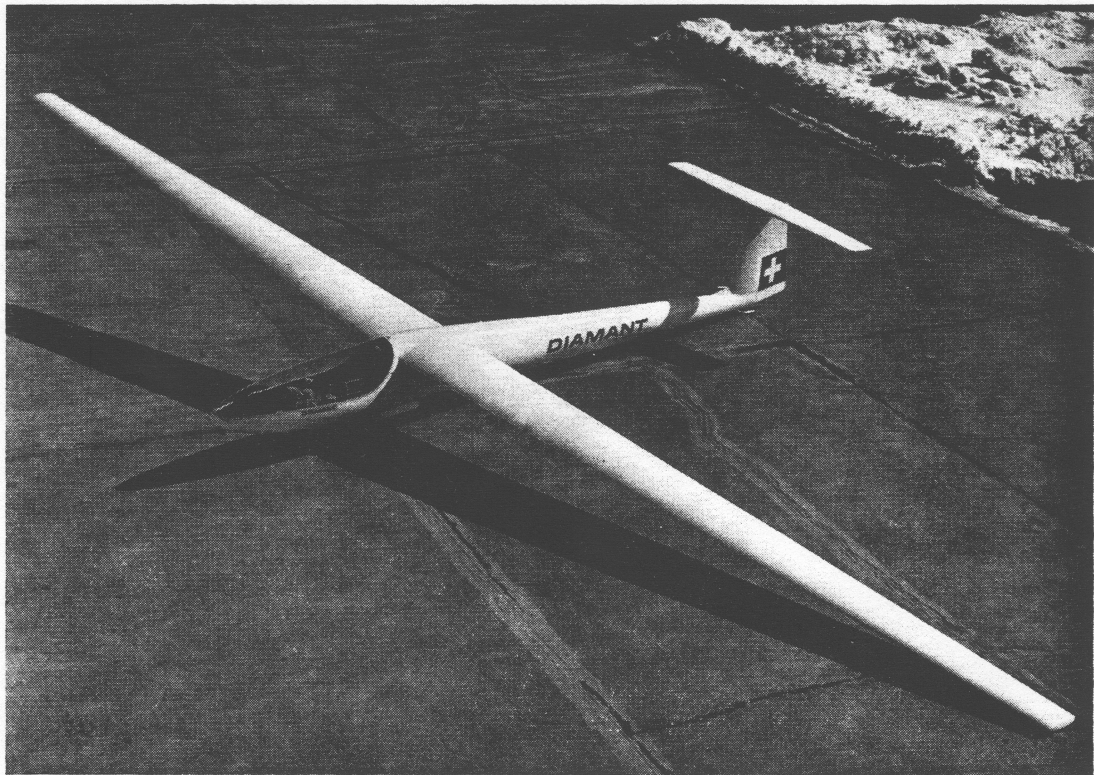
We later landed and rolled to a stop directly in front of the National Soaring Museum. As we opened our canopies and exited from our cockpits, we both realized that we had experienced an exceptional afternoon together. One of life's very best!

Joe never flew his sailplane again. A few weeks later, he became ill and in July of 1994, lung cancer took him from us. I will always treasure the memory of our last flight together and will miss Joe deeply as will all of his friends at Harris Hill. Joe Scott was also an accomplished aerial photographer and it is fitting that an example of his work graces the October page of the 1994 SSA calendar.

— Keith Beardslee

### IN MEMORIAM

Friends will be saddened to hear of the passing of Laurie Moreau. He fought the long difficult battle with cancer with courage, dignity, and wisdom, and slipped away on September 6, 1994. He

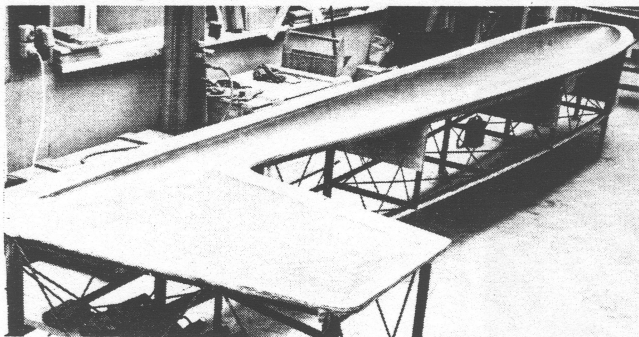


## Diamant Test Pilot Report

D. Delafield

After 3,575 cross-country miles this last summer, we are more enthused than ever with the HBV Diamant. So, armed with plenty of confidence, I agreed to write a Pilot Report for *Soaring*.

Alice and I fell in love with the Diamant during our honeymoon in Switzerland. We were enjoying a final fling (thanks to our airline passes) before settling down to three years of study. And so it developed, that on July 22, 1965, René Comte flew us over to the FFA factory at Altenrhein on the shores of Lake Constance. We were almost as impressed by the large, modern factory, in its charming setting, as we were by the fiberglass sailplane. That evening, over some hot mulled wine, I placed our order. We have had absolutely no regrets since.



Half-shell mold for Diamant fuselage.

The ship is the end result of a university project by the young glider pilot-engineers Bircher and Voornveld. They had previously experienced marked success building a modern fuselage for their club K-6. With the encouragement and facilities of the Swiss Federal Institute of Technology, they then designed a high-

performance fuselage to use Huetter's fine fiberglass wings. Next came the inevitable problem with most dream sailplanes—money. Fortunately they took their project to René Comte. Though he had retired from soaring he was ready, after a good look at the plans, to get back into the sport.

Under the urgings of René, the designers and the Institute, FFA agreed to build a trial lot of ten fuselages, the wings to be supplied by Haenle. These first ten sailplanes would result in a net loss to the factory, but it too had been swept up in the enthusiasm. Much to FFA's delight the first ten Diamants were quickly sold. They have now tooled up for quantity production of the complete sailplane.

\* \* \*

Serial No. Three (Two November) arrived at the Miami, Florida docks during my final exams and just a week prior to the Marfa Regionals. Somehow we made it to Texas and were able to cautiously pick our way into fourth place. Then, with 40 hours in the log, we confidently drove out to the Nationals where I proceeded to indulge in every stupid error known to man. The result was that only pilots who had a chance to climb and glide with the Diamant know its true capabilities.

The Diamant could be classed as an exotic Standard Class glider, since it has a retractable gear and camber-changing flaps in addition to a 15-meter span. The fuselage is long (24.8 ft.) and low, necessitating a reclining pilot position similar to the HP-14 or the Foka. The cockpit readily fits my angular six foot three, however, and even after flights of nine hours I am not unduly stiff. The cockpit and headrest are finished in a plush blue synthetic fabric made at René Comte's textile mill. One's legs extend around a large, easily re-

moved instrument console, ideal for clutching with the knees when you're down low over the rocks! At the base of the console is a neat little receptical for a BEI-990. This will be standard on all the American models. The instrument and radio batteries, along with the total-energy attachment and thermos, go into an adequate compartment forward of the console. There is baggage space behind the pilot's cushioned headrest.

When the Do-X made its round-the-world flight in 1931 it created quite a sensation. This was the epoch when aircraft manufacturers were convinced that air travel had a tremendous future and that larger and larger planes would be needed. The Do-X, with its 20-ton payload, 75-passenger capacity and 12 push-pull engines was a daring, and unique step in that direction.

After many successful flights the Do-X, aided by the world-wide depression of the times, passed quietly away. There remained, in Altenrhein, Switzerland, the factory where the great monster had been built, however. It has been five years since Herr Dornier, who already owned a well-known factory in Germany, had expanded into Switzerland and established the modern plant at Altenrhein (Old Rhein).

In subsequent years the Dornier works at Altenrhein participated in the production of other famous aircraft, notably the Dornier-Wal seaplane which Amundsen used for his Arctic expedition and the Bucker Jungmann and Jungmeister aerobatic aircraft. During the second world war the factory was put under Swiss management and built fighter planes for the Swiss Air Force.

Three years after the war the company was purchased by private Swiss interests and the name became Flug- und Fahrzeugwerke AG. Altenrhein. The plant was expanded to the extent of a new division for the manufacture of railway coaches and another for fiberglass construction. One of the firm's most successful ventures was the basic design of the Lear business jet.

About two years ago FFA decided to undertake the manufacture of the fiberglass sailplane Diamant, the primary development of which had originated at the Swiss Federal Institute of Technology in Zurich. Since the factory was already experienced in fiberglass construction, it was comparatively easy to add a new line. Nor did the production of metal parts, controls and the like present any problem. The management was aware, however, that high-performance fiberglass sailplanes are something very special and that it would be necessary to proceed cautiously at first. On the other hand the managers were confident that, with the excellent team of engineers and craftsmen available, it would be possible to transfer the traditional standards of quality to the new product. It was further realized that, since the use of fiberglass in aircraft construction is fairly new, all sorts of strength tests would have to be made in order to obtain an airworthy glider. In this respect the factory is well equipped, having both testing apparatus and trained personnel.

Fiberglass structures, as has been pointed out before, require an entirely new approach. Of paramount importance is the fact that the strength of fiberglass-reinforced resins decrease with higher temperatures. For the Diamant a basic design temperature of 54°

I manage to stuff in a ski jacket, canteen, survival kit, lunch, Kodak Instamatic and barograph, but the sandwiches do get squashed.

The controls, which use push rods with ball bearings and nylon guides, are mounted on the sides of the cockpit. Stick, gear handle and spring elevator trim are on the right, flap handle and dive-brake handle  
(Continued on page 14)

C (129.2° F) was chosen. This is the figure used by the majority of fiberglass-aircraft designers today, and the one at which it is intended to meet maximum load factors. Since the actual temperature in flight is always considerably below 130° one enjoys a safety margin over that of the design requirements.

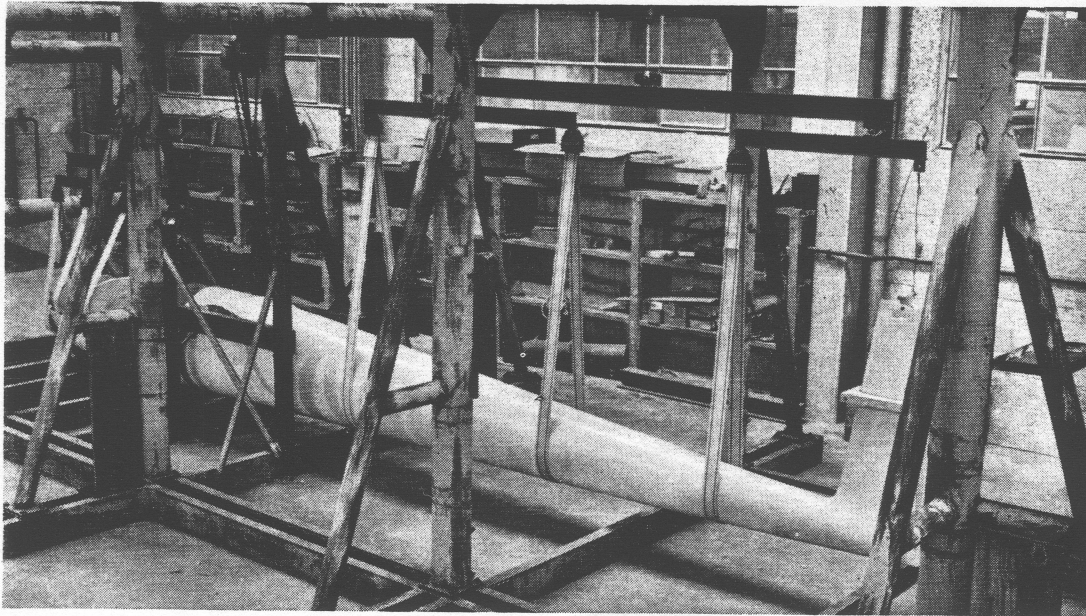
There is frequently concern as to what happens when the temperature of the fiberglass structure goes beyond the specified 129.2°. In this instance the rupture strength of the material drops below the certified figure. The instruction booklet says that the air-



craft should not take off before it has been cooled down. This can easily be done by wetting it down with a sponge or rag. When the structure is overheated there is no permanent change in the material; it resumes full strength as soon as it has cooled. The resin compound does not melt, nor will it change its shape until it has been heated to well over 130° and is, at the same time, subjected to great loads over a considerable period of time.

In actual practice the temperature of the structure would tend to exceed the allowed maximum only if it were left for a long period of time in an inadequately ventilated trailer which is standing in the baking sun. The factory provides a special thermometer to indicate the structure temperature. Dick Delafield, who used such a thermometer last summer, both at Marfa and Reno, checked regularly (especially when unloading the ship from the trailer) and reported that the indication never came near the 54° C red line.

The FFA's sailplane program for 1967 includes continued construction of the 15-meter Diamant HBV which uses Libelle wings supplied by the Glasflugel firm. It will introduce, in addition, two new wings of its own design, one with 16.5- and the other with 18-meter span. All wings will fit the same fuselage and the fuselage-wing connections will be identical for all three versions. They will not, however, be interchangeable without proper adjustment by the factory or by a competent workshop. The cockpit will be slightly modified to give more elbow room to the stouter pilots and a hinged canopy will be provided. Delivery of the new ships will begin this coming spring.  
RENE COMTE



Diamant  
fuselage  
in FFA  
test rig.

(connected to the wheel brake) on the left. No one who has flown the ship has experienced trouble with the side-mounted stick, though rolling into a steep bank to the left feels somewhat odd at first. After the first few flights at Marfa I experienced a sore wrist, but this seemed to disappear when I stopped overcontrolling. Then, during the ordeal at the Nationals, my ankles became rather tender (I had flown over 100 hours in less than a month). This may prove to be a problem with the weak-ankled when flying extensively in the reclining position. To my knowledge, however, I am the only one to have experienced this problem.

Like the fuselage the wings and horizontal stabilizer (stabilator?) are molded fiberglass. By using this technique true laminar flow is possible and wing loaded is not as significant a factor as it is in metal or wooden gliders.

The gear is fully retractable and uses fiber-cone springs. These allow one to touch down hard without the normal jolt or tendency to bounce back into the air.

The canopy is optically perfect despite its length and curvature. Vision is excellent in all directions except straight up (my chin is tucked into my chest). Unfortunately the canopy lifts off rather than being hinged or on slides, but this is to be changed in future production models.

Assembly is simple with only a single kingpin and two aileron pip pins to install after the wings are in place. Using the Libelle wrench, the wings snug nicely over the automatic connectors. The full-flying T-tail is attached to the vertical stabilizer with a single hefty pin and lock.

During the pressure of the two contests, assembly was a problem only once, though I bow to no man when it comes to lacking mechanical ability. Real trouble did occur during the Nationals with an elusive little aileron bushing. Fortunately some of the Libelle pilots keep spares in their tool kits. FFA writes that they are now manufacturing their own bushings, so this headache is cured for future owners.

\* \* \*

In the air the Diamant knows no peer. Just release, retract the gear, find lift, crank down the flaps and the fun starts. Despite its small wing area (105 sq.ft.) the

Diamant will climb with any sailplane in America. Thanks to the ample tail surfaces there is no stability problem in narrow ragged lift. Stick forces are very light and responses are rapid with a good rate of roll.

At the top of the thermal—roll out, a little negative (reflex) flap, slight forward pressure on the stick and one is slipping over the earth at an astonishing rate. The reflex flap settings allow the pilot to keep the exceptionally small frontal profile straight into the relative wind while cruising. The result is a very flat glide angle at a high forward speed.

Like most high-performance sailplanes the Diamant is not unduly stable. However it can be trimmed to feel rock solid on tow. My early apprehensions about T-tail problems, such as the deep stall (like the BAC-111) and feedback, never materialized. In fact the Diamant flies very docilely with just enough slipperiness to make you respect it. With forward trim I have trouble making the ship stall at all. Full back trim and an abrupt pull up will result in a stall and a dropped wing. Recovery is always very quick with minimum loss of altitude and no tendency to spin.

#### DIAMANT DIMENSIONS

Wing span .....	49.2 ft.
Wing area .....	105 sq.ft.
Aspect ratio .....	23.8
Overall length .....	24.8 ft.
Empty weight .....	375 lbs.
Maximum flying weight .....	640 lbs.
Maximum L/D .....	39 @ 54 m.p.h.
Minimum sink .....	1.9 f.p.s. @ 47 m.p.h.
Two-meter sink speed .....	97 m.p.h.
Placard speed .....	157 m.p.h.

My only real comparison test of glide angle was on the sixth day of the Nationals. Neal Ridenour, in his beautifully finished and flown HP-13 (HP-14 wings and HP-11 fuselage) and I worked the last spongy thermal of the day and then made a final glide to Alturas. Our rates of climb in the thermal were identical, but when we arrived at the airport the Diamant was at least 500 feet higher than the 13.

On approach I like to use slip and dive brake. The brakes are somewhat small, but the ship handles nicely in a slip. If one doesn't keep the brakes cracked until after touchdown, the Diamant will seem to float for an eternity in the ground effect. Once one learns to be on guard for this bizarre characteristic, small fields pose no problem.

As to ruggedness, let me pass on the story of a wild ground loop told me by Hans Werner Grosse who observed the incident in Germany last summer. All hands

reached the scene of the mishap expecting to find a broken fuselage and cracked spar—or worse. The Diamant was unmarked, however, and the only internal damage was a slightly bent landing gear.

FFA, evidently desiring to gild the lily, is going to introduce two new versions of the Diamant with longer wings and higher performance, while still maintaining a somewhat practical size and price. We may have our doubts, but the Swiss do have a reputation for achieving the extraordinary with practicality and efficiency.

## SECOND ANNUAL 1-26 CHAMPIONSHIPS

H. MARSHALL CLAYBOURN

One-design competitions will not improve the breed of sailplanes to the extent open competitions do, but it may well do more to improve the breed of pilots. Without a doubt it alters the hangar flying: techniques and decisions, not aerodynamics, are the subject material.

The central Oklahoma town of Guthrie was the site of such a one-design competition—the 2nd Annual North American 1-26 Championships. The contest was conducted during the period August 14 to 20, 1966, and was sponsored by the TRI-C Soarers: Cruce, Clearly, and Claybourn. While only a modest number of contestants participated, the 18 entries represented a 60% increase over last year's event. Of these, three were team entrants.

The first day's task assigned by Competition Director, Jim Rhine, was a 60-mile speed task; West to Kingfisher and return. Moderate lift and a 15-knot southerly wind were forecast. The weather cooperated with Dave Owens, our met man, if not with the contestants. Such a wind would be merely a bothersome feature in an Open Class sailplane, but the low penetration of the 1-26 makes a crosswind of such magnitude a formidable problem. Of the 18 brave souls who ventured forth, just four made the first turn point and only two tasted the victory of successfully crossing the finish line. Ed Dawson carried the day with an average speed of 26.9 m.p.h. A. C.

Williams had a heart breaker—he put in only a half a mile short of the goal.

The weather the second day provided stronger lift and stronger winds, with the latter increasing the greater amount. Distance along a fixed course with a final leg option was the task. The fixed-course portion was a 106-mile goal and return to Okeene Airport. The southwest wind virtually fixed the direction of the final leg.

Outbound there was a quartering headwind which struck down all but two on the first leg. Those two who made the turnpoint slid back to Guthrie with comparative ease and scooted out downwind. In what proved to be the deciding flight of the contest, A. C. Williams made some 75 miles beyond Guthrie. He achieved a total of 181.5 miles. It was an outstanding flight for a 1-26 in view of the fact over 50% of the distance was in a 20-knot crosswind.

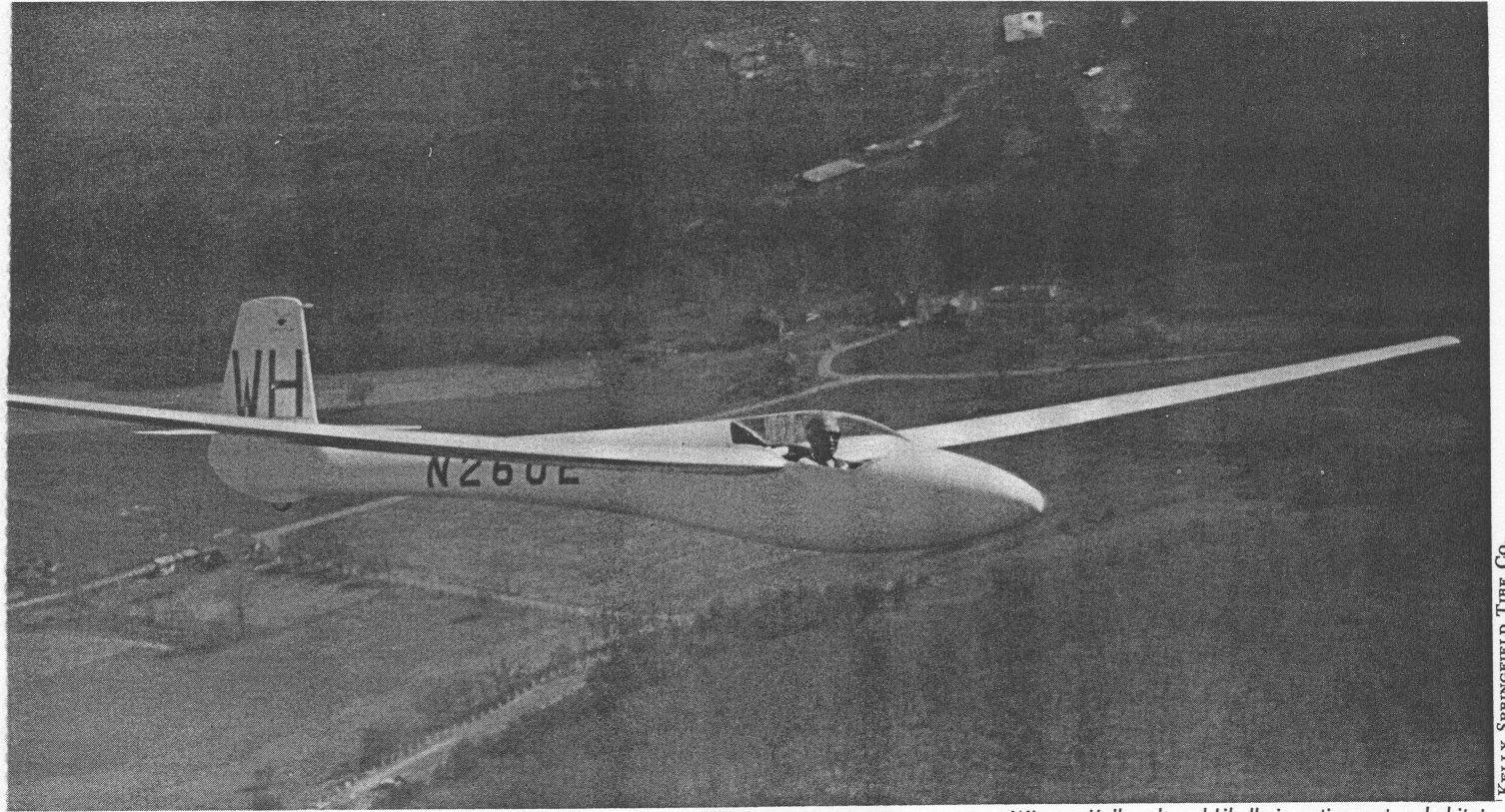
On the third day a free-distance task was given. Good thermal activity and a moderate southwest wind were the prospects for the local area. There was a sigh of relief from the pilots who would at last have their backs to the wind. But trouble lay ahead. A weak front lay across east central Kansas, moving east and north. A choice of north and slightly west or east-northeast faced the pilots.

Those who headed northwest encountered ever-calmier winds and thermals weakened by the previous

## SECOND ANNUAL NATIONAL 1-26 CHAMPIONSHIPS

GUTHRIE, OKLAHOMA — August 14-20, 1966

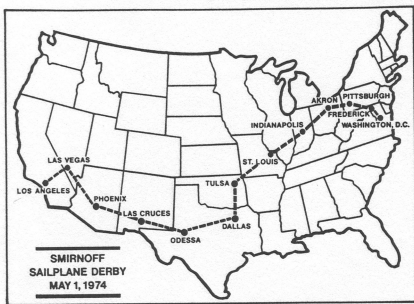
FINAL STANDING PILOT	AUG. 14		AUG. 15		AUG. 16		AUG. 20		FINAL SCORE
	SPEED/DIST.	POINTS	DISTANCE	POINTS	DISTANCE	POINTS	SPEED/DIST.	POINTS	
1. Williams, A. C.	59.5	714	181.5	1000	175	803	40.5	920	3437
2. Claybourn, M.	23.2	881	41.0	226	218	1000	43.0	977	3084
3. Falk, T.	25.0	300	168.5	928	175	803	43.0	977	3031
4. Dawson, E.	26.9	1000	19.5	107	183	839	20.0	455	2365
5. Doherty, T.	51.5	618	45.5	251	181.5	833	27.5	625	2327
6. Saxton, R.	17.5	210	18.0	99	202	927	38.0	864	2200
7. Jacobs, Ken	26.5	318	7.0	39	194	890	38.5	875	2122
8. Cleary, W. B.	7.0	84	40.5	223	171	784	38.0	864	1955
9. Smull/Schutter	20.0	240	16.5	91	100	459	44.0	1000	1790
10. Marshall/Long	—	—	27.5	152	167.5	768	38.0	864	1784
11. Colton, J.	5.5	66	29.5	163	138	633	36.0	818	1680
12. Rounce, R.	2.5	30	5.5	30	137	628	38.0	864	1552
13. Moyer, L./Yund L.	7.0	84	15.0	83	187	858	11.5	261	1286
14. Hoser, K.	7.0	84	11.0	61	103.5	475	29.0	659	1279
15. Frank, N.	6.0	72	12.0	66	162.0	743	—	—	881
16. Rupel, M.	7.0	84	12.0	66	157.0	720	—	—	870
17. Haas, F.	—	—	—	—	92.5	424	—	—	424
18. Taylor, R.	8.5	102	12.0	66	54.0	248	—	—	416
Total miles flown: 4,321					DNC — Declares no contest.				



KELLY SPRINGFIELD TIME Co.

Winners Holbrook and Libelle in native eastern habitat.

# THE 1974 SMIRNOFF SAILPLANE DERBY



by CONNIE VIANCOUR

For two years the Smirnoff Sailplane Derby has tantalized soaring enthusiasts with the thought of racing their sailplanes 2900 miles across a spring-green United States. This year invitations were extended to seven notable pilots to participate in the third annual running of the event. The contest began on May 1st at Whiteman Airpark in Los Angeles and ended fourteen days later at Dulles Airport in Washington, D.C. Plagued with good weather, great soaring, and an eager public response, the Smirnoff Sailplane Derby came of age.

How did this all come about? Commercial sponsorship of U.S. soaring has historically been neither widespread nor wildly successful, but in 1972 the right ingredients came together for a new kind of contest . . .

Enter: Smirnoff, subsidiary of Heublein, Inc., Contact: Gus Briegleb, stalwart soaring advocate, Add: Ed Butts, well-known soaring contest director, Object: Promote a transcontinental glider race to advertise soaring—and Smirnoff. Result: A proposal for a first-of-its-kind cross-country sailplane race.

Sounded like a good idea. So three years ago on May 1st, five pilots and their crews inaugurated this exciting event. The first race was won by Wally Scott. Its success prompted another try and the race became an annual event in 1973 with Goran Ax of Sweden

(then reigning World Soaring Champion) beating his five American competitors over their own ground. This year the Derby found four western pilots pitted against three easterners.

## Whiteman Airpark—May 1, 1974

Seven gleaming ships. Seven anxious pilots. Crowds of spectators and reporters asking the inevitable questions: "What's the water in the wings for?" "How do you get off the ground?" "What happens if the wind quits?" The participants respond with well-memorized explanations.

The final pilots' meeting: Seven tense faces intently listening for one more bit of helpful information from Ed Butts, Contest Director. Finally the signal, "Move your ships on the start grid!"

The last minutes before takeoff: Pilots smiling and striving to appear calm and confident before the cameras while trying to unknot their stomachs. At last, ready to launch, the starting line looked like this:

Danny Pierson, Compton, Cal. — *Diamant 18*, V7.

Hannes Linke, Los Angeles, Cal. — *Kestrel 17*, 4U.

Ken Briegleb, El Mirage, Cal. — *Kestrel 17*, 4F.

Bill Holbrook, Cumberland, Maryland — *Libelle*, WH.

Karl Striedieck, Port Matilda, Penn. — AS-W 15, KS.



KELLY SPRINGFIELD TIME CO.

Ross Briegleb, Las Vegas, Nevada  
— *Concept 70*, 68.

Richard Schreder, Bryan, Ohio —  
RS-15, 1.

### The Rigors of Ross

The sailplanes were towed aloft about noon. The seven pilots released near Pearblossom (just north of the mountains and the Los Angeles haze), formed up around Hannes Linke for a racehorse start, and then were off. A strong tailwind kept the top of the lift low (9500 feet) and the pace fast; the northern horizon was decorated with tempting but off-course lenticulars.

Before long the competitors were closing in on Clark Mountain, the last barrier before gliding into the finish at Henderson, Nevada. Pilots reported various pegged up and then immediately down in the turbulence over the notch in Clark Mountain. Karl Striedieck kept circling—all the way through the pass and beat two *Kestrels* to the finish by seven minutes, although all three had been companions at the mountain.

When the dust had settled, six pilots had completed the 187-mile leg with only 19 minutes separating first from sixth place. The seventh, Ross Briegleb, was on the ground 30 miles out—forced down after losing all but ten percent of his ailerons' travel because of sealing tape coming loose and jamming the right aileron. Towplanes were dispatched from the airport and made

several passes before spotting the white dot in the middle of Mesquite Dry Lake. The surface looked suspicious, so the planes returned and four-wheel-drive vehicles were substituted and sent to supplement Ross' own crew.

Mesquite Dry Lake was the only available landing spot for miles when Ross was forced down; it turned out to be only slightly more desirable than the surrounding boulders, hills, and Joshua trees. A soft silt surface sounds safe, but when you've landed (gear up) three miles from the lake's edge and the daylight's fading and one of the rescue jeeps has already foundered and turned from savior to savior, one can begin to lose heart. As daylight changes to twilight and finally blinks into twinkling stars, tempers can flare brighter than flames. Too many hours later, *Concept 70* and its pilot were retrieved. The piece of loose tape had cost more than man-hours: the crew car suffered damage to its drive train and transmission on non-roads to the dry lake, a mechanic was "encouraged" to fix the damage fast enough to deliver pilot, plane, and crew for another day, and—the real topper—a wing blew over during assembly and punched a hole in the top skin . . .

### Schreder's Scary River-Bottom Ride

So far, so good. On to Phoenix.

The second day a headwind of 10-18 mph was predicted, with cloud bases about 11,500 feet. This particular leg was the most feared by some pilots. ("I've flown over the area in a power plane and parts of it look like the moon!") It was a course that provided 237 miles of real character-building terrain. The headwind made it seem to the struggling pilots as if Phoenix could never be reached. Director Ed Butts encouraged them: "The moon's coming up, so you can land at night." On the worst stretch south of Kingman, a plaintive request came over the radio, "Any chance of getting a portable airport out here?" Later, reactions were that 4000 feet over *that* terrain had you really sweating.

Times were slower in the generally weaker lift. Hannes Linke's winning 53.3 mph was a far cry from Karl Striedieck's 83.7 mph tally the day before. But Karl, fresh from winning the Standard Class Championship of Region Five, had pushed too hard and landed at Kingman, 82.5 miles from

the takeoff at Las Vegas. Ross relayed that he was landing at Wickieup (127.5 miles).

With the race completed and Hannes, Ken, Danny, and Bill safe and accounted for at Turf Airport's finish line, attention focused on the whereabouts of the RS-15 and its pilot. Where was Dick Schreder? Dick's wife, Angie, drove on the airport only to learn he had just called to report his landing 50 miles south of Las Vegas near Hoover Dam! That would mean a 500-mile roundtrip to go back and pick him up. However, two local HP owners volunteered to make the retrieve.

Dick Schreder designs and builds sailplanes, and after his out-landing that second day he is more than glad that he builds them out of metal. Dick found himself in bad straits over a river in a deep canyon less than an hour after takeoff. Agonizing minutes later he was committed to land among the rocks of a sand wash. On touchdown he was obliged to put the RS-15 into a radical ground loop to avoid a serious crash. Damage to his ship was minor—one dinged wingtip. "No other ship would have survived that landing," he said proudly.

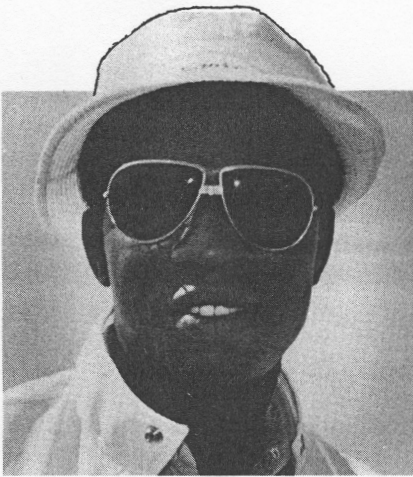
He was down and still alive—but miles from the nearest road. He found a dirt track leading out of the dry river bottom; with less than a quart of water he set out for help. Many carefully-marked forks-in-the-road later, he stumbled upon a windmill with a water tank beside it. He couldn't believe his good fortune and ran to it. The pumping rod had been shot off and the storage tank was full of bullet holes! There was not a drop of liquid to be found.

Dick plodded wearily on, thinking unkind thoughts about trigger-happy so-and-so's. Twelve miles later he reached the highway and eventually hitched a ride to the nearest gas station. After immediately phoning in to Phoenix, Dick hung up and related his story to the station owner, with special negative emphasis on the so-close but so-far-away water tank.

"It's a good thing that tank was shot full of holes," said the attendant. "That water's poison—full of arsenic."

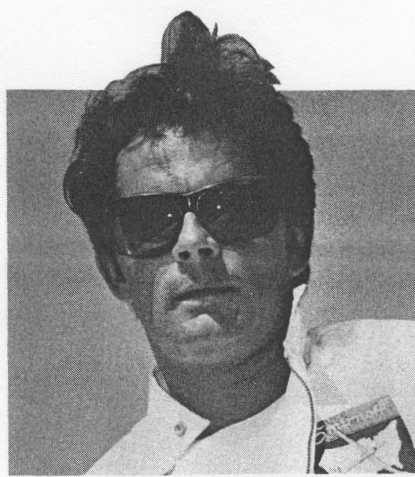
### Costly Navigation Errors

The Great Sailplane Race was upstaged by the arrival of President



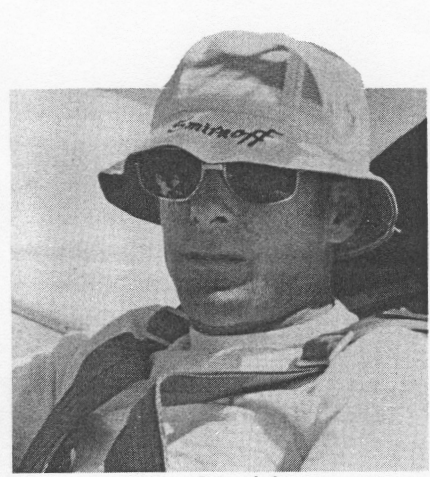
GEORGE UVEGES

Danny Pierson



GEORGE UVEGES

Hannes Linke



Ken Briegleb

Nixon in Phoenix the next day. So for the first time pilots and crews were free of photographers and cameramen as they prepared for the 313.5-mile race to Las Cruces, New Mexico—another heart-stopping leg. The weather was less than desirable for such a long course, but five hours after the start Hannes finished first to retain his cumulative lead over Ken Briegleb and Bill Holbrook.

Earlier, a radio transmission from Ken had left everyone gasping when he announced, "I'm approaching Silver City." This would mean that he had a good hour's lead over the others! The mystery deepened after Hannes, Bill, and Karl finished in Las Cruces with no sign of Four Uniform and its pilot, but thirty minutes after the first completion Ken finally called, "One mile out." What had happened? He had unknowingly flown north and confused Silver City with an Indian reservation that actually lay thirty miles above the direct course.

He wasn't alone in his miscalculations. Dan Pierson lined up his final approach on a place six miles west of Las Cruces Municipal Airport. By the time he realized his mistake, he was too late, too low, and had to land.

#### Beverage Diplomacy in Mentone

On May 4th, after some doubts that the weather would be as good as forecast for the 267-mile Las Cruces-to-Odessa leg, thermals began popping and the race headed off across a no-man's land of mountains, hills, and desert containing few landmarks to navigate by. Initially, Ken Briegleb impressively outdistanced everyone, only to run into a stable airmass that dropped him 40 miles short of Odessa. It began to sound as though he would

get the most distance points; the pilots trailing him began alerting their crews: "If you don't hear me I'll be down at . . ." Bill Holbrook's crew caught up with him and watched uneasily while he crept mile by mile down the road, expecting to land any time. Hannes Linke was preparing to land in a field when reduced sink slowed to zero and then, unbelievably, lift. He hung on, slowly inching toward Kenny at Kermit Airport. When he reached the 'port, Kenny's crew was already dismantling Four Uniform. Observing their rival desperately orbiting above them, the radio came alive with sneaky offers of cold beer. Why not come down and join them? Hannes remained steadfast and struggled on until he finally crossed the Odessa finish line. Six minutes later Dick Schreder and Bill Holbrook reached Odessa to raise completions for the day to an unbelievable three.

A barbecue was held that night by the Odessa soaring club for the participants. Danny Pierson and his crew were the only absentees, thanks to a comedy of errors in which crew and pilot had unwittingly eluded one another as they attempted to make contact. (Danny had been obliged to land at Mentone, seventy-five miles short of the finish.) It happened to be the election night, the bar was closed, and the entire population of 83 had finished voting. The crew finally found some citizens who knew the location of the sailplane. But eyeing the Smirnoff jackets, the locals countered questions with some of their own:

"Do you work for the people that make that Vodka?"

"Yes."

"Well . . . yuh got any?"

"As a matter of fact, we do."

"We won't tell yuh where the plane

is until yuh hand over the Vodka."

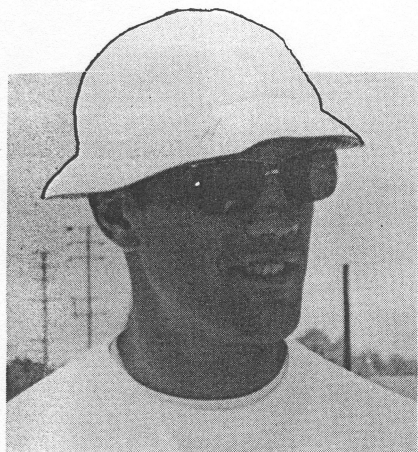
The crew acceded to the demand, were soon reunited with their pilot, and after some diplomatic conviviality with Menton's officialdom, took leave for Odessa.

#### The Two-Horsepower Glider

Dallas, Texas. No Smirnoff contestant had ever soared into Dallas. In the 1972 race, pilots had to trailer in and out because of persistent rain. But this year three pilots completed the 327-mile Odessa-to-Dallas task, the longest of the Derby. Ken Briegleb took first with 49.9 mph; he was followed by Bill Holbrook and Karl Striedieck. Karl barely reached the end of the runway; a few feet less altitude would have made it impossible.

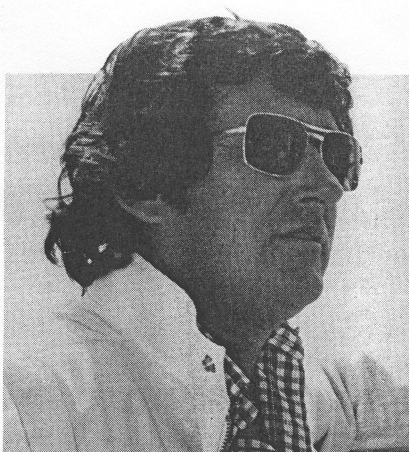
While most pilots and crews were celebrating at a party hosted by Dick Johnson (the redoubtable six-time U.S. Soaring Champ whose home is in Dallas), it was Hannes' turn to face the problems of landing short. Without an extra foot or two needed to make the airport, he dejectedly chose a field seven miles from the finish and landed. His roll-out was suspiciously short, not even equaling the span of his *Kestrel*. He realized there was more to the field than had initially met his eye—eight inches of rain the day before had transformed the clay soil into something akin to Elmer's Glue. The owner of the field soon appeared and tried to pull the sailplane out of the mire with his pickup—which immediately got stuck. "I've got something that can do this job," he said, and 20 minutes later returned with two horses. Trying just one horse, they agreed that a *Kestrel* was indeed a two-horsepower glider and unglued the bogged machine when the second animal was added to the effort.





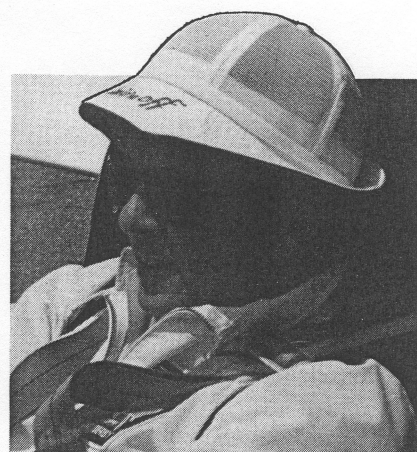
GEORGE UVEGES

Karl Striedieck



GEORGE UVEGES

Ross Briegleb



GEORGE UVEGES

Richard Schreder

### Tulsa or Bust

For at least one pilot, the start of the 246-mile run from Dallas to Tulsa provided the most remarkable memory of his career. Nothing hairy. Just a few magic minutes of soaring that honestly deserve the description "out-of-this-world":

"It was a beautiful day. Luscious cumulus floated from horizon to horizon. One moment I flew in sparkling sunshine, the next in cool shadow under a cloud.

"Not long after takeoff, I found myself with five others circling in lift above the central cluster of high-rise buildings in Dallas. The sight of these great vertical structures thrusting out of the Southwest Plain is impressive in itself. But I was at the top of the gaggle looking down. It was a picture I won't forget—ever. The long wings circling and flashing in intermittent sunshine, the breathtaking reversed perspective of skyscrapers, the reflections of their huge glass walls of ant-like traffic at the bottom of narrow man-made canyons—it was something out of the future!"

May 7th was a precedent-breaking day—at last the contestants flew out of Texas. Lift was good, streeting common, and six pilots completed the course. Ken Briegleb reported flying 45 miles at one time without circling, which contributed to his 74.9-mph top speed for the day. Everyone arrived in time to enjoy a chicken dinner on the shores of Harvey Young Airport's private lake. Everyone except Dick Schreder who miscalculated and landed 4.5 miles short.

### Man's Best Friend

Before the takeoff from Tulsa on May 8th, pilots were less than enthusiastic about their chances of reaching

the St. Louis finish line. Lift was predicted to be poor, indicating little possibility of finishing the 354-mile leg. They were right—Day 7 ended up being scored as a distance day. Great altitudes were not attained. Ken and Hannes recalled circling over a river in weak lift. They noticed Danny joining them even lower—so much lower that his shadow was very distinct on the water's surface. Late in the day, Bill called "Room Service," his ground crew and said he was uncertain of his position—at which Karl came mischievously on the air. "If you're lost," he advised, "head south." (With a northeasterly course that would have been very interesting.) Lost or not, Bill had the winning distance for the day, 163 miles, landing southeast of Springfield, Missouri.

Hannes once again made a lucky choice of fields. Planning to set down near the freeway, he happened to spot a couple of "four-legged glider munchers" who were contenting themselves munching grass since no gliders were available. He cautiously continued a mile farther south until he was able to land in an empty but slightly rougher pasture. When the farmer appeared, Hannes explained why he had chosen the particular field. "Boy!" the farmer said. "You've made a mistake. There's going to be about a hundred cows here in a couple of minutes. Here they come now!" But fortunately two ten-pound bowsers held the bossies and their nasty tempered consort at bay until the crew arrived and placed the sailplane in the security of its trailer.

### The Gleaming Arch and Silver Distance

After long night hours trailering into St. Louis, contestants and crews were grateful when overcast skies the next morning provided the excuse for a

much-needed rest day—only the second in 2000 miles. Hannes Linke now had a slim lead over Bill Holbrook and Ken Briegleb while Danny Pierson and Karl Striedieck were in fourth and fifth with Ross Briegleb and Dick Schreder trailing in sixth and seventh.

When local TV news crews and reporters arrived in full force on the following day, a decision was made to launch despite unpromising cloud cover. Lift was less than formidable, but Bill Holbrook lucked out by having his bad day on what turned out to be a no-contest day. Two attempts brought him down eight and twelve miles from the airport while everyone else was achieving Silver Distance. Radio banter acknowledged the farcical nature of the situation:

"Who said eastern soaring was no good?"

"I figure my ground speed made good is 12 mph. ETO for Indianapolis should be, uh . . . three days."

"Wow! Would you believe it? I'm at 2400 feet!"

"Be careful you might get a nose-bleed."

The only real difficulty of the day was trying to retrieve before the rain started. About half succeeded.

### A Soaring Indy

After pilots and ground crews had dragged into Indianapolis at all hours of the night, they were relieved when May 11th proved unflyable. Time trials for the Indy 500 were underway at the famed speedway; most of the troupe went to the track to observe the qualifying runs of the motored streakers (almost beats flying).

The respite was short-lived; Contest Day 8 took shape next morning. The city's lust for speed must have rubbed

off on the weather gods, for between Indianapolis and Akron was some of the most fantastic flying the pilots had ever experienced.

Takeoffs in a 35-knot wind are far from dull. And when one is airborne with the wind on the tail—it becomes positively exhilarating. Cloud bases which had started at 3000 feet eventually rose to 6200 feet with horizon-to-horizon cloud streets. Karl Striedieck knew just what to do. His winning speed of 85.4 broke all previous records for a single Derby leg. He was followed by Bill Holbrook at 80 mph and Ken Briegleb at 70.7 mph. Karl had obviously been turned on by the conditions which permitted him to make a ground speed of 90 mph most of the way!

Later that evening, over a Mother's Day dinner, Karl and Bill discussed the flight. When Karl stumbled in pronouncing some of the map's place names (Lima, Buchyrus, Versailles, etc.), Bill took exception, apologizing for making corrections. "Oh that's all right," Karl retorted, "While you were looking them up in your dictionary today, I passed you."

#### Mayday!

The original Derby itinerary called for two more races: Akron to Latrobe and Latrobe to Frederick (where the race ended for scoring purposes, though a ceremonial flight to Dulles Airport in Washington the next day would complete the race). But on May 9th Director Ed Butts shook the entourage by announcing that the final task would combine both legs. Contestants would have to hurdle the Appalachians in a final 243.5-mile race!

This was it.

Looking over his shoulder the previous day, Hannes had pushed too hard and landed out. The lead passed to Bill Holbrook. And now they would have to fight it out in ridge country where Holbrook's intimate knowledge and skill had won him the World Out & Return Distance Record just a year ago that month.

Karl's victory moved him ahead of Dan Pierson into fourth place.

Because of high winds, the usual racehorse start was dropped in favor of timed releases. It was soon apparent that the crews would not be able to hurdle the mountainous ridges that lay across their paths as fast as their wind-

blown pilots. Joe Conn (the well-known eastern pilot whose competition radio ID is "Uncle Joe") took to the air in his Travelaire to relay messages to the harried crews. His services were soon needed:

"*Mayday! Mayday!* This is Victor Seven."

Joe Conn was instantly on the air.

"Victor Seven, do you read Uncle Joe?"

"Victor Seven, *Mayday!* My rudder is jammed!"

Silence. And then . . .

"This is Victor Seven. I am able to maintain control. Please tell my crew I will be landing in a field between Derry and Latrobe."

Relief. Joe Conn followed Danny until he had landed safely and radioed that he was all right.

While six finishers were celebrating the end of the Derby, a shaken but very thankful Dan Pierson was trailing into Frederick. One rudder hinge bolt had come off in the air causing the rudder to slip, but in such a way that it had luckily jammed instead of falling completely off.

On May 14th, right on schedule, six pilots were aero-towed over to Dulles Airport to land according to their final standings in the Derby. Bill Holbrook came first with 7881 points to win the Gold Medal. Hannes Linke was a close second with 7836. Third was Ken Briegleb at 7775 points. Karl Striedieck's wins on the last two races raised his point standing to 6933 and his placing to fourth overall. Dan Pierson (who trailed into Dulles) was fifth with 6091 points. Ross Briegleb's 4819 points gave him sixth, and Dick Schreder was seventh with 4603.

Karl Striedieck commented that the contest provided some of the stiffest competition flying he had ever done. He felt that facing a new task each day coupled with the wide spectrum of weather and geography was a real challenge. Everyone agreed the concept of commercial sponsorship was a great idea, and they hoped to see more of it. A real step forward for both sponsors and soaring was that this year reporters and newsmen enthusiastically covered the event.

It would appear the Smirnoff Sailplane Derby is here to stay.



Hannes Linke led the Smirnoff transcontinental race until the very end—only to have victory snatched away by Bill Holbrook on the last two races. But when a well-wisher offered Hannes consolation, he replied, "Oh, that's all right. I won anyway."

What Hannes had "won" was a bride-to-be, Connie Viencour, who besides crewing for Hannes was writing the report appearing on these pages. Hannes popped the question the first day of the race, but Connie played it cool: "Let's see how you do in the Derby, first."

Queried about her background, Connie observes, "There's not much to tell until I got into soaring—everything's happened since." Her introduction to the sport came when she was a student at the San Diego branch of the University of California. There is a soaring club on campus which adjoins Torrey Pines, and she was soon a member. She learned to fly over the famed cliffs and reigned as Queen of the '71 meet, but like most students finances were a problem: "I couldn't afford soaring and school—so I dropped out of school."

She had discovered El Mirage ("a fantastic place") up on the Mojave Desert and made her way there. Here she joined the Southern California Soaring Association (she is currently editor of its newsletter, *The Thermal*), built up her soaring time (about 110 hrs.), made many new friendships through her willingness to crew, and even tried to establish a California state multiplace feminine 100-km triangle speed record in the SCSA *Blanik* (a faulty turnpoint photo disqualified the effort).

There can be little doubt that soaring has become central to her life, and that her fascination with the sport has made it her first love—well, almost. When asked if she would marry Hannes even though he hadn't won first place she said, "He was close enough."



# DEEP RIGGING IN A DIAMANT MINE

GILES GIANELLONI

Any resemblance to an African diamond mine was only a thought as we looked down the narrow ladder which led below to the ship's hold where Rene Comte's *Diamant* sailplane had been imprisoned since leaving Hamburg in May. Thanks to the strike called against several United States maritime companies, Rene's well laid plans for attending the U.S. Nationals at Adrian, Michigan and the Soaring Camp at Marfa came to a halt when his ship was caught aboard the *American Ranger* tied at Pier 76 in Manhattan. Calls to influential government and non-government persons were of no use, Rene finally gave up. No Nationals. No Marfa.

Seldom in the history of soaring has a sailplane been demonstrated in a more unlikely place. Rene met with Ozzie Maranta, Howard Larkin and Eric Kaiser of Ontario and Mr. & Mrs. Giles Gianelloni in the hold of the *American Ranger* to explain the assembly procedure. By arrangements with the U.S. Lines and help from Capt. Graham, skipper of the *Ranger*, lights were strung from an adjoining ship. The hold was empty except for the sailplane in its trailer and it was possible to remove the wings and fuselage for inspection.

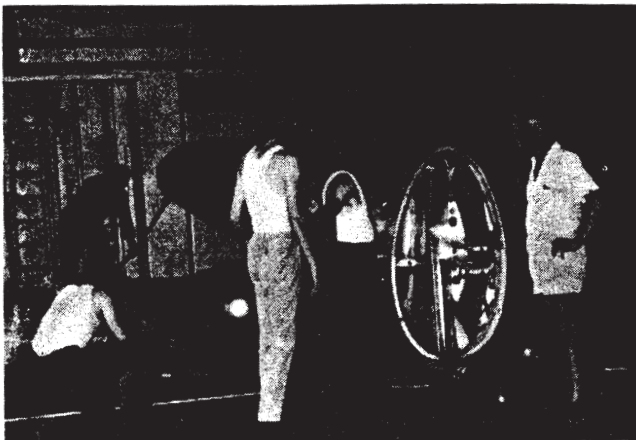
Working in 100 degree temperature, Rene directed the operation of removing the ship from its very exotic trailer. We were able to check the reclining seat and it is very comfortable. Both Kaiser (6' 4", 160 lbs.) and

stalled in the wheel compartment. The wings mount easily and are held in place by one pin. Control connections are with pip pins. The trailer is well made but the wings must be removed first and laid on the ground before the fuselage can be removed. I have always felt that every time a part of a sailplane is moved it should go directly from trailer to its position on the ship and vice versa.



The cockpit of the *Diamant* provides ample room for all sizes. Here Eric Kaiser demonstrates how easily it will handle his long frame.

We all regret that a pilot such as Rene could not compete in the Nationals and we trust the next time he comes to the U.S. he will be allowed to demonstrate his sailplane in its element and not in a ship's hold on the Hudson River.



The rigging crew in the hold of the strike-bound *American Ranger*. The modern Swiss trailer is a notable feature of the *Diamant*.

Gianelloni (5' 7", 175 lbs.) were easily fitted by quick adjustments of rudder pedals and head rest. The visibility is superb and the instrument panel well below pilot's line of vision. The "stick" on the right side of the ship is no problem, much like a typical wheel control. One change the writer would make is on the canopy. It should be attached to the ship by slides or hinges. Landing away from help in a strong breeze and trying to remove or handle the very long canopy should be extremely difficult.

The instrument installaiton on this ship is excellent, with storage for bottles, radios, batteries under the pilot's knees and in the panel. Oxygen equipment is in-

**DIAMANT**

OWNERS NETWORK



Diamant HBV

Research and development work on the Diamant series of sailplanes was first started by engineering students at the Swiss Federal Institute at Zurich. The Flug- und Fahrzeugwerke AG (FFA) of Altenrhein, Switzerland, then gradually took on the manufacture and further development of the Diamant. FFA was a branch of Dornier before World War II, eventually becoming an independent company that specializes in military aircraft (though it did the major design work on the Lear Jet), so this was FFA's initial attempt at building sailplanes. They began with the 15-meter Diamant HBV, which was first flown in 1964 and featured Libelle wings, a fully reclined pilot position, an all-flying T-tail, a retractable gear, water ballast, and a control stick mounted on the side of the cockpit. Thirteen of these models were produced, five of which found their way to this country. The Diamant 16.5 (the 16.5 standing for the span of the wing in meters) made its appearance in 1967 and marked the first Diamant entirely produced by FFA. It was also the first sailplane made entirely of fiberglass (no wood filler). It used a modified Wortmann airfoil and the stick was mounted on the floor. Slightly more than 40 16.5's were produced, with approximately 25 going to the U.S. The Diamant 18 is outwardly indistinguishable from the 16.5 except for the slightly longer wing. Diamant 18's finished 3rd and 4th in the Open Class of the 1968 World Championships. Two years later Ross Briegleb used an 18 to win the Nationals at El Mirage and also set the

national speed record for the 100-km. triangular at 88.62 mph. Roughly 30 or more 18's were built, and about a half dozen are active here. All Diamants have been out of production since approximately the end of 1970. Both the early 16.5's and 18's suffered from structural "flutter" during high-speed flight, but the factory did a most commendable job of curing the problem for the individual owners. All three models are ATC'd.

Diamant 16.5



References: 7-65, p. 15, announcement and 2 photos of HBV; 12-66, pp. 12-15, pilot report, description of HBV (with photos and specs); 4-68, pp. 24-25, flight impressions, 3-view, specs, factory polar, and 2 photos all of Diamant 18; 6-70, pp. 16-21, Bikle-measured specs, polar, and photo for 16.5; 2-71, pp. 18-21 & 30-33, summarizes previous data and compares with numerous other sailplanes; 6-71, pp. 20-21 & 30-37, Bikle-measured specs, polar, graphs, and photos for 18; 8-71, pp. 16-17, special aids for rigging 16.5, 6 photos.

Photo by Alex Aldoff (all rights reserved) Photo by I. Heimgartner, Air News Service

★ FFA DIAMANT  
HBV SPECIFICATIONS

Span	49.2 ft.
Area	105 sq. ft.
Aspect ratio	23.8
Airfoil	Huetter
Empty weight	420 lb.
Payload	220 lb.
Gross weight	640 lb.
Wing loading	6.3 lb./sq. ft.
Structure:	fiberglass.

HBV PERFORMANCE

L/D max	39 @ 54 mph
Min. sink	1.9 fps @ 47 mph
6-fps sink @	95 mph

16.5 SPECIFICATIONS

Span	54.2 ft.
Area	143 sq. ft.
Aspect ratio	20.5
Airfoil	modified Wortmann
Empty weight	595 lb.
Payload	305 lb.
Gross weight	900 lb.
Wing loading	6.3 lb./sq. ft.
Structure:	fiberglass.

16.5 PERFORMANCE

L/D max	42 @ 62 mph
Min. sink	1.8 fps @ 46 mph
6-fps sink @	102 mph

18 SPECIFICATIONS

Span	59 ft.
Area	154 sq. ft.
Aspect ratio	22.7
Airfoil	modified Wortmann
Empty weight	615 lb.
Payload	355 lb.
Gross weight	970 lb.
Wing loading	5.2-6.3 lb./sq. ft.
Structure:	fiberglass.

18 PERFORMANCE

L/D max	45 @ 62 mph
Min. sink	1.7 fps @ 45 mph
6-fps sink @	104 mph