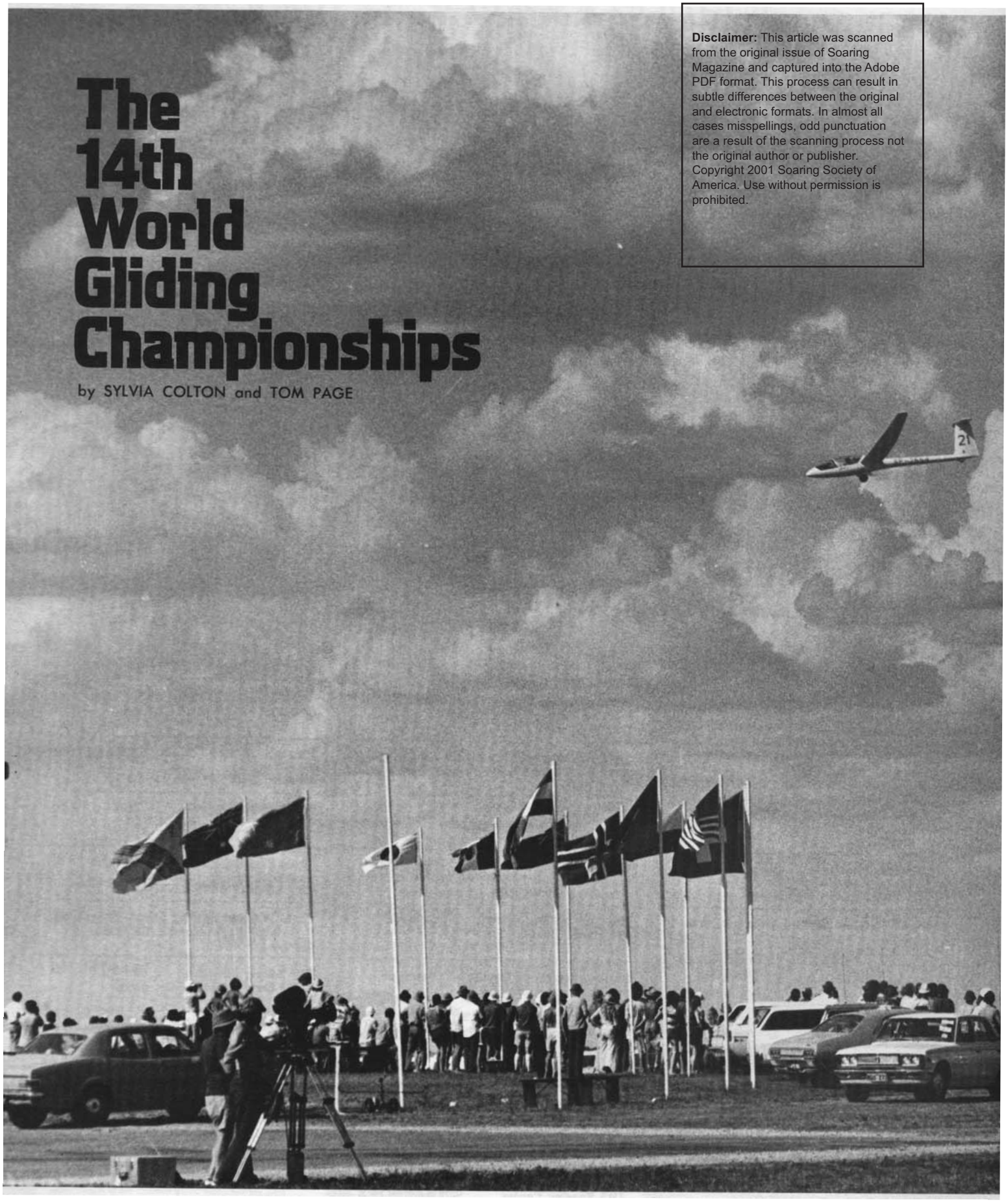
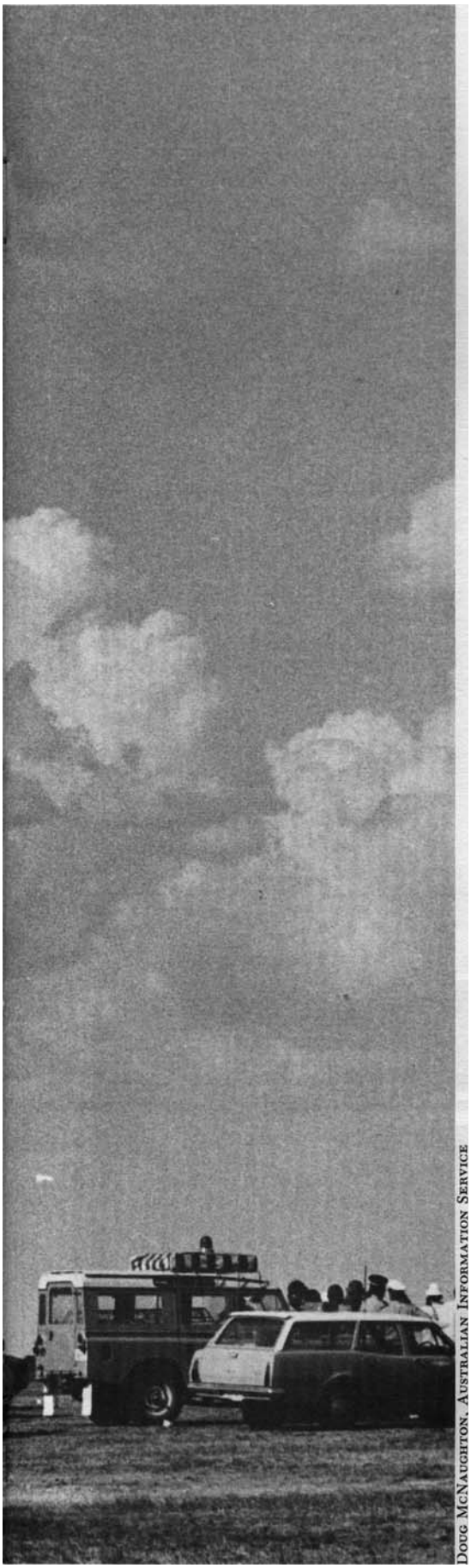

SOARING
APRIL 1974
65 CENTS
OELESBY

# The 14th World Gliding Championships

by SYLVIA COLTON and TOM PAGE







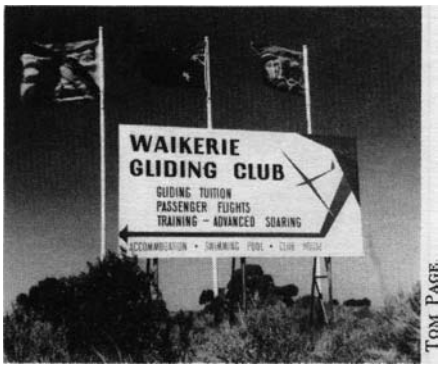
DOUG MCNAUGHTON, AUSTRALIAN INFORMATION SERVICE

Australia takes soaring seriously.

Consider the presence of that country's Prime Minister at the opening ceremonies of the 14th World Gliding Championships at Waikerie. (Imagine a U.S. President — or even a Governor — at the 1970 Marfa Internationals!) The scale of official interest and support for gliding activity in Australia was reflected in the number of federal and state political leaders who felt it appropriate to attend the opening day, January 12th. Despite a low cloud ceiling and intermittent rain, Prime Minister Gough Whitlam's plane was able to land and permit him to participate in the formal ceremonies. The colorful spectacle of raising the national flags and the grouping of teams in Olympic-like semi-circles for individual welcoming by Mr. Whitlam went forward oblivious to the leaden skies. As a result, the polite symbols of welcome began to take on real substance for the visiting teams. It was an awareness that continued to grow as the meet progressed — a recognition of the extraordinary thoroughness of the contest machinery and the remarkable scale of volunteer effort behind it (an effort that extended back two years).

The scale of this service, not only during the Championships, but in the make-ready period, was at first beyond the comprehension of the visitors. When it was understood that these hospitable Australians, plus a contingent of New Zealanders and other nationalities, had not only given up their holidays but had taken leave from their jobs in addition, the true measure was realized — the contest was not only an administrative achievement; it was a notable human landmark in the history of international soaring.

A catalog of those who joined the massive project reads like a directory of the Gliding Federation of Australia, its uncles, cousins, aunts, and friends. Once the promotional and planning efforts of Professor C. E. "Wally" Wallington and his Deputy Director, Mervin Waghorn, had received sanction from the CIVV, an administrative support machine began to take form under Colonel C. J. "Bill" Ridley. A first task was a seemingly impossible one — growing grass on Waikerie Aerodrome. A crop failure the first year didn't phase the determined volunteers, and nature gave their tireless

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efforts at irrigation a generous boost by supplying over twice the mean annual rainfall for calendar year 1973.

By the time competition opened, a call for a meeting of "department heads" would have filled a small church:

- Meteorologists from the Met Bureau of Australia's Federal Department of Science were on hand with balloon tracking radar and radiosondes, facsimile service, weather circuits, and transcribed forecasts and task descriptions on VHF.
- Takeoff grid Marshalls with motorbikes, portable loudhailers, signal men, and hookup boys.
- Tug and Safety Officers deploying some 14 towplanes during peak operations.
- Observers for start and finish lines relying on the familiar open grid system (backed up by a mirror viewer and calibrated by radar).
- A verification team, including turnpoint photograph analysts, film processors, timers, and ID operators on the start grid.
- Scoring on a minicomputer that provided real-time standings whenever asked.
- A gigantic score board with near-instantaneous display of start, finish, and elapsed times.

***The Right Honourable Gough Whitlam, P.C., Prime Minister of Australia extends a personal welcome to Dick Johnson as Jim Herman and George Moffat look on.***

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*Waikerie is- located in the state of South Australia. Geoffrey Giles (right), the state's M.P. in the Australian parliament chats with Greene, Herman, and Moffat on opening day.*

- A public information and reception center issuing announcements on large and small matters over the PA system and equipped with attractive mini-skirted guides.
- A flight office to collect pilot reports and films and well-staffed for pilot and crew telephone answering service.
- A flight and fire precaution unit, backed up by the Waikerie Volunteer Fire Unit.
- A medical and first aid unit, tied to the city hospital by ambulance; largely a volunteer service.
- A continually-manned gate and car-parking lot, segregated by windshield symbols for classes of contest personnel.
- A mobile post office with international telex facility.
- A portable Bank of Adelaide office.
- Food, juice, photography, and souvenir concessions.
- A child-minding center to free volunteers for full-time service.
- Irrigation men to keep the grass growing, fix-it crews to keep utilities functioning, PA maintenance for information flow.
- Swimming pool attendants, medical checks of water, reserved swimming hours for weary post-task pilots and crews.
- A recreational staff to plan and manage social functions for unoccupied visitors.
- Beer, food service, beer, music, and beer at the Waikerie Gliding Club.
- An elaborate daily bulletin complete with met data, tasks, scores, interviews, witty sayings, technical information, and local history.
- An overhead service from a multiple-trunk switchboard, a secretarial pool, messengers, and assorted slave labor and fort-holders.
- A press office staffed to answer questions and supply special help; equipped with four telephones, typewriters, and an artist-in-residence.
- Department ,of Civil Aviation aircraft and pilots to help locate outlanded contestants, plus a mobile radio maintenance unit to help contest and pilot electronics.
- A small city of caravans wheeled in by volunteers for living quarters, team headquarters, large portable sanitary buildings (hooked to drains), portable offices, darkrooms, and shops.

Waikerie Aerodrome was, in fact, a small city staffed by some 190 full-time volunteers. These were rewarded only by mess tickets for two meals at the high school and one cold lunch plate issued at the field each day. Another twenty-seven part-time volunteers could be tallied. The community's other residents were an estimated 270 team members for whom the volunteers worked with remarkable cheer.

For its part, the SSA was not without grassroots support at home for the world meet. A large part of the Society's membership pitched in and "put something in the pouch" by contributing the many thousands of dollars needed to transport U.S. pilots, crews, sailplanes, and equipment to the distant Australian sub-continent. And it should be noted that this effort was abetted by most welcome financial assistance from Smirnoff, sponsor of the annual Smirnoff transcontinental Sailplane Derby.

*(Speaking of voluntary support: The nature and scope of a World Gliding Championships needs more than one pair of eyes for a full report. SOARING is fortunate that SYLVIA COLTON and TOM PAGE offered to cover*

*the event for the journal. It takes this means to thank them for their considerable expenditures and efforts in traveling, photographing, and writing the stories on these pages. From their two separate accounts, SOARING has tried to select, first from one and then the other, material that provides an overview of this kaleidoscopic event as well as the peripheral happenings that give a world soaring championships its flavor.-Ed.)*

*Waikerie Aerodrome. The preparation, improvement, and development of this facility was a major fwo-year project of the Gliding Federation of Australia. It has been hailed as the best organized and most effectively implemented contest since the Championships began in 1937.*

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## THE CONTEST SETTING

The Murray River, draining the interior side of the Great Dividing Range along the east and southeast coast of Australia, flows slowly west through Waikerie between 70-foot limestone bluffs. The Murray has been extensively exploited to pump irrigation water for citrus, stone fruit, and grape cultivation in narrow bands along its banks from Morgan, where it turns south to the sea, to Mildura, near the confluence of its major tributary, the Darling River.

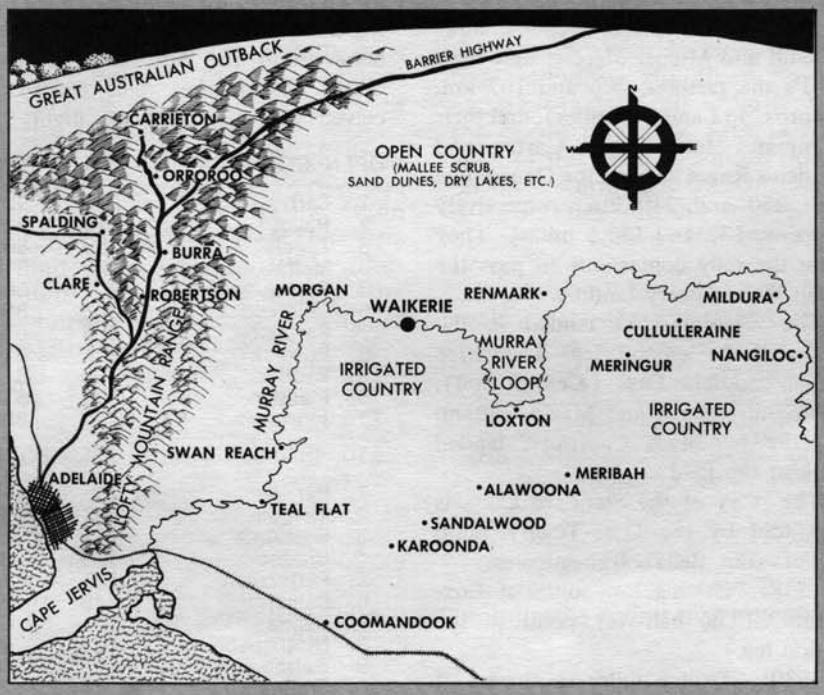
North of this east-west reach of the Murray an unlandable scrub mallee reaches into the desert interior. Significant areas of scrub and even sandy ridges lie south of the Murray in the contest zone, but with cleared paddocks and wheat stubble fairly frequent. Forty miles west of the river bend at Morgan, the Lofty Range lies north-south with tops between 2200 to 3000 feet. Several turnpoints were also located along this series of ridges.

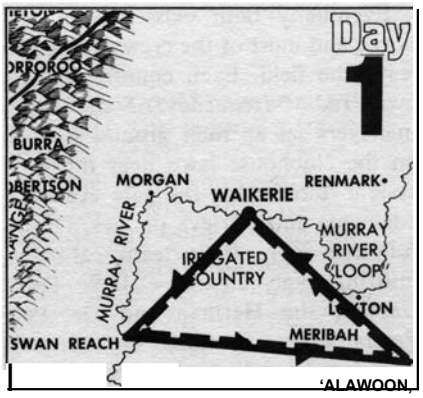
The land is not actually hostile, but normally quite dry, receiving less than ten inches of mean annual rainfall. Pilots were warned to carry plenty of drinking water and to stay by their ships unless they were certain of the direction of an inhabited place.

Bush fires are a constant threat. Total fire bans extend even to smoking in the bush. The hot exhaust pipe of a car stuck in sandy wheat stubble could ignite an inescapable fire.

Summer temperatures can reach over 100°F, which, coupled with night time radiational cooling to nearly 60°F, generates strong convection to over 10,000 feet, sometimes unmarked by cumulus tops. On the other hand, as the forecasters invariably hasten to say, vulnerability of this small continent to intrusions by marine air can narrow the daily range so that any convection which does occur will be late, weak, and prone to overdevelopment within 5000 feet or less of the surface. In the contest period more of the latter than the former was experienced and the "unusual" pattern provided an even greater test, it might be said, of task-setters' skill. The net outcome, although short of the advertised ideal, proved a rich variety of tests of pilot skill.

Beginning with the day of closing ceremonies, rain and low clouds provided six successive days of totally unflyable weather at Waikerie. Lucky, eh?




The opening of the Championships was not auspicious. Because of rain, the first two contest days had to be canceled and a grey dawn on the third revealed threatening skies—this in a normally arid region that had once been desert. Perhaps the organizers of the 14th Championships felt they, too, were to be harried by the wet-weather jinx that had marred previous meets at Marfa and Vrsac. But the weatherman said a high had moved east, losing its influence so that the 1500-foot ceiling was expected to lift and open to 6/8 cumulus coverage at 3000 feet by 2:OO p.m. Fourteen-knot winds from the northeast were predicted and thermals were to be weak (1-2 knots).

The task committee gritted its teeth and posted a 269-kilometer (167-mile) triangle race over the same course for both classes.

By noon, the Standard Class was beautifully staggered on launch pad A. Crews reluctantly parked the tow cars, doubting there would be a task with the low ceiling. At 1:05 p.m., the pilots were informed by mobile loud speakers that there would be a hold until 3:25 p.m. Poland's Kepka, first in line, reluctantly climbed out of the Standard *Jantar.* Contest Director Wallington and Malcolm Jinks took another flight in a *Blanik*, looking for favorable lift. At 1:48 p.m. they radioed to the ground:

"Until further notice, we are holding the launch." Then a little later came the terse announcement:

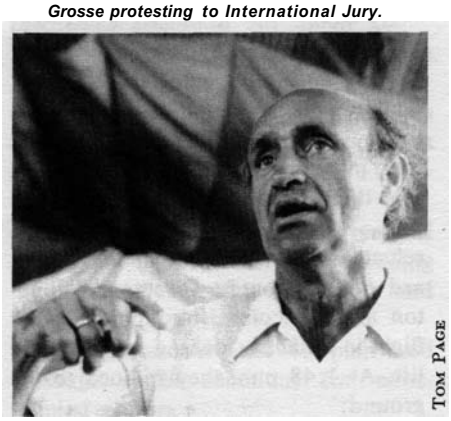
"Launch the Standard Class, but warn each pilot that he will be watched. There will be no cloud flying." At 2:12 p.m. Kepka took off. Ben Greene followed 15 minutes later, jesting to Tommy Beltz (TB) that "Tinker Bell is worried about missing the dinner bell."

Eventually both classes were airborne and most of the crews elected to leave the field. Each country had its own radio frequency. Some team managers set up their ground stations on the clubhouse lawn near the P.A. system, monitoring the gate acknowledgments and retrieve phones. Others followed from their team caravans, utilizing high antennas. U.S. Team Captain Jim Herman and Dr. Pete Peters kept a running log of their pilots' radio talk and followed their progress on sectionals and road maps.

While the gaggling for start-gate runs was in process, everyone on the common 122.9 frequency heard an angry cry in German-accented English, "George Moffat is dropping water all over me! I am covered with water- George Moffat, I will never forgive you. Unbelievable!"

The next day, operations officer Merv Waghorn commented on the number of negative starts. The pilots had obviously been trying to get through as high as possible, leading some to drop ballast while thermaling. It was not an illegal procedure, he noted, but it certainly was discourteous in the start gate or in a crowded gaggle. The large crowd was hushed as Hans-Werner Grosse made a strong statement concerning the sportsmanship of dropping ballast on a fellow competitor.

*Grosse protesting to International Jury.*



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***(Moffat later commented on the incident during his speech at the SSA Awards Banquet in Atlanta, Georgia. He explained that he had drained the Nimbus II's ballast for the period prescribed by the manufacturer as necessary to drain its tanks comptetely empty. He had then returned to the thermal unaware that water was still jettisoning and evidently took no note of who was below him.—Ed.)***

*Start gate team.*

After the start gate opened, most pilots left hurriedly, trying to make up for the delayed takeoff and rapidly deteriorating weather. Eventually three-quarters of the Standard Class were obliged to land out on the first leg. Seven managed to reach the first turnpoint and photograph the three silos at Meribah, but all landed short of Swan Reach, the second turnpoint.

The French pilots, Jean Claude Penaud and Michel Mercier flew their LS-1's the farthest, 206 and 197 km. (approx. 132 and 118 miles), and their teammates Jean Pierre Cartry and Francois Ragot also led the Open Class with 220 and 219 km., respectively (approx, 132 and 131.5 miles). They were the only contestants to pass the Swan Reach Ferry landing.

The remaining 22 landed in the bush on the second leg. The three Italians, Adele Orsi (Kestrel 604), and Sandro Serra and Mario Cattano (in the two-place Caproni), landed back at the field.

The story of the Standard Class is best told by the U.S. Team's radio log of Tom Beltz's transmissions:

1538: "Getting low south of Loxton." (The half-way point of the first leg.)

1630: "Twelve miles southwest of Loxton."

1710: "Eight to ten miles southwest of Loxton."

1824: "Eight miles south of Loxton at **3500."**

It took Beltz three hours to get high enough for a run to the first turnpoint, but he still had to land two kilometers short.

Ben Greene scored 62 km. (approx. 37 miles). George Moffat got 209 km. (approx. 125 miles) and had his only out landing of the contest. He shared the field with Bert Zegels of Belgium —and Hans-Werner Grosse of W. Germany.

Dick Johnson flew 197 km. (approx. 118 miles) and landed in an isolated area. A knowledgeable Australian observed the landing and drove out of the way to sign Dick's card, saying no one would have been around for miles.

No contestant in either class had completed the course, but the distances achieved were sufficient to qualify the task as a "distance day." For the rest of the meet no further distance events were called; the remainder of the tasks were confined to speed races.

The day was drastically "devalued" for the Standard Class so that Penaud's effort gained him only 108 points instead of the normal 1000. It was felt by some that the devaluation did not accomplish its fundamental objective of minimizing the point spread between a devalued-day winner and a pilot who had bad luck. The reach of the Open Class sailplanes (most having dumped ballast early) was enough better than the Standards to avoid drastic devaluation, and Cartry received 925 points for his flight.

| OPEN CLASS | KM. | POINTS |
|---|---|---|
| 1. Cartry | 220 | 925 |
| 2. Ragot | 219 | 920 |
| 3. Zegels | 209 | 868 |
| 3. Moffat | 209 | 868 |
| 3. Grosse | 209 | 868 |
| 6. Delafield | 208 | 863 |
| 7. Carpenter | 206 | 853 |
| 8. Pozniak | 201 | 827 |
| 9. Wetli | 198 | 812 |
| 9. Mander | 198 | 812 |
| 11. Johnson | 197 | 807 |

| STD. CLASS | KM. | POINTS |
|---|---|---|
| 1. Penaud | 206 | 108 |
| 2. Mercier | 197 | 102 |
| 3. Bluekens | 193 | 99 |
| 4. Bradney | 169 | 84 |
| 5. Pettersson | 161 | 78 |
| 6. Cameron | 148 | 70 |
| 7. Kepka | 141 | 66 |
| 8. Nietlispach | 103 | 41 |
| 9. Beltz | 93 | 34 |
| 10. Frehner | 74 | 22 |
| 15. Greene | 62 | 14 |

## PENALTIES, RULINGS, AND PROTESTS

Barely visible to the observers, but fully evident to the pilots, is the power of the Competition Director to interpret the rules, set standards for conformity, and assess penalties for any breach. The rules themselves do not center the power directly but do say the Director is advised by the Stewards in assessing penalties—an ambiguity which needs to be corrected.

On the second day, eleven pilots were assessed nominal penalties for breaches of the "stated interval" ( a time within which they must make a start after launch or be recognized at the side of the start gate). The Competition Director had, of course, been advised by the Stewards. One team manager, however, lodged a protest, alleging first, that the Director had no such power, second, that if he had the power he could exercise it only after publishing a catalog of offenses and the appropriate levels of penalties, and third, that the penalty for any such offense could not be increased within the period of the contest. After an agonizingly long debate on a hot afternoon the International Jury disposed of the issue in the Director's favor.

A more fundamental challenge had occurred during the practice period. Both Open Class ships from West Germany had been equipped with alternate outboard wing panels—the shorter ones with 19-meter spans — and the longer with 21-meter spans—both euphemistically called "spare wing tips." It was argued that the rules permitted the pilot to install either pair of panels he chose to meet his estimate of the task and the weather.

The Competition Director ruled that such substitutions could not be permitted on the ground that the rules permitted substitution only for damaged components like ailerons, not complete elements like wings or fuselage. He urged, however, that the future rules permit such substitutions within the intent of the Open Class idea.

This ruling was challanged. The International Jury could overrule the Director only by a two-thirds vote, but failed, eight voting to uphold, one abstaining, and only 13 to overrule. The margin was close.

Later in the contest another pilot was assessed 25 points for a poor turnpoint photograph. A second offender on the recognition time interval was assessed a slightly harder slap on the wrist.

A still more serious penalty —non discretionary—was given one pilot who did not finish through the gate; he received points for distance only—a loss of over 200 points for the day.

Finally, one strong Open Class contender was incorrectly advised, five minutes out on the last day, that he had a "negative start." He returned and started again in a few minutes, and then took still a third start, bored out on course, and landed only 53 miles out—one of only two who did not complete the task. This reduced his rank from third on the previous day to seventh in final standing. His team manager protested the validity of the entire final day. After a review of the claim during a hold on final standings, the Director rejected the protest and was upheld by vote of the International Jury.

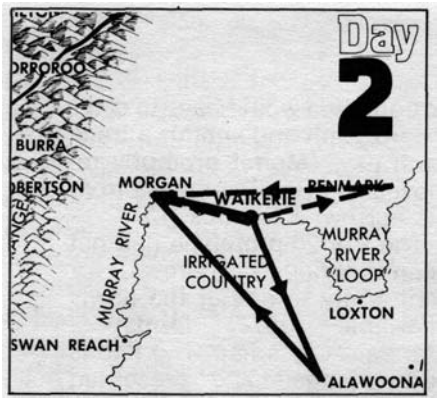
A Competition Director is hotly pursued by the state of the art in other technical respects, which call for Solomon-like qualities. The new Bohli compass is so effective, without the need for the former type of compensation required for dip, that its proponents claimed that it could be used for cloud flying without gyro backup. The appearance of several Bohlis prompted a ruling that any ship so equipped would have to carry a barograph and submit a trace each day. (Moffat promptly removed the Bohli compass from his borrowed Nimbus II.)

The PIK-20 prototype had not been previously approved for conformity to one of the newly allowable (1974) forms of Standard Class flap. The flap is bottom-hinged and presented no uncertainty.

During the practice period Fred Jiran carried out a modification of the ballast capacity of the Nimbus II owned by Malcolm Jinks, Australian Champion, and rented by George Moffat. This would have matched the capacities of the two West German Open Class ships, whose designers were present either as pilots or crew members. The additional capacity in the Moffat ship was not used, however. During most of the contest, thermal strengths and altitudes did not justify heavy wing loadings—whatever the prospect of enforcement action.

The possibility that ballast in excess of that allowable under the sailplane's certificate of airworthiness might be used prompted the safety officer to collect statements of allowable gross weight from each competitor. Team managers were asked to certify that they would control the situation under the hint that portable scales might be used to take random samples. No scales appeared, but the uneasy suspicion continued, reinforced by the visible discharge of ballast by one superships for three minutes twenty seconds during its final glide, finish, pull-up, and pattern.

The CIVV will be under some pressure, it can be predicted, to clarify the range of discretion in rule interpretation and penalty action by a Competition Director. Whether an answer to ground-system failures under the increasing speed and tension of present competition can be found seems to be a separate question from the legal flexibility, or rigidity, of the rules.




Still under the influence of the moist northeasterly flow, the second day looked bad on the charts at the morning pilots meeting. The Open Class task was a 139-mile speed triangle southeast to Alawoona, northwest to Morgan, and back to Waikerie. Morgan, where the Murray River's east-to-west course turns abruptly south toward the Indian Ocean, was also the second turn for the Standard Class. The Standard task was a squashed 119-mile triangle which required the contestants to turn almost 180 degrees at the river town of Renmark before starting west for Morgan on the second leg. The course was, in effect, a pair of out-and-returns with turns at Renmark on the east and Morgan to the west. It paralled the Murray river, which represented a boundary of sorts between the desert and unlandable areas of scrub to the north and the partially reclaimed cultivated regions to the south.

The day was flown with densely packed weak cumulus under an almost solid altocumulus deck. Lift rarely reached four knots and bases were mostly around 3500 feet. The relative frequency of weak but usable lift made it possible to bump along, once the maximum temperature of 84°F was reached. Some streeting was encountered.

At 4:25 p.m., Francois Ragot led a fiberglass cloudburst across the finish, including Zegels, Ax, Delafield, Wiitanen, Grosse, and Moffat. It was a lovely goose-bumpy sight as they swooped home, each carving a different pattern to end the task. Bert Zegels, flying a 22-meter Kestrel 604, nudged Ragot's elapsed time by seven-tenths of a second and won the day with an achieved speed of 95.1 kph (approx. 58 mph for the 139-mile task). Zegels, at 26, was out to improve his 10th, 13th, and 10th placings in his three previous Internationals. "I had the impression I was slow," he said. "I kept all the water. I tried to stay high—to try the system: not too fast, but continue all the way without turning.

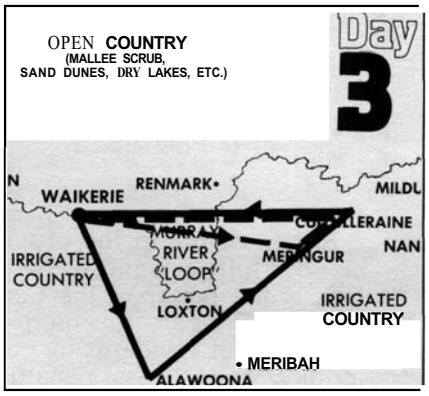
"The thermals were not too good in the beginning. At the first turnpoint I got one—the only one! Six knots. It was better to fly with water. On the second leg the weather was coming from Waikerie, so I changed systems, reduced speed, and flew cloud to cloud. Abeam of Waikerie, I drained the aircraft—thermals were weak. When I passed Waikerie, I could climb better. At Morgan, I met the others—Ax, Tabart, and Burton on the way in. I started my final glide there at 1100 meters."

Johnson and Moffat flew cooperatively—sometimes almost abeam—and placed sixth and tenth for the day. Walter Gordon of New Zealand won the Standard Class race with a respectable 45 mph.

Greene was disappointed with his achieved groundspeed after starting on the first leg, so he returned only to be still further delayed in getting gate altitude. In the meantime, Beltz was finding conditions "squashy" on the first leg north of Lake Bonney in the Murray system. And later a second-leg call by Greene was monitored at the Team caravan: "I'm in real bad shape—down to 1000 south of Waikerie." Yet both U.S. Standard Class pilots made it back—Beltz to 9th overall and Greene to 15th.

| OPEN CLASS | | KPH | POINTS |
|---|---|---|---|
| 1. | Zegels | 95.1 | 1000 |
| 2. | Ragot | 94.6 | 994 |
| 3. | Wiitanen | 93.1 | 972 |
| 4. | Ax | 92.1 | 958 |
| 5. | Grosse | 91.6 | 951 |
| 6. | Moffat | 90.5 | 936 |
| 7. | Tabart | 90.4 | 934 |
| 8. | Haemmerle | 90.1 | 930 |
| 9. | Delafield | 86.1 | 874 |
| 10. | Johnson | 82.2 | 818 |

| STD. CLASS | | KPH | POINTS |
|---|---|---|---|
| 1. | Gordon | 72.0 | 1000 |
| 2. | Nurminen | 71.6 | 994 |
| 3. | Orleans-Borbon | 71.6 | 993 |
| 4. | Renner | 71.0 | 983 |
| 5. | Fitchett | 69.5 | 976 |
| 6. | Mercier | 68.6 | 940 |
| 7. | Kepka | 67.3 | 917 |
| 8. | Strukelj | 67.2 | 916 |
| 9. | Cameron | 67.1 | 914 |
| 10. | Beltz | 66.9 | 910 |
| 14. | Greene | 62.9 | 841 |




After launch the third day, the airspace immediately over the tiedowns was jammed with milling competitors waiting for the gate to open and the leaders' first move. Most of the Open Class went through the start gate around 2:00 p.m., and half the Standard opted to leave at the same time. The Open task called for a total of 333 kilometers (207 miles)—southeast to Alawoona, northeast to Lake Cullulleraine, and west to the finish. The 294-km. (182-mile) Standard Class task overlaid the Open triangle, except that the first leg cut to Meringur at the midpoint of the second side of the triangle from which point both classes proceeded along identical courses.

Forecast weather proved optimistic compared to actual conditions which were marked by fading cycles under overdeveloped areas and possible wind shears at levels lower than predicted. Twelve of 28 Open ships returned, but only 14 of 39 Standards. Among the out landers were Beltz and Greene with the former being only six miles short. Most pilots who finished reported struggles as low as 400 to 1500 feet. Though he won, George Moffat found it "fun in a masochistic way" and characterized it as a "forty percent luck day." He commented, "This is no way to fly. I had trouble all the way. It took an hour and a half to get to Alawoona. I was never high enough to get money in the bank. I went into the second turn at about 1100 feet . . . couldn't get out." His Nimbus II was carrying 3/4 ballast which he parted with shortly after the second turn. His highest altitude for the task—3500 feet.

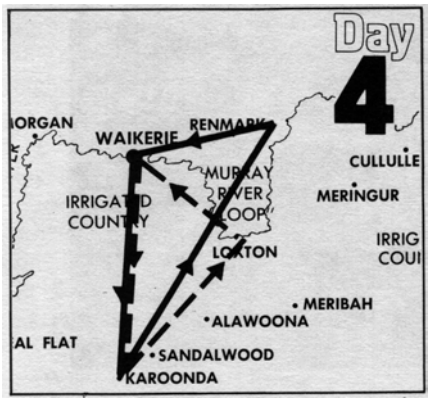
Dick Johnson, who was second with 70.0 kph (approx. 42 mph) remarked, "Worse than yesterday? Let's see, what was yesterday? Every leg was the

worst. We never got very low, 1800 was the lowest!" The two teammates had improved the level of exchange information (see box) to their mutual benefit, since both got back in almost equal time.

Ragot still held the Open Class lead, but was now hotly pursued by Moffat in second. Johnson moved up from 10th to 7th, with Grosse, Ax, and Zegels above. In Standard Class, Mercier retained the lead; outlandings dropped Greene to 15th and Beltz to 19th.

| OPEN CLASS | KPH | POINTS |
|---|---|---|
| 1. Moffat | 72.0 | 1000 |
| 2. Johnson | 70.0 | 982 |
| 3. Cartry | 67.3 | 958 |
| 4. *Ax* | 67.0 | 956 |
| 5. Haemmerle | 66.9 | 955 |
| 6. Grosse | 65.3 | 941 |
| 7. Ragot | 63.1 | 920 |
| 7. Zegels | 63.0 | 920 |
| 9. Wiitanen | 59.9 | 892 |
| 10. Burton | 58.2 | 877 |

| STD. CLASS | KPH | POINTS |
|---|---|---|
| 1. Mercier | 63.8 | 1000 |
| 2. Pettersson | 61.3 | 979 |
| 3. Fitchett | 61.0 | 976 |
| 4. Firth | 58.0 | 951 |
| 4. Gordon | 57.9 | 951 |
| 6. Pare | 57.5 | 947 |
| 7. Reichmann | 57.2 | 944 |
| 8. Bradney | 56.0 | 934 |
| 9. Rizzi | 54.1 | 918 |
| 10. Cameron | 53.1 | 910 |
| 16. Greene | 284 km. | 702 |
| 27. Beltz | 223 km. | 526 |




For the fourth day's program the task committee took note of improving 'weather by scheduling ambitious quadrilateral tasks for both classes. But when an overcast failed to break up as predicted, it revised and shortened its proscription by calling for 285-km., and 255-km. (177 and 158 mile) triangles. Both classes found they were to share a common first leg south to Karoonda. The second legs were both roughly northeast, with the Standard course bearing to the right until it reached Loxton where it could then set a northwest heading for home. Open pilots were obliged to press on to the turnpoint at Renmark before turning west toward Waikerie. This brought them within the influence of the sag of the Murray "loop" where the river's course bent south and conditions were known to be weak. Hard choices awaited contestants at Renmark.

Ingo Renner, Australian National Open Champion and gliding instructor, decided to avoid the gate crush by starting at *3:00* p.m. Reichmann, Nurminen, and Greene followed. Everyone else was busily tagging thermals. Renner, flying a Standard *Cirrus*, earned his only 1000-point day with 87.5 kph (approx. 52.5 mph) nine minutes ahead of second-place Kepka. In the Open Class, only Smet, Ax, and Grosse left after 3:OO p.m. Grosse barely beat Johnson by six-tenths of a second: Grosse 91.9 kph (55.4 mph), Johnson 91.6 kph (54.96 mph).

At the beginning of the race, Beltz and Greene took three starts, but Moffat and Johnson, perhaps mindful of the extra mileage over the "soft" terrain at the Murray River loop, left immediately and began team flying. Their information proved helpful on the first leg to the American Standard pilots behind them.

On the second leg, Johnson and Moffat probed alternate routes along edges of nearby cloud cover and discovered seven to eight-knot lift areas where they could build altitude for the run into the second turn. Sample exchange:

"I'm probing here . . . it's not worth it, George."

"We're in the sun again, Dick . . . What's your glide? I'm getting twenty-eight."

"Same here."

Grosse had left at 3:07 p.m. He made Karoonda with a speed of 110 kph (66 mph.) Heading toward cloud-streets east of the course, he evidently had no trouble reaching Renmark. So far, so good. He decided to fly directly over the soggy Berri basin. Near Lake Bonney, he was down to 400 meters with the Murray River still to cross. Eighteen minutes later and 100 meters lower, he got a 1.7-mps thermal, climbed to 900 meters, and began his final glide.

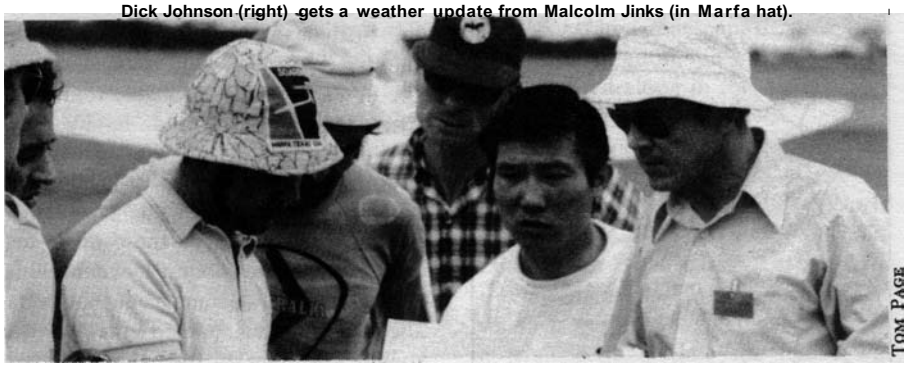
Unlike Grosse, Moffat and Johnson had decided against a risky direct crossing of the Murray loop after leaving Renmark. Grosse had taken first, but the U.S. Open Team had played the day well enough to come in second and third within a few points of Grosse while never having had to scratch below 2000 feet.

Median speeds of both classes were within two miles per hour of each other, and completion rates were close to eighty percent for a weak day. It began to be obvious that Standard Class was highly competitive and that consistency would win top honors. There were going to be no large point gaps or commanding leads.

| OPEN CLASS | KPH | POINTS |
|---|---|---|
| 1. Grosse | 91.9 | 1000 |
| 2. Johnson | 91.6 | 996 |
| 3. Moffat | 90.7 | 984 |
| 4. Ragot | 89.3 | 966 |
| 5. Cartry | 87.8 | 947 |
| 6. Holighaus | 86.0 | 824 |
| 7. Zegels | 83.4 | 891 |
| 8. Tabart | 82.5 | 879 |
| 9. Burton | 81.2 | 862 |
| 10. Schubert | 80.8 | 858 |

| STD. CLASS | KPH | POINTS |
|---|---|---|
| 1. Renner | 87.5 | 1000 |
| 2. Kepka | 82.8 | 932 |
| 3. Firth | 82.2 | 823 |
| 4. Webb | 82.0 | 920 |
| 5. Cameron | 81.8 | 918 |
| 6. Andersson | 81.8 | 917 |
| 7. Gordon | 81.7 | 916 |
| 8. Wujczak | 81.4 | 912 |
| 9. Reichmann | 78.7 | 873 |
| 10. Pare | 78.7 | 872 |
| 19. Greene | 76.5 | 841 |
| 29. Beltz | 67.3 | 716 |

Dick Johnson (right) gets a weather update from Malcolm Jinks (in Marfa hat).



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## NEW TECHNOLOGY

Only three new aircraft not previously flown in world competition and one short-span version of a recent model appeared at Waikerie.

The prototype PIK-20, a Finnish entry in the Standard Class production stakes, was flown by Raimo Nurminen, who placed 11th in it. The PIK carried the most elaborate (and redundant) of the new generation of computerized variometer systems. The contest did not permit sorting out the proportionate contributions of pilot, sailplane, and electronics gear. The PIK, of course, has the new full flap option.

Helmut Reichmann in the prototype LS-2, newly designed by Wolf Lemke for Schneider, his manufacturer, repeated his Standard Class Championship performance of 1970 in Marfa. Swept-forward wings, full glide-control flaps, and a fixed horizontal T stabilizer with an incredibly narrow-chord elevator distinguish it from the LS-1D's very capably flown by the French Standard Class pilots, Mercier and Penaud. The LS-2 lacks water ballast, but Reichmann again flew the contest with nondisposable lead ballast (up to 90 pounds) under his seat.

Reichmann is quite blunt in saying he does not like the handling qualities of the LS-2, despite its apparent highspeed advantage from its newly-approved negative flap setting. He also adopts the position that the variable camber flap should not have been allowed in Standard Class by CIVV in competition in the first place. The issue of flaps versus a freeze appears not to have been resolved.

The two Kestrel 604's are considerably more sailplane than mere 22-meter versions of the 19-meter Kestrels. Zegels of Belgium pushed his to second place, but Countess Orsi of Italy managed only uneven results. Again, the World Championships is not a controlled laboratory which attaches weights to the factors which generate the rank outcomes.

The other variants were the 15-meter Jantars flown with considerable merit by the Polish Standard Class pilots, Kepka and Wujczak. Except for span and flexible-surface flaps, they appear to be identical to the 19-meter Jantar I's. In this case, also, lacking controlled comparisons, the sailplanes cannot be sorted out from the pilots and, most particularly, from the pair-flying strategy so well-developed by the Polish pilots.

The influence of recent electronic advances in variometer design was extensively evident in contest cockpits. The Westerboer-Bulukin-Bohli-Graves-Schuemann generation of mini-calculators for vertical speed, integrated vertical speed, and best speed to fly, with audio bleeps and whines, switches to change modes, and as many as three separate visual indicators to monitor, seems to require a higher capacity for information processing by the pilot than before, rather than generating simple unidimensional instructions. Most pilots had two systems and some had three. A significant majority were using a negative pitot input to the variometer systems rather than internal compensating devices.

*PIK-20 panel. Note mini-calculators (center below, and right).*

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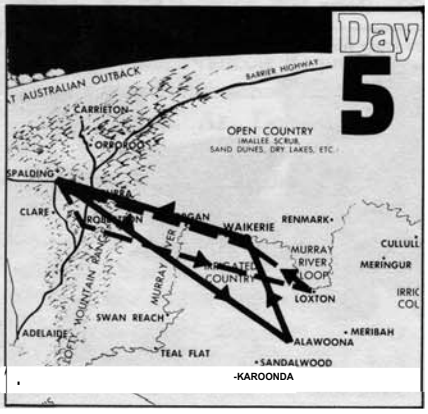



The persistently humid airstream from the northeast continued, but by the fifth day a longer trajectory over the dry Australian land mass modified the flow, making it probable that condensation levels would finally rise above 6000 feet at Waikerie — and even higher over the Lofty Mountains some distance to the west. The 2500-3000 foot altitudes of these north-to-south ranges are modest by mountaineering standards, and one suspects their discoverer named them with tongue in cheek. But they offered turnpoints at settlements to the north - a direction ruled out by the desolate undeveloped country immediately above Waikerie.

To permit contestants to sample these attractions — higher cloud bases and new soaring territory — both classes were to be sent racing 91 miles northwest to Spalding, a town in the Brown Mountains. Here the courses pivoted almost back upon themselves with southwest headings targeted on different second turnpoints. For Open Class pilots this would be Alwoona,

already familiar from the contest's second race. But now it was 134 miles away — nearly as far as the entire second-day triangle — and by the time the Waikerie finish was crossed, 280 miles would have been flown. Better weather was obviously going to mean bigger tasks.

The Standard Class task was labeled a quadrilateral. In actuality it looked like an irregular triangle with a kink in its base (second leg) at the Robertstown turnpoint before it continued to Loxton. Loxton was the final turnpoint, and once again the course almost doubled back on itself on the way home to Waikerie.

Encouraged by good-looking cumulus, some of the Standard ships, launched first, started soon after 12:00 p.m., but began gaggling a few miles out. Greene left at 12:33 p.m. but a half hour later reported that conditions were not as good as they appeared. Except for a few reports of four-knot lift to 5000 feet, Beltz was relatively uncommunicative. Though he had started ten minutes later, he had caught up with Greene near the second turn.

Moffat left at 12:46. Johnson, at 12:55, was one of the last to clear the gate. An hour later he was under Greene at 5000 feet going into the turn, and Greene could see Moffat one thermal ahead. Thermals were yielding eight knots, and deeper into the hills at the turnpoint up to ten knots. Rating back out of the hills on the second leg, the larger ships found some reduced lift, but as he passed south of Loxton, the third turn on the Standard quadrilateral, Moffat radioed to his Standard teammates, "Sunny and good at Loxton," with lift to nearly 8000 feet.

When Beltz and Greene joined up past their second turn, they "drew quite a crowd." Beltz seemed to identify the highly visible LS-2 of Reichmann as an opponent to be reckoned with and reported the 1970 Champion below him as he passed south of Waikerie on the way to the Loxton turn. He was also keeping an eye out for "the Polish boys," since they were often found together, having started less than two minutes apart. However, it was Ake Pettersson who caught up with Tom Beltz, sharing his three-knot lift until they were both high enough to race for home.

When elapsed time was figured, Pettersson had won the day (54.9 mph), with Beltz 4th, Reichmann 5th, and Greene 12th. Greene's consistency moved him up to 10th overall, and Beltz's strong performance raised him to 12th.

Ake Pettersson described his flight: "It took an hour and thirty-nine minutes to reach Spalding flying at cloudbase." Enroute he joined a gaggle of Open Class gliders, including Wiitanen, Ragot, Mander, and Johnson. Ake found he could stay with, or gain on, the Open Class sailplanes, because he could circle more tightly in the narrow-core thermals. Seeing teammate Goran Ax in a good thermal near Burra Hill, he joined him at 7000 and climbed to 8000 before going into Spalding. After the turn, he flew slowly, working small patches of lift. It was unusually bumpy (some pilots said they thought they were near a disorganized wave), and Ake admitted watching Gordon of New Zealand. "I thought he knew what to do." Pettersson found a 6-10 knot thermal before passing Waikerie, and began a long glide to Loxton. And what happened after he climbed with Beltz and rounded the turn? "I just flew home," he said. Well, not exactly — he was some 40 km. south of course and he got one, two, then six knots climbing to cu's, which permitted (or forced) him to fly at 125-knot redline speed.

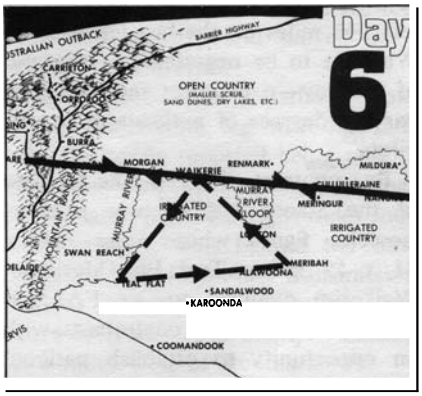
Trying to explain the need for more than enough altitude to finish, he quoted a Swedish farm phrase: "Have soil in the pockets." Then with eyes sparkling and a big grin, "Soil in pockets — but not in landing gear."

But for the U.S., the big news was that Moffat had flown through the finish gate at 3:45 p.m., first back and fastest (65.22 mph)! The previous day Ragot had a 10-point hold on first place. Now Moffat moved into a 70-point lead over Grosse, with Ragot 99 points behind in third. Moffat's lead in cumulative points began to take on statistical significance — anything over 50 points is difficult to attribute to chance.

Dick Johnson placed fourth: "I didn't catch George from the start. My first start wasn't observed and I had to come back. He had a ten-minute lead and I was only able to pass along information, not thermal with him. I just reminded him where he was. The last leg was the slowest — lift was about 7-800 fpm, sometimes less than 5-600 fpm. The river didn't have a bad effect; there was good lift on both sides. I crossed diagonally and flew north of course to go where the good clouds were."

| OPEN CLASS | KPH | POINTS |
|---|---|---|
| 1. Moffat | 108.7 | 1000 |
| 2. Cartry | 107.7 | 987 |
| 3. Ax | 107.5 | 984 |
| 4. Grosse | 105.4 | 958 |
| 5. Johnson | 105.1 | 954 |
| 6. Wiitanen | 100.6 | 896 |
| 7. Ragot | 100.2 | 891 |
| 8. Haemmerle | 99.4 | 880 |
| 9. Mamini | 99.3 | 879 |
| 10. Pozniak | 99.2 | 879 |

| STD. CLASS | KPH | POINTS |
|---|---|---|
| 1. Pettersson | 91.6 | 1000 |
| 2. Fitchett | 89.7 | 972 |
| 3. Kepka | 89.6 | 969 |
| 4. Beltz | 89.4 | 967 |
| 5. Reichmann | 88.9 | 959 |
| 6. Ahrens | 87.4 | 936 |
| 7. Gordon | 87.1 | 933 |
| 8. Renner | 87.0 | 930 |
| 9. Mercier | 86.5 | 922 |
| 10. Wujcza**k** | 86.2 | 919 |
| 12. Greene | 84.6 | 895 |




The weather had changed! For the first time in the meet the flow was out of the west; contestants learned that a cold front would be moving in from that direction. But the U.S. team also learned the "cold front" was not the polar front of American usage. The locally-named cold fronts were actually surface low troughs, often only a few hundred miles apart, with little or no precipitation, but with a cumulus band pushed along in the convergence zone as they slid east.

At the forecast, the task setters leaped like happy "'roos" to set the longest speed task ever for a World Championships — a 707-km. (438 mile) race for the Open Class. Again, as for the Standard Class on the second day, the task was an elongated caricature of a triangle. This time. the figure was

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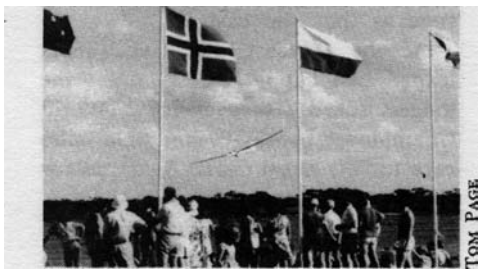
inverted with Waikerie at the apex while the 212-mile east-to-west base line passed only seven or eight miles above it to the north. To reach the first turnpoint 83 miles to the west, the contestants would have to approach the oncoming weather, vault the spine of the Lofty Range, and continue down the western slopes until they photographed a large oval greensward in the center of the town of Clare. Then, reversing course, they would begin the long trek to Nangiloc, skirting or overflying the scrub to the north until they were able to photograph the prescribed fruit sheds nestled in a bend of the Murray River. That left 143 miles on the last leg back to Waikerie to be negotiated at the end of the day—a prospect received with varying degrees of enthusiasm by the pilots.

By contrast, the 196-mfie triangle of the Standard Class was a near-isosceles figure whose sides (56 x 81 x 59 miles; Teal Flat/Meribah/ Waikerie) qualified as an FA1 triangle and presented contestants with an opportunity to establish national speed records for their own countries.

The Open ships went through the start gate first, heading west into blue sky. Below Morgan where the Murray River crossed their paths on its way south, the first wisps — outrunners of the approaching weather — appeared before them, but they were unable to reach usable lift. The solid sky cover moving toward their first turn urged them to higher penetration speeds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paid for with greater altitude loss. By the time they turned, light rain was falling, but lift improved to seven knots. A route straight back to the east seemed the most prudent even though it would leave them north of course over the scrub as they passed Waikerie.

At 1:34 Moffat radioed ahead: "How are things at Waikerie, Ben?"

"Seven knots. But blue holes around Waikerie," he replied. Twenty minutes later things seemed to be better. Greene called Moffat: "I'm going to restart in about ten minutes."

Johnson and Moffat passed north of Waikerie with 170 miles of the task completed in about two hours.

Sixty miles farther, after they passed east of Renmark, the thermals turned blue; they were still strong though more widely spaced. Just before passing out of radio range both pilots called for their ground crews to chase them as they flew on toward Nangiloc. It was a tacit assessment of the truly formidable nature of the task and the reduced odds on completion.

The Open Class had only to contend with the soft northern tip of the trough at the first turn. But the Standard Class was 56 miles southwest-closer to the front's strongest sector. The choice was clear: an early start would reach the turn before the weather arrived, but speeds would be slow. A later start would permit higher speed in the stronger conditions, but also the risk of being cut off if the front had reached the turnpoint first.

The cloud shadow reached Teal Flats before most of the ships, yet only five were forced to land. Thirty-three others ran in for photographs; among these were Beltz and Greene. Five minutes later a worried Beltz radioed: "Twenty-five hundred . . . hope I hit something soon.'' For a half hour the U.S. frequency was silent and uncertainty was heavy. Finally after half an hour Greene came on: "Climbing again." Evidently along with others, the U.S. teammates had picked up lift over the sandy ridges on the way to Meribah. Lift improved and the two pilots approached the second turn at altitudes between seven and eight thousand feet.

At the U.S. caravan on the Waikerie aerodrome, listeners monitoring the radio worried about the cumulus belt associated with the front approaching the field from the west. Their fears were needless: Beltz, followed by Greene, had turned Meribah at 6000 feet. Fifty minutes later the radio came to life with Beltz's voice: "Eight miles out on final!" And seconds after that, Ben Greene's "Fifteen miles out!"

Beltz finished in his low-and-fast style for third, and Greene followed in seventh for the day. Their accomplishments moved them up to twelfth and tenth rank in cumulative standings.

The speeds of the top pilots had been very close. Beltz's achieved speed was less than one mile per hour slower than the winning 62 mph of Holland's Peter Teunisse, a 33-year old airline pilot. Teunisse, who also collected a Dutch record, described the flight. "I checked the course and got a good fast start. There was a *2.5*-meter thermal about five miles out. I could see cumulus congestus ahead. I was close to the Murray River near Teal. I thought the front's shearline was over the turnpoint, which was hard to see. After taking the photo, I returned to the front but was down to 500 feet. I was about to dump ballast when I found lift, so I snapped the valve closed and followed the front for 20-25 miles." At this point, he had his crew check the cloud speed with a mirror device. "The wind was southwest. If I had known that, I would have followed it five miles more, but I headed straight for the second turn at 45 knots. On the final leg there was good streeting north of the track to the midpoint where I started my final glide."

The day was far from over for the Open Class; as the hours wore on, the long task began to take its toll. The public address system on the field began calling for crews still on the field — Italian, Japanese, Belgian, and Canadian.

At least there was no headwind to contend with. By 6 p.m., the front had stalled. Overhead above the aerodrome a cloud band reached north and south with a dead calm prevailing beneath it. The western edge of the cloud strip showed active cumulus which drifted eastward ten miles while dissipating into stratus. This suggested a sloping wind shear in the band's shadow with

enough lift to enable sailplanes reaching it to survive.

The Americans had come back within radio range as they beat their way west of Renmark. Johnson calls out altitudes: At 6:38 p.m.-"3200 feet." At 6:47 p.m.-"1600 feet." At 6:53-"1200 now." Then one more unreadable message and silence. His crew is nearby, but not in visual contact. He has landed out and the retrieve will prove difficult.

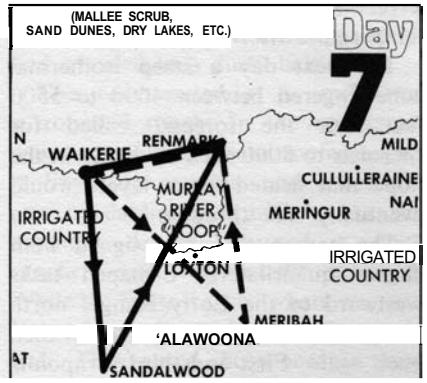
After Johnson's first message, Moffat had radioed encouragement: "Dick,, get high. There's reduced sink behind it [the cloud band]."

Ragot of France slides in from southeast beneath the dark band in an otherwise blue sky. Four hundred and thirty-eight miles at 65 mph. Moffat catches up to finish with him and place second at 64 mph. Eight more ships return, each successive one on a more northerly track, having been able to reach the shear at lower and lower altitudes. Schubert of Austria lands a mere nine miles short at a cost of nearly 200 points below the slowest finishers. Johnson's outlanding ranks 18th for the day and his cumulative position drops to seventh.

Moffat now enjoys a lead of 93 points over Ragot and 106 over Grosse. At this point, the Standard Class race is tight, with Mercier holding only an eighteen point lead over Gordon and thirty-eight over Fitchett. Next is Reichmann, Cameron, and Kepka, who can easily move up or over. National 300-km. records are expected to be claimed for Denmark, Yugoslavia, Japan, Holland, New Zealand, Norway, Spain, and Mexico.

| OPEN CLASS | KPH | POINTS |
|---|---|---|
| 1. Ragot | 104.5 | 1000 |
| 2. Moffat | 103.3 | 994 |
| 3. Grosse | 96.4 | 958 |
| 4. Holighaus | 94.9 | 951 |
| 5. Ax | 94.8 | 950 |
| 6. Cartry | 91.4 | 933 |
| 7. Zegels | 89.9 | 925 |
| 8. Haemmerle | 89.8 | 919 |
| 9. Delafield | 87.4 | 912 |
| 10. Tabart | 86.8 | 909 |
| 18. Johnson | 65.1 | 671 |

| STD. CLASS | KPH | POINTS |
|---|---|---|
| 1. Teunisse | 101.0 | 1000 |
| 2. Renner | 100.9 | 999 |
| 3. Beltz | 99.5 | 981 |
| 4. Strukelj | 99.4 | 980 |
| 5. Mercier | 98.5 | 968 |
| 6. Fitchett | 98.0 | 962 |
| 7. Greene | 97.7 | 959 |
| 8. Oye | 96.6 | 945 |
| 9. Reichmann | 94.9 | 923 |
| 10. Kepka | 94.8 | 922 |




Unlike a "proper" northern hemisphere cold front which often carries a wide belt of instability in its wake, the sixth day's troublesome trough laid a deep band of isothermal air over the contest zone. High temperatures of 86°F would produce lift only to 3000 feet with widely scattered cumulus and light winds.

As a result, very modest tasks were set over fully familiar ground: The Open Class drew a 242-km (150 mile) triangle — south to Sandalwood, northeast to Renmark, and back. For the Standards, a 213-km. (133-mile) task went southeast to Meribah, north to Renmark for a common course home.

Workable lift was late in developing. Very early or very late starts proved to be serious handicaps. The U.S. pilots made their runs through the gate between 3:10 p.m. and 3:31 p.m.

On the first legs some improvement permitted climbs in five-knot lift to 4300 feet. Ragot joined Johnson on the first leg. On the second leg Moffat found the lift cycling on and off and got caught at 1500 feet while some ships he had passed caught up with him in his weak thermal. At 4:51 Johnson radioed: "I think I've got Ragot in trouble." (Meaning, also, Johnson was not doing so well himself.) The transmission brought a quick reply from Moffat: "Good. Land him!"

Greene led the team into Renmark and reported: "Good thermal at Renmark aerodrome. Five to six knots." He soon had other company and three minutes later announced: "Twenty 'markers' at Renmark airport; leaving for home!" Ten minutes later Moffat was on the air: "Someone turned off the Renmark thermal." He had moved fast to exploit Greene's information but then had to move north over the scrub to join some other ships in four-knot lift.

*U.S. Team awaiting the beginning of opening ceremonies. Captain Jim Herman at far right.*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Still team front runner, Greene radioed back: "Second gaggle here has four knots." Moffat moved up ten miles to use Greene's find, England's George Burton following. The thermal was becoming crowded and Moffat observed, "You look like a swarm of mosquitoes."

"There's a gaggle to the south climbing faster," Greene observed. He moved out in a flat glide, seeing markers ahead; a last thermal took him to 4300 feet in choppy lift-enough to go home at 25 to 1. Enroute he found reduced sink along the Murray River banks, a locally known trick. He took 15th for the day and moved up to eighth rank overall.

Beltz had been relatively quiet, flying the second leg with his radio off. He briefly reported being at 2200 feet southeast of Loxton, and then, much later, he called eight miles south of Renmark, well behind the other gaggles. At 5:48 another transmission: "Eight hundred feet circling. May have to land." And finally: "Landing two miles west of Renmark."

His outlanding dropped him to 36th for the day and to 23rd overall.

Still struggling northeast toward the Renmark turn at 6:OO p.m., Johnson found his first gaggle of the day. He told his crew to start home, but the lift failed and at 6:13 p.m. he went on the air again: "Crew, come to Renmark aerodrome."

Ragot, in second place overall, followed Johnson down for an outlanding which removed him out of top contention. The two pilots shared 25th for the day, which dropped Johnson to 14th overall and Ragot to sixth. Because 22 of the 28 Open pilots finished the task, the gap from the slowest finisher to the best distance score was almost 300 points.

Another scoring casualty was Hans-Werner Grosse of West Germany who had taken the last start of the day

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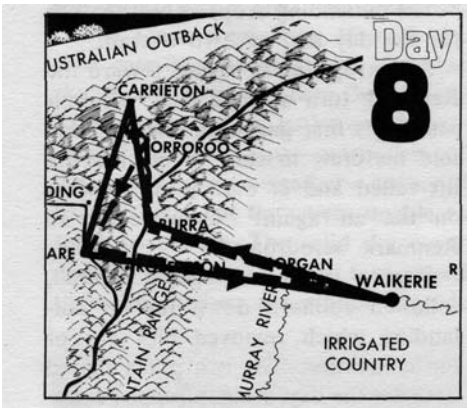
*More than twenty trailers ("caravans") were assembled to serve the teams as headquarters for field operations and listening posts during the races.*

at 3:38 p.m. Although he finished (at a very slow speed), he scored only 753 points for 20th place. Still, he was able to hold on to second rank overall.

Moffat's lead had grown to 353 points.

| OPEN CLASS | | KPH | POINTS |
|---|---|---|---|
| 1. | Moffat | 79.7 | 1000 |
| 2. | Pozniak | 76.7 | 955 |
| 3. | Schubert | 76.6 | 954 |
| 4. | Holighaus | 75.8 | 943 |
| 5. | Zegels | 75.8 | 942 |
| 6. | Mander | 74.7 | 926 |
| 7. | Tabart | 74.5 | 923 |
| 8. | Burton | 73.9 | 914 |
| 9. | Carty | 71.7 | 881 |
| 10. | Teuiing | 71.6 | 880 |
| 25. | Johnson | 182km. | 289 |

| STD. CLASS | | KPH | POINTS |
|---|---|---|---|
| 1. | Teunisse | 77.5 | 1000 |
| 2. | Orleans-Borbon | 75.0 | 959 |
| 3. | Renner | 74.6 | 953 |
| 4. | Wiiliamson | 74.0 | 942 |
| 5. | Kepka | 72.1 | 913 |
| 6. | Frehner | 72.1 | 912 |
| 7. | Fitchett | 71.7 | 906 |
| 8. | Perotti | 71.4 | 900 |
| 9. | Nurminen | 71.3 | 899 |
| 10. | Sorensen | 70.9 | 893 |
| 15. | Greene | 69.4 | 869 |
| 36. | Beltz | 161km. | 256 |




What might have been a luck-dependent uneven day on January 22nd was canceled after ships had been marshaled on the grid. A pronounced temperature inversion of more than just nighttime radiational effect, plus a claggy sky of cirrus patches and altocumulus, threatened a very slow and probably inadequate temperature rise.

The next day a steep isothermal zone lingered between 4000 to 5500 feet, but the forecast called for thermals to 8000 feet, evidently in the hope that heated lower layers would eventually mix through.

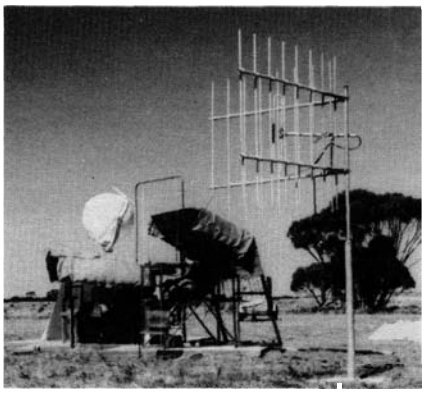
The course makers assigned both classes quadrilateral L-shaped tasks westward to the Lofty Range, north along the Brown Range hills, then back again. First and third turnpoints were the same for both classes (Spalding and Burra). But the Open Class second turnpoint (Carrieton) required a run 17 miles farther north along the mountains than the Standard Class who were to turn at Orroroo. This resulted in an Open task of 331 miles compared to 288 for the Standard Class.

*(On this day SOARING'S Sylvia Colton took to the highway to get her story. -Ed.)*

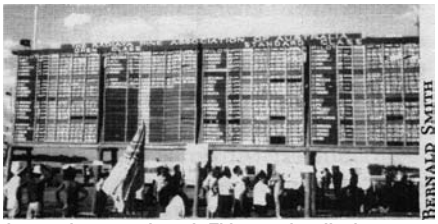
When I had an opportunity to join the crew of Herbert Frehner, Swiss Standard Class pilot, I assembled my camera, notebook, bulletin, gulped one more orange juice, and listened to the Swiss ground station as the pilots moved out.

Frehner went through the gate at 1:52 p.m. Twenty-five minutes later, he was at Morgan, where the Murray bends south and where he would go northwest. At 2:20 p.m. the driver, Ambros Iton, and navigator Gunther Rohlwing hooked up the tube-shaped trailer and headed for downtown Waikerie. First a stop for a full tank of petrol and ice cream bars, then off to their hotel to fill their tea jugs with ice. Herbert (Zulu Oscar), radioed that he was with Mercier

*Sophisticated start gate. Sighting start-frames (center) were backed up with other optical devices as well as electronic techniques.*



TOM PAGE



BERNALD SMITH

*Impressive scoreboard. This massive display won universal acclaim for the Gliding Federation of Australia sponsors and business underwriter. Never have task results been so quickly available to pilots and spectators in the history of the Championships.*

and Renner, which seemed an excellent idea as they were one, two, respectively.

Ambros patiently tried to keep me posted on the latest development of his pilot. The Swiss use German, French, Italian, rarely English, and for their code—Swiss .German. It makes for fascinating guessing. But as Herbert moved into the mountains, a terse message came that I could understand: "Robert *[Robert Wetli, Herbert's Open Class teammate]* must get thermals in three minutes or land at Burra."

At 2:42 p.m. we pulled into the Coonbie Road, which follows the river. It was a lush area, planted in vineyards and citrus orchards, as well as stone fruit. Squash vines sprawled among hillside groves, utilizing much of the available space.

The native trees were those familiar to a Californian — eucalyptus, pine, acacia, and pepper.

Another crew passed us. It was Wroblewski, crewing for Kepka.

At 3:OO p,m., ZO radioed he was somewhat north of World's End post office. (Yes, it is really on the sectional.) We were in Cadell on the east side of the Murray River. There was a tiny apple-green church with a corrugated metal roof. Across the street was a primary school, flanked by the ever-present enormous rainwater cistern.

Missing a desired turn, Ambros, piloting from the right side, gleefully made a U-turn from the right side of the road. Soon the two found the dirt road they wanted. Ambros drove past the "closed" sign and parked a couple of hundred meters beyond. I could see that this was their chosen place to hold. It featured some scraggly two-meter brush, prickly weeds, and undulating uninhabited terrain.' The eight-meter antenna was raised from

its mooring atop the trailer and hooked up to the ground station. As I was satisfying myself that the unusual rocks at the roadside offered no opals or agate, three folding chairs appeared from the trunk and we each chose a spot to wait out the hold. They preferred the full intense sun and sat right in the middle of the road. I gingerly stepped through the scratchy brush, setting up my chair next to a stunted eucalyptus that offered at least a hint of shade. The only sounds were the chirping buzzing insects, an occasional car rumbling by on the nearby dusty road, and our ground station's raspy respiration.

At 3:45 p.m. Gunther called his pilot. No response. Within five minutes chairs were stowed, a cup of tea poured for each crew member, and the antenna lowered and secured. Soon we were at the ferry, which was carefully loaded to its capacity for its trip to the west bank. The long shiny trailer with its Swiss markings fascinated several men aboard who indicated they were aware of the contest and seemed interested in taking a closer look.

Ambrose eased the car over the steep ferry exit and headed for Burra.

*"The star) gate for Standard Class begins right here, cobber!" A contest official (right) makes sure that Ben Greenels Standard Cirrus has a span of fifteen meters—and not a millimeter more!*

TOM PAGE

At a fork marked by vague drooping signs there was an animated discussion in German and Ambros turned right. The dirt road was straight, graded, and the terrain nearly flat. A gorgeous cloudstreet on the horizon ran in front of the distant foothills. The thin wild grass was bleached silver, accented by small delicate blue bush. The little scrub in sight was under two meters. An occasional parched leafless tree silhouetted the horizon. The Australian sun has created an exquisite pastel landscape.

A fence on the right confined a beautiful bay horse. Spotting us, and maybe hoping we had come to trailer him away or relieve his solitude, he paced us until he ran out of paddock and wheeled to a dusty halt.

The road ended at a smoke-tree surrounded ranch. In the compound was a square green metal-roofed house. A tiny strip of grass and a colorful row of dahlias indicated human occupation. As we U-turned, a young rancher and his family emerged. While the Swiss learned where we were lost, I hurriedly spoke with the young wife. They raised sheep because there was too little calcium for cattle. She enthusiastically described her life in the bush—"We go to Morgan once a week; we have a telephone. When our child is older, he'll use the Radio School of the Air. I love it here in the bush—it is so quiet." The couple had hoped a glider would land there and was disappointed with our empty trailer. We weren't, and waved a hasty goodbye.

By 5:OO p.m. we were back at the fork, having seen no human for 15 kilometers. The terrain offered suitable landing spots, but it might be a bit difficult to get an acceptable landing witness.

We passed a sign marked "Animal Park Reserve." I immediately began perceiving bushes as kangaroos and clumps as wombats. But not one waddled or hopped and I never saw either.

At 5:15 p.m. our pilot suddenly radioed that he had made the Orroroo turnpoint and was flying with "House" (Hans Nietlispach) in four-and-a-half meter lift.

Ambros and Gunther had a big discussion. Ambros wanted to hold and Gunther wanted to go farther northwest. Eventually we pulled to the left side of the road in the middle of nowhere. We spotted an Open sailplane low to the northwest. He had left the clouds to the north and was probing into blue on course. Now he was slowly climbing ,towards the clouds. Naturally, just a bit farther were some small cu's popping on course.

Trailers approaching from the northwest could easily be seen by the dust curling behind them. They flashed by with that bravado known to crews whose pilot is on final glide home. Josette Nietlispach and her crew drove up. At 6:58 p.m., after much animated debate, it was decided we should turn the trailer around and head slowly back. Soon we could see groups of low sailplanes milling around and seeking landing spots on course.

At 7:05 p.m. Herbert Frehner radioed he was 60 kilometers out. It didn't appear he'd make it. We passed Polish gliders already down. At 7:25 p.m. the crew stopped and checked a road for its landing suitability. Our pilot was now at *650* meters. He preferred to use an area we had passed so we turned around. Off a side road, through a gap in a row of trees, we spotted our downed Standard *Cirrus*. The trailer rumbling over the dirt road startled a herd of emu hidden in the brush. They ran in an undulating motion to the protective cover of the trees. We reached Frehner just as the sun sank behind the trees. By 8:30 p.m. the *Cirrus* was trailered and we were on the highway 25 minutes later. Frehner delegated me as his landing witness and we readily agreed on his location. Then, placing the official vellum Landing Point Locater over the map, he traced grid lines after centering a cross-hatch over his landing dot. It was a clever improvement that eliminated sketches.

At the ferry there were five trailers ahead of us, but eventually we crossed with Dick Delafield and rolled into the tiedowns after 10:00 p.m.

Seven Open Class sailplanes made it back, but the entire Standard Class had landed out with all but two going down on the last leg.

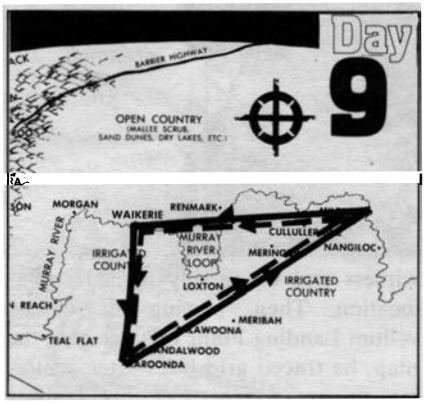
The U.S. teams had fared well. Ben Greene and Tom Beltz brought

the day to an unusual close when they joined a covey of eight contestants who came to roost in the same field within a four-minute period. Moffat and Johnson placed fourth and sixth in their class, with Moffat husbanding his 353-point lead with conservative minimum-risk tactics requiring only that he place well, not take the day.

Reichmann and Ax displayed championship form, taking first in Standard and Open Class respectively.

| OPEN CLASS | KPH | POINTS |
|---|---|---|
| 1. Ax | 96.4 | 1000 |
| 2. Zegels | 94.7 | 993 |
| 2. Holighaus | 94.7 | 993 |
| 4. Moffat | 93.2 | 988 |
| 5. Grosse | 89.0 | 971 |
| 6. Johnson | 84.1 | 952 |
| 7. Kluk | 83.3 | 949 |
| 8. Schubert | 517km. | 789 |
| 8. Haemmerle | 517km. | 789 |
| 10. Cartry | 509 **km.** | 776 |

| STD. CLASS | KM. | POINTS |
|---|---|---|
| 1. Reichmann | 458 | 1000 |
| 2. Renner | 455 | 993 |
| 3. Kepka | 440 | 957 |
| 3. Fitchett | 440 | 957 |
| 5. Gordon | 439 | 955 |
| 6. Puch | 437 | 950 |
| 7. Webb | 432 | 938 |
| 7. Nietlrspach | 432 | 938 |
| 7. Cameron | 432 | 938 |
| 7. Strukelj | 432 | 938 |
| 7. Anderson | 432 | 938 |
| 7. Wujczak | 432 | 938 |
| 7. Beltz | 432 | 938 |
| 7. Greene | 432 | 938 |
| 7. Teunisse | 432 | 938 |
| 7. Pettersson | 432 | 938 |




The northeasterly origin of the airstream typical of Waikerie's best weather promised strong lift, and, in the language of the local paper, it was to be "fine and hot." The promised conditions developed so promptly after launch that there was little strategic "decoying" through the gate. Most pilots were gone by 1:30 p.m.

The 513-km. (318 mile) task was the same for both classes—south to Karoonda, ENE to Mildura, and west back to Waikerie. Ben Greene's report at the first turn, downwind, gave him an estimated 84 mph; Tom Beltz was estimated at 64 mph. By 2:05 p.m., Johnson reported on the second leg, a windward beat, noting a tendency for overdevelopment ahead. Greene said he was "tooting along at seven (thousand)," and Beltz began to run cloudstreets on course toward Mildura, running into some light showers just before 3:00 p.m.

Conditions were so good (eight and nine knots to 8500 feet) that radios, normally full of team flying information, were almost silent. Even the Renmark-Barmera loop of the Murray river was useful. Johnson came back into radio range at 4:OO p.m., giving his private signal of strong confidence to his crewing wife, Alice.

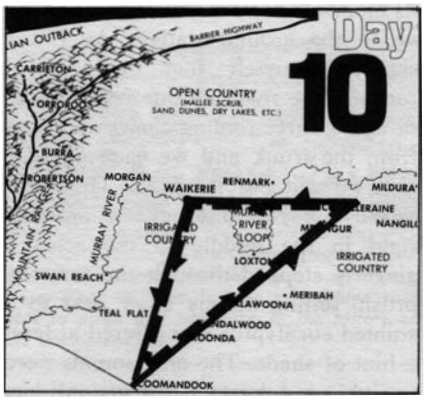
The race ended with Goran Ax and Jean Pierre Cartry finishing almost together for first and second. Moffat flashed through also in excess of the world speed record for the 500-km. triangle, but no records could be claimed because one leg was shorter than the minimum 28% of total required by FA1 rules.

Reichmann, Beltz, and Renner followed Kepka across the finish line in that order. Beltz's third place moved him up in rank to 21st. Greene finished 14th and his consistency gained him eighth rank overall. Renner held onto a narrow lead, but the jockeying of position focused interest on the Standard Class.

Moffat's lead over Grosse increased because of the four mile per hour slower speed posted by his competitor.

| OPEN CLASS | KPH | POINTS |
|---|---|---|
| 1. Ax | 140.2 | 1000 |
| 2. Cartry | 137.6 | 973 |
| 3. Moffat | 136.8 | 964 |
| 4. Johnson | 133.4 | 928 |
| 5. Holighaus | 132.1 | 914 |
| 6. Zegels | 131.5 | 907 |
| 7. Wetli | 131.4 | 906 |
| 8. Grosse | 130.3 | 895 |
| 9. Kluk | 128.8 | 879 |
| 10. Delafield | 127.6 | 866 |

| STD. CLASS | KPH | POINTS |
|---|---|---|
| 1. Kepka | 125.1 | 1000 |
| 2. Reichmann | 123.8 | 985 |
| 3. Beltz | 121.5 | 959 |
| 4. Renner | 121.4 | 958 |
| 5. Wujczak | 118.0 | 920 |
| 5. Teunisse | 118.1 | 920 |
| 7. Ahrens | 117.3 | 912 |
| 7. Gordon | 117.3 | 912 |
| 9. Strukelj | 116.9 | 907 |
| 10. OYe | 116.6 | 903 |
| 14. Greene | 115.1 | 886 |




The unstable flow from the northeast became more moist on the tenth day and brought some risk of cumulonimbus development and altocumulus patches. Lift would be strong, but only to 7000 feet in contrast to the conditions on the previous day. But the task committee, still invigorated by the results of the ninth day, initially called for an 814-km. (507 mile) quadrilateral and a 612-km. (380 mile) triangle, respectively, for Open and Standard Classes, reportedly over the objection of the meteorological adviser. By the time the aircraft were on the grid, Open Class in front, some sober reconsideration took place.

Reconvening the pilots, a common task was set—a 509-km. (316 mile) triangle whose legs conformed to the requirements for FA1 records. But contest turnpoint photographic standards varied enough to require two separate turnpoint pictures for those making a record attempt.

The first leg was to run south to Coomandook, only fifty kilometers from the Indian Ocean. The long leg ran northeast to Lake Cullulleraine, and the final leg turned west back to Waikerie.

Fairly early starts were dictated by two obvious considerations: first, Coomandook might be clamped off by the intrusion of marine air behind a sea-breeze front, and second, that cunims could overshadow critical parts of the route.

The gate opened to both classes and sixty-six ships went through in the


Pilots awaiting the start of daily briefing session.

23 minutes between 12:35 p.m. and 12:58 p.m. By 12:55 the U.S. team was through and out on course. To follow their efforts the reader is invited to study the transcript of their exchanges as monitored by Captain Jim Herman and Dr. Clarence "Pete" Peters in the U.S. caravan. *(Note also the boxes on Team Flying and Separate VHF Frequencies.)*

1311, George: Nine knots here to 6000.

1325, Dick: Second leg looks clear out there. Don't think we'll have a sea breeze problem.

1325, George: I agree.

1330, George: Getting thermals in the blue. I've sagged west of course.

1338, Tom: Ben, are you going through the blue hole?

1338, Ben: I think I'll work down the wedge.

1412, Dick: I'm getting seven knots just short of the turn, George.

1414, George: I've just gone around the turn.

1421, Ben: Are you going on course, George?

1424, George: About on course . . . Plenty of markers ahead.

1429, George: Line of cloud, Ben . . . Guys up ahead seem to be climbing well.

1436, George: Looks like stepping stones every 10-15 miles, Ben.

1453, Dick: You brought that whole snowstorm of fiberglass with you, George . . . Like ants coming to a picnic.

1457, Tom: Ben, are you following clouds?

1457, Ben: No. I'm about on course.

1523, George: Dick, I think I'll go north of course.

1523, Dick: I think so.

1540, George: Ground, go home.

1558, Dick: 7500 feet.

1559, George: Ten knots.

1611, Dick: Clouds may end before the second turn. Getting three knots. 7000 feet.

1612, Ben: I'm low but climbing again . . . This wind is something else. Are you turning?

1649, George: 14 Ground, I'm heading your way.

1650, Ben: Did you go north or south of the highway?

## SEPARATE VHF FREQUENCIES

For the first time in world competition the sponsors were able to allocate discrete frequencies for exclusive use by each team. Frequencies were at the .05 megaHertz interval which required 360-channel communication transceivers (or special crystals). During the launch and start period all pilots were monitored on the same operational frequency. But once he had a good start called, a U.S. pilot switched to his "own" 125.05 mHz frequency, where he was assured a clear channel to his teammates, crew chase cars, or the base caravan on the aerodrome. (Team managers were able to monitor progress of their pilots with a high antenna at the aerodrome used for reception only.) Team flying was much facilitated and ground crews were much less likely to block air-to-air reception.

The pre-emption of these frequencies in western Europe and the United States makes it unlikely this regulatory liberality will ever be experienced again —unless Australia wins the bid again in 1984, as promised.

1650, George: Wisps are forming south of the highway for ten miles.

1654, George: I'm getting six knots short of new cu, one mile south of course beyond highway. Seven to eight, now.

1655, Dick: You sure look high.

1655, George: Feels good. I'll push on to cloud, let you know. Ben and Tom, look for markers in the blue.

1656, Ben: I'm crossing the state border again after the turn. Markers ahead.

1657, Dick: Looks like the sea-breeze effect.

1657, George: I agree.

1658, George: Ben and Tom, the closest clouds to turn are 4-5 miles south of highway (off course).

1710, George: Ten knots just north of highway bend, going through 6000.

1712, Ben: Still south of lake.

1712, Tom: South of lake, too.

1721, Dick: Got a fair one near Renmark.

1730, George: ETA in 10 minutes; switching over.

1735, George: Finish gate, One-Four, two miles. (Finished 1736.)

1748, Dick: Finish gate, Three-Zero, one mile. (Finished 1751.)

1804 to 1812, Tom: (Talking to George—below reception horizon.)

1812 to 1840, Ben: (Talking to Tom—below reception horizon.)

1820, Tom: All right down there, Ben? 6500, .ten miles east of Yamba; let's go home.

1829, Tom: 5500, ten miles south of Renmark, let's try to get under these clouds up here.

1840, Ben: Climbing (faint).

1841, Tom: 3800 WSW of Lake Bonney (Barmera), climbing.

1847, Ben: Okay at 5000.

1849, Tom: On final. (Finished 1853.)

1859, Ben: South of Kingston . . . Still trying for clouds to get home.

1913, Ben: On final. (Finished 1922.)

All twenty-eight Open Class ships completed the task, with speeds from 68 mph (Ragot) to 51 mph. Thirty-one of 38 Standard ships finished, with speeds from 60 mph (Reichmann) to 41 mph. Moffat's good time was second. Since Bert Zegels of Belgium was now his closest rival, Grosse having again finished in mid-speed range,

DOUG MCNAUGHTON, AUSTRALIAN INFORMATION SERVICE

*Team flying starts on the ground. Ben Greene (left) consults with feammate Moffat before daily pilots' briefing.*

Moffat had still further widened his lead. Johnson's twelfth place for the day moved him up to ninth overall- a comeback with true grit.

In Standard Class, Renner, who took seventh, was still leading Reichmann who won the day. But by a diminishing margin. Greene's twenty-first for the day was not enough to cancel his membership in the top ten, and Beltz' sixteenth for the day, moved back into the top half.

Many contestants took advantage of the weather and task to establish new national 500-km. speed triangle records for their countries. These included Andreas Haemmerle (Austria), Adele Orsi and Sandro Serra (Italy), Saburo Fujikura (Japan), Roberto Sada (Mexico), Adriaan Timmermans (New Zealand), Alvaro De Orleans-Borbon (Spain), Goran Ax (Sweden), Robert Welti (Switzerland), and Franc StruKelj (Yugoslavia).

| OPEN CLASS | KPH | POINTS |
|---|---|---|
| 1. Ragot | 110.2 | 1000 |
| 2. Moffat | 106.6 | 951 |
| 3. Holighaus | 106.0 | 942 |
| 4. Tabart | 105.9 | 941 |
| 5. Zegels | 105.8 | 940 |
| 6. Cartry | 104.4 | 921 |
| 6. Timmermans | 104.4 | 921 |
| 8. Haemmerle | 103.4 | 907 |
| 9. AX | 103.3 | 905 |
| 10. Delafield | 103.1 | 903 |
| 12. Johnson | 101.6 | 883 |

| STD. CLASS | KPH | POINTS |
|---|---|---|
| 1. Reichmann | 96.8 | 1000 |
| 2. Kepka | 93.6 | 963 |
| 3. Strukelj | 93.6 | 963 |
| 4. Wujczak | 93.5 | 961 |
| 5. Ahrens | 92.6 | 951 |
| 6. Pettersson | 92.4 | 948 |
| 7. Renner | 92.1 | 945 |
| 8. Andersson | 91.3 | 935 |
| 9. Cameron | 91.2 | 934 |
| 10. Frehner | 89.9 | 919 |
| 16. Beltz | 85.5 | 867 |
| 21. Greene | 79.7 | 798 |

## TEAM FLYING OR PAIR FLYING

Ben Greene pointed out during the Championships that the American team's relationship is best characterized as team flying rather than pair flying, which seems to be the relation between the Polish pilots in each class.

Team flying involves some preliminary discussion of strategic alternatives as to starting times, assessment of probable conditions, and choice of terrain routes. Using the private 125.05 mHz frequency available to the U.S. pilots alone, coded statements of thermal strengths, altitudes, and locations were exchanged during the tasks. These had the double benefit that the respective chase crews could monitor these exchanges and maintain their pilots' location without initiating transmissions. And additionally, the U.S. base station could log these reports from a high receiving antenna. (Radio rules prevented transmission from the high antenna at the base on Waikerie Airdrome. Transmissions to pilots could be made only from mobile vehicles or with ground-level quarter-wave antennas.)

The two or more pilots in this relationship need not stay together; there is no obligation to endanger one's own completion to help a competitor/team member, but the help clearly raises the quality of information available to other members of the same national group from in-flight observation.

The flow of information is usually from the team member farther ahead to others behind, but sometimes flows from one alternate route over scratchy terrain to another close enough to be abandoned in favor of the better route.

The two Polish Open Class pilots landed out together on the sixth day at 660 km. Their relationship, observed both at Marfa in 1970 and here at Waikerie, is best called pair flying. Tactically, first one, then the other, flies "point," searching for the next thermal. Often both search slightly diverging tracks close enough to converge on the one with higher payoff. Under strong conditions this strategy can be used aggressively and under weak conditions it can be adapted to the avoidance of acute loss by one team member. They start close together, are reported by other pilots together on course, and often land together either through the finish line or out on course.

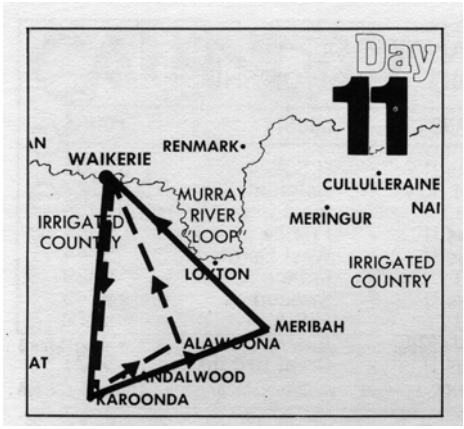
At some point and under some conditions the pair obligations are liquidated. There can be only one Champion per class and some Polish pilots have managed to get there in recent contests pair flying most, but obviously not all, of the way.

On the final day at Waikerie, Kepka and Wujczak stood fourth and eighth, respectively, in Standard Class. Pozniak and Kluk were 15th and 18th in Open standing.

Most pilots in both classes cleared through the starting gate between 1:20 and 2:00, including Pozniak. But at about 4:00 Pozniak returned, landed, rephotographed the identification board, took a launch, and went through the gate again at 4:15. He eventually completed the Open task, arriving much after the rest and with 16th place for the day. His final placing was 15th, as it had been before.

Pozniak readily conceded that he had flown his 21-meter Jantar ahead of the two Polish Standard Class pilots to improve their performance on the Standard Class task. They ranked first and second for the day, finishing their task before Pozniak finally left on the Open task.

Reaction to this new three-pilot variation in pair-flying ranged from one unidentified comment, "How sporting!" to Wallington's concession that the action was technically permitted by the rules but that its conformity to the spirit was questionable.




The last day dawned hot and clear with the wind out of the southeast. A warmed stratum aloft would reduce the vigor of convection near the 7000-foot cloud bases. The possibility of wind shear near the condensation level suggested the possibility of thermal wave development on crosswind legs. There was also the possibility of a repeat of wind-stream streeting that had occurred during the preceding two days.

An Open Class triangle went southeast to Meribah, WSW to Karoonda, and back to Waikerie—294 kilometers (183 miles). The first turn for Standard pilots would be at Alawoona to the SSE, then southwest to Karoonda where they could join the Open Class for a common third leg home—247 kilometers (154 miles).

Moffat's lead in the Open Class was so unassailable that he merely had to stay away from disaster. But he defended his strong claim by flying as brilliantly on the last day as he had earlier in the contest.

However, the front runners in Standard Class were so close that Renner, Reichmann, Fitchett, Kepka, or Mercier could win if one of the others stumbled or had bad luck.

Most of the starts went through the gate between 1:20 p.m. and 1:45 p.m. Renner, leading by a small margin in overall Standard Class ranking, had his Standard *Cirrus* brakes pop open during his run and was unable to close them. He landed quickly. Schempp-Hirth factory mechanics with the German team made a battlefield fix and Renner took a relaunch. But his gate time was eight minutes after the last of the Standard Class.

When the Standard Class race ended, thirty-six pilots had posted speeds from 67 mph down to 43 mph. Two fell slightly short of the finish line—within six miles for the closer and 20 miles for the other. Kepka and Wujczak of Poland were first and second, possibly as a consequence of the unusual form of point-flying for them by their teammate Pozniak in an Open *Jantar*. Reichmann was third for the day. Renner's misadventure with the dive brakes probably contributed to his 15th place 138 points behind Reichmann.

The Polish gamble *(see Team Flying box)* could not have paid off with a championship for Kepka unless Reichmann and Renner were *both* to slip badly. Only Renner had obliged. So Reichmann had fought his way to the summit to emerge as World Standard Class Champion for the second time. His narrow margin of 29 points gave ample evidence of how difficult the struggle had been.

Tom Beltz placed ninth for the day and boosted his final standing to seventeenth. Ben Greene's dropped to 29th, but his steady-as-you-go consistency throughout the meet was still good enough to keep him in ninth rank among the world Standard Class pilots.

The U.S. team had flown the last day in relative independence of one another. A half hour out of the first leg Moffat reported broken but good lift at seven knots, freshening to ten knots. Thermals weakened at 5000 feet, but he shifted southeast and found they could be worked still higher.

The air was brilliantly clear. Single sailplanes, and especially gaggles, could be seen for long distances. It was hard to keep anything good a secret. The second legs (which were downwind) could be flown dolphin fashion without much circling, but the final leg was difficult. Some pilots estimated the quartering headwind at 35 knots. However, Britain's Delafield may have been able to utilize the flow by soaring thermal waves on the upwind edges of clouds.

The Open Class winner of the day was Bert Zegels of Belgium. He posted a speed of 118.8 kph (72.7 mph) and lay claim to second overall ranking in the Championships ahead of Hans-Werner Grosse in third.

Interest at the field centered in Moffat's return. At 4:45 p.m. he flashed over the crowd and settled to a landing in front of the flagpole. He had flown aggressively enough to win third place for the day. He was immediately surrounded by mobs of well-wishers, cameramen, and microphones. Eventually he was hoisted to the shoulders of admirers and carried to the pool for an unceremonious victory dunking. *(See "Light and Variable.")*

There were ceremonies of course. The next day (and for five days following) the rains and low clouds returned. The closing rituals were crammed into the briefing hangar with dignitaries honoring the pilots as best they could under the circumstances. After the principal speeches had been delivered and the winners introduced, the entire assemblage adjourned to the Waikerie Co-op packing building for an enormous banquet. The happy

*World Champions Helmut Reichmann and George Moffat raise their trophies to acknowledge the plaudits of the audience. Andreas Haemmerle (right) won the 79-Meter Cup for the best performance of a 79-meter pilot in the Open Class tasks.*

crowd was oblivious to the raucous competition of the rain pelting the metal roof above it. The top ten pilots of each class received medallion awards and magnums of champagne. (Moffat used his trophy as a receptacle to chill his bottle.) After the awards had been given and the dinner was well .under way, the wild exchange of pins, pennants, scarves, patches, and addresses began. These activities—and the Waikerie wine-lasted late into the evening.

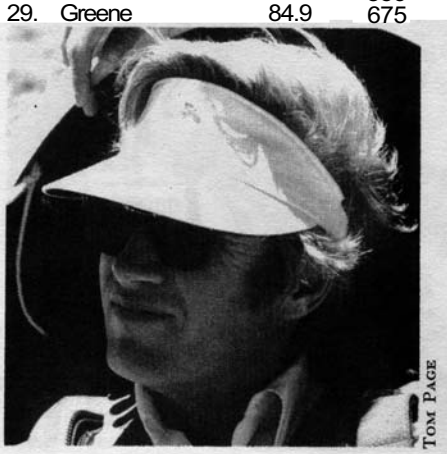
On Monday, caravans were emptied, tents folded, gliders returning home prepared for shipping, and cars returned to lenders.

Later, a motley assortment of the American contingent waited in Melbourne to begin the long 17-hour flight to San Francisco. George Moffat, tan and relaxed, nonchalantly wore a bright orange knapsack on his back. Inside was the ornate, silver, sought-after trophy!

Waikerie had been the best-organized, safest, and longest soaring championships ever.

| OPEN CLASS | KPH | POINTS |
|---|---|---|
| 1. Zegels | 118.8 | 1000 |
| 2. Holighaus | 116.3 | 971 |
| 3. Moffat | 114.6 | 950 |
| 4. Cartry | 113.4 | 937 |
| 5. Johnson | 113.0 | 932 |
| 6. Grosse | 112.8 | 930 |
| 7. Kluk | 112.8 | 929 |
| 8. Delafield | 112.4 | 925 |
| 9. Tabart | 112.0 | 921 |
| 10. Burton | 111.0 | 909 |

| STD. CLASS | KPH | POINTS |
|---|---|---|
| 1. Kepka | 110.0 | 1000 |
| 2. Wujczak | 107.4 | 966 |
| 3. Reichmann | 106.2 | 951 |
| 4. Webb | 103.1 | 910 |
| 5. Gordon | 101.6 | 891 |
| 6. Pettersson | 101.4 | 888 |
| 7. Nurminen | 100.8 | 881 |
| 8. Orleans-Borbon | 100.7 | 879 |
| 9. Beltz | 99.8 | 867 |
| 10. Anderson | 99.1 | 859 |
| 29. Greene | 84.9 | 675 |



TOM PAGE

## FINAL STANDINGS
## OPEN CLASS 14TH WORLD GLIDING CHAMPIONSHIPS

| PLACE | PILOT | SAILPLANE | COUNTRY | POINTS |
|---|---|---|---|---|
| 1. | G. Moffat | Nimbus II | U.S.A. | 10,635 |
| 2. | B. Zegels | Kestrel 604 | Belgium | 10,227 |
| 3. | H. W. Grosse | AS-W 17 | West Germany | 10,059 |
| 4. | J. P. Cartry | Nimbus II | France | 9955 |
| 5. | K. Holighaus | Nimbus II | West Germany | 9744 |
| 6. | F. Ragot | AS-W 17 | France | 9389 |
| 7. | G. Ax | Nimbus II | Sweden | 9245 |
| 8. | R. Johnson | AS-W 17 | U.S.A. | 9212 |
| 9. | A. Haemmerle * | Kestrel 604 | Austria | 9179 |
| 10. | J. Delafield | Nimbus II | Great Britain | 9121 |
| | * 19-Meter Cup Winner | | | |
| 11. | M. Wiitanen | Kestrel 19 | Finland | 9080 |
| 12. | G. Burton | Kestrel 19 | Great Britain | 9063 |
| 13. | A. Tabart | Nimbus II | Australia | 9023 |
| 14. | A. Schubert | Nimbus II | Austria | 8825 |
| 15. | H. Pozniak | Jantar | Poland | 8537 |
| 16. | P. Mander | Kestrel 19 | Australia | 8341 |
| 17. | D. Teuling | Kestrel 17 | Holland | 8255 |
| 18. | S. Kluk | Jantar | Poland | 8080 |
| 19. | R. Wetli | Nimbus II | Switzerland | 7834 |
| 20. | A. Timmermans | Kestrel 19 | New Zealand | 6968 |
| 21. | J. Carpenter | Cirrus | Canada | 6726 |
| 22. | P. Heginbotham | Nimbus II | New Zealand | 6550 |
| 23. | R. Mamini | Kestrel 19 | Canada | 6493 |
| 24. | Adele Orsi | Kestrel 604 | Italy | 5958 |
| 25. | H. Smet | Nimbus II | Belgium | 5935 |
| 26. | I. Wlassics | Kestrel 17 | Sweden | 5771 |
| 27. | S. Fujikura | Kestrel 19 | Japan | 5463 |
| 28. | S. Serra | Caproni A-21 | Italy | 5111 |
| STANDARD CLASS | | | | |
| 1. | H. Reichmann | LS-2 | West Germany | 9325 |
| 2. | I. Renner | Cirrus | Australia | 9296 |
| 3. | F. Kepka | Jantar | Poland | 9266 |
| 4. | B. Fitchett | Cirrus | Great Britain | 9138 |
| 5. | R. Gordon | H-301 Libelle | New Zealand | 9056 |
| 6. | M. Mercier | LS-1D | France | 9000 |
| 7. | A. Cameron | H-301 Libelle | New Zealand | 8887 |
| 8. | S. Wujczak | Jantar | Poland | 8820 |
| 9. | B. Greene | Cirrus | U.S.A. | 8418 |
| 10. | K. Ahrens | Cirrus | West Germany | 8390 |
| 11. | G. Andersson | Cirrus | Sweden | 8367 |
| 12. | A. Pettersson | Cirrus | Sweden | 8210 |
| 13. | R. Nurminen | PIK-20 | Finland | 8187 |
| 14. | D. Pare | Libelle | Holland | 8153 |
| 15. | J. Penaud | LS-1D | France | 8121 |
| 16. | Orleans-Borbon | Libelle | Spain | 8074 |
| 17. | T. Beltz | Cirrus | U.S.A. | 8012 |
| 18. | D. Webb | Libelle | Canada | 7960 |
| 19. | M. Bradney | Cirrus | Australia | 7939 |
| 20. | P. Teunisse | Cirrus | Holland | 7760 |
| 21. | F. Strukelj | Cirrus | Yugoslavia | 7550 |
| 22. | H. Frehner | Cirrus | Switzerland | 7544 |
| 23. | S. Oye | AS-W 15 | Denmark | 7478 |
| 24. | H. Nietlispach | Libelle | Switzerland | 7343 |
| 25. | J. Williamson | Libelle | Great Britain | 7316 |
| 26. | O. Sorensen | Libelle | Denmark | 7288 |
| 27. | M.Bluekens | Libelle | Belgium | 7243 |
| 28. | S. Puch | AS-W 15B | Austria | 7133 |
| 29. | A. Urbancic | Libelle | Argentina | 7032 |
| 30. | H. Wödl | AS-W 15B | Austria | 6914 |
| 31. | J. Pissoort | Libelle | Belgium | 6897 |
| 32. | F. Piludu | Libelle | Italy | 6809 |
| 33. | J. Pintar | Cirrus | Yugoslavia | 6429 |
| 34. | R. Rizzi | Libelle | Argentina | 6205 |
| 35. | B. Bulukin | Cirrus | Norway | 6015 |
| 36. | G. Perotti | Libelle | Italy | 5169 |
| 37. | R. Sada | Libelle | Mexico | 5053 |
| 38. | J. Firth | Libelle | Canada | 4176 |
| 39. | M. Kun | Libelle | Mexico | 2526 |

# *Help Fund The Future of United States Soaring Teams...*

As you have just read our soaring teams have a long and proud history of international participation. Over the last several years the opportunity to compete internationally has grown as more classes become sanctioned by the FAI. More teams and eligible pilots puts the title of World Champion within the reach of entirely new segments of the soaring community including Club, World and Junior pilots. The chart above shows when each FAI class participated in their first World Gliding Championship. Notice the recent growth in classes and events.

**FAI Classes Eligible for Competing in World Soaring Championships**

| Class | Year | Championship |
|---|---|---|
| Open | **1937** | Germany |
| Two Place* | **1952** | Spain |
| Standard | **1958** | Poland |
| 15-Meter | **1978** | France |
| World | **1997** | Turkey |
| Junior | **1999** | Holland |
| 18-Meter | **2001** | Spain |
| Club | **2001** | Australia |
| Feminine | **2001** | Lithuania |

* Eliminated 1958

## *An urgent need...*

ROBERTSON TRUST
FUNDING THE FUTURE

More teams, eligible pilots and international events have stretched team funding well past the breaking point putting our teams ability to compete internationally at risk.

## *Contributions make it happen...*

While many competing teams receive government assistance our teams rely on a mix of direct contributions and perpetual trust income to compete internationally.

Direct contributions are immediately available to the team at their full value. Participating in the SSA sweepstakes, buying a raffle ticket at a contest or sending a check to the SSA for team funding are all examples of direct contributions so critical to fielding our soaring teams. Perpetual trust income has become increasingly important to fielding our teams internationally. This type of contribution is perpetual as the funds are invested with the income used to sponsor teams perpetually. Robertson Trust contributions provide a critical, stable, long-term, source of team funding.

Robertson Trust
www.RobertsonTrust.com

## *A long term strategy?*


Since both types of contributions are tax deductible, a long-term contribution strategy to minimize tax burden and maximize support might incorporate comfortable direct contribution every two years and larger, trust contributions with less frequency. How much to contribute is determined by each of our individual circumstances. Every dollar counts.

## *Now is the time...*

Not all competition happens in the air. Often it is what happens on the ground months before World Soaring Championships that makes the difference. Adequate team funding is where it all starts. Our international competitors are doing what it takes to compete and win and so should we. If our soaring teams are going to compete internationally they need our support. While most of us can't be in the cockpit we can still do our part to make sure our pilots have the opportunity to compete and win.

Please make a direct contribution to the U.S. Soaring Teams or a perpetual contribution to the Robertson Trust today!

**Robertson Trust Contributions**

John Seaborn
5560 Boulder Hills Dr
Longmont, CO 80503
USA

www.robertsontrust.com

**Direct Contributions**

Larry Sanderson
Soaring Society of America
P.O.Box 2100
Hobbs, NM 88241-2100

www.ssa.org