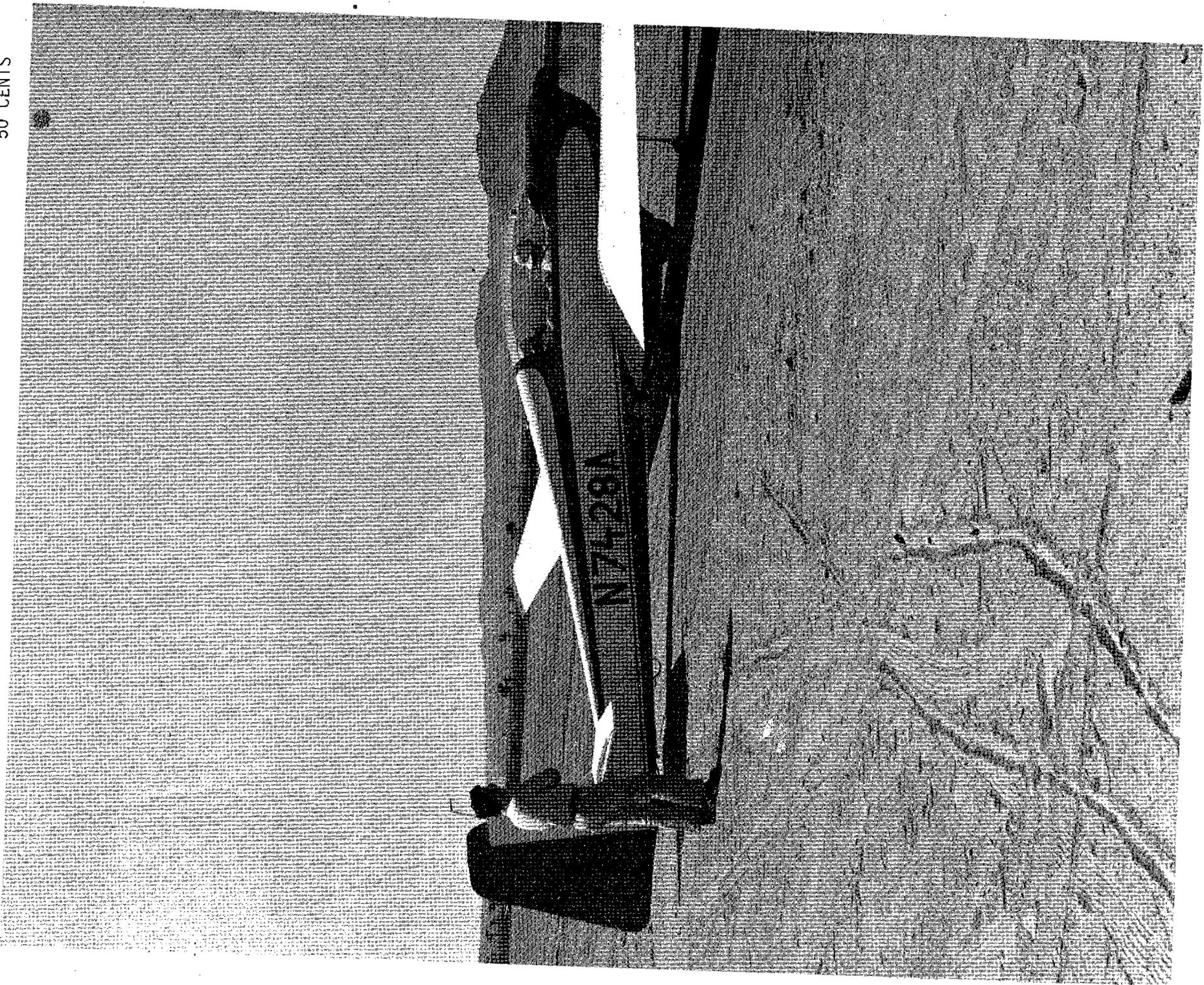


MOTORGLIDING

MAY 1974
50 CENTS



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MOTORGLIDING

Donald P. Monroe, Editor

Vol. 4, No. 5 Published by The Soaring Society of America, Inc.

May 1974

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Cover: Graham Thomson LTD's Scheibe SF-28A *Tandem Falke* at
El Mirage, by Donald P. Monroe

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Circulation of the April 1974 issue was 960. This issue was mailed in October 1974.

FIRST INTERNATIONAL MOTORGLIDER COMPETITION—Burg Feuerstein June 8 - 16 1974
by Peter Ross

This year the annual meeting for motorgliders was again held at Burg Feuerstein in the Frankischer Schweitz region of Germany, between Nuremberg and Bayreuth. To mark the 50th anniversary of motorgliders it was this year given the title of an international competition, and attracted entries and/or pilots from the USA, Denmark, Austria, Switzerland, and the United Kingdom as well as a large entry from West Germany.

The increased interest in motorgliders was underlined by the presence of the West Germany world record holder and competition glider pilot Hans-Werner Grosse, who flew a motorglider for the first time only a few days before the competition started, and was competing in the advanced two-seater class flying a Schleicher AS-K 16 with designer Rudi Kaiser as co-pilot. In previous years we have seen two world champions (Ernst Gunther Haase and Heinz Huth) taking part, but this is the first time that a current top competition glider pilot has been involved.

The most exciting development at Burg Feuerstein was the first appearance of the new Schempp Hirth *Nimbus II* with completely retractable 50-hp Hirth engine, which has been developed under the personal direction of designer/competition pilot Klaus Holighaus, himself a member of the West German international gliding team. This development can be traced back to the first German retractable-engined single-seater, the Scheibe SF-27M which started as a prototype when Alois Obermeyer modified a Standard Class SF-27 sailplane. The design was taken up and further refined by the Scheibe factory, and was put into production. Several were flying in the competition in the advanced single-seater class. The development was continued in the hands of Willibald Collee who used an SF-27M as an engine test bed to develop a more powerful two-cylinder two-stroke engine which was being produced by the Hirth company as a power unit for snowmobile racing in Canada. He next commissioned the Scheibe factory to produce an SF-27M with the fibre-glass wings from the open

class 18-meter *Cirrus*, and successfully competed in this for two years (this particular prototype has recently come to Britain and is being flown by Brennig James). Collee and Obermeyer worked closely with Holighaus in the design of the same engine into the new powered *Nimbus*.

Also of great interest was a *Standard Cirrus* (which together with the *Libelle* and the AS-W 15 represent the most widely used and competitive standard class competition sailplanes), fitted with the same retractable engine installation as used on the *Nimbus*. Although seen briefly a year ago, it had just been completed, and literally made its first flight on the second day of the meeting. Takeoff and climb were impressive. The significance of these two sailplanes is that for the first time no sacrifice is made to performance, and the current top gliders in both standard and open classes are now available with self-launching and self-retrieving capability. The weight of the engine installation is in each case less than the weight of water ballast that may be carried. The only penalty would be in weak lift conditions when the pure sailplane would not carry water ballast.

On both these designs the raising and lowering of the engine is carried on electrically, using the motor and rack-and-pinion from a Bosch car sunroof installation.

The competition itself was again divided into three classes. Class 1 was for advanced single-seaters, and included the *Nimbus*, the SF-27M and the Schleicher AS-K 14. The AS-K 14 is normally fitted with a four-cylinder 26-hp Hirth horizontally-opposed two-stroke engine, but one was fitted with an experimental Wankel engine made by the Sachs company. Class 2 was for advanced two-seaters, and in addition to the previously mentioned AS-K 16, included the Sportavia RF-5B *Sperber*, the Scheibe SF-28A *Tandem Falke* (which took the first four places last year), the new new Scheibe SF-25E *Super Falke* which has 18-meter wings which fold like the RF-5, a more powerful 70-hp 1.9-liter Limbach engine and a claimed gliding angle of 1 in 29/30; and two prototypes based on the *Bergfalke IV* two-seater sailplane (which has a gliding

angle of 1 in 34 in the pure sailplane configuration).

The first of these was fitted with two Lloyd two-stroke engines in the wing roots, a development of the Schleicher Ka-8B seen in previous years which is fitted with a single Lloyd engine in the starboard wing. This, like the Ka-8B, was beautifully engineered, and the engine installation appeared to give little additional drag. It took off and climbed well, but produced a very loud noise which might be unacceptable on environmental grounds at some airfields.

The second *Bergfalke IV* was fitted with the same Hirth two-cylinder engine as in the *Nimbus*, but mounted fixed on its side in the fuselage and driving a large propeller through a very long cogged belt giving a 4 to 1 reduction. The drive was through a Hookes joint, so arranged that the pivot of the retractable pylon coincided with the center of the joint which allowed pylon and propeller to retract into the fuselage even though the engine was fixed.

Class III was for less advanced single- and two-seaters, which contained the Ka-8B, Scheibe SF-25B *Falkes* with 45-hp Stamo engines with both manual and electric starting, SF-25C and C-S *Falkes* with 60-hp Limbach engines, the latter having a feathering propeller, retractable cooling flap, and improved rear fuselage shape to get better airflow at the wing root.

The first competition day was one on which no normal gliding competition day would have been possible. The sky was completely overcast, yet a 100-km out-and-return was set for Class III, and a 130-km out-and-return for Classes I and II.

For the Class II competitors it was a case of pressing on, and using hill lift wherever possible, and an occasional thermal towards the end of the flight. Classes 1 and 2 did rather better and Klaus Gshwindt, flying an AS-K 14, did exceptionally well to complete the course using only 2.2 minutes of engine. It took him four hours and ten minutes. He beat the best of the two-seaters, the new *Super Falke*, flown by Rudolf Wilsch who used ten minutes of engine but was penalized three minutes for arriving at the finishing line below the minimum

specified height. His flight time was three hours and ten minutes. The second two-seater was the RF-5B *Sperber* flown by Manfred Schliewa who carried a lightweight passenger and very little fuel, who used 13.1 minutes of engine and took 4 hours and 13 min. Third of the two-seaters was Hans-Werner Grosse in the AS-K 16 who used 19.2 minutes of engine and took 3 hrs 6 min.

In Class III the leading competitor used 22.2 minutes of engine, and did not score sufficient points to allow a competition day to be declared. This is a good example of the way in which the organizers have developed the rules over the years, because when a lot of engine is used it gives an unfair advantage to the motorgliders with powerful engines which can both climb and cruise further for every minute of engine.

PHOTO CAPTIONS (pages 4-7)

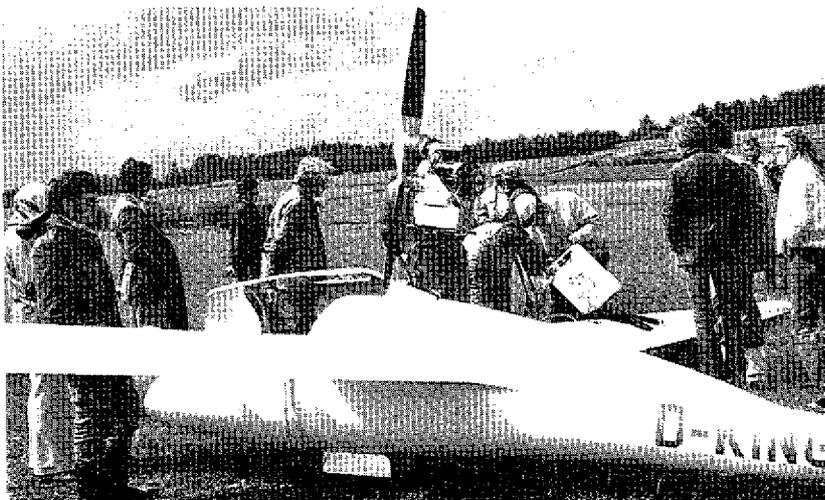
- 1, 2. Powered *Standard Cirrus*.
3. Scheibe SF-25E *Super Falke*.
- 4, 5. Powered *Standard Cirrus*.
6. *Bergfalke IV*, fixed eng, retr prop
7. Twin-engine *Bergfalke IV*.
- 8-10. *Bergfalke IV*, fixed engine.
11. AS-K 16.
12. AS-K 16, Rudy Kaiser
13. Sachs-Wankel AS-K 14.
14. Twin-engine *Bergfalke IV*.
15. Underwing detail, *Bergfalke IV* twin
16. Overwing detail, *Bergfalke IV* twin
17. Twin-engine *Bergfalke IV*.
18. SF-25E *Super Falke*.
19. SF-28A *Tandem Falke*.



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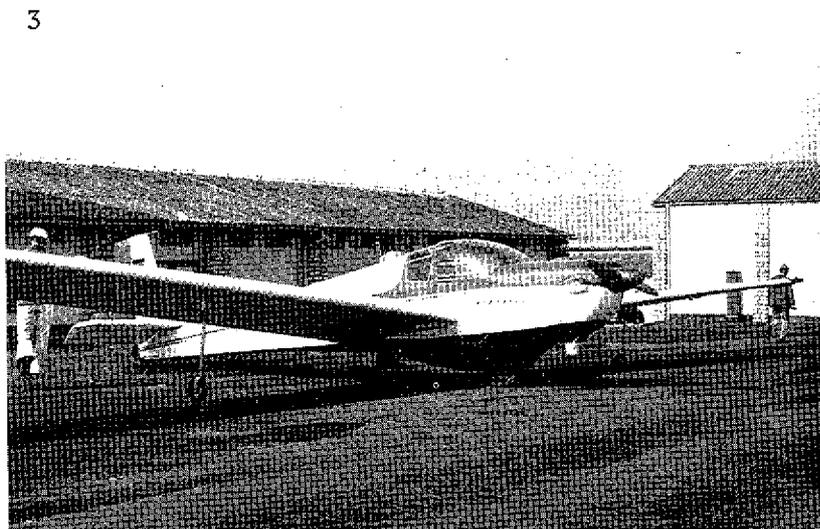


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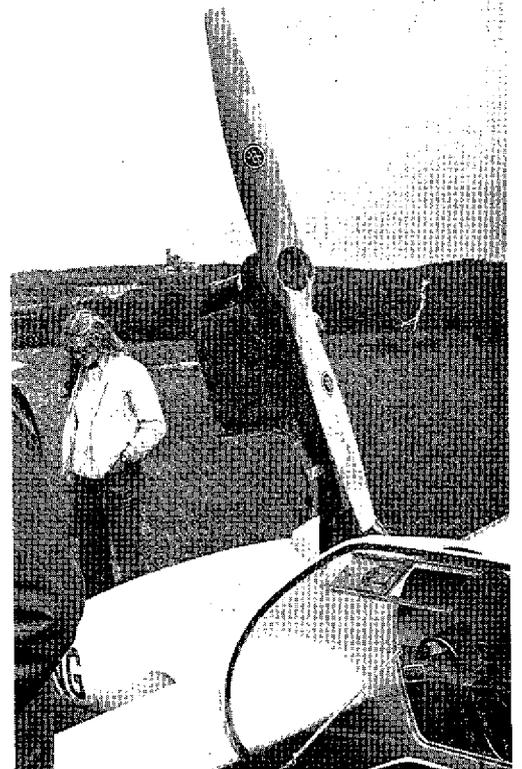


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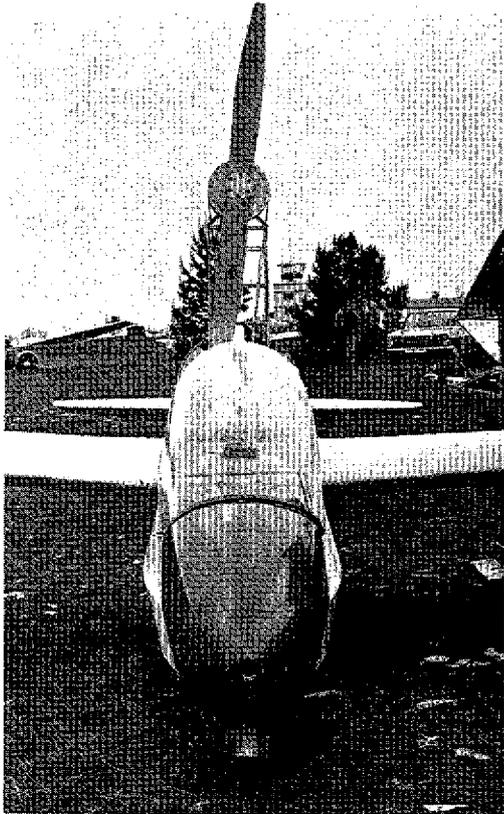
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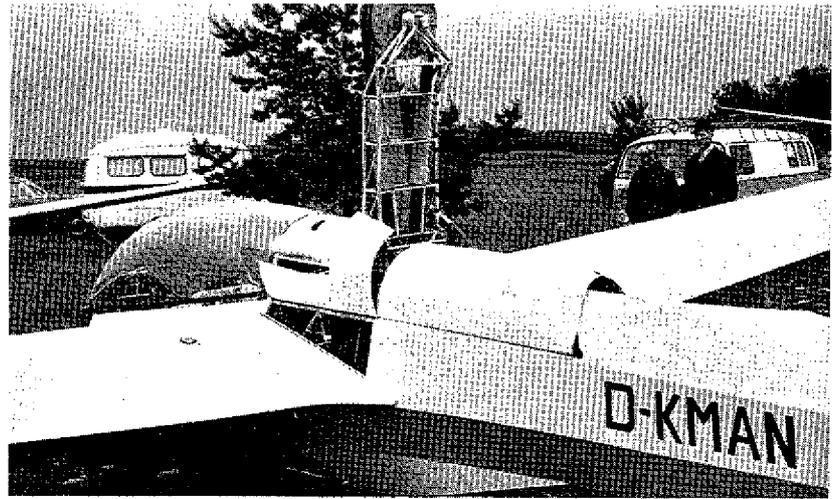
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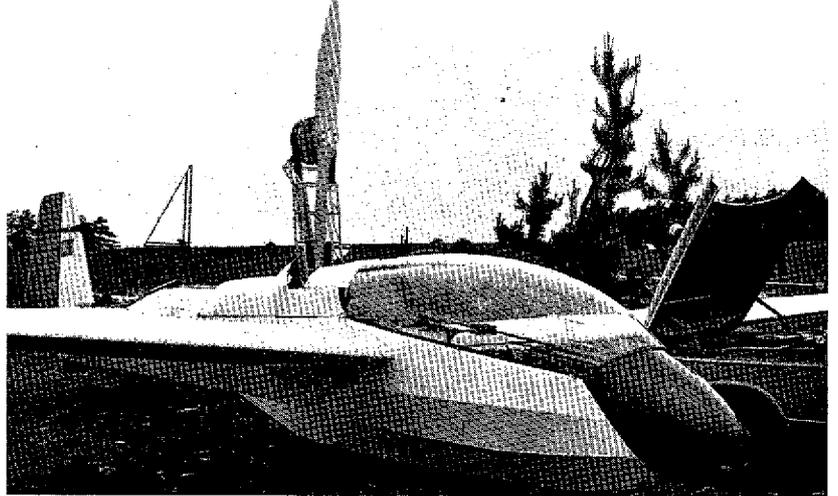
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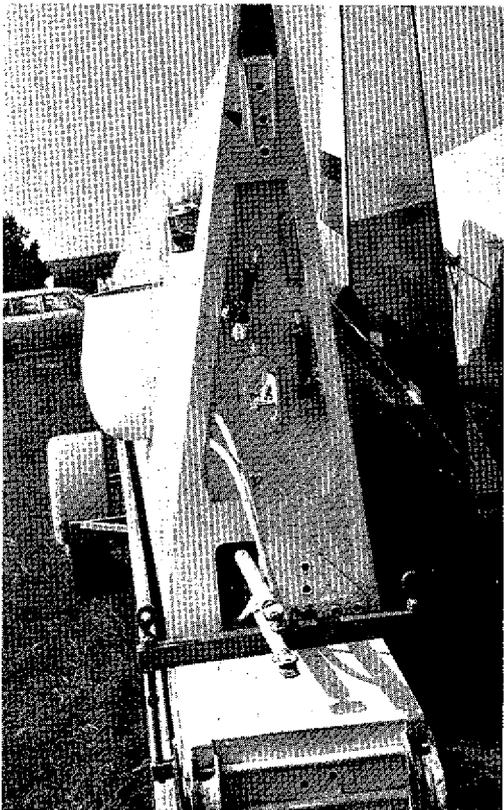
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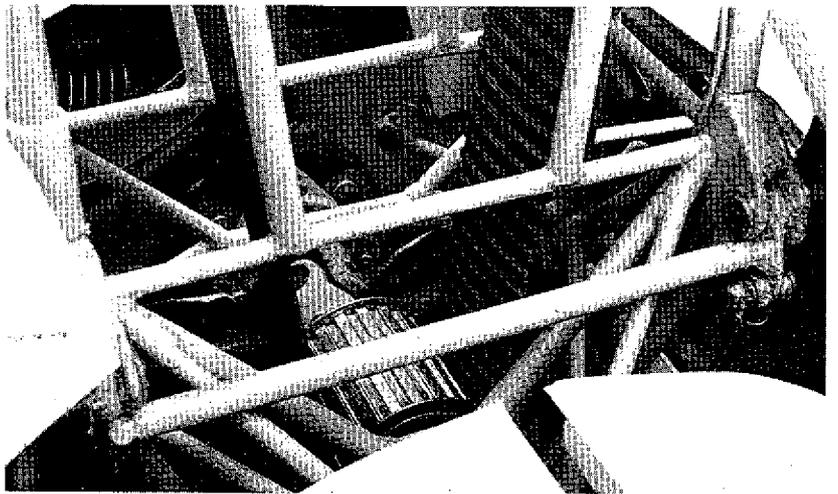
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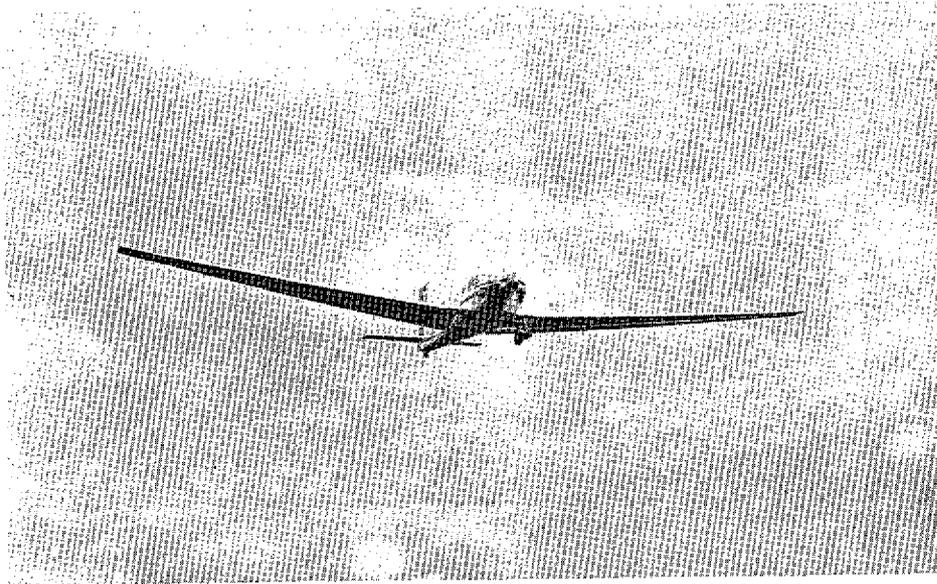
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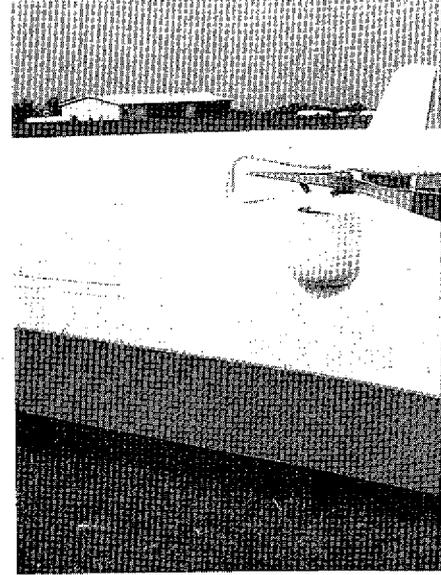
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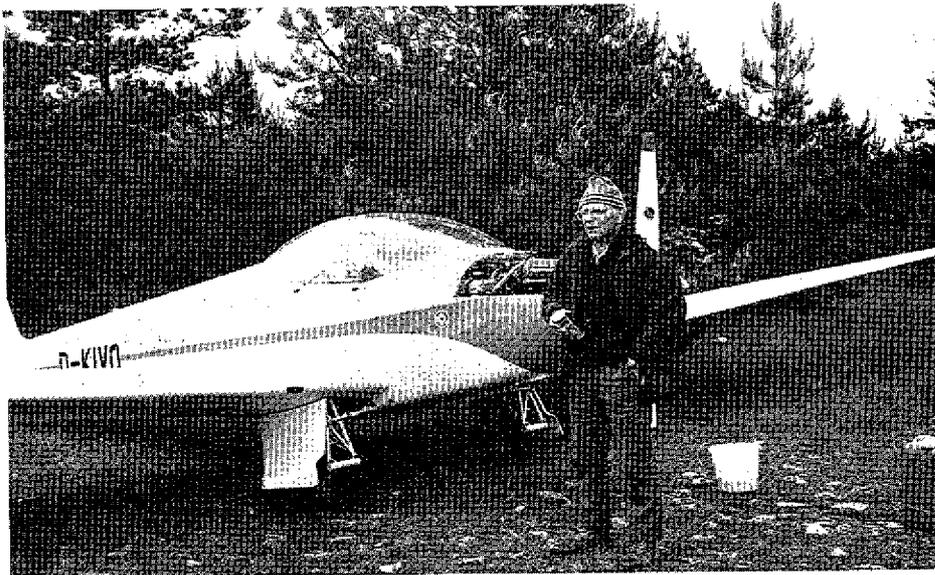
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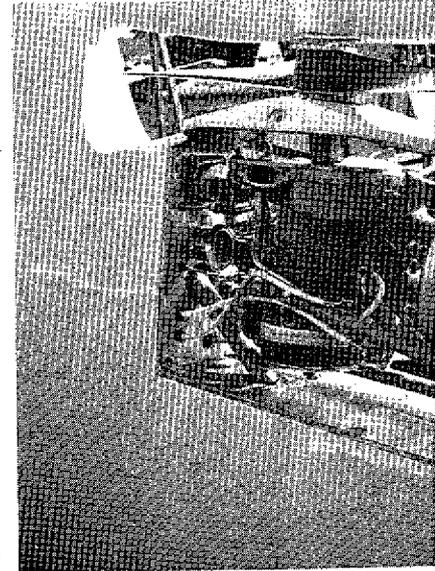
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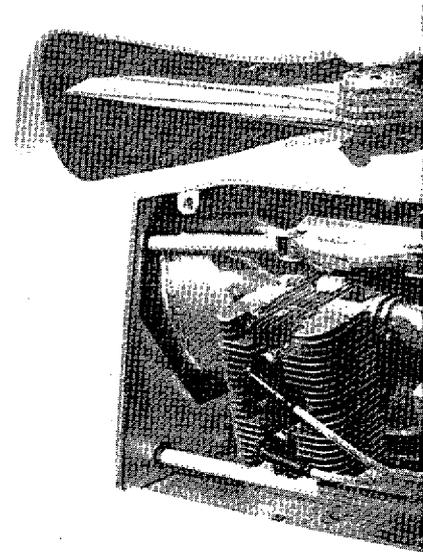
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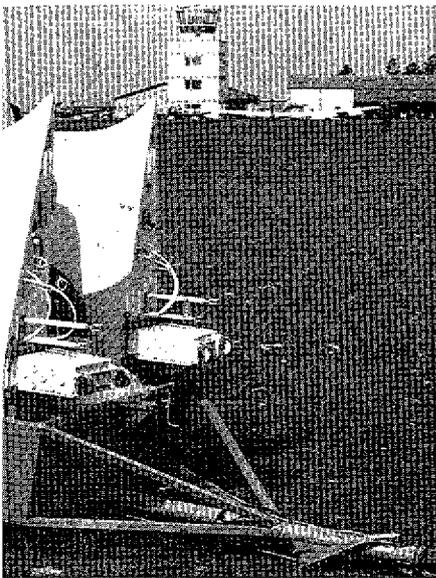
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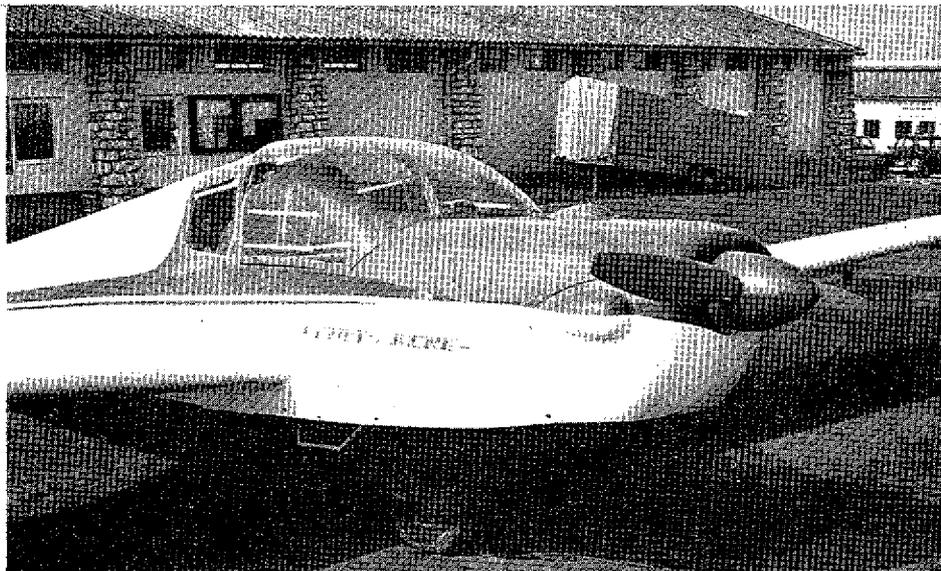
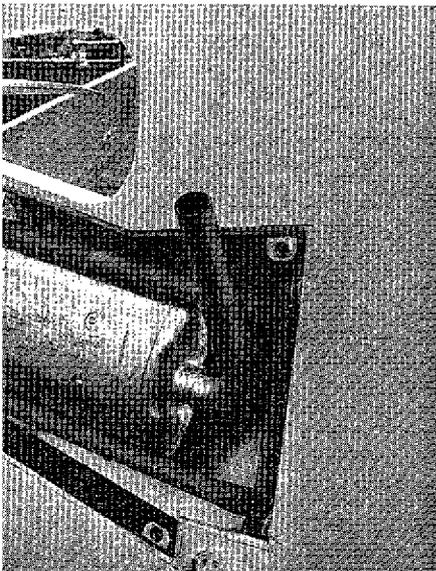
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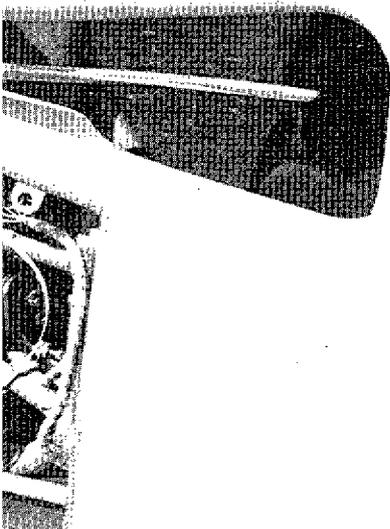
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FOREIGN SCENE

by S. O. Jenko, Dipl. Ing. ETH
AMTECH SERVICES

In the past issues of *Motorgliding* one can find articles by Tasso Proppe about his auxiliary-powered sailplane *Kraehe (Crow)* and the many flying excursions. Months ago there was also an advertisement with an illustration of the "new" *Kraehe*, now in production. An inquiry finally produced an interesting description by the manufacturer about the development of the latest models. The story resembles somewhat that of the *Kora I* (see *Motorgliding*, March 1974). A slightly abbreviated translation of material supplied by the manufacturer is presented here.

The area southwest of the Austrian town of Linz is the new home to many German refugees from Sudetenland. They brought with them their craft—the manufacture of ornaments. One of the better known companies in this field is H. W. Brditschka; their products can be found throughout the world.

The owner-manager, Heinrich Wenzel Brditschka is an enthusiastic sportflyer in his spare time. During 1960 he began to build the *Kraehe*, the first to be constructed in Austria, using the plans provided by the designer Fritz Raab. This design featured an opening in the tail truss where it was attached to the fuselage pod, thus providing room for a propeller.

In 1964 H.W. Brditschka and F. Raab evaluated the experience gathered with the *Kraehe* and began to design a new auxiliary-powered sailplane. Based on an idea by F. Raab, H. W. Brditschka designed a bearing for the propeller shaft which at the same time serves as the upper tail truss member. Thus a larger diameter propeller (approximately 5 ft) could be used. This new arrangement was patented.

In addition, the fuselage pod was completely redesigned and a tricycle

landing gear was added to provide independence on the ground. The wings were retained from the original design.

This new design (1970) was named *Austria Kraehe* and an approval for flight testing was received from the Austrian aviation authorities. During the same year the son, H. Brditschka, Jr., completed his training in aircraft technology. These two events resulted in creation of a new aircraft products department within the company of H.W. Brditschka.

By 1971 a second prototype was completed and flight tested. The engine was a two-cycle Rotax. Steps were undertaken to obtain the type certificate as well as the necessary financial means to ease the burden on the main company.

The year 1972 saw considerable activity: a third prototype with a Puch engine was built, incorporating all the features of the production model; also a second pre-production plane was completed. Furthermore, it was decided to use *Austria Kraehe* as a general name only, the type designation was HB-3, consisting of: HB-3AR, having wings of the Raab's *Kraehe* and a Rotax engine; HB-3BR, having new, stronger wings and a Rotax engine; HB-3BP, having new, stronger wings and a Puch engine.

It was also decided to develop a two-place version, HB-21, and a high performance singleplace design. To carry out this project the wing panels of the Swiss B-4 sailplane were acquired.

The flying group consisting of some employees of the company began to build a HB-3 in their spare time. Thus the suitability as a homebuilder's project was demonstrated. In early part of 1973 the kit became available as HB-3BR.

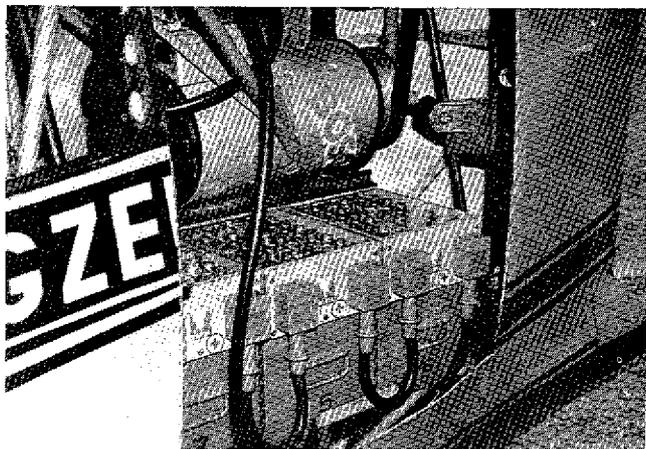
The flight tests of HB-3 were also completed during the beginning of 1973 and the work on the prototype of the two-place version, HB-21, got under way.

Another project, the application of electrical energy, was initiated by F. Militky in cooperation with known manufacturers Varta (batteries) and Bosch

(electrical equipment). During the autumn of 1973 the second prototype of the HB-3 was converted to electrical propulsion consisting of four batteries and an electric motor of 8 kw, providing power for about six to eight minutes.

On October 21, 1973 the first electrically powered airplane, an auxiliary-powered sailplane, was airborne and landed 10 minutes later. The flight testing continued and flights of up to 12 minutes were achieved.

This project was designated as MB-E1. The gross weight of the HB-3A was increased to 970 lb and the corresponding wing loading was 6.4 psf. The weight of the 8-kw, 2400-rpm motor was 73 lb; the discharge potential was 120 volts at 220 amps. The propeller static thrust was 171 lb which decreased to 143 lb after 6 minutes of operation.



Engine compartment of MB-E1

The possibility of electrical power for use in auxiliary-powered sailplanes was demonstrated. However, the practicality will depend on further developments in the storage technology of electrical power—smaller battery weight, larger capacity and a more reasonable cost.

(A detailed account of this application is presented in an article by noted aeronautical engineer and soaring pioneer, Dr. Ing. Alexander Lippisch, published in the June 1974 issue of *Sport Aviation*.)

Technical Description of HB-21 (two-place) and HB-3 (singleplace) auxiliary-powered sailplanes.

The information presented here is taken from the manufacturer's pamphlet.

The HB- auxiliary-powered sailplanes have STOL capabilities. The special thrust-propeller system provides excellent performance on takeoff, during climbing and cruising, using less power than other auxiliary-powered sailplanes. With engine off they also feature good soaring performance. The cockpit is spacious and the canopy provides excellent visibility.

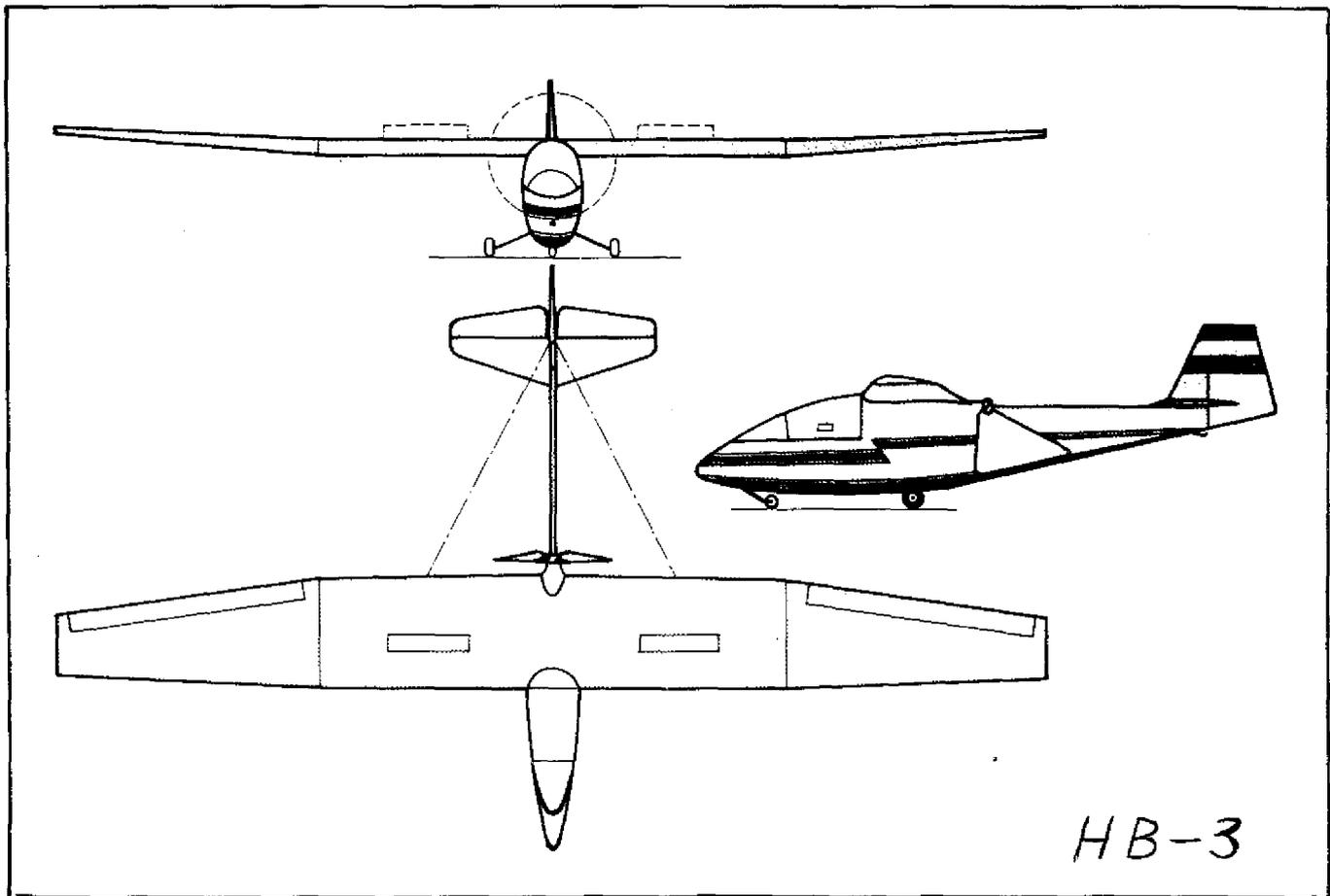
The engine and propeller are located behind the cockpit, eliminating the inconvenience of a conventional exhaust system and also diminishing the engine noise. The propeller is protected by the fuselage; the engine consumes only about 3.5 gallons of gasoline per hour.

Complete independence on the ground is achieved by a tricycle landing gear featuring fiberglass struts.

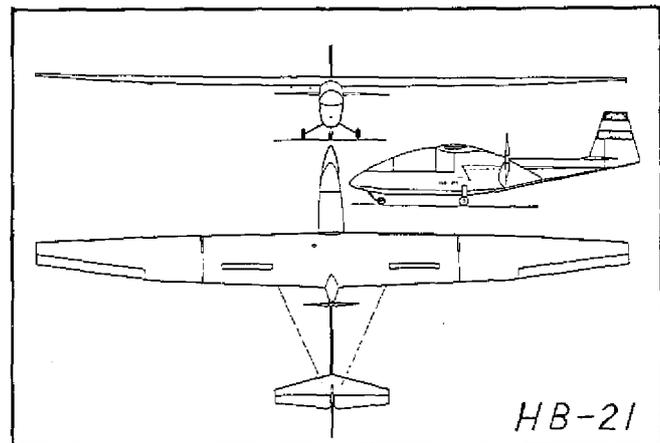
The wing consists of three panels of wood construction with the usual "D" nose to take care of torsional loads. The fuel tank is located in the nose of the center wing panel.

The tail is made of wood, as is the tail truss which connects to the fuselage pod. Its position is held by tethers to the wing.

The fuselage is made of steel tubing with a fiberglass cover. The engine compartment is behind the cockpit separated by a fire wall. V-belts transmit engine power to the propeller shaft located behind the wing. As mentioned previously, the upper tail truss member also serves as the propeller shaft bearing.



Technical Data	HB-21R	HB-3BR
Wing span	53.3 ft	39.4
Wing area	204.3 ft ²	153.1
Aspect ratio	13.9	10.1
Length	25.9	23
Height	8.5 ft	7.3
Empty weight	800.3 lb	573.2
Max. gross weight	1322.8 lb	837.7
Wing loading	6.5 psf	5.5
Best glide ratio	28	20
at	62.5 mph	49.5
Min. sinking speed	146 ft/sec	226
Ground run	558 ft	328
Take-off distance	820 ft	755
Rate of climb	433 ft/min	590
Cruising speed	99.2 mph	93.2
Max. level speed	108 mph	99
Max. diving speed	146 mph	108
Stalling speed	41.5 mph	36.8
Range (full tank)	435 miles	311
Service ceiling	13,000 ft	13,125
Fuel consumption	2.8 gal/hr	2.6



Engine: Bombardier ROTAX 642, developing 42 hp at 5000 rpm, weight 92.6 lb, 2-cycle, electronic ignition, electric starter.

HB-21L features a VW Limbach 1700 EF engine, developing 60 hp.

HB-21R and HB-21L have 69" diameter propellers.

LEARNING TO SOAR WITH THE RF-4D
by Landon Cullum, Jr.

I became involved with the delightful little airplane known as the RD-4D by somewhat of the back door. A friend and I took a quickie vacation in Colorado Springs to get a taste of gliding and glider licenses to put on our tickets. Predictably, we got somewhat hooked and on my return to Wichita Falls, Texas, I started looking for an outlet for the recurring urge to fly gliders. As no gliders reside here, I ran down the Fort Worth and Dallas organizations, but found the time and effort required practically offset my desire to glide in spite of the good organizations available there. Access to a PA-18 and a couple of climbs from 3500 to 7000 in selected north Texas thermals started me thinking about independence and soaring, and a quick look at an RF-4D that passed through started me looking. Back in 1972 I caught Dick Hodgkins in a weak moment and paid what I thought at the time an exorbitant price for his RD-4D. Why, I could have had a first class 1-26 and trailer for what I put into that part airplane-part sailplane mixture!

Then the education began. The little jewel began to teach me what real freedom is in gliding. After a couple of months cleaning things up, doing needed repairs, and adding an oil cooler to placate my nervousness at seeing oil temperature go by the redline, it suddenly became the most trouble-free airplane I've ever owned and is a sheer delight to fly. My *Seabee* and EAA biplane began to gather dust in the back of the hanger. After losing much of the first summer's soaring waiting on a new prop (after a gear-up landing to which I contributed by launching a friend before I located an intermittent gear warning problem), I took a long cross-country to Oskosh and found it to be a joy for travel if you are going alone and light. Over 100 mph in cruise at nearly 50 miles/gallon is hard to beat for efficiency, too.

Its real value to me is, however, in another area. It has given me complete freedom to enjoy and learn about soaring flight with no dependence on anyone else: no help needed to get it out or put it up, no effort or help getting to the runway, no towplane, towpilot, ground crew, trailer, retrieve crew and

especially no time lost in arranging for or gathering all that up. I can decide in the office at 11:45 to fly instead of eat, drive to the airport in 20 minutes and be airborne by 12:20. With luck (or a few air starts) one can soar an hour, and be back on the job before 2:00. Or leave at 4:30, fly and get home for a 6:30 dinner—reliably if need be. Sure, many of the lunch-hour quickies turn into long delightful afternoons, but the point is that I can get in the flying and get back reliably, if necessary, without advance preparations.

This sort of testimony to power gliders may be unnecessary in *Motorgliding* to those who have them, but there must be many readers who don't have access to them if there are 920 subscribers. In spite of the fact that I agree with Charlie Webber that the RF-4D is a superb little airplane but a lousy glider, I think it has much to offer sailplane enthusiasts.

The other real value of the RF-4D to me has been in speeding up my learning process about soaring. I really believe that I would have learned about 1/5 or so as much if I had purchased a 1-26 and allotted the same time away from home and business to it as I have the RF-4. Easy one-man operation gives you much more actual flying. Independent travel and return capability lets you check out distant terrain, cloud formations or whatever, and allows you to make mistakes in finding and working lift without spending most of the time getting towed back up. The little VW glide-flattener up front can also do wonders in increasing your capability in experimenting with weak lift when that's all you've got. You can "check out" a thermal before shutting down in ways that are downright impractical on the end of a tow rope. Of course, you give up some things for this flexibility. I haven't learned much about thermaling below 1000 ft, and I'm not nearly as current as an active 1-26 pilot on "out" landings.

So much for the commercials. Based on my experience in north Texas and with only 15 hours in regular non-power gliders, just what will the RF-4D do? My measurements indicate it glides 17 to 1 at 60 mph and has a sink rate of 270 ft/min at 52 mph. (Prop does not feather). In gliding capability for me this resulted in the following performance in 1973.

Month	Number of Flights	Engine-on Time-Hr	Gliding Time-Hr	Remarks
Jan. '73	2	0.7	0.4	Little or no altitude gain.
Feb.	5	3.8	1.2	1000' on 1 flight, usually none.
Mar.	1	1.0	0.2	No gain, rapid descent.
Apr.	4	2.3	3.4	500 - 1300 foot gains.
May	7	3.1	2.6	1000' on 1 occasion.
Jun.	4	2.7	3.4	Min. 800', max. 4000' climb.
Jul.	7	3.0	9.6	Gains to 4000' on 3 of 7.
Aug.	9	2.7	8.5	2000 to 4000 foot gains on 7 of 9
Sep.	5	3.2	3.2	1000' or less typical.
Oct.	7	4.0	1.7	Little gain—just reduced sink.
Nov.	1	1.5	0	Cross-country travel.
Dec.	3	1.3	0	No gliding—little or no lift.

(Note: Engine on time includes idle time as well as low power time on weak days—probably about $\frac{1}{4}$ of total engine time.) (Totals are 29.3 hours power, 34.2 hours gliding or 63.5 hours flying on 57 gallons of gas.)

As results show, most of the time you are working to stay up in the RF-4 and restarts are pretty common on many flights. Starts have been 100% for me but on two instances friends have landed power off (on the airport) after one start try failed. I operate on the basis of 1500-foot AGL minimum glide altitude allowing 600 feet for a dive to restart (110 IAS) and 900 feet for pattern and field selection if it ever fails. As with any glider my altitude determines to a large degree what terrain I will fly over.

Obviously, gliding performance wasn't spectacular in 1973 for me. I tried four or five out-and-returns to the town of Archer City—15 miles away, and never did manage to make it back without a restart. I think pilot performance was a big factor, however, and that the RF-4 was teaching me as best it could. In 1974 this began to show. By June I had a few 5000-foot climbs and one of 7000 feet. On July 14 I caught a great day with 10,000-foot cloud bases and flew an out-and-return to Olney airport. The round trip was 72 miles with three climbs to 10,000 feet after my 3000-foot MSL start for a speed of 28 mph. Climb rates at times exceeded 700 fpm so conditions were quite strong.

About this time the SFS-31 owned by the Berg estate was advertised for sale and I bought it. It is just like the RF-4 except for the 50-foot wing but flies quite differently. It isn't nearly as responsive or light on controls as the RF-4 but is a far better sailplane and retains the complete one-man operation capability that has made the RF-4

so valuable to me. So far I haven't measured its performance for a technical comparison, but my impression is that it may be as good as the factory says: 29 to 1 and 170 fpm.

We are still getting acquainted, but in 10 flights here since July 30th I have run the engine only for launch, never had to restart because of altitude, and landed each time at my option. The flights have included climbs from 2400 feet MSL to 10,600 feet MSL in thermals and an out-and-return of 70 miles at 32 mph with a very strong headwind outbound. I have run the engine 1.5 hours and glided 16.8 hours. Conditions have been good, so I'm sure this won't last. However, on a number of flights, friends in the RF-4 were unable to stay up and a 2-33 was unable also on one occasion.

My feeling is that motorgliders are here to stay and should become a strong and healthy factor in soaring in the U.S. Even though the initial cost is high, the economics and use factor would, I believe, make them very competitive now if the regulations permitted their commercial use. I also feel that in conditions such as exist here in north Texas something in performance between the SFS-31 and the RF-4 would be quite adequate, just as the 1-26 seems to meet the needs of a large segment of the pure sailplane people. Reasonable cost and self-sufficiency are more important in my viewpoint. Hopefully, sometime soon, breakthroughs in the regulations and a certifiable engine will make this delightful side of soaring available to many more Americans than the lucky few of us now so blessed.

The Winner!

Scheibe's popular SF-28A "Tandem Falke" once again demonstrated its superior flight qualities by taking the first three places in its class at the 1973 Burg Fiederstein motorglider competitions. A clean sweep that consistently outclassed the heavier and less maneuverable ships. No wonder more pilots fly Scheibe powered sailplanes than any other make!



Contest winning performance at a reasonable price, plus docile handling characteristics and a worthwhile range under power (about 280 miles) mark the Tandem Falke as today's best value in self-launching sailplanes. The 60 hp Limbach engine with a Hoffman feathering propeller provides plenty of power to operate from regular airfields.

Engine-on Performance

Takeoff run	500/650 ft.
Rate of climb (sea level)	430 ft./min.
Maximum speed (sea level)	106 mph
Cruising speed	81-93 mph
Endurance (cruise)	3 hours
Fuel capacity	7½ gallons

Gliding Performance

Maximum glide ratio	26/27 to 1 at 53 mph
Minimum sinking speed	2.95 ft./sec. at 43 mph

The Tandem Falke's outrigger wheels and steerable tailwheel allow completely independent operation. With its outrigger wheels removed the Tandem Falke may be conveniently hangared with other sailplanes.

A side-by-side version is available for pilots who prefer this arrangement. Similar performance, but slightly lower rate of climb and glide ratio. Order the SF-25CS "Falke."

Prices include flight test, German certificate of airworthiness, flight and engine instruments, electric starter, feathering propeller, cabin heater, upholstered cockpit, two-tone paint, packing, sea crate, and shipping to the port of Hamburg:

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POSTFLIGHT NOTES

September 7, 1974 was an excellent soaring day in southern California's Mojave Desert. While I was exercising my *Standard Libelle* on a 200-mile out-and-return flight from El Mirage (an aborted 500-km triangle attempt), I occasionally heard 'Two Eight Alpha' on 123.3. I didn't realize it until a few days later, but Graham Thomson had taken off from Santa Monica Airport, where he bases his *Tandem-Falke*, and, after 40 minutes of engine time, which took him to the mountains south of Palmdale, proceeded on a soaring flight to Twentynine Palms and then to Apple Valley—over 200 miles. Quite a flight. From Santa Monica!

Graham reports, incidentally, absolutely no problem in operating from busy Santa Monica Airport.

As noted in October *Soaring*, Vern Oldershaw dropped by the office the other day and demonstrated his powerplant-retracting prop. He had returned from the EAA Oshkosh fly-in where he had won the Stan Dzik Memorial Award for his Outstanding Design Contribution, described as a retractable sailplane power head. The powerplant is a 443-cc Yamaha snowmobile engine. The unit produces 32 horsepower and weighs 124 pounds, although Oldershaw says he can reduce that by about 20 pounds. The prop has a 42-inch diameter and a 33-inch pitch and was made by Les Trigg, in the Los Angeles area. The unit is to be installed first in an Oldershaw O-3 under construction by Carlton Kibler, in Porterville, Cali-

fornia. Vern may offer plans in the future. We hope to have an article from him in an early issue of *Motorgliding*.

The Chico (California) Soaring Association has imported a two-place Franklin-powered Slingsby T61B (a one-of-a-kind *Falke*, built under license, the only one so-powered). They thus become the first U.S. club that we know about to give gliding training in a motorglider. Read about their experiences in future issues of *Motorgliding*.

SSA Director Floyd Sweet and seven others have purchased a SF-25B and have been operating it at Frederick, Maryland.

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Sport-Aviation Inc. SEASON CLOSE OUT. RF-5B Demonstrator, 490 hrs TT. Radio & audio-vario. Fully instrumented. \$22,000. First used unit ever available. Also RF-5B brand new. 1974 model at 1974 prices, fully instrumented with radio and electric T&B, electric audio-varios. Beautiful white with red trim. (216) 262-8301.