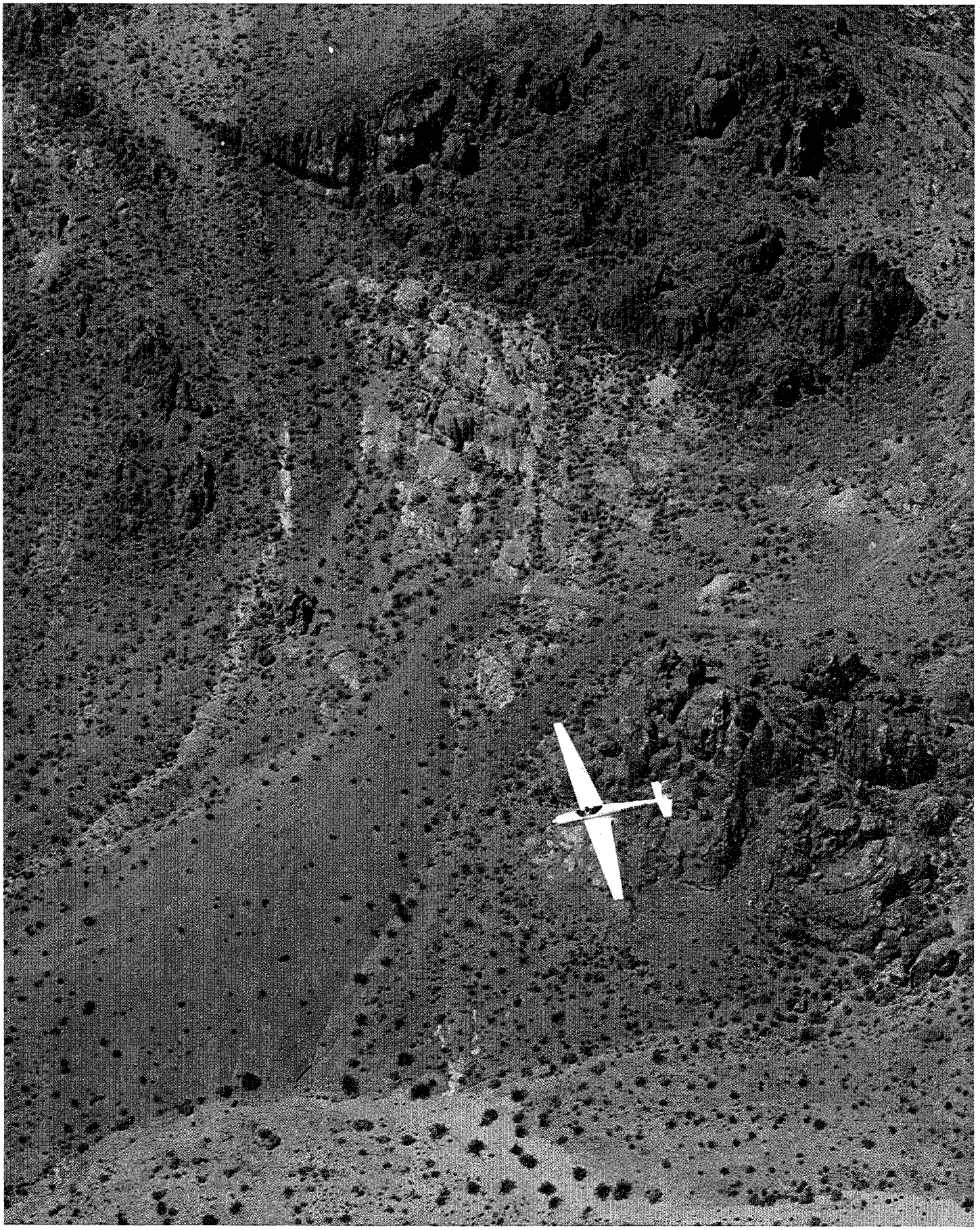
MOTORGLIDING

OCTOBER 1973



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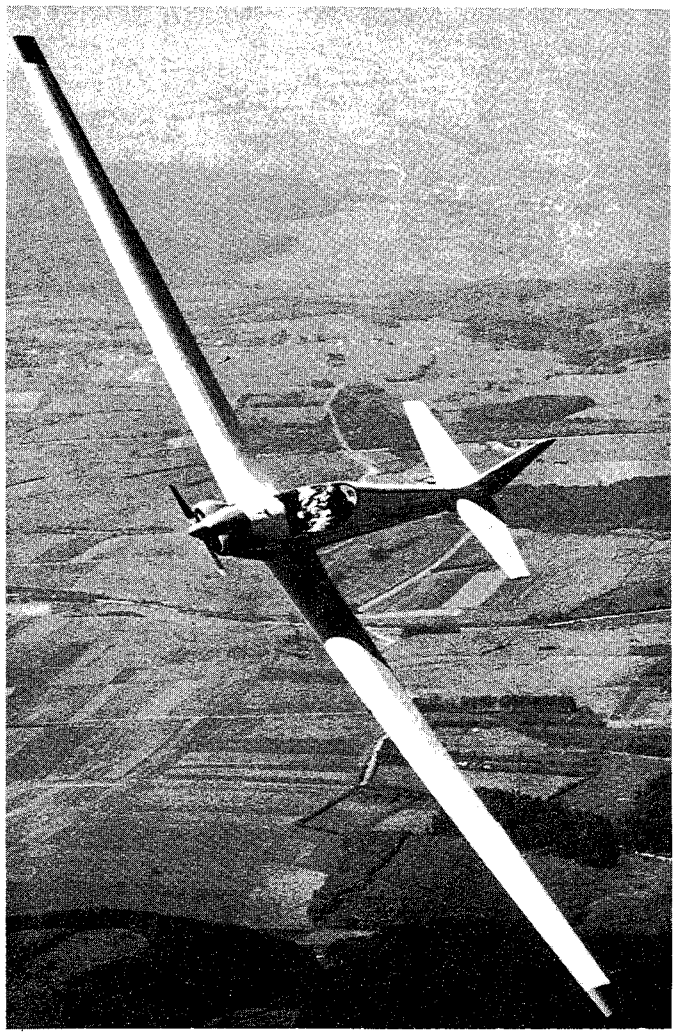

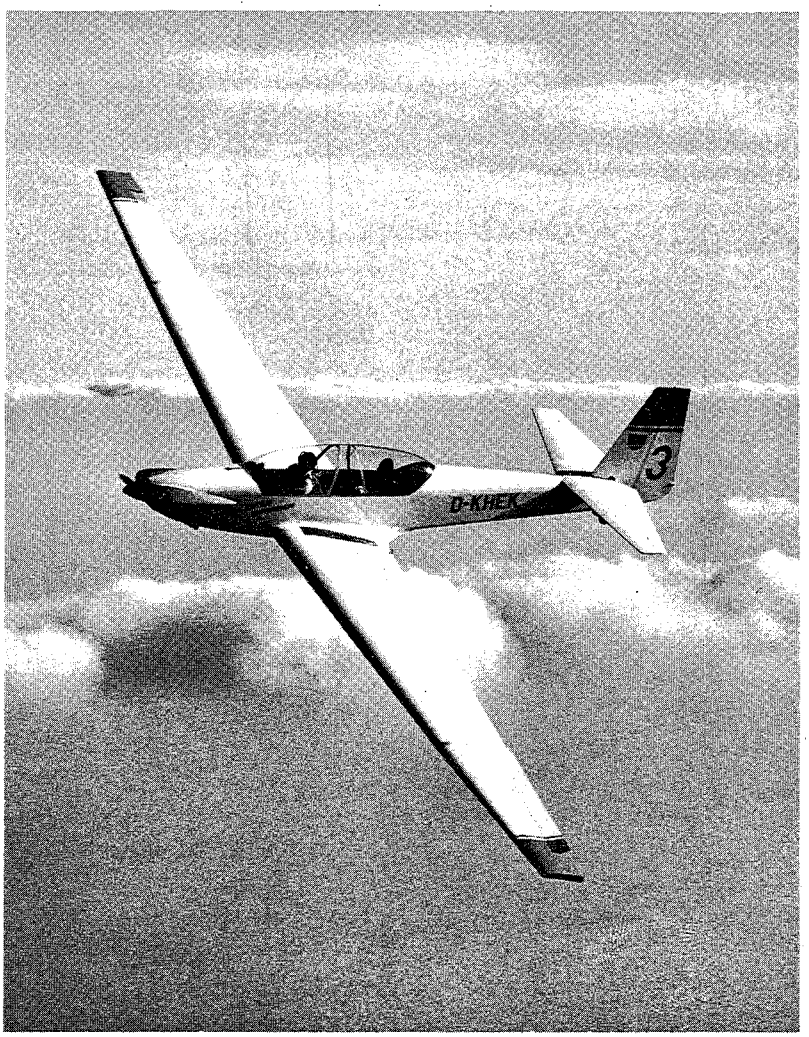

SFS 31 **RF 5 B**

TYPE	SPAN	L/D	PRICE*	DELIVERY	SEATS	HP	ENGINE	MIN R/S
RF-4D	37 ft	20	DM 33,600	6 months	Single	36	VW	4.0 ft/sec
SFS-31	49 ft	29	DM 37,800	6 months	Single	36	VW	2.8 ft/sec
RF-5	46 ft	22	DM 50,400	6 months	Dual	68	VW	4.6 ft/sec
RF-5B	57 ft	26	DM 52,390	6 months	Dual	68	VW/Frank	2.8 ft/sec

Standard equipment includes: Airspeed indicator(s), Altimeter(s), Variometer(s), Magnetic compass, Gear warning light and horn, Safety harness(es), Seat cushion(s), Tail antenna, Cabin vent(s), Recording tachometer, Oil pressure gauge, Battery, Oil Temp. gauge, Ammeter, Starter (elec.), Exhaust silencer(s).

* Ex-factory. We regret that we shall have to increase our prices by eight percent on January 1, 1974. Orders received before then will be accepted at the current price.

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MOTORGLIDING

Donald P. Monroe, Editor

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Contents

Cover: Bennett Rogers' AS-K 14, by George Uveges

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Circulation of the September 1973 issue was 730.

DIAMOND ATTEMPT BY MOTOR SAILPLANE

by Stephen du Pont

1. "Air starts are possible, but don't get into the sort of jam where you count on one."
Soaring, *August 1967, page 16*

2. "...The pilot who knows he can bail himself out of trouble by flapping a propeller will understandably be more willing to accept crucial low points and unfavorable landing terrain..."
Soaring, *February 1969, page 26*

Several times I had tried to make Diamond Distance in the West. The first time was during the National Soaring Contest at Reno, in 1966, when I missed it by fifteen miles after flying 297 miles in my *Austria*, getting near 700 points out of the day's winning 1000. After the contest I tried again from Truckee-Tahoe getting not quite to Elko, about half the needed distance. I also tried at Marfa, in 1968, before the contest, in the *Austria*, but was able only to average 20 miles per hour, so abandoned it. I tried again unsuccessfully after that contest in my newly-acquired HP-14 prototype. Several times I had failed in the East down the Alleghenies out of Massachusetts, Connecticut or New York.

But this time, with my new homebuilt *Motorsoarer* I knew I *had* to have it made. I didn't need a crew to distract me, I could retrieve myself. With auxiliary power, there was no longer any reason to be scared of that terrible desert and terrain I'd learned so much respect for when flying in 1966 out east of Pyramid Lake. I could forget the pandemonium on the glider-to-ground crew frequencies on the radio. I could even leave my radio tuned to the big boys, to be calmed by the clipped, professional messages of the airline pilots or pick up the latest wind now and then from the Flight Service Stations.

I trailered my new bird to Truckee-Tahoe Airport in Nevada, north of Lake Tahoe, for my start. The airport manager witnessed my declaration, sealed camera and barograph. There I had no trouble at all finding willing hands to help put the sailplane together and to run a wing for takeoff. The battery seemed a little tired when I started the engine, but with the proven routine we had developed with our *Motorspatz*, which used the same engine except that it had no electric starter, she'd go right off. Twenty minutes climb would charge up the batteries for future attempts at starting but since this was to be a successful Diamond Distance, I didn't expect to need it. Nice to have it along though just in case. The special Winter barograph wouldn't let me cheat. If the wind didn't blow too hard, I could fly back from Wells, my destination, with three stops for fuel. If it did blow, it might take five. I carried cans of oil in the baggage compartment for the petroil mixture.

There is not always agreement in how to start a two-cycle engine, and agreement in itself doesn't always ensure a successful start. Come to think of it, I recall the embarrassment of an *Aero Commander* pilot who demonstrated a propeller feathering, only to find the battery had left him and he'd feathered the one with the only generator. So it isn't only the two-stroke engine that can be temperamental with in-flight restarts!

Ignition switched off, fuel on, choke out, pulled through eight compression strokes with hand-recoil starter then choke in, one-third throttle, ignition on, hit the starter switch—WIR WIR WO-O-O-O-W-W—the two-stroke sang its song. Half a minute warmup, all we needed with a two-stroke, a couple of bursts of full throttle to make sure while holding her with the wheel brake, signaled the wing man, pushed the throttle open and with a song and surge we were off and climbing, that always surprising instant takeoff you get in a motor sailplane against any sort of a wind at all.

It was very turbulent this day just off the ground. At 300 feet we had 400 feet a minute climb, then 600. For an airport altitude of 4000 feet, this was great! A thermal already in climbout! I throttled back, checked for traffic which was clear and rolled into a circle centering the thermal and climbing as I drifted back across the airport. Only three minutes from takeoff! I shut off

the ignition in preparation for shutting down in the proven technique we had developed on the *Motorspatz* for a sure-fire start later on. When the engine stilled, still holding the thermal centered as best I could while I circled, I shut off the fuel, pulled the prop vertical by the hand starter, set the propeller brake, and with six turns of the little crank, retracted the motor and propeller into its flush doors on top of the fuselage. Suddenly we were a Standard Class sailplane, on our way for a cross-country soaring flight with an L/D of 33, and a best sinking speed of 2½ feet per second. It did seem a pity I'd not put the twenty minutes of charge into the tired battery, but there will be some life left in it and, of course, there is still the hand starter. We will worry about the battery next time.

In no time I was excited to be on a level with the 10,778 foot summit of Mt. Rose. My altimeter showing 13,000 feet I put on the oxygen mask and made ready for the first glide toward Reno, on over Pyramid Lake and on towards the northeast to Winnemucca, my photographic turnpoint and thence towards Harriet Airport at Wells, Nevada. This would give a dog-leg distance of just over 500 kilometers to complete my Diamond Badge.

It was rough and the cu's were forming; thin, though, and quickly dissolving. The thermals were now twisted and rough to stay centered in. I passed Pyramid Lake, with its little peaked island, deep blue amongst beige and green ridges, and went on to the northeast over Winnemucca Dry Lake (not the same as the turnpoint which is still many miles further on). I had fought my way over the confusion of the three corners of the adjoining sectional maps and at fifty miles out was averaging thirty-five miles an hour ground speed and soaring at 11,000 feet MSL over the Shewaza Mountains, the peaks of which though not two thousand feet above the desert, reach 6558 feet MSL. At seventy-five miles out, I was over an unnamed dry lake and could see Humboldt Lake, mostly dry, adjoining Carson Sink, ahead of my right wing. Thirty miles to my right, though I couldn't see it for the glare of the sun, I knew the big triangle of Lovelock Airport was handy should I need it and even with the trusty 25-hp Hirth-Solo engine sleeping peacefully in the fuselage, I knew that I had nothing to worry about, at least not as long as the altimeter stayed over 10,000 feet. Even as a sailplane, the *Motosoarer* could make six miles for every thousand feet of altitude used, and that, considering the slight quartering tailwind, would let me grease it on at Lovelock Airport in a straight glide from here with a little to spare and by the momentum of the landing I would be able to taxi up to the isolated FSS building where the coke machines are.

Pretty soon I could see the green vegetation showing amongst the brown desert around Rye Patch Reservoir, with its blue ribbon of water, at Route 95, maybe a little to the right of my course, as it showed on my Cook compass. I regretted not swinging the compass properly prior to this flight, and had to rely on a quick and dirty deviation card from the back yard at home. This led to inaccurate navigation.

The desert is poorly marked around here for purposes of navigation. I had flown through considerable down now and had had to speed up to get through it and had lost a lot of height; now I was getting pretty low and had not encountered any very-dependable lift for many miles. As far as I could determine by establishing my approximate position over the unmarked desert and map, the terrain altitude below must be about 5000 feet MSL on the ridges and my altimeter showed 8000 feet. And what ridges! Jagged rocks jutting through the rugged desert. The escarpment, though I think not volcanic, seemed to me as if it had been shaken out of the grates of Hell and pushed up as smoking clinkers from those great depths to be left on the ground to cool, too harsh for flora or fauna to ever take hold and live there. It was jagged as the science-fiction writers and indeed the scientists used to think the moon would be before Borman with his Hasselblad, brought back proof, once and for all, that the moon is really only cheese. Lucky I had a *motor Motosoarer*.

I was circling part in lift, part in sink, fighting for altitude. I remembered Text #2, that is shown in the beginning of this story, leaving Text #1

for those who are preoccupied with the shortcomings of old-fashioned gliders that do not carry eighty pounds of vitamins stashed away in the baggage compartment. "This is the modern way to soar," I said to myself. "Why didn't they develop a motor sailplane long ago?"

Round and round I thermalled but with each few circles, some gaining, some losing, I seemed to creep closer to the big pile of nasty brown and beige jagged sun-glaring rocks, 1500 feet below; Hell's ashes, that's what they were. I remembered my sinking heart the last time I had been here. At that time, I had taken out the movie camera just for a few seconds and taken a shot of this mess to impress the Nutmeg Soaring Association back in Bridgeport, Connecticut. That trip I used another Text (how weak-kneed of me): *"When in doubt, don't,"* but now I again remembered that that time I was flying just a glider. So I zeroed in and locked my mind on Text #2 and tightened my circle.

But Text #2 kept sliding over in my mind, no doubt due to the steepness of the bank and the roughness of the air, so that in my mind's eye I would keep seeing part of Text #1 showing under the edge of it. From moment to moment I would read Parts of #1 *"...don't get into the sort of a jam...."* then again, I would be encouraged by the modern, strong words of #2, *"...the pilot who knows he can bail himself out...."* I cinched my shoulder-harness tighter against the violent turbulence coming from the hellish rocks below and tightened my circle. Why so rough and such poor lift? But the Diamond was still my goal!

I tried not to move a muscle so as to fly in the most efficient way. Each time the nose came around towards the east I'd see Dry Patch Reservoir sinking bit by bit below the rocks that rose between me and it. Or was it the rocks rising from those broiling depths of Hell? I knew there was a grain field or two across Route 95 to the east between the Reservoir and the Humboldt Range which is eight miles or so past that now-so-remote highway. And I'd spent thirty minutes over that inadequate field the last time I had been here and finally, afraid to land in the tall grain, had laboriously climbed the craggy, steep, turbulent Humboldt Range fighting my way in and out of the ravines, around the strutted ridges, to keep as close to the mountain as I could where the lift was. I'd turned in climb, never towards the ridge, and run through the down in the best tradition of the ridge soarer. But how slow to climb, and how rough it was! Finally after climbing, that last time, from 4500 feet MSL almost on the deck and that grain patch, I'd climbed to the top of the Humboldt and again, had taken out the camera to record my shadow as it slid along and up and finally popped over the saddle to become swallowed up in the sudden shadow of the ridge itself to the east, south of Star Peak at 9835 feet MSL. I'd made it then, and gone on towards Winnemucca. But that was the other time, and then I'd been flying only a simple glider while now I had a motor sailplane! I could go anywhere with it without fear; I could start the motor and fly away from all this terrible dangerif and when I had a mind to.

But the moment of truth comes even in a motor sailplane and the time had come to admit it and to abandon my Diamond for another day, to fire up my vitamin capsule that quietly waited under the flush doors of the fuselage and go home. I was circling in barely zero sink, violently rough, occasionally flying into the narrow lift, then out again. I was turning very tight, in seventeen seconds. I could tell by the altimeter that I was hardly holding my own, the variometer zero having drifted and it being impossible to be sure from that instrument. The airspeed needle was all over the panel in the turbulent air. I speeded up and steepened my bank.

The crucial moment was now and I cranked the life-giving little crank six times to extend my folding motor; ugh! Like pulling the spoilers on! My speed fell off and the sink increased. I had to push the nose down to keep the speed up safely above stall in this tight bank and violently rough air. I pulled the choke, grasped the starter rope and enforcing discipline upon myself, counted out eight careful pulls over compression still thermalling as best I could in that narrow chimney of rising air. I opened the throttle one-third, closed the choke, snapped the ignition switch and hit the

starter switch. The little jewel barely turned over! It slowly carried over compression, helped by the air dragging the propeller, hanging up on each compression stroke, then jumping around against the next stroke, but it didn't fire! Oh, for that twenty minutes of climb back at Truckee-Tahoe that would have put new life in my battery! The battery withdrew from the present struggle. I grabbed the recoil starter handle for a hand start. It must be pulled with two hands to properly spin the little engine. I held the stick between my knees and yanked for all I was worth, pulling the handle diagonally across the cockpit. The button-strap of my sleeve caught the joystick and the *Motosoarer* did part of a snap roll! I was terrified of the low altitude, the rocks and the near disaster. I straightened out and back into the tight circles, sinking badly because of the drag of the stopped propeller and the motor. Again I yanked. I lost the thermal and again the motor didn't even fire. I nearly stalled the sailplane and then got back into the circle still sinking. I re-centered the squirming thermal, my heart beating as if it would pop out through my jacket. The rocks were so close I could smell them. I must get rid of the drag of this engine and propeller and try to thermal out of here. Carefully trying to hold the center of the lift, I pulled the propeller vertical with the hand starter, set the propeller brake, reached for and turned the little crank six times and the engine slid back into the fuselage. The drag of it gone, the ship felt lighter and I recentered the narrow column of rising air that was my life. I carefully aligned the rudder and bank so the ship would behave while I did the things I had to do:

I reached for the fuel valve to shut it—to turn it—to turn it off—the fuel valve—*the fuel valve is already off!* I'd forgotten to turn on the fuel! Well, no time now to go through the routine all over again! I've only one chance left, to rely upon thermalling out or be dashed to pieces amongst those damnable devil's clinkers!

I had no way to tell how high I was over the rocks, but I was close. I batted her around into some turbulence, straightened, turned again, then held her there. The rocks were too close, they were swinging around within wing spans of the cockpit. I held her steady, turned her tighter to find the core of the evasive lift. Suddenly the bottom dropped out of everything! I'd stalled the glider in the violent turbulence in the tightness of the bank. The rocks wheeled around me as I entered what seemed like a nearly vertical spin and went down into that deep shaded crevice between the sun-glaring rocks. Then a great blue and beige spherical rock, 8000 miles in diameter and three-fourths covered with water and clouds smashed through the nose of the *Motosoarer*. Steel tubing bent and buckled and jabbed into my stomach, thighs and ribs. My feet came into my lap. My face smashed into the instrument panel; the panel folded back on to each side of my head. The right wing broke off with a terrible crack inboard of the spoilers and careened off a large boulder; its tip hit bed-rock and broke inboard of the aileron. Plywood exploded from the wing, the eighty pounds of life-saving engine ripped upwards on its pivoted support tube. The little crank went around turning transparent like the blades of an electric fan. The cable came taut, snapped and the beautiful little nacelle shot past the cockpit, a football across a Sunday TV tube and smashed like an egg on the devil's ashes. Several small birds, startled by the crash darted about above the cloud of gathering dust from the ravine where they had been nesting. The dust cloud rose twisting, turning, forming together. the pent-up thermal in the crevice below the dust broke free, released by the energy and wind from the crash. The pieces of alien material that were fluttering in the new thermal, fabric and plywood, spun upwards higher and higher. The little birds pecked at it as they soared upwards wondering what it was. The plywood tasted rather dry to them, the fabric sticky with its congealed petroil that had leaked from the motor and had been blown through the cracks in the motor door by the draft of the propeller. The birds soared on upwards in the strong young thermal, up and up, to wash their dusty wings in the cool condensate of the forming cumulus cloud high over their nest in the rocks. Back along the track

from Pyramid Lake, many little columns of blonde dust were rising, marking thermals from the desert. Could some of them be grey? Smoke perhaps? Smoke from burnt bridges?

The crash of the *Motosoarer* into the rocks, which was accompanied by so many flying pieces, dust and stones, created a violent deceleration. The wing with its broken tip still articulated to it by the unbroken aileron cable along with the fuselage slid jerkily into the crevice together. The Bayside 990 radio was torn loose from its shoulder-high mount behind the seat, woodscrews torn from the bulkhead and the excess cable that had been so neatly coiled and taped and the cannon plugs that were securely taped together stretched out and helped cushion the strike of the radio against jacket and flesh while the panel folded back engulfing consciousness and closing out the fierceness of the crash. The rugged little radio, undamaged because of this protection, continued its destiny of guiding in the vibrating electrons and amplifying their gyrations and converting those minute energies into acoustical waves. The 990 not having a brain did not, of course, understand the message it had just decoded and was presenting: "United 22 leaving flight level 290 for 250...." The Bayside 990 was attending to the clipped, well-trained message and repeating it to whomever might listen, professional and concise as it was intended by the transport pilot to his control center.

With the dry brainless words radiating from the crevasse between the rocks, this would seem to be an appropriate time for one to stop and ponder an old riddle of philosophy: "When a tree falls in the forest, does it make any noise, if there is no living thing there to listen?"

THE LAGUNA SALADA (As seen from the cockpit of a motorglider)

by Tasso Proppe
photos by George Uveges

The Laguna Salada is a dry lake, 35 miles long and 10 miles wide, slightly below sea level, south of El Centro, California, just across the border at Mexicali, Baja California, Mexico. It has no vegetation. It is covered with a two-inch layer of white, salty dust, and after the rainy season, it is not quite dry in some areas, so the white dust becomes gooey.

The Laguna Salada is also the site of the Annual International Baja Soaring Fiesta, organized in April by the Chamber of Turismo de la Ciudad de Mexicali under the sponsorship of the Governor of Baja California.

The Soaring Fiesta is an airshow that attracts thousands of Mexican spectators; it is parachute jumps, radio-controlled model airplanes, aerobatics in gliders, and a gliding competition that does not include cross-country flights. The gliding competition consists of flour-sack bomb drops, spot landings, duration and altitude. The maritime air is shielded off by a high mountain range to the west, and due to its white dust exposed to sun radiation, the air on top of it begins to boil at noon; it produces strong thermals, but also strong downdrafts, regardless of any fancy meteorological factors.

The Fiesta owes its inception to a friendship between the Yuma Gliding Club on this side of the border and Mexican glider enthusiasts across the border. The Fiesta owes its flavor to Alfredo Arenas Rodriquez, the Fiesta Coordinator, who does everything from invitation, organizing the band, the police escorts, guards, setting up the competition, the air strip, the performers, to finally manning the microphone of the P.A. system.

The international participants come from the greater Los Angeles area, San Diego, and Yuma, of course. I wangled an invitation for my motorglider. That included a sticker for my car: "Visitante Distinguido". Although I could not participate in the competition (I cheat), I was quite welcome as a spectator attraction, the only motorglider around. It is a long haul from San Diego to Calexico/Mexicali, 135 miles across the mountain range through a pass 4400 feet high—but it's still easier to trailer than to fly. Ferrying by air quite often runs into IFR because there is always some adverse weather on one side of the mountain. My car carries a lot of indispensable ground

support equipment: tie-down, aileron locks, a long snorkel funnel to tank gasoline, tools, and the toothbrush.

There is no airfield. Alfredo just selected a suitable piece of the salt flat and assigned an area for aerotow takeoff, another for glider spot-landing, a target area for bomb drops and one for parachute jumpers, and a space set aside for the radio-controlled model airplane aerobatics demonstration. I assembled my ship with the help of two volunteers, checked it out and took off from the aerotow strip, and explored the area for suitable lift. That is not difficult to find; there are other sailplanes already in the air and soaring; you just join them. In my case, that means switch the engine off and be a sailplane myself. When the thermal you ride fades out on top, you look for other things to do. I tried to explore a little ridge in the vicinity. I didn't find sufficient lift to make it back, so I had to restart the engine and rejoin the crowd. In between riding the thermals, I watched the proceedings on the ground, and whenever it became a little quiet, I pulled the spoilers to slide in for a simulated landing with the propeller still dead. Alfredo announced my approach with fanfare, and then, during roll-out, I kicked the engine on for a touch-and-go. The gang breaks into applause, and off I go to whatever seems to be fun, like circling close to the ground (nobody objects out there in the white dust) or catching another thermal, switching the engine off and working myself up again. Sometimes, on those touch-and-goes, I climb right into a dust devil. I find myself milling around in strong lift, in competition with cardboard boxes and other debris, but the lift is too good to let go. Off comes the engine and I soar away in terrific turbulence where all dials sometimes read momentarily zero. At one time, I looked at the altimeter at engine off. It read 150 meters (500 ft). Beautiful feeling, to pull away from the grandstand in silent splendor (and working my butt off).

The wind increased late in the afternoon and changed from its original direction to develop into a good sandstorm. The cars were driving around on the ground with the headlights on. When I approached for the final landing, I ended up in a crab angle of 30 degrees, so I started the engine up for a go-around and approached into the wind. With ground speed near zero, I had to pull in under power—and I sure was glad to see the shadowy silhouettes of helpful people appear out of the dust to pluck me literally out of the air.

Of course, there was no fixed tie-down. We had to secure the gliders to the trailers, all lined up side by side, and a trailer in-between.

I got a good night's sleep, after a couple of beers. (The Mexican beer to European taste buds tastes like *beer!*)

The next morning, the sandstorm was gone, the weather was beautiful, and we started over again. I soared, engine off away from the field because we had instructions to stay clear for Walt Mooney's "Thrillseeker" aerobatics in his glider. After that, a few more touch-and-goes to amuse the public, and off soaring again.

My story wouldn't be a real motorglider story without a motorgliding ending. In the afternoon, the winds at altitude became quite strong. If I spent too much time thermaling, I drifted downwind, and I had to break away once in a while to get back where I came from. Walt Mooney and myself ran into a large area of downdraft; no matter which way we went, it was all plenty minus—and I sink faster than he does. Wow! Soon it became obvious that we would not make it back to the field, so, I started the engine up and crawled home under power. I heard over the radio receiver that Walt went down about six miles south of the field in an area of the dry lake that wasn't quite dry. It turned out his retrieving crew had to get a four-wheel-drive vehicle to get to him. By the time he made it back, on foot, I had flown quite a bit more, landed, knocked my ship down for transportation, and was ready for the long haul back to San Diego.

Total flight time: 4 hr, 47 min; total engine time: 1 hr, 7 min. Total fuel consumption: not quite 5 quarts = 53¢.

Clearing customs across the border, of course, involved some tense moments. They are looking for dope, and I had plenty, in liquid form, for possible fabric repair. How do you explain that to anybody not familiar with our way of life?

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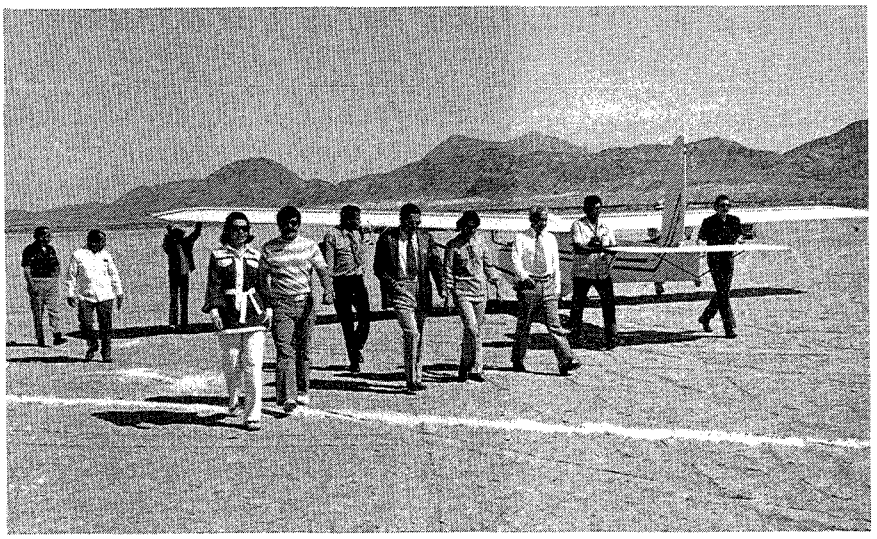

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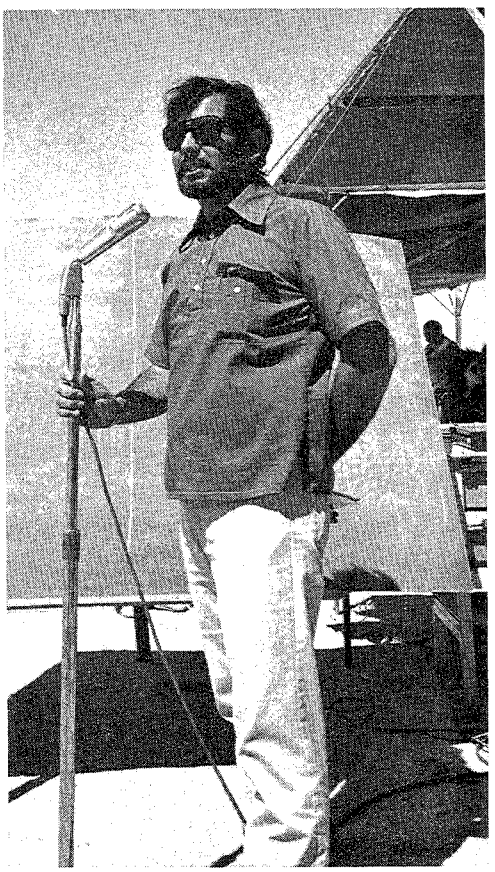

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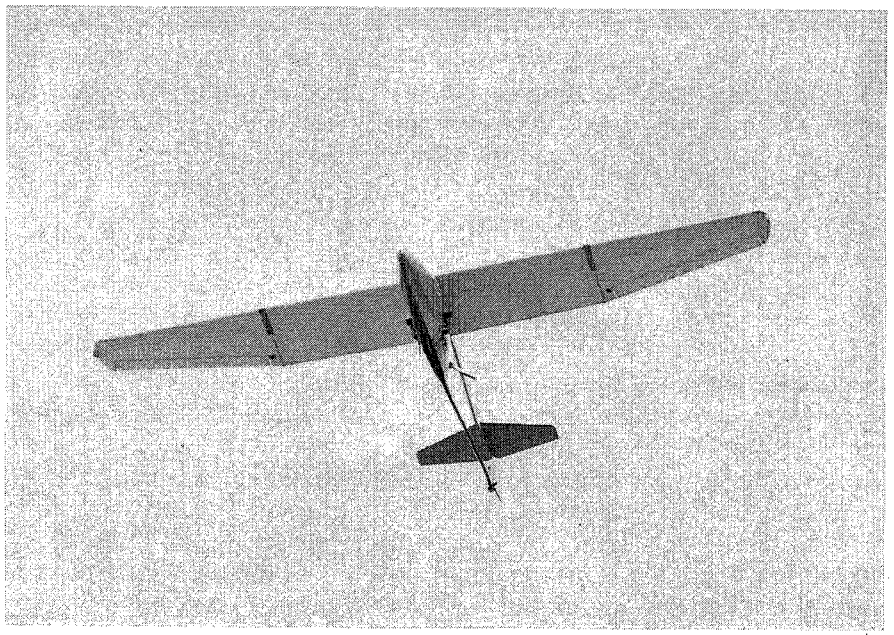

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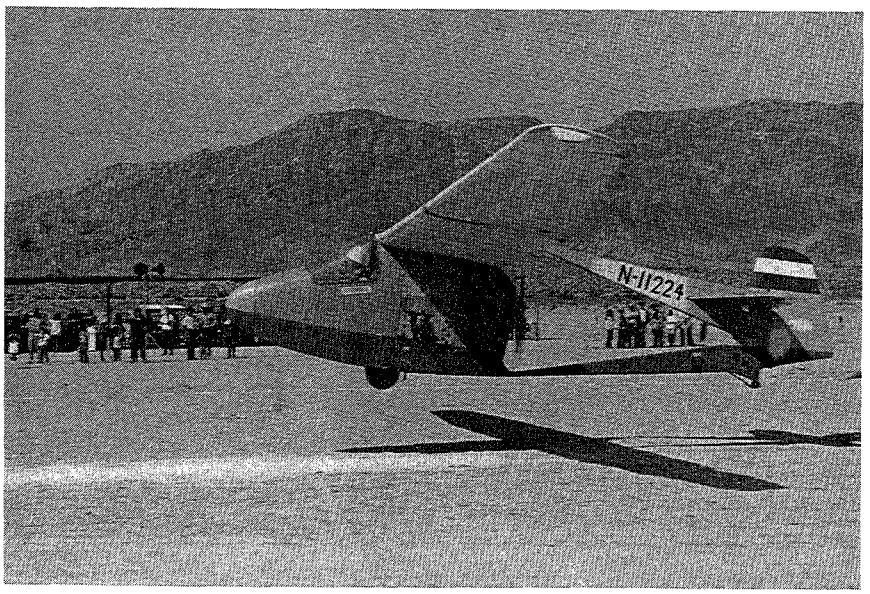
6

PHOTOS by George Uveges

1. Walt Mooney making a spot landing.
2. Skydiver.
3. VIP's.
4. Host Alfredo Arenas Rodriguez.
5. *Kraehe* overhead, engine off.
6. Watching the action.
7. *Kraehe* fly-by, engine on.



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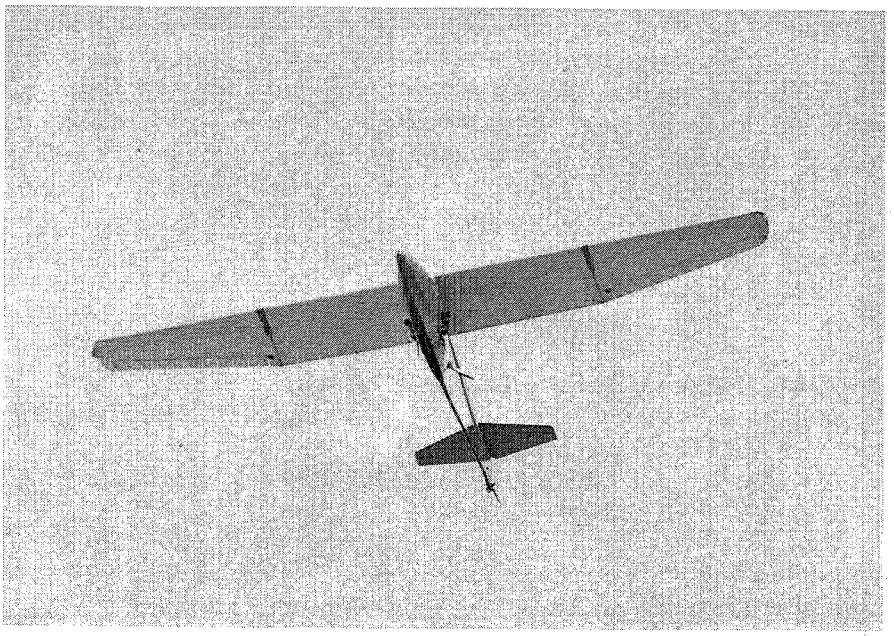

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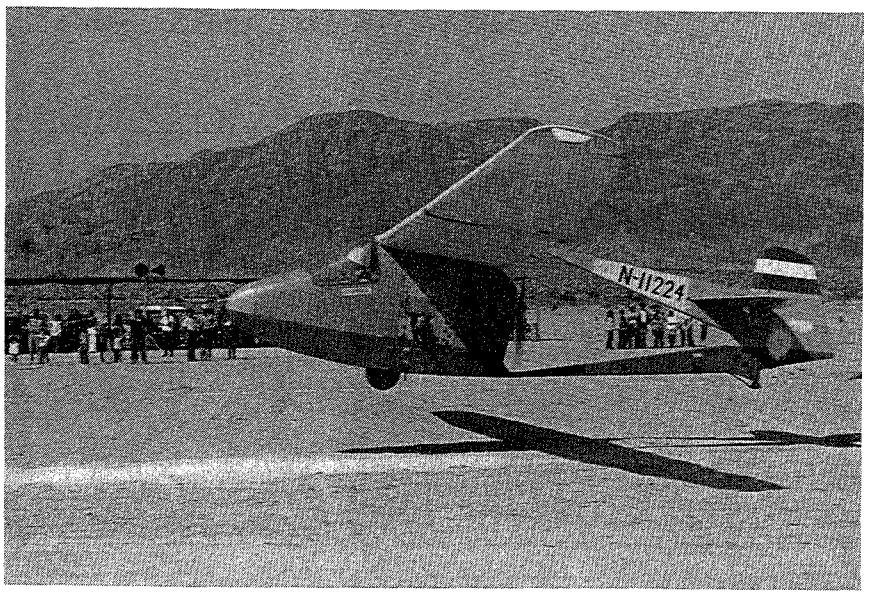

7

FOREIGN SCENE

by S. O. Jenko

The July 1973 issue of *Aerokurier* carried an article "Bustle & Hustle over Burg Feuerstein" by Werner Hoffmann, describing the activities of the 4th German SLS Contest and International Meeting at Burg Feuerstein airport (May 27 to June 1, 1973). This SLS contest was supposed to be the final rehearsal for the 1st International SLS Contest scheduled for 1974.

To keep *Motorgliding* readers informed a somewhat abbreviated translation is presented here.

CONTEST

The contest was conducted in the following classes: Class I: Single-place performing SLS's, Class II: Two-place performing SLS's, Class III: Single- and two-place training SLS's.

There were seven AS-K 14's and four SF-27M's in Class I; Class II consisted of eight SF-28A tandem *Falke's* and four RF-5B *Sperbers*; Class III contained ten two-place and two single-place trainers (Ka-8B Lloyd, several SF-25B's and SF-25C's, SF-25A, RF-5, Mu-23 *Saurier*).

The number of participating pilots in this year's contest was 37; last year there were 21. Those pilots (3) who were forced down and could not complete the task received some recognition. The finish gate was set at 200 meters altitude for safety reasons—to avoid starting of the engine close to the ground. Considerable penalty was provided for any violator. Those pilots who did not show up for the morning pilots' meeting were not allowed to participate in the day's task.

EVALUATION

The evaluation was based on a penalty of 15 points per one minute of engine time*; it was the cause of substantial discussion resulting in two proposals: (1) to improve the existing formula*, (2) to set up a new evaluation procedure which would recognize the uniqueness of SLS (sliding weather-engine time factor), task of the day, be based on a simple calculation procedure clear to everyone, and should not penalize open class SLS's (no handicaps for large span, L/D, engine power, etc).

INTERNATIONAL MEETING

In addition to German pilots the contestants came from Austria, England, Denmark and Switzerland. There were also guests from ten countries; those from U.S.A. and Japan made the longest trips. A few of the pilots participated in several tasks.

The meet provided not only fellowship throughout the days but also in the evenings; opportunities for the exchange of information, practical experience, design and production of planes, engines and propellers. Hans Zacher, as always, was very helpful with his technical explanations. It appears the meeting contributed its share to the growing trend of SLS-ing. Movies were shown of previous SLS contests.

NOISE

Almost a whole day was spent on noise reduction problems due to large interest in this subject. Some SLS airports are already considered a nuisance. In other cases it is difficult to obtain land for this purpose. Thus, a noise reduction program is a necessity. Measurements show that the prime causes of noise generation are high propeller tip velocity and small clearance between propeller and adjacent aircraft surfaces.

Two-cycle engines are generally not noisier than the four-cycle units. However, due to their higher frequencies the two-cycle engines are found to be more disturbing. Thus not only noise levels but also frequencies should be considered efforts to combat the noise.

In view of this situation the following trend is to be expected: (1) four-cycle engines of high power/volume ratio with reduction gears resulting in low rpm and large propeller diameters, (2) easy starting, smooth running engines having a weight/power ratio of less than

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*Pilot's Points = [1000 - (Pilot's Time - Best Time) - (15 x Engine Time)] f

F = 1.0 no engine time
.8 0 to 10 min.)
.75 10 to 20 min.) engine time
.7 over 20 min.)

1 kg/hp.

Due to low demands (20 to 40 units per month) such an engine is hardly expected to be developed. Thus modifications of currently available engines appear to be the likely answer. The Wankel engine holds promise from weight, size, and noise criteria. At present they are in an experimental stage; in a few years they should show up in SLS's.

TECHNICAL CONTEST

None was conducted this year in connection with the meet. A new set of rules will be issued this summer. Following items are expected to be on the agenda: (1) noise, (2) new developments, (3) presentation and discussion of experience reports on various SLS's.

A small brochure about the current contest containing various pertinent articles written by experts was edited by F. Tanneberger.

NEW DESIGNS

Two expected new SLS designs did not appear at the contest because they couldn't be completed on time. They are: *Kora I* (by Kortenbach & Rauh), fiberglass, two-place, L/D = 31.4 SZD-45 *Ogar* (Polish design), mixed construction, two-place, L/D = 36.

Both designs show side-by-side seating, a gross weight of about 700 kg (about 1500 pounds), a wing loading of about 36 kg/m^2 (about 7.5 psf) and a pusher propeller behind the wing.

Another new development is a single-place Scheibe SF-29 in mixed construction with a 26-hp Wankel engine and electric starter, feathering propeller, fixed wheel and effective dive brakes. Wing loading is 28 kg/m^2 (about 6 psf), L/D = 28, min sink 0.75 m/sec at 70 km/hr (about 45 mph), and the min speed 64 km/hr (about 40 mph). In the low-speed range the performance is similar to Ka-8, but better than the tandem *Falke*. It was designed as a simple club ship.

The AK-1, designed some time ago by Akaflieg (college soaring group) Karlsruhe was at Burg Feuerstein for the first time. The ship is an SLS similar in looks and performance to the Scheibe SF-27M. The wings are metal, a modified FK-3 design; fuselage is steel tubing (see July *Motorgliding*—Ed).

ENGINE INSTALLATIONS

A Kranich III sailplane had a retractable engine—pusher propeller (35-hp Fichtel & Sachs, two-cylinder, two-cycle).

A *Standard Cirrus* with a modified fuselage to accommodate a retractable engine with propeller (Hirth 0-28-55) had counter-weights in the fuselage nose to compensate for the engine installation. The plane has not yet flown.

IMPROVEMENTS

One contestant's Scheibe SF-25C had an aerodynamically improved fuselage and a feathering propeller, supposedly resulting in a better performance.

At the closing of the last day of the contest a tandem *Falke* with a 44-hp two-rotor Wankel engine flew in.

CLOSING REMARKS

There were no accidents during the contest and meeting. This is due to threat of penalties, good organization, cooperation of contestants and reliability of equipment used.

The over-twofold increase in SLS's (West Germany) over a three-year period, as well as increased participation in SLS contests are definitely signs of a potential development.

CLASSIFIED ADS

LETTERS

Editor:

I've been wondering whether I might have been the first pilot to have achieved both first glider solo and the C-badge in a U.S. motorglider.

Back in 1958 I became the third owner of Nelson *Dragonfly* N34918 (certificated), with a 28-hp Nelson engine, previously owned by "Pop" Krohne in Florida, and then by Steve Bennis at Middletown, New York. At the time I was a low-time power pilot who hadn't done very much flying since the '30s and '40s. But I *had* had a fair number of *dual* winch and aero-towed flights in the Schenectady, New York Mohawk Soaring Club's 2-22 ("Stable Mable"), plus a few aero-tows dual in a Pratt-Read at Wurtsboro, New York. I remember once seeing a Nelson *Hummingbird* flown at Wurtsboro, owned by a Mr. Downsborough. This may have partly influenced me to buy the *Dragonfly*.

I was told at least three pieces of advice about the *Dragonfly:* (1) It's a very poor power plane, and it's a very poor glider, so (2) I ought not to buy it. (3) (By Mrs. Bennis, when I *was* buying it) Don't ever *depend on* restarting the engine in the air; always have a good landing field within gliding range. I did take this advice. Thank you Ginnie, wherever you are!

Anyhow, after some 31 solo *Dragonfly* flights at Westfield, Massachusetts, including one wheels-up landing (when the tower assigned me an unexpected runway to land on, and warned me of some National Guard jets at my altitude as traffic), I was ready to try an area where there was less down-flowing air off the Berkshires. So I trailered the *Dragonfly* to Schenectady. I also wanted to show my parents the plane, and perhaps fly with my friends in the Mohawk Soaring Club.

There, on August 16, 1958, I made my C-badge flight, (then only 5 minutes required above release or engine-cutoff altitude), under a big fat cumulus, soaring for 20 minutes above 4200 feet. During that soaring climb, "Stable Mabel" was soared right up through me, with two aboard the 2-22! My circles were too big. The next day I managed to stay up for just over an hour, but this included the powered climb to 4600 feet.

Unfortunately I had to leave the *Dragonfly* in Massachusetts and sell it when I moved west to Utah, and later to the California bay area. Thanks to my various trainings in New York and Massachusetts, it did not take me long to be soloed in 1-26's and a TG-3, once I reached Les Arnold's operation, (then at Centerville) in 1960.

That *Dragonfly* may still be owned by Romaine Lambert of Southampton, Mass., who perhaps has never flown it; he had one or two other historic aircraft stashed away also. I took him up as a passenger on the last flight I made before moving west. I had made two flights observed by a CAA examiner for a Private Glider rating, limited to the *Dragonfly*. Without spoilers, I overshot the distance from the landing line a bit, but he granted me the rating anyway. And I also took each of my four children up for one or two flights.

Irving Taylor
Berkeley, California

Editor:

In reply to Mr. Necessary on making a dream come true in August *Motorgliding*, here are some points to ponder:

The new EOS-001, with a dry weight of only 420 pounds comes as a kit for $3000 and is the closest to a powered sailplane so far with superior L/D characteristics and a glide ratio of 20/1, max speed 180 mph, and stall 59.

My friend is building for speed—but I plan a modification and hope to turn the EOS into a fine motorglider some day. If plenty of requests are sent to Fred Smith maybe he will see the light.

The Hirth engine gives a cruise speed of about 160 mph; L/D still 15/1; rate of climb 1500 fpm. The airfoil is 65_1-212 laminar. Span 26 feet, 75 square feet area. Gross weight, 200-lb pilot—750 lb; 10 psf wing loading. With another wing and a Hoffman prop we have it made.

Siegfried Richter
Sterling Heights, Michigan

More response to the FAA concerning the upcoming NPRM concerning motorgliding:

Dear Mr. Baker:

I understand that the FAA has under consideration the issuance of a Notice of Proposed Rule-Making governing the design, manufacture and use of Auxiliary Powered Sailplanes. I have tried hard to find out from SSA and other sport aviation spokesmen what has prompted the development of such an issuance; but it is still not clear to me.

At any rate, if there is to be such an undertaking, please let me add my number one concern to the inputs your staff has been obtaining. It is my firm belief that severely limiting fuel tank capacity of an Auxiliary Powered Sailplane would destroy its usefulness, and therefore its marketability. The international criterion, or maximal allowance, of five gallons is in my judgment too small. Eight to ten gallons is urged, and I can not see how the larger allowance would do violence to the apparent position of FAA staff that the APS should not be a powered aircraft designed for transportation purposes. Most APS pilots, including the writer, desire to try for international badges (FAI). If we get 95 miles out in the boondocks on an attempt for a 186-mile distance flight without using power, and run out of lift late in the day, we want to be able to start the engine and fly back home. Getting back is really the basic purpose of owning an APS. With a 20 mph headwind and a 60 mph airspeed, it will take about 2-1/2 hours to get back, with fuel consumption of 2 to 4 gph, depending on engine installed.

Please indulge me a second recommendation close to the hearts of all present APS, that is, motorglider, owners. Nothing in the proposed rule-making should affect the present ability of these owners to hold Experimental designations for their APS's and fly them in compliance with reasonable "operating limitations". Many of the APS in this country are imported production motorgliders, licensed in their country of manufacture to strict standards. Their flying records in this country are excellent. There are no U.S. manufacturers of production APS's, and there probably will not be any for a number of years, so imports represent the sole source. In my own case, I have had on order for 16 months a German Scheibe SF-27M motorglider, which, for me, represents a substantial investment. It is proven, has satisfactory soaring and engine performance, and German ATC. It would never be a means of transportation, but it will get me back home. Please don't give me any new problems.

Lewis C. Tuttle
Boonsboro, Maryland

POSTFLIGHT NOTES

Motorgliding is very grateful to S. O. Jenko for translating the article on Burg Feuerstein; we are happier to report that he has agreed to translate articles appearing in a number of foreign languages. If we can keep him supplied with enough material, he will be featured regularly. Since there is a lot going on overseas, we feel that this will be a popular feature of *Motorgliding;* we hope you agree. Next month, you will read about new design projects at Pilatus, as well as a proposed Romanian design.

There is a lot going on over here, too. We urge the designing and homebuilding element to share their creativeness with us. And those of you who are working the operational problems are asked to share your ingenuity, too. And how about you pilots—how are you exploiting the advantages of motorgliding? Are you soaring over virgin territory? Do you really get more utilization and hence a lower operating cost? How about independence and convenience—do you really soar more, with less pain? What kind of distance flying are you doing? Do you always get back? How much do you have to use the engine? How reliable is your equipment—how often can you *not* restart? How often do you have to use a trailer for a retrieve? Or can you always take off from where you land? How about maintenance—is there a lot of downtime?

If some more of you will share your experiences with us, we will have a pretty

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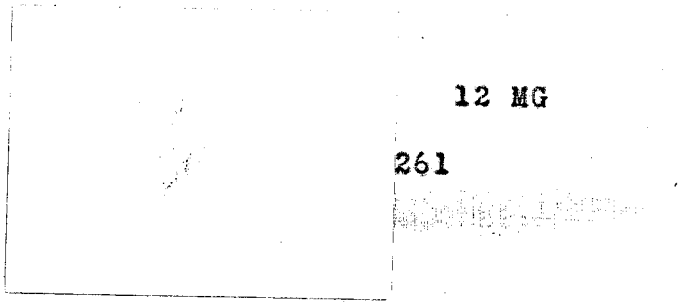

good magazine. We look forward to hearing from you. (And cover art—don't any of you take pictures?)

On a more serious note, we will try to keep you informed on developments in Washington that affect our future—like the expected NPRM on motorglider certification. We thank all of you that copied us in on your letters to the FAA.

Stan Hall is busy on his two-place *Oryx*. He writes that "it is intended to be a poor man's RF-5B. Like the *Cherokee II* it isn't intended to compete with anything except affluence. It will be the *Cherokee II* of the motorgliding set. Nothing spectacular in the way of performance—but enough to have a lot of fun with. And anybody will be able to build it. All wood and fabric—just like the *Cherokee*."

Stan has offered to provide a three-view, which we will try to print in the next issue. He does not wish to release construction details, performance information, etc., until the *Oryx* is test-flown and debugged. Stan is incredibly busy and asks that readers not write him for further details. We trust that you will honor his request, as difficult as that might be.

BACK ISSUES

Back issues of *Motorgliding* are available at 50¢ each. All of 1971 are available except for July, September, and December; only March and May of 1972 are available. (No issues were published between May 1972 and January 1973.) All of 1973 are available.