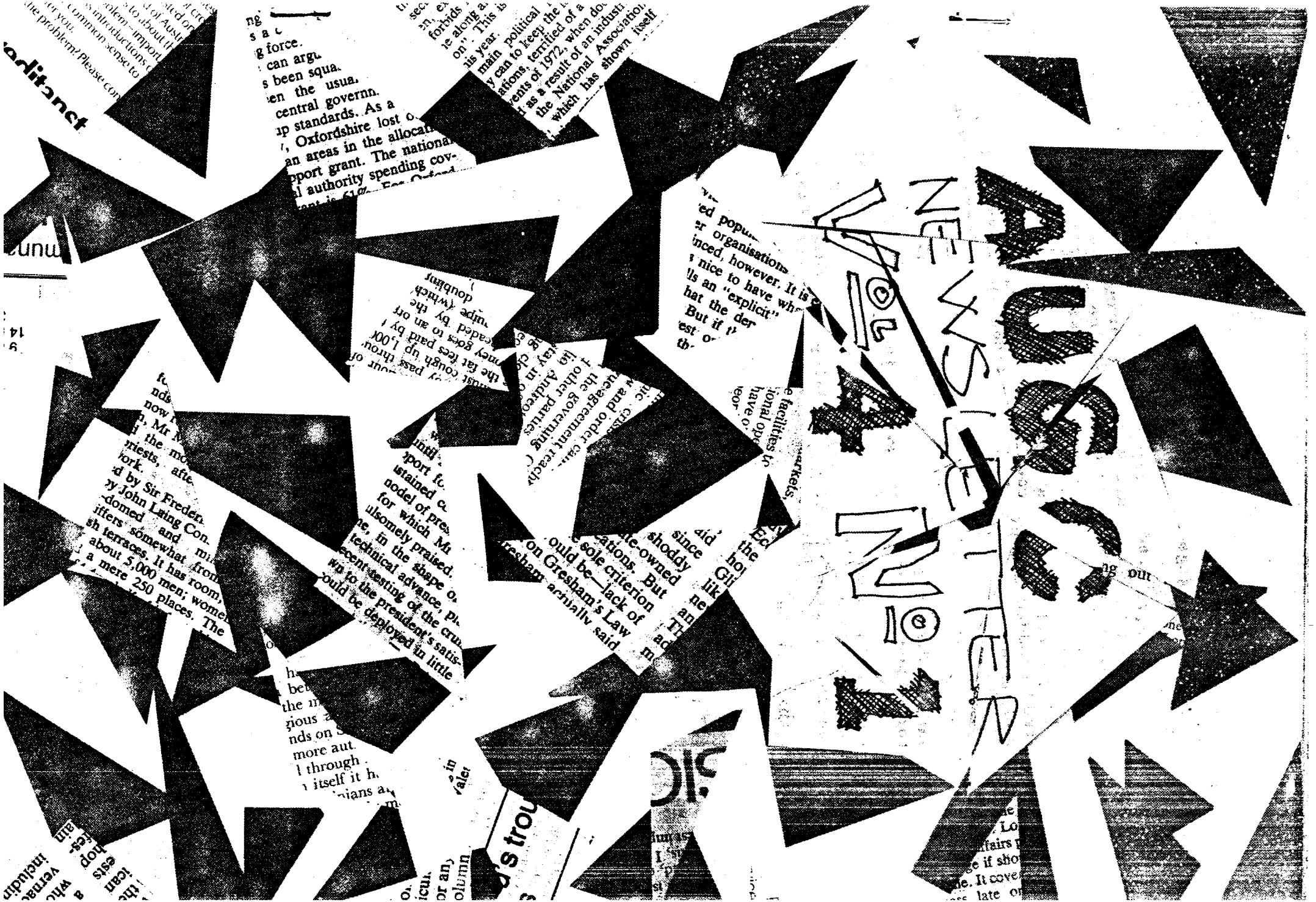
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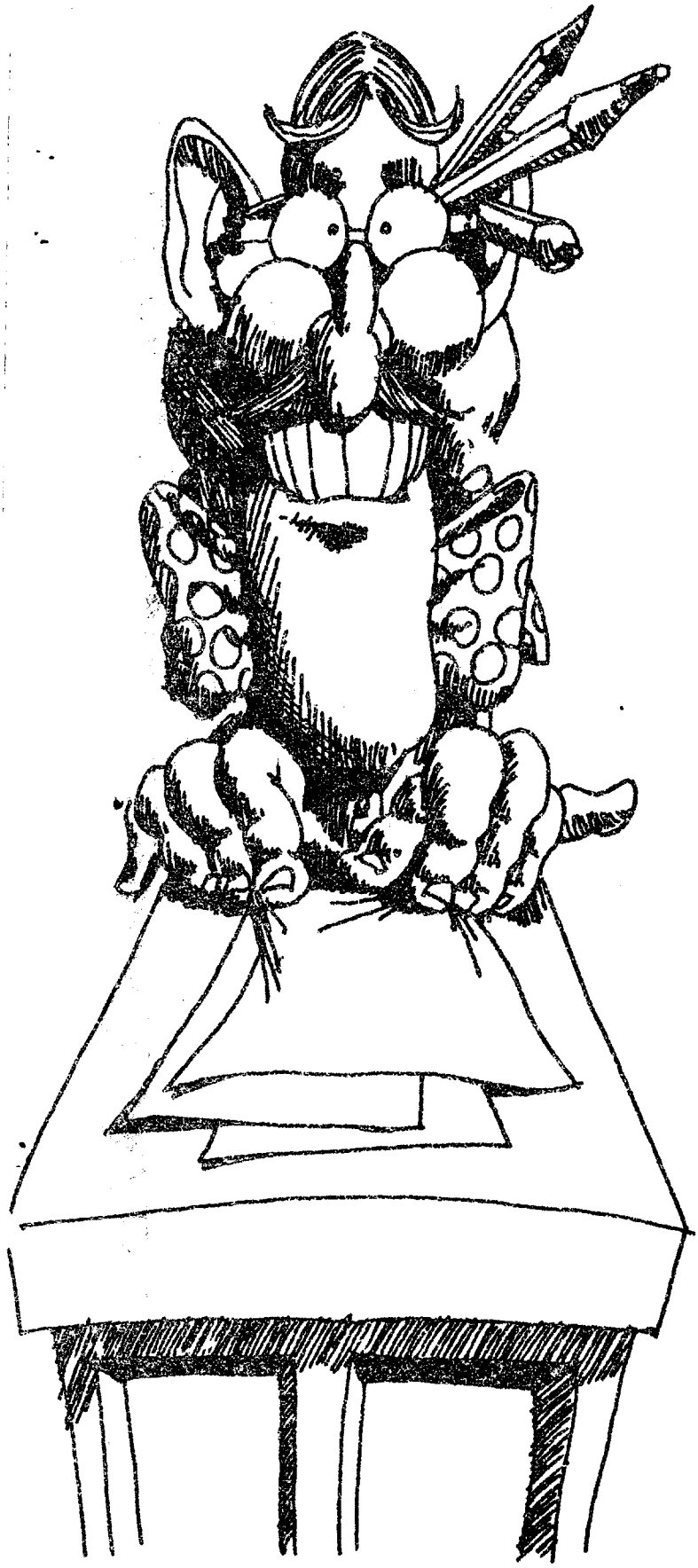


EDITORIAL

This is the first Newsletter sinc
November last year - the reason?
No way of getting it to you witho
the University mail system operat
So lots of things have happened i
that time, many small articles
have reached me, most of which we
topical for that time only.
Consequently, there are quite a
number of Bits and Pieces, in rou
cronological order, - but worth
reading.
My Xmas flying had its ups and do
(sorry about that!) - on the hott
day at Lochiel I managed to shear
pins off the V6 winch again, -
(sorry about that!).

This issue is mainly concerned wi
introducing new members to the clu
So the first half of the magazine
does exactly that; the history of
the club, the A.G.M., the aircraft
operations and how to get to the
field. Then there is a very impre
article on a sailplane of the futu
with a few Building Product News i
that may find there way into the s

Don't be too impressed by the
illustrations - courtesy of Terry
Gilliam (but he does'nt know it)
Next months newsletter will be
brief, mainly to support the A.G.M
with profiles on all those people
who wish to test democracy at its
very heart. Mabye an interview wi
some famous flying type heavy -
who? You tell me!
Also - to all those people who
promised to write an article
for me, I'm still waiting - Ta!

Michael Docherty

THE FLYING CLUB

First formed in 1929, the club at that time consisted of Engineering students who built and flew a 'primary' type glider for about one year; until it was destroyed in an accident. During that time, members set some duration records of about an hour and a half.

In 1970, the club was resurrected, but did not become operational.

In 1975 the club was formed with Tony Kiek and Emilis Prelgauskas; the latter supplying a two-seat trainer and instructor qualifications. With Tony as Secretary and Emilis as President/Chief Flying Instructor, the club operated with several established clubs.

At the beginning of 1977, Tony and Emilis arranged a lease on the runway areas at Lochiel from the present club patron - Bob McDonald. Emilis bought a shed (which now stands on the sandhill) to hold the equipment. Tony and Emilis went to Renmark to lease a winch for launching; Emilis subsequently bought the winch and re-engined it to allow the club to stay operational.

Meanwhile, with the club leasing the airfield, club members under Des Maslen built a winch from the ground up. Early in 1977, Guy Harley arranged finance on the club's behalf, and went to get the 'Arrow' single seat glider from Horsham. This became the Clubs first sailplane.

In August, after the lease on the Kookaburra was terminated, the club bought a brand new Bocian 1-E trainer, imported from Poland and delivered at the end of 1977.

In 1978 the club built its own hangar. This was after months of squeezing the Bocian in with the Kookaburra in a shed built to take one aircraft. Private groups of club members bought a Ka6, a Boomerang, and a Sagitta - all single seat sailplanes.

1979 will continue to be a year of training, cross-country and active competition participation, with several club projects planned to keep everyone involved and the club standards high.

MEET EVERYONE IN THE CLUB...

at: Sports Association Club Rooms

on: Wednesday. 14th. March. 7.30 p.m.

At this meeting the coming years activities will be discu
over a convivial wine and cheese.

THE CLUB HEAVIES - 1978

Instructors	Chairman	Tony Kiek
		Dave Biggs
		Guy Harley
		Neil Mancktelow
		Graham Parker
		Emilis Prelgauskas
President		Des Maslen
Executive		Dave Biggs (Treasurer)
		Guy Harley (Secretary)
		Adam Kirkland (Purchase)
		Antony Veale (Social)
Winch Maintenance		Des Maslen
Aircraft Maintenance		Antony Veale
		Graeme Newcombe
Drogues		Tim Dodd

ANNUAL GENERAL MEETING

will be held at: Sports Assoc. Club Rooms

on: Wednesday 4th April

EXPLANATION - the A.G.M.

In past years, the A.G.M. has been held at the first club meeting date. This meant that new starters haven't known who is who, and the same old few continue to be lumped with more than their share of work.

The basic precept ot the gliding club is that we all participate - club meetings held monthly are attended by all members who vote. The Executive is simply the core of members who get together the facts on any item being brought forward so that decisions are made on the best information available.

Invariably, if some one new takes on a job, several years of experience in that task is freely available from older members. After all, if the jobs don't get done, we all lose out on flying one way or another.

Come along and participate in the A.G.M.

ADELAIDE UNIVERSITY GLIDING CLUB INC.
1979 ACTIVITIES

		Monthly Meet
MARCH	Orientation Weekend Inaugural Meeting	
APRIL	Annual General Meeting Gawler Easter Competition Lochiel RatBag Regatta	*
MAY		*
JUNE	1 week flying camp 3 day Ridge Camp	*
JULY		*
AUGUST	Waikerie Competition	*
SEPTEMBER	1 week flying camp	*
OCTOBER	Balaklava Competition	
NOVEMBER	Bordertown Competition Mildura Competition 1 week flying camp	*

Flying at Lochiel every Weekend - Check Instructor Roster
Mid-week flying at Lochiel by arrangement with the C.F.I.

THE AIRCRAFT

The club operates a 'Bocian' two-seat trainer, and an 'Arrow' single seater, which is used on cross-country flights, proficiency badge claims and in competition flying.

Various private groups within the club operate a Kookaburra 2-seater, and a Ka6, Boomerang and Sagitta single seat sailplanes. The last three aircraft are used extensively cross-country and in competitions by their owners.

THE BOCIAN 1-E

The SZD-9bis Bocian 1-E is a two-seat training sailplane. The sailplane is equipped for night and high altitude flights and is suitable for training basic aerobatics. It is an improved version of the Bocian 1-D: flying that sailplane Polish pilots set many national and world records. Up till now the gain of height world record of 38,300 feet established in 1966 by Stanislaw Jozefczak and Josef Tarczon and the women's gain of height world record of 27,600 feet set in 1967 by Adela Dankowska and Maria Matelska have not been beaten by other mutli-seat sailplanes.

Structure

Wing - tapered, two-section two-spar cantilever monoplane. Wing Sections NACA 43018A and NACA 43012A. Covered with plywood down to rear spar, the rear part fabric covered.

Airbrakes - plate-type, provided with strips pressed down to the wing surface. Operation by push rods and steel cables.

Fuselage - plywood covered semi-monocoque structure of oval cross section. Towing hooks are located in the fuselage nose and near the centre of gravity just in front of the main wheel.

Cockpit - tandem seating arrangement; the canopy in two parts: sideways opening forward part, backwards sliding rear part. Rudder pedals in the front cabin are adjustable on the ground. During flight it is possible to reach the spacious baggage compartments, situated in the nose part of the wing, from the rear seat. There is space there for oxygen equipment in case of high altitude flights.

Instruments - there is only one instrument panel, situated in the front cabin, but it is visible from the rear seat. The panel consists of an airspeed indicator, altimeter, total energy variometer of ± 5 m/s range, variometer of ± 5 m/s range, electric turn indicator and compass. The static and total pressure sources are located in the fuselage front part. The sailplane is fitted with navigation lights for night flying.

Undercarriage - a main wheel with front and rear skids. The main wheel is fitted with a shock absorber and a shoe brake which is operated by the full deflection of the airbrake lever.

Tail Unit - wooden structure with control surfaces fabric covered. The elevator is provided with a trimming tab.

Specifications and Performance

Wing Span	17.8m
Length	8.2m
Height	1.2m
Wing Area	20.0m^2
Wing Aspect Ratio	16.2
Max. Permissible Speed	200km/h (124mph)
Best L/D at 80km/h (50mph)	26
Min. Sink at 71km/h (44mph)	0.82m/s (2.69fps)
Empty Weight	342 kg (754 lb)
All-up Weight	540 kg (1,190 lb)
Permissible Load Factor	+ 6/-3
Ultimate Load Factor	+10.5/-5.25

Handling

Entry to the cockpit is facilitated by footsteps cut into the fuselage. These footsteps are covered by hinged panels which keep the fuselage streamlined. Once seated in the cockpit all controls are easy to hand but far enough apart to avoid confusion. The harness is the usual clip-together type, but the cockpit is big enough to allow you to adjust the harness whilst seated. There is plenty of room to wear slimpak or backpack parachutes although 6'2" pilots in the back cockpit just fit in.

The back canopy must be closed first, and pilots using the front canopy must remember to close and open it using the white knobs on the left-hand side, not the red knobs on the right-hand side which is the emergency canopy release. The front canopy can be closed by the pilot in the back seat. There is a sliding vent window in the front canopy whilst ventilation in the back is provided by partially opening the back canopy.

Instruments are of a standard type except for the AS1 which can indicate 5 or 20 knots depending on how many revolutions the needle has done. From the back seat, the AS1 can be seen past the left side of the front pilot's head and the altimeter past his right side. If you want to see the vario the front pilot must lean to the right but this means you can't see the altimeter. However, this causes no problems in practice.

The airbrakes are operated by an 18" lever next to the pilot's left leg. The final travel of this lever operates the wheel-brake but there is a definite difference in pressure on the lever between full airbrake and operation of the wheel-brake, so you shouldn't land with full airbrake and wheel-brake. There is a very positive over-centre lock which requires effort to overcome, particularly since the lever is at full arms length. Therefore, care will have to be taken, during launching, that the all-out signal is not given before the pilot has had time to release the wheel-brake and close the airbrakes.

Although the Bocian is a taildragger there is a pronounced nose down attitude. The usual reaction during groundrun is to use full back stick to "get the nose up" whereas slight forward pressure is needed. This attitude could produce problems with cablebreaks on winch launches where pilots will have to put the nose well below the horizon and check their speed before carrying out any manoeuvre. In flight the pilot soon becomes accustomed to the attitude.

During groundrun the aerilons quickly become effective so there should be no problems with dropping wings. The elevator is steady and not twitchy as with some types.

After release the aircraft can be easily trimmed throughout the speed range. Once trimmed the aircraft exhibits exceptional stability and will stay at whatever speed or position you put her. Whilst the aerilons are very effective and give good rates of roll, they are not balanced with the rudder. When doing a turn full rudder must be applied as soon as possible and usually has to be left on for a while after the stick is returned to centre. The rudder is effective for all other purposes.

The stall is docile being preluded by minor vibrations which can be felt in the front but not back seats. At the stall she will drop her nose quickly and recover but she will also drop a wing. This can easily be picked up with rudder. The spin, and recovery, are perfectly normal.

During landing both the airbrakes and sideslipping are very effective. At an airspeed of 55 knots and a groundspeed of 40 knots the Bocian doesn't float after roundout but quickly settles down on its well sprung undercarriage and can be stopped quickly by the wheel-brake which is vicious enough to dig the front skid into the ground.

Groundhandling is effected by a fixed carrying rod through the fuselage forward of the tail plane. However, you can easily get back injuries unless someone sits in the front cockpit. Because there is only a rear skid and not a rear wheel the tail should be held up during all groundhandling.

THE ARROW

Built by Edmund Schneider Pty. Ltd., it consists of an all wood construction. It has a 13m single piece wing, a 7m long fuselage, a swept tail and rudder and a normal tail-plane mounted on the fuselage.

Rigging

The Arrow is rigged and de-rigged on the trailer. With practice this becomes a three-man job. It is time consuming but not labour intensive.

The wing is jacked up on its supports, swung into position and a prong on the front of the wing is located in a socket behind the head rest. The wing is then lowered onto the fuselage and a rear pin is bolted through the fuselage and metal fittings on the wing as in the Kookaburra. The controls hook up as for the Ka6.

The tail is held on with three nuts. These should be a finger tight, no more, since the fuselage can be squashed by tightening the nuts too much. The elevator connection is accessible through a small inspection hatch on the port side of the fuselage. The elevator is connected to the elevator linkage by a pippin.

Conversion

A pilot will be converted to the Arrow after soloing in the Kookaburra and satisfying an instructor with his solo flying skill. Before being allowed to take the Arrow cross country, the pilot must have had a minimum of three flights in the Arrow. The duty instructor's permission is also required.

Performance

Claimed best L/D 28:1 at 55 m.p.h. Minimum sink 200 ft/min at 45 m.p.h. The Arrow is suitable for Silver and Gold 'C' badge flights. It is the lowest performance glider in the Sports Class, however, experience has shown that it is still competitive.

Handling

The elevator is relatively sensitive with light loads throughout the speed range and an effective spring trim. Aerilon loads are low and, with the small wing span, the rate of roll is high - about $2\frac{1}{2}$-3 secs. for 45° to 45°. Rudder power is good for low pedal traverse; if anything it has too much rudder after flying the low rudder powered Kookaburra and Bocian 1-E.

Although a nippy little sailplane without the slipperiness of fibreglass types, it is a relatively easy conversion from most two-seaters.

Trailering

Care will be needed when trailering the glider. The unit is vulnerable as the trailer is open and has a high centre of gravity. Towing requires:-

1. Supervision of the retrieve by a crew chief appointed by the duty inspector.
2. Towing by the heaviest car available at a maximum of 50 m.p.h. on bitumen and 30 m.p.h. on dirt roads, and

3. Permission of the Executive for away from home operations.

LONGWING KOOKABURRA

When the club was formed, the Kookaburra formed the foundation stone. It was used for all sequences in club operations, earning the club its first Silver 'C' proficiency awards, competing regularly in the 1976 regatta circuit, placing consistently in the top three placings in 2-seat class.

In addition she taught the first 20 solo pilots, having been leased to the club at cost, in those days 40% less than current flying fees.

Today, still owned by the Chief Flying Instructor, she is looking a bit worn. Built in 1959, the last few years have taken a lot out of the aircraft, so treat her with a little loving care.

The name is derived, like the sailplane, by stretching the original basic trainer of the 1950's - the 40' ES-52 Kookaburra to a 50' wingspan. Although the lowest performance sailplane on field, its thick low speed wing gives good soaring performance.

Like the Ka6, it is now operated as a private sailplane alongside the club fleet. Unlike, all the others, she has a '20 yearly' hanging over her head. That is, a major inspection in which the sailplane is to be refurnished to its primary structure.

Despite this, her age, and 'bare bones' appearance, don't let her fool you. As in previous years, she is likely to be the most flown airplane around, due in no small part to her owner, and a few other pilots who love her for what she does best - fly.

THE Ka-6

Hotel Alpha is a privately owned aircraft being owned by Club members Guy Harley, John Mills and David Stobie. It is not always present at the club's airfield at Lochiel since it is usually hangared at Stonefield.

4. If it is the first launch of the day for the glider then -
   a. pull on the cable, call "check release" and make sure that the ring comes clear of the release mechanism;
   b. connect the cable as before;
   c. pull the cable sharply to the rear and check that the automatic back release mechanism releases the cable then call "back release okay";
   d. connect the cable as before.

5. Give the cable a good tug forward to check that it is attached and call "You're on".

The procedure for aerotows differs in that 4a. and b. are done for every launch.

Launching

The decision to launch a glider is made by the wing tip runner (WTR) after the pilot has positively indicated that he is ready by giving a "thumbs up". It is the job of the WTR to decide if all the circumstances are right to start a launch. He must consider two areas:-

1. The Air. The WTR must balance the wish to get the glider into the air against the need to provide a safe landing area for gliders on approach. This is particularly so for the Lochiel airfield where the strip can only accommodate one glider at a time and where launching covers a long period. As a rule of thumb never launch whilst a glider is on its base or final leg but even it it is on its downwind leg the WTR may have to hold the launch. If there are no gliders coming into land the WTR calls "All clear above and behind".
2. The Ground. There must be no aircraft or vehicles on or about to enter the strip. In particular no-one must be standing in front of the wings or tailplane. If everything is in order the WTR calls "All clear in front".

The WTR then levels the wings. Just before the cable becomes taunt the WTR lowers his wingtip for a long three seconds and then raises it again. If anything goes wrong with the launch then he should lower the wingtip to the ground after the pilot has released the cable. In the case of the Bocian, the WTR must see a second thumbs up from the pilot before he levels the wings after the three second wait.

The Ka-6 falls within the same class as the Arrow although it is slightly better in performance. Being a private aircraft it is in considerably better condition than the Arrow.

Club members wishing to fly the Ka-6 must have a minimum of 50 hours on sailplanes and be approved by one of the owners. Special permission must be obtained to fly it cross country and it is not available for competition flying.

The usual club rates of 8¢ per minute apply.

WINGTIP RUNNING

With the appearance of a third gliderat the airfield operations have become a little hectic. The main area of confusion has not, however, been in the air but on the ground. Here the situation is made worse by the high number of people on the ground who have had little exposure to gliding, the narrow width of the strips and the necessity for vehicles to use the strip areas. It is, therefore, about time we reminded ourselves of the rules we observe on the ground which makes gliding safer.

Hooking-on

Before attaching the cable to the glider the person doing so must assure himself that the glider is in a fit state to be launched. He does this by carrying out the "CARD" checks as follows:-

"C" - Canopy closed and locked? This question is put to the pilot who must then be seen to touch and look at the canopy release and say "check".
"A" - Airbrakes closed and locked? - Same as above.
"R" - Radio on? - As above.
"D" - Dolly wheel off? None of the club aircraft have dolly wheels but they are common on fibreglass gliders. They consist of a fully pivoting wheel fixed to the aircraft just in front of the tail-plane by a red fibreglass "belt". They are used only for ground handling and must be removed before a flight. Since the pilot cannot see if it is on, it is the responsibility of the hooker-on to check that is is off.

Once these checks are carried out the cable can then be attached, by the following procedure:-

1. Hold the small ring up so the pilot can see it and say "small ring". If the pilot says "check", proceed.
2. Call "open" and place the small ring in the release mechanism.
3. Call "close" and check that the hook engages the ring.

Movement on the Airfield

The following rules have to be followed:-

1. Vehicles can only move via the strip areas.
2. When entering a strip, whether by car or by foot, check that no aircraft are on approach, whilst on the strip continue to maintain a lookout and keep to one side of the strip.
3. DO NOT park vehicles between the fence and the threshold of the runway, a pilot who misjudges an approach has enough to contend with without an immovable car in his way.
4. When parking cars at the launch point keep as close to the fence and strip as possible, park the cars close together and DO NOT drive the car over the crop to get to a parking spot.

In conclusion, remember that your actions on the ground could cause a glider, on approach, to be forced to land in the crop alongside the strip. Not only would this strain our relations with the farmer but it could also lead to the glider ground looping which would cause extensive damage to it and its pilot.

THE GLIDING FIELD

140km north of Adelaide lies Lochiel, past Pt. Wakefield on Highway One. 8km west along a sign posted dirt road is a 160ha paddock, in which the club leases 12ha for runways.

The club operates only fron these two runways, as the rest of the paddock is used by the owner for hay, crop or sheep. The club pays only a minute rental of the true land value and the farmer also makes available work shop space, sheerers quarters for accommodation and his help in mowing runways, etc. The only way the club can meet this generosity is with consideration for the land and the farm equipment.

On the leased land the club has erected a hangar and toilet, as well as operating a mobile control van ('the pie-cart'), and winch. Privately another shed and winch support club operations on the field.

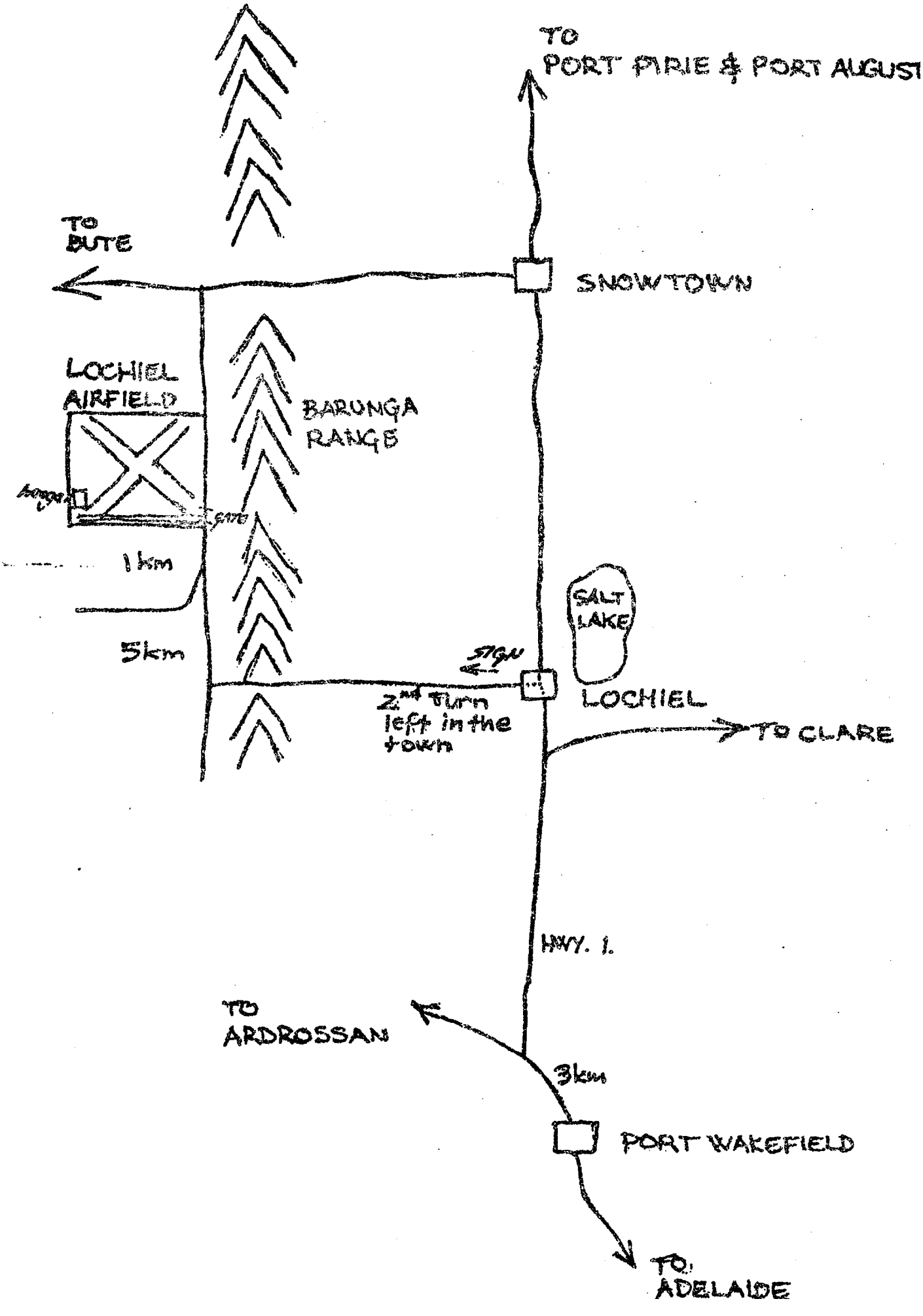
THE WAY WE OPERATE

Each week a list is hung in the Sports Association Club Room, indicating who wants to fly that weekend. The instructor's name is on the list when it goes up; other pilots add their names and a phone number if they have a lift available.

Friday morning is phone around time. The newsletter indicates who is the contact for a particular period. Ring that person and confirm that enough people are going to fly, that the instructor is still available and that a lift is available to you if you wish. The avoids everyone taking a car each.

Most people leave Adelaide about 8am. You meet as arranged, share the petrol between you, and meet on the gliding field about 10am. Aircraft, winch, flight sheets, knapsack sprays are inspected, cleaned and got ready. About 11am. flying begins and pilots rotate between cockpit, ground-handling, and winch driving through the day. If you don't know what to do - ASK.

Shortly before dark we pack up and travel back to Adelaide. If you are making a weekend of it, the Shearers Quarters have fridge, T.V., and hot showers to make it bearable. If the day is unflyable because of rain, wind, or lack of crew - there are plenty of projects on field to be done. It is better to travel to Lochiel on a rainy day and get to know the inside of an aircraft, than not be able to fly on a booming day because the equipment is neglected and unairworthy. The only way we keep costs down is by doning the jobs ourselves; and it also helps us become better pilots.


TO
PORT PIRIE & PORT AUGUST
TO
BUTE
SNOWTOWN
LOCHIEL
AIRFIELD
BARUNGA
RANGE
gate
1km
5km
SALT
LAKE
2nd turn
left in the
town
LOCHIEL
TO CLARE
HWY. 1.
TO
ARDROSSAN
3km
PORT WAKEFIELD
TO
ADELAIDE

CLUB PROJECTS

The growth of the club is promoted by having an annual series of projects which each contribute to improving levels of equipment at stable running costs.

In 1979 it is likely that the club will --

- Re-engine the V8 winch
- Construct and erect doors to the hangar
- Reconstruct the runway at the hangar end
- Re-new control cables in the Bocian
- Do annual inspections on the Bocian and Arrow.

Other projects may include -

- 20 yearly overhaul Kookaburra, beginning April 1979
- Running a competition at Lochiel

FLYING

1. Training - learning to fly, often you don't seem to be getting anywhere. Solo pilots get long flights while you only get a couple of short flights on a day.

Please remember that we all start this way, and in later years we reap the benifits of our early efforts. More on this in a moment.

The instructors give their time free of charge to teach you. They would rather be off flying on their own like other solo pilots, but they aren't. The reward for the Instructor comes from seeing a new pilot enjoy the experience of flying. So do not mess them around - if you want to learn to fly, come up regularly and get involved. If not, that's O.K., say so and come up occasionally for a passenger flight - the Instructor can take you for a leisurely scenic ride, rather than be cramming you with information you're not listening to.

Instructors also appreciate if pilots respond to their efforts by reciprocating. For instance, you can offer to crew for them if they are off to a competition or flying cross-country.

Flight training begins with getting you oriented- feeling at home moving in three dimensions.
Then you are taught controls, coordination for quite a while. Once proficient, you get close to the ground taking off and landing. Then there are emergency procedures, drills and recovery techniques, as well as tips on how to feel the air you are moving in; thermals, navigation, speed flying.

The aim is to get you feeling as if you're flying - no just sitting in a machine. This takes several months, (sometimes most of the year, depending on how regularly you attend) to accumulate sufficient experience.

Once proficient you are 'soloed' and given check flights and kept under observation in local flying for a while. If you demonstrate the competenee and responsible attitude required, conversion to the 'Arrow' single seater follows and after further local flying, you are cleared for an increasingly wider range of pursuits.

This is when the early determination and effort begins to pay off.

Note: It takes up to 5 people to operate a sailplane -

2 in cockpit
1 on winch
1 on wingtip
1 on signalling bat

It's a team sport in every sense of the word.

2. Camps - The training and cross-country flying is limited if operations are conducted only at weekends. Sometimes a group of us can get a regular day mid-week to go flying, but the most opportune boost to training comes by flying a whole week.

After each exam period, the club operates for the last week of the vacation, as well as flying between Christmas and New Year

Dates are - end May
early September
early December
Dec 26 - Jan 1

If you indicate an interest, instructors and solo pilots will ususally make themselves available to support a flying operation arranged outside of these specified periods.

CROSS-COUNTRY AND COMPETITIONS

The pilot who is converted to the Arrow can strive to be rated by the instructors for cross-country flying and competitions.

This can be the most rewarding aspect of soaring. However, it demands skill, organization and above all a knowledge of your own limitations.
To this end, the club encourages pilots to fly cross-country to gain experience. Before each flight, the pilot must declare his intentions to the instructor and receive advice or briefings as necessary.

Competitions are run in a season from August to April. A list is held on which pilots request the aircraft for particular days and are allocated to them by the club on merit. So if you have helped keep the equipment in order, you get a bite at the type of flying you want to do. With several private single seaters at Lochiel, you can invariably get someone else to fly along with you on the cross-country flight you're intending.

In competitions, up to four aircraft from Lochiel enter; so you are seldom alone in hostile territory.

FLYING COSTS

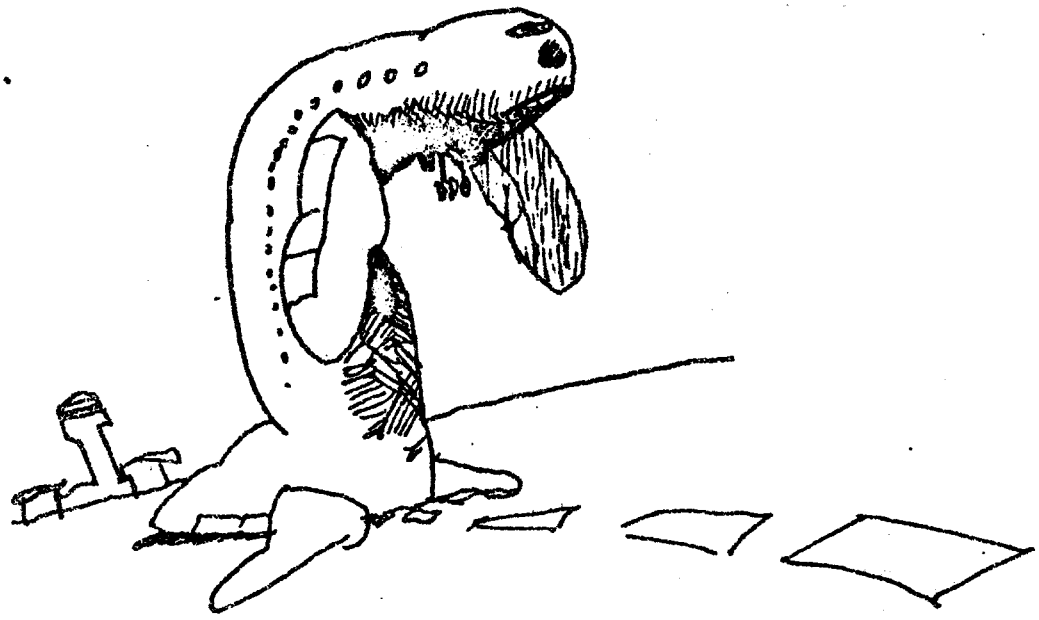
As noted earlier, the largest single cost is time - we recommend one full day each fortnight. This way you get maximum benifit of training sequences.
The time includes ground handling and launching for other pilots, aircraft and groung equipment maintenance and club projects.

Financial contributions -

Membership	$20 p.a.	subsciption

Daily contribution -

Aircraft hire	$4.80 per hour
Launch	$1.00 each
Instructor	no charge
Accommodation	no charge



THE FUTURE

Emilis

Could it be that the sailplane of the future will have no instruments in the cockpit? Perhaps we'll be looking through a polycarbonate (unbreakable) canopy with inbedded liquid crystal units which provide a "head-up" display a la F-111 of all flight information. The electronics are buried in the sides of the seat-pan of the cockpit, and include normal speed, height, climb-rate, temperature, McCready, compass information, as well as magnetic tape strip feed-in capability to calculate standard repetitive data - average climb rates, remaining height needed for final glide, descent on final glide.

The ideas are endless.

FLYING THE VIRAGO

"Australian Gliding" July 1968
(Slide Rule)

Readers of Australian Gliding will be familiar with the story of the new high performance sailplanes being developed for the next World Gliding Championships in Europe. The Virago is one of four of these new super sailplanes built with the aid of a special Government research grant and, at 18 metres span, it is the largest of the four.

At present the Virago is still undergoing development trials at Bacchus Marsh to cure a control problem brought about by the increase in span. This has now been overcome so the new glider should shortly be seen in action in contests throughout Australia in preparation for the overseas tour. Although no estimates of performance can be made at this time, readers may be interested in the practical aspects of flying the most advanced soaring machine in Australia.

As we drove up from Melbourne in the Holden the day looked promising for a cross country flight so I decided to check out Virago's instrumentation under practical conditions. The sailplane had already been pushed out of the hangar at Bacchus Marsh when we arrived at the field and a mechanic was busy installing the freshly charged power cell which is the sole electrical supply.

Virago is an impressive machine on the ground or in the air, although the new teflon coating has a dull mottled finish which tends to look shabby alongside the sparkling epoxy white of normal sailplanes. However, the increase in performance from teflon, due to water droplets and insects not adhering to the surface, should be an important factor in Europe.

The most noticeable feature of the new glider is the blown high optical clarity polycarbonate nose which extends back behind the pilot and joins the fuselage with a flexible sealing ring just in front of the wing. There are thus no steps or joins in the critical area and laminar flow is attained almost to the trailing edge of the wing. The resulting visibility is superb although it is rather awe-inspiring in flight to be able to look out in all directions - including straight down! The whole polycarbonate nose section slides forward on runners at each side to provide access to the cockpit. In an emergency a high pressure gas bottle will blow this nose off forward, and clear of the glider, to allow the pilot to escape.

The pilot is seated on a titanium frame which carries the controls. This is welded to the titantium tubing centre section. Welding is by the electron beam process under vacuum to provide fatigue resistance. The rear fuselage is rolled from special low density aluminium sheet which is

bonded to frames of similar material. This aluminium contains inert gas bubbles trapped in the sheet which decreases the density of the metal so that a thickness of one eighth inch can be used. The resulting fuselage is strong and light.

The wing is made in two pieces and fastens together through the fuselage in the usual manner. One lever locks the assembly in place and all controls are automatically coupled together.

The wing spar consists of titanium upper and lower booms bonded to an aluminium alloy shear web. The aluminium web increases in density towards the centre of the span. The lower spar boom is reinforced with pure iron "whiskers", or strands of single crystal structure, which have a tensile strength of one million pounds per square inch, or virtually the theoretical ultimate strength for steel. This new reinforced titanium material was imported from Japan where it was developed for the latest supersonic transports. It is the first time that this material has been used in sailplane construction.

The wing itself has an aspect ratio of 50 in "clean" configuration and, with all low speed devices extended, the aspect ratio of 24. Fitting all the controls and tracks inside the wing of this sort is quite a problem and the designers are to be congratulated on achieving a "droop-snoot" extending leading edge, intermediate droop aft of the spar and double slotted flaps from tip to tip.

Control in roll was initially provided solely by reducing the extent of the flap at the appropriate tip. The reduction in area providing a decrease in lift on one side, as in the ES160 sailplane. However, with the span of the Virago at 18 metres, this method resulted in an unacceptable adverse yaw. This has been cured now by an additional control which moves the "droop-snoot" forward to act as a slot on the inner wing in a turn. This results in an increase in drag on that side assisting the turn, and also combats tip stall of the slow moving wing. All these controls are brought automatically into operation by a push-pull lever on the left side of the cockpit.

The rest of the structure is fairly orthodox. The usual retractable main and tail wheels are fitted but there are no tip wheels, which is unusual for a rocket launched glider. However, this machine has been designed for International contest flying and few concessions can be made to practical considerations such as one-man operation. It is assumed that Virago will always have a crew.

The rocket unit is behind and above the wing and swings up on a steel arm against a strong spring. Part of the "daily" is to swing the unit out and check the electrical glow plug which fires the charge. It is also necessary to to check that the unit retracts slowly against the air damper

and that the fairing flaps are correctly closed and flush after operation.

The position of the rocket unit, above and to one side of the fuselage, has been adopted to avoid the possibility of grass fires and also to stop "gravel rash" to the rear fuselage. Several incidents have been caused by rocket units, which are fitted to the main undercarriage on most European gliders, setting fire to dry grass.

The actual rocket container confirms to the new international F.A.I. rules and will take a standard charge giving 1000 metres height. However, this Australian built unit, manufactured under a licence from the U.S.A., will take a locally developed fuel giving almost twice this height for non-contest launches. There is space behind the pilot for four rounds of solid fuel.

Instruments fitted to Virago include A.S.I., Altimeter, two audio variometers, the usual gain of height and glide ratio computers, plus the new distant thermal indicator from the U.S.A. There is also the excellent new Chinese multi-frequency self tuning radio.

After hooking the trailer onto the car we pushed the glider out onto the strip. I loaded a solid fuel charge into the motor and tuned into met. details while I strapped myself in to Virago's comfortable seat. The wife held the wing ready as I called Tullarmarine tower. I was now anxious to go as several S.S.T.'s were due in from Perth at eleven and it was a late start for a flight to Mildura if we were delayed until after these had landed.

"Gold, Xray, Xray cleared to convection height departing Bacchus Marsh glider corridor to Seymour".

I recognised the voice of one of the members of the Air Traffic Controllers' Soaring Club, better known at the Marsh as the Actors! I called back and confirmed convection to 4000 feet, rising to 5000 feet over the hills.

Pressing the red button marked "FIRE" we were soon accelerating smoothly down the concrete runway. The slight swing on take off, due to the position of the motor, is easily held by the steerable tail wheel. Once in the air I retracted the undercarriage and held Virago down on the deck to build up speed At 100 knots I hauled back on the stick and we pointed skywards. There is no trouble staying within the maximum launch speed of 150 knots once the correct technique is learnt. It is rather similar to the old winch launching method, which was used before the widespread introduction of aero towing and self-launching motor trainers.

The motor retracted cleanly with a barely noticeable "clonk". Incidentally there is no danger of the motor retracting when under power, even if the release catch is opened. This

is not always the case with some undercarriage mounted systems I have seen overseas!'

Due to the low convection height there was not much point in working lift until we were well on our way so we cruised along sedately at 120 knots past a couple of old Slingsby motor gliders which were "sucker-bashing" out to the hills and back. As soon as they saw Virago flash past they started their motors in an attempt to catch up but even at full bore they had trouble to stay with my motorless bird, even with their 150 horsepowers.

Down to 1500 feet above ground and twenty miles out we worked our first thermal. Stick forces are light and the rate of roll is remarkable for such a big machine. Thermalling speed is 55 to 65 knots, although it is possible to drop right back to 40 knots with a slight increase in the sink rate. Partial stall is about 35 knots, although the Virago, like most modern sailplanes, will not really stall and will certainly not spin when flaps are extended.

Getting wound up at the top of a thermal is quite a business and usually three or four turns are required while the glider is "cleaned-up" and the speed increased to 150 knots, which is the best speed to leave a thermal.

Maximum rough air speed for the Virago is 200 knots, which is rather low by Australian standards but this glider is specifically designed to fly in European conditions.

At Seymour, ATC called back to acknowledge my departure message and informed me that three Waikerie machines were inbound to Benalla on an attempted out and return flight. I switched to the glider band and from the chatter worked out that two Waikerie ES160's and "Miss Waikerie", the sister ship to Virago, were near Swan Hill and averaging over 100 mph ground speed, which would put them over Benalla at 1300 hours. As I was interested to see what difference the extra metre of wing on Virago would make I decided to change my plans and fly first to Benalla.

Selecting a quiet frequency in the band I pressed the transmit button. This automatically sends a signal to the scanner in the retrieve vehicle and the receiver locked on and tuned the set.

Gone are the days of having the retrieve vehicle listening out on the wrong frequency!

My one woman retrieve crew sounded amused at the thought of someone of my vintage taking on the young Waikerie pilots, even in Virago.

At Benalla we circled around at 6000 feet waiting for the Waikerie pilots. Benalla is one of the biggest commercial glider operations in Australia so there is plenty to watch. About a dozen or so motor gliders were bashing

circuits and others were climbing out to soar, some of them with solo sailplanes on tow. A few rocket launching sailplanes had tied down for lunch although a couple of the new Chinese jobs climbed up to Virago and the pilots compared notes over the radio and we took photographs.

Just as the commuter jet service from Melbourne was landing "Miss Waikerie" shot in like a bullet from the west and climbed almost vertically from 1000 feet below as Peter Bradney climbed for the turn. We were almost level by the time he had all the flaps out. There was nothing between the two gliders in the thermal although Virago's extra metre span would be expected to give it the edge in the thermals of less then two knots.

After gaining another 1000 feet I could see "Miss Wakerie" start to accelerate as the flaps were drawn in.

We were soon steaming along at 180 knots, which is best speed to fly for 5 knot lift. Virago seemed to have a slight edge on the 17 metre version. We soon passed the two ES160's over Dookie, flown by the Bob Martins, junior and senior, and met up with the Albury BS4 two seater over the Murray.

Peter Bradney was pressing on down to 1000 feet over the ground in "Miss Waikerie" and would climb up perfectly to meet each thermal at exactly the right spot. This takes considerable skill in blue air and I soon began to drop behind. The distant thermal detector also started to play up, probably due to a dust storm reported south of Mildura so I slowed down and plodded along with the BS4 at a sedate 120 knots.

Peter Bradney was back at Waikerie half an hour before we landed at Mildura. Honour was preserved when Bob Martin senior ran out of day and had to land at the Sunraysia field, feeling rather thirsty.

At the bar we met up with a few of the many gliding pioneers who have retired to the Sunraysia district. Some of them are employed part-time on club maintenance. The club now has purchased x-ray equipment and two old Blaniks from another club were in the workshop for their 20 year inspections.

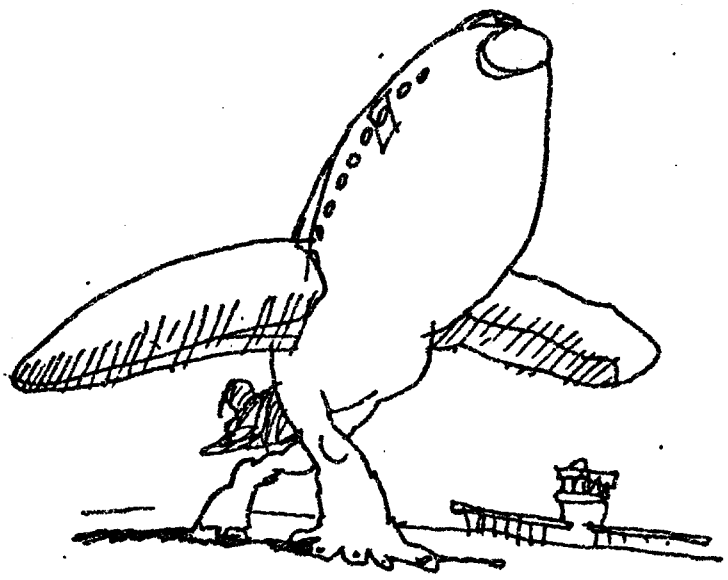
The club is also busy carrying out 100 hour mandatory x-rays on gliders with chromemoly steel spars. Several cases of fatigue cracking have been found and it seems likely that the present 100 hour inspection period, introduced after the fatal accident in Queensland will remain in force.

The club is keen to switch over to the rocket launching system because dust is still a problem at Sunraysia Glider port, despite the recent widening of the sealed strips. However one or two tug aircraft will be retained to launch

some of the vintage gliders owned by the club. The club's old wooden Boomerang is in great demand by visiting pilots for conversion flights and has proved a good money spinner.

The manager of the G.F.A. Gliding Museum, Alan Patching, also has another Boomerang being reconstructed. This aircraft had been found in a barn and had once been tied down in the open for six months. Alan told me, in between fits of coughing, that the old glider would be refinished "as new" and will eventually be on display at the Museum. The Museum is now proving a great attraction to tourists visiting Mildura and is virtually self-supporting.

Altogether a pleasant days flying and, as the wife drove up to the clubhouse with the trailer, we all toasted the "Good Old Days" when flying was really hard work.



The technology for this 'fantasy' article is almost with us — as the following articles suggest

FOR LOCHIEL RUNWAYS?

TURF WITH A LONG LIFE: A NEW SURFACE FOR MOST SPORTS

"The tough athletic playing surface that isn't tough on athletes" is how a recently arrived synthetic turf is described by its manufacturer and importer. The turf, which is more densely tufted than other synthetic turfs so far seen in Australia, and with other excellent attributes, is designed for very rugged athletic and recreational use in all kinds of weather conditions and temperatures.

Super Turf consists of a tufted Olefin facing, pure PVC backing, a pure PVC closed-cell shock absorbant underpad.

The problems associated with football and other active sports in Australia are due to weather conditions and the need to cope with the shortage of suitable land and the inability of existing land surfaces to sustain extensive use. The only product found that presently solved all problems was Super Turf.

The facing of Super Turf is a tufted Chevron Poly loom II5700 denier Olefin fibre. Unlike nylons, the Olefin fibre is made of a carbon base of crude oil. It is a straight carbon chain - with no chemical additives. Pigmentation is added to molten foam and is non-absorbing carbon.

The underpad used, according to the manufacturer, is the best athletic shock absorbant discovered to date. Known as CS15, Klegecell is 100 percent pure PVC based plastic resins. Being 15 mm thick, the pad is a gas-tight closed-cell structure, completely waterproof and, unlike most underpads being of latex base, impurities and UV will not affect performance.

BIRD REPELLENT GEL BPN, November, 1978

A repellent gel for pigeons, called Rentokil Bird Repellent is claimed to be harmless to birds, yielding under their feet, it causes them to feel insecure so they fly away.

The repellent is applied to ledges, facades and other structures, where bird soiling is creating a problem, by means of a caulking gun. The firm claims that the repellent gel is virtually invisible from below, and that it is normally unaffected by the dirt and grime.

Rentokil Pty. Ltd.,
55A Pacific Highway, Chatswood, NSW, 2067

SOLAR PANEL DISTRIBUTOR

Soanar Electronics is now the distributor for the Philips type BPX 47A Silicon Solar Panel. The panel consists of an array of interconnected solar cells that convert solar energy directly into usable electric power. Full sunlight is not essential for operation, as the solar cells continue to supply energy even under overcast conditions, according to the manufacturer.

In optimum conditions a single solar panel is claimed to deliver 11 Watts of power at 15.5V. Several panels can be connected together in series or parallel to provide the output required for a specific purpose.

Construction of the panel consists of 34 series-connected solar cells of 57mm diameter moulded in transparent resin and sandwiched between two clear glass plates. An edge seal of silicon rubber framed with aluminium edging completes the assembly and prevents the ingress of dirt and moisture. Overall dimensions of the panel are 468 x 365 x 15mm and the unit weighs 2.4kg.

The solar panel is suitable for use under severe environmental conditions and conforms to the requirements of relevant IEC tests with respect to elevated and freezing temperatures, humidity, wind pressure, salt spray and blown sand. Thus it is said to be suited to charging batteries in boats, caravans and holiday homes or for powering equipment in remote or isolated areas.

Soanar Electronis Pty. Ltd.,
30 Lexton Road, Box Hill. Vic. 3128

SOLAR CALCULATOR

A low cost calculator-based tool to help engineers and architects develop effective solar energy designs, is available from Hewlett Packard.

The Unit consists of an HP-97 card programmable printing calculator and a series of five basic solar energy programs. The programs, printed on HP-97 magnetic programming cards, are designed to replace the inexact tables or expensive computer time.

Hewlett Packard (Aust.) Pty. Ltd.,
31-41 Joseph Street, Blackburn. Vic. 3130

"BUT DOES IT TELL US WHERE THE NEXT 10 KNOTTER IS?"

Flying

SUNDAY RACE — Emilis

DATE: 26th November

PLACE: Bordertown Airfield
Third venue of the SAGA decentralised competitions

TASK: Speed to a declared goal.

In varying weather conditions, up to 32 sailplanes had been competing on previous days, including 7 Sports Class entries which comprised our Arrow, Sagitta, Boomerang; and Goose, LO-150, Blanik and Ka6 from other clubs.

After a hold earlier in the day when wind and stationary temperatures restricted thermal conditions; we took off at various times in the afternoon. In fact, I made a late start, but despite the head wind was able to catch up to the Sagitta by the time we passed Keith. From then on it was a continuous procession of Standard and 15m Class passing us with their superior pulling power. Even Merv Gill in the Goose went whistling past with a smile and a wave.

It was between Tailem Bend and Murray Bridge before the Arrow came into view, and after a short chase, I passed Dene who was sticking to the Vne. At Murray Bridge the Goose was seen scratching low around a service station; but he soon got going again, and passed me near the Callington interchange. The first starter in Sports Class had been Chris Deardon in Balaklava's Ka6, and with some careful dophining between 3rd and 4th gear saw me pull level near Mt. Barker. After thermalling up at the interchange to compare notes, I headed down into Bridgewater, while Chris pushed the Escort and trailer home toward Adelaide.

P.S. This day was declared No Contest, as you can imagine how competitive the earlier flying days had been.

AFTER-EXAM FRYING CAMP

Emilis

Graeme Newcombe learnt to spin, a Holden, after getting 2 flat tyres on the dirt road up to the gliding field.

Michael Docherty soloed and converted to the Kookaburra.

Roman was on-field all week and made a super replacement inspection cover on the arrow as well as doing a lot of preparatory work for the Bocian C of A inspection.

The 6 cylinder winch came into action while the Club's winch got a 'new' V8 fitted.

New studs were fitted to the 6 cylinder winch by Roman, Michael and Emilis.

Driving back, the drive select lever rattled loose, resulting in the winch coasting into the airfield gate. Damage - one bent radiator and some red faces.

Mike Bannister and Sue Richie (ex N.Z.; now 'living' at Gawler) dropped by and flew 'LZ' and 'KYW'.

On the last day of the camp, they had a ride each in the Arrow.

Graham (Sagitta), and Roman (Arrow) had tried to fly to Balaklava and return, but landed between Whitwarta, and Nantawarra, and Lochiel respectively.

The 6 cylinder winch clutch lever support, (a small $\frac{1}{2}$" diameter ball) came loose. You guessed it, the only way to get at it was to take out the engine. Des oxyed a new fitting on, and in 3 hours we were mobile again. Admittedly, there are now more clunks and rattles in the assembly than ever; but more spacing washers and cutting the cast iron housing seem to be doing the job.

The last evening, we flew till dark, then stacked away the aircraft, including the Ka6 flown up during the week by Dave Stobie.

The Club expresses its commiserations to Dene Larwood and family; and hope that Dene will keep in contact with the Club; and in due course take up active flying again.

CHRISTMAS - NEW YEAR

Aircraft participating -

club members	Bocian	KYW
club members	Arrow	NF
Graham Parker	Sagitta	QS
John Mills Guy Hasley Dave Stobie	Ka6	HA
Emilis	Boomerang	TI
Merv Gill	Goose	86
Lindsay Chambers	Salto	ZJ

Day 1. Tuesday

, and ridge lift from 10am till dark; 4000' thermals. Significant flights - Graeme Newcombe flew the Arrow to Red Hill; the Sagitta ridge soared there and back; TI flew O & R Kadina.

Day 2. Wednesday

Blue sky; late start to thermals again to about 4000'. HA, QS, 86 flew to Whitwarta and return; Graham landing there for a chat. In return, the Balaklava Libelle flew across to Lochiel and return.

Day 3. Thursday

Blue sky, late start to thermals but cloud at 11,000' developed over the eastern ranges late in the day. Significant flights - QS, HA, TI flew O & R Jamestown. Graeme Newcombe in the Arrow flew to Jamestown and Gladstone for Silver C (complete) and Gold C duration.

Day 4. Friday and Day 5. Saturday

Blue sky; lift forecast didn't start as trigger temperature wasn't reached. Concentrated on training.

* Noteworthy events - Club members assisted fighting a stubble fire nearby, started from a mower blade striking a rock.

* A better than usual wave formed in a SE wind in paddock west of the airfield between 900 and 1500'.

Day 6. Sunday

35° allowed thermals to start at 1.30pm. Significant flights - QS flew to Gawler. Dave Ellis in the Arrow landed at Crystal Brook for Silver distance and height. The Salto flew to Balaklava - Snowtown - Port

Broughton - Port Wakefield - Lochiel. TI flew O & R Whitwarta in 02 mins between training flying.

Footnote: With the club winch U/S and no replacement engine at hand during this period; all operations survived on the 6 cylinder winch. While demanding attention throughout, and proving inadequate for the Bocian in still, hot air; the week provided about 140 launches and 80 hours flying which might otherwise not have eventuated. My thanks to the numerous pilots who assisted with the 'fine tuning' we carried out at intervals during the week.

A WEEK AT WAIKERIE

G.N.

After a good week between Christmas and New Year one could only hope for the same in the first week of 1979 - especially at Waikerie - mecca of the gliding world. With this in mind, Graham, Graeme and Tim made the trip to Waikerie with QS (GP) and NF (GN and TD).

Monday: Tim and Jeff tow Arrow to Waikerie. I arrive about 2.30 just as rigging completed (good timing!).

Thermals going to 10,000' so we wheel Arrow to pie-cart only to hear radio warning that there's a squall coming.

Lindsay Chambers from Mildura, who was at Lochiel the previous week got the last launch before the front. Went straight up to 14,000'.

Meanwhile, Tim and I hold Arrow wing down, before we finally give it away.

Tuesday: A day of promises to 6,000' in afternoon. I have visions of 100 K D. Temperature fails to reach estimate by 7° and we local soar under 4,000'.

Wednesday: Hot as hell. Thermals predicted to 12,000'; light winds. I declare 300k and sit in pool and wait for thermals to pop. Graham plans to fly to Mildura to see Lindsay who drove home Tuesday. We stayed in the pool all day as promised weather never eventuated.

Thursday: I stay for briefing only. Another good day promised. Did it eventuate? No!

Friday: Same. I don't think Tim even bothered to fly this day.

So all in all a "political week" (thanks to Jeff Dodd for the phrase) promised a lot but gave nothing. Although a good time was had by all in the pool and bar. Thanks to the Dodd's for towing the Arrow.

BORDERTOWN NOTES

Emilis

Day 1. Saturday, 18th November

Rained out. NO CONTEST.

Day 2. Sunday, 19th November

Neither Sports Class aircraft made it far enough around the 46km task to score. NO CONTEST.

Thursday, 23rd November

Graham, Sagitta, 4 hour local flight. Emilis, ES-60, out and return Desert Camp.

Friday, 24th November

Dene, Arrow, 4 hours 45 orientation flight. Graham, Sagitta, and Emili , ES-60, 240 km.

Day 3. Saturday, 25th November

242km Keith - Nhill - Bordertown. The winner flew an LO-150 around in just over 3 hours (76kph).

Day 4. Sunday, 26th November

Too windy. NO CONTEST.

QUADRUPLE TOW Emilis

Dene took the Arrow, Graham the Sagitta, my own Boomerang; and with the Balaklava Ka6, we had all arrived alone. All our aircraft were 2-man-rig tasks, but getting to the launch point in short order that way could be a problem.

With the van with its solid drawbar and wingtip wheel to the Boomerang, successive aircraft were added release to release to form a chain; each of the rope attached craft being manned by its respective pilot.

In this file we moved to the take-off point slowly, stopping whenever one got out of station, and arrived without mishap.

Operational methods like this can be employed if:

- all participants are satisfied with the intention and understand what is to be done.
- everyone keeps an eye on the whole show, which proceeds at a pace sufficiently slow to abort at the slightest hint of trouble.

Bits and Pieces

NOTES ON THE NEWS

T. Kiek

Bob McDonald spent the afternoon of Sunday, 19th November on the airfield. He was soon up to his elbows in grease and fixed the steering problems on the winch truck, with help from Neil Manditelow. He was duly rewarded by a superb ridge flight of 70 mins with Neil up until last light in the Bocian, landing at 8 p.m.

Moral: "The world is full of willing people; some willing to work, the rest willing to let them."

(Robert Frost)

Over the last few weeks TK restored the gas fridge and stove in the pie cart to working order. However, when towing it from the farm to the field the gas bottle fell out on the road and broke the pipes.

Moral: "There is not a joy the world can give like that taken away."

(Byron)

When you go gliding do you take a bucket, chamois, tool kit, tape, water bottle, camera, tow rope, pen, watch, torch, etc., etc., with you?

Moral: "Before borrowing from a friend, decide which you need more."

(Anonymous)

Out of 7 instructors on the panel, only 3 remain non-private owners.

Moral: "Beware of little expense; a small leak will sink a great ship."

(Benjamin Franklin)

Several pilots spoken to recently about poor circuit flying.

Moral: "It takes less time to do a thing right than it does to explain why you did it wrong."

(Longfellow)

SOLO AT LAST

D.E.

My palm is cold and sweaty
And my heart is in my mouth.
The distant motor rumbles.
Oh shit I want to get out.

The slack is wound in quickly
And I'm launched with such a force
The glider hurtles skyward
Beyond control of course.

And now the launch is over
I'm feeling quite relieved
(I only hope no-one will see
the wet patch on my seat).

The white wings whistle, the sun smiles down,
And the eagles soar beside.
I've made it, I've soloed, now
Just sit back and enjoy the ride.

I circle left, I circle right
I even loop-the-loop.
Oh no! The altimeter!
I'm below one hundred foot.

It's time I joined the circuit
(this may be slightly rushed)
What was it the instructor told me?
...."it all begins with FUST".

I'v done my base leg, I'm on to final
I've marked out my aiming spot
Look out for the fence! What fence? That fence!
Put the nose down, that's the shot.

The speed creeps up to thirty knots
(Can man really go this fast?)
Now full back stick and hold on tight,
As the fence goes sailing past.

But I think it may be reasonable
To assume you've been misled
That sailing fence did sail right by
But straight over my bloody head.

So now I have been grounded
(The instructor roared and bellowed)
But I do have one thing to be proud of
At last I've finally soloed.

AIRCRAFT No. 6 AT LOCHIEL

Emilis

Since the Uni club began operations in March 1976, the aircraft associated with the club arrived in this order:

Early 1976	ES-52b
Early 1977	ES-59
Mid 1977	ES-Ka6
Late 1977	Bocian 1-E
Early 1978	ES-60
Mid 1978	Sagitta - No. 6 in the line.

As usual, when looking at any part of the operation, I tend to head for the bookshelf for help. With regard to the latest addition in aircraft, my records are restricted to a few mentions. Janes' All the Worlds Aircraft should have precise details of the type.

Designed in Holland in the early '60's, only two of the type were imported to Australia. The model bought by Dave and Graham is works number 014, and although owned by several clubs and private groups, has only a low number of flight hours for a hull built in 1965. Early in its career, it placed 22nd at the 1967 Nationals and 11th and 8th in the 1968 nationals. In the hands of Bob Rohrlach and others from Kimba in recent years it has placed well in State Sports Class contests.

Developed prior to G.R.P. technology, the sailplane fits the Standard Class criteria of that time, while a conscious effort has been made at maximum performance. The construction is wood; an oval fuse with sliding canopy on top and faired wheel attached below. Wings attached in mid fuselage position, two piece tail attached just above the main wing's slipsteam; thereby requiring some fancy pin attachment.

However, the low wing and little dihedral allow 2 man rigging, while on the other hand, the wing section permits wing dropping on take off. The rudder and dive brakes don't deserve the name.

These trade offs have been made to achieve performance at the top end of Sport Class. The original claims (1:37) has been tempered to a more realistic 1:34; and relevant speeds of min sink, best L/D, Vman and Vne mark around 45,55,100,160mph.

Features of interest include the 'power line cutter' on the front canopy, 'hammock' type canvas seat, and Bocian style rear locker under the sliding canopy.

Graham has already been enveloped in the programme to convert the Sagitta to private owner standard. This includes rub down and paint of wings, sealing of the cockpit area and the fitting of small items which individualise an aircraft.

NEAR MISS INCIDENT

T. Kiek

On Wednesday, 6th December at 1438 hours, Tony and John Stobie were launched in KYW to 1000', released, and started thermalling. Two minutes later, while at 1100' over the launch point, we observed a Machi jet pop-up over the ridge (from Lochiel) at treetop height. The jet was on a direct line with the Bocian, and when about 1km away, the jet dived rapidly to about 200' above the ground, passing over the launch point at about 300 knots. After landing KYW, we telephoned Edinburgh who didn't even know the airfield existed. The jet flight had been submitted to Adelaide FIS who queried the flight path, but no alteration to the plan was made.

The questions we are following-up with the RAAF & DOT relate to the approval of the flight plan, the low jet route activity and the lack of knowledge of the RAAF about our operations.

As far as AUGC pilots are concerned, even keeping a good lookout would not totally avoid such a dangerous situation, due to the low level approach and the speed of the jet. Furthermore, while on the launch wire , it would be nigh impossible to see any aircraft which might pop-up over the ridge.

Therefore, a dangerous situation exists and we are doing everything possible to avoid a repetition. We have lodged strong protests with Edinburgh via Alan Bradley (Airspace Officer SAGA) and with DOT via a "225" incident report.

I make the following suggestions to AUGC pilots until we get the chapter finally settled:

> If operating mid-week, telephone the RAAF and tell them we're operating.
>
> If going X-country in an easterly direction, notify the RAAF, because their low jet route passes near Snowtown.
>
> Keep a good lookout at all times, there is plenty of other traffic in the area as well as the RAAF.
>
> Get yourself a VEC, VTC and FISCOM chart from Parafield so you know where the hazardous and restricted areas are.

NOTES ON THE C OF A

Emilis

In December the Club's Bocian underwent its first major inspection.

While much of the wear and tear was consistent with the use of the machine, the following points of day to day operation will assist in maintaining the aircraft in airworthy condition for a longer period of time:

No one on field? Don't just sit there, wash the aircraft, polish the canopy(s), rub down leading edges and underside of fuse with '600' sandpaper (wet). Paint areas of exposed timber with undercoat.

Before flying - as above, mark extent of cracks appearing, clean dirt from cock pit areas.

D.I.'s - numerous screws were replaced where they had been over tightened and stripping during repeated opening and closing of panels during D.I.'s. Not all panels are intended for daily removal. Those that are have spring cup fixing, not screws.

The cessation of production of 'Bocian' sailplanes, means that the next best replacement now costs $18,000.

So look after our trainer, we want her to last many years yet.

IT'S CHRISTMAS, SAYS PETER

The day before Christmas, Peter Ashenden got his 'C' badge with a soaring flight in the Bocian.

THANKS

With thanks to 'City Springs'; a batch of replacement spring clips have been made and put at the back of the hangar for the Bocian inspection hatch covers.

ENGINE NO. 5

In the beginning, the club inherited a 1938 odd International '6' with the Renmark winch. This continued to work even after the rings were burnt away, and the distributor collapsed; but the cost on the nerves of the winch drivers was too much. The replacement engine was a Ford 250, which expired when one piston shattered, and the con-rod put holes in the block.

Engine 3 was a Chrysler V8, which Des arranged from a Canberra wrecker for the club winch.

This engine ended its life by welding the bearing to the crankshaft when the big end gave out.

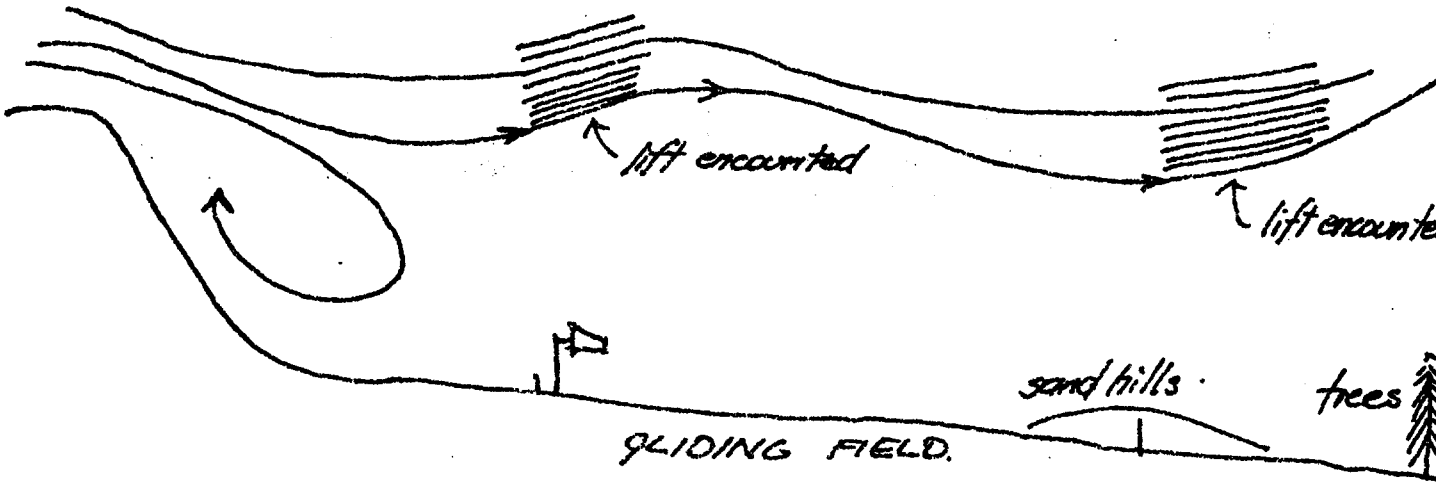
No. 4 was a short motor replacing the 6 cylinder on the Renmark winch. It became the mainstay of the club remaining operational around Christmas 1978.

Engine No. 5 was supposed to be a locally rescued Valiant 318 V8, rescued from a prang. When the heads came off, however, the bores were scratched beyond rescue.

By then, it was Christmas, and no hope of having the club winch in action for the Xmas-New year camp.

The Saga continues.

Several times during the year a South-East wind brought minute pockets of lift over the field in otherwise stable air. The longest flight was by Lindsay Chambers (Mildura) flying the Ka6, when he found lift between 900-1000'.



ON STARTING A GLIDING CLUB

"Australian Gliding"
September 1968
(Anon)

Whilst chatting over an ale at the local with an old gliding friend, I put to him, how would I start a gliding club here in Tennant Creek where 99% of the locals had never even heard of a sailplane? His reply, "Seezymate, allyerdo-isgiverblastoverthelocalrayjoyergointholdameetinanyergotta-club, gunneravanotherbeer?" Well I thought, if this is all I'll give it a go.

After the radio ad, I arrived at the preselected hall to see if anybody had taken notice and low and behold four bodies had turned up to hear about the local gliding club. All present voted that we start a club and so the local gliding club was off. A good start to be sure, no aircraft, no equipment, no airfield, and NO cash, but six possible members.

After much planning, letter writing and twelve months, we decided to advertise the managerial meeting of the local gliding club to elect a committee and start fund-raising, aircraft buying, aerodrome construction, building tracks and launch equipment and generally behaving like a gliding club.

Thirty good souls attended this meeting much to everyone's surprise, and the committee duly elected. It was decided that we couldn't afford to buy a second hand machine as this would not be economical, we could not buy a wooden one as nobody knew how to fix it. The alternative was a Blanik. We did not have any other choice it seemed, as this was the only metal machine on the market. So by a show of hands it was voted that we buy a Blanik. One point I brought up was the club's financial position. Our bank account stood at 73 cents and we had just voted to spend $5,950 worth of it, a minor point to be sure, but one worth considering.

We approached the local business people to see what support we could expect, and we soon found out from what was promised we could not even put a deposit on a picture of an 1874 glider let alone buy a Blanik, so we turned our attention to the Cultural Grant, a dollar for dollar subsidy the Commonwealth Government gives to sporting bodies and cultural organisations to help them along. A goodly start we thought, bite the local bank for $6,000 overdraft, buy the aircraft, collect the cultural grant, pay it into the Bank and pay the rest off as soon as possible. We made an appointment to see the local Branch Manager, and put the acid on him. He was a very rude chap, and after we had picked ourselves up out of the gutter outside his office, we decided he was going to assist us with or without his consent.

The next step was to enlist the help of Peko Mines of Tennan

Creek to stand as guarantor. Here we found somebody who had insight, for in a town of this nature, any type of mature sport would provide relaxation, entertainment and recreation for people who have no outlet for their energies or creative abilities. It was recognised by Peko Mines Management, that gliding in some small way would at least help to overcome the boredom for some of the population and help to reduce the massive turnover in workforce that retards the growth of any town in the Territory.

Peko were prepared to stand by us and with eleventy seven million dollars. On our side the local banking genius decided to take a chance and risk six thousand, less the three thousand the cultural grant would provide, and hold us to ransom for the rest.

So we had a green light for finance and Cultural Grant advised us that if we could spend the money for the Blanik by 30/6/67, we were sweet. We ordered the machine and it was on its way when that Egyptian twit Nasser and his Jewish friends decided to hold their local sporting event across the canal. Result, one Blanik wedged in the Suez Canal. This resulted in the club severing diplomatic relations with Cairo, and Bill Riley had to have another Blanik shipped out to us. As you guessed by this time the 30th of June had departed, and the Cultural Grant people changed the grant scheme and we were no longer entitled to it. Result? The Bank Manager resigned. And we were left with a six thousand dollar overdraft.

The only way out of the situation of course was to start flying and get some cash in, so we purchased steel for a trailer and began manufacturing. In the meantime work forged ahead with the club aerodrome.

I don't know how many clubs have had to construct an aerodrome out of virgin scrub, but it is not easy, and of course when somebody mentioned "Manual Labour" all but six members thought he was a Spanis Immigrant and went back to the pub not wanting to have anything to do with him, and so some six months after taking delivery of the Blanik, we took it to our nice new airstrip on our nice new trailer and in the course of rigging the machine for its first flight, a thermal comes along, slams the nice new wing against the nice new trailer for our first major accident.

As a result the annual report in the S.A.G.A. reads thus:

> Club, Kilpara. Number of members 32. Aircraft, Blanik L13. Launch equipment, auto tow/Auster Tug. Number of launches NIL. Number of hours NIL. Major accidents ONE.

A lovely start. The wing went back to Colac for repairs, as we were informed no one locally could repair it. A week after departure, the people in Alice Springs informed us they could have repaired it. Thirteen weeks later we

received the wing back and had to modify the trailer to prevent trouble whilst rigging. By this time of course the soaring season is finished, but the club has built a good auto tow vehicle, so now the aircraft is OK, and the members all lined up, and for the first time in a hundred years it rains a bloody flood in the middle of the dry, and guess which club can't fly because the airstrip is a big bog hole. That's right, the K.S.C. And so, to align ourselves with the policy of joining them if you can't beat them, the Kilpara Sailing Club will be holding its first Regatta in the near future. All entries must be sea worthy, and all taking part must wear life preservers. Docking and mooring facilities are available by writing to the Harbour Master, Tennant Creek, C/- Lighthouse 7, Via Tennant Creek, N.T. 5760

Graeme Newcombe

1. The standard of flight sheet calculations and recordings is greatly improving - keep it up. One person, who shall remain nameless because I don't know who it was, went a bit overboard. After a page of beautiful calculations with amounts owing by 7 different people; amounts carried by two aircraft and one winch was the following recording:

"Number of wombats crossing strip:

5 adults	5.00
4 young ones	2.00
	7.00"

Say no more.

2. Please bring to the attention of members the notice on the notice board about adequate recording of flying away from home airfield.

3. During the period of the holidays (until end of February) Graeme Newcombe (me) will be Acting Treasure Flight sheets, money, etc. can be put in Sports Assoc. pigeon hole, delivered to me: 133 Military Road, Henley Beach. 5022; or posted.

4. A further appeal for people with small brothers, sisters, cousins, etc. to sell, or give an AUGC T-shirt. We've sold most of the original lot. Only a few remain and most are small sizes.

COMPETITIONS

Emilis

The October Newsletter published a letter from John Harris, revolving around the available methods to hold down the size of SAGA state competition venues to a manageable number.

About the same time, SAGA minutes were asking for club submissions on just this aspect of competition flying.

In the past, the method adopted has been to exclude particular competitors, usually on a sailplane class basis.

John suggests excluding pilots on the basis of whether they fly club or private ships.

My own bias was included in a draft submitted to the Club Executive in early November -

> WHY NOT INCREASE THE NUMBER OF VENUES TO SPREAD THE DEMAND?

Instead of all pilots congregating at one site on one week-end; let different classes compete at the same site at consecutive weekends.

Or, if you prefer, let different classes compete at different sites on the same weekend.

It would appear that in many people's minds, the competition calendar is fixed while the number of participants and sail-planes continue to grow.

Lochiel offers the chance to change this situation. Not only can the site be used for one or several different venues in the competition calendar.

The type of venue promoted can be devised so as to highlight the different competitive environments being offered by different sailplane classes.

For this reason, the venues suggested to be held in April and December have been based around sports class sailplanes; with a conscious effort to make the competing environment as different as possible from the established Open/15m/ Standard class venue system.

This could be considered to be one step toward the setting up of an independent competition calendar for the sail-planes listed as 'League 2' at Balaklave -

* Inexperienced Standard Class Pilots
* Sports Class Pilots
* 2 Seat Entries.

At present other weekends in September, late October, and March offer times for clubs to hold new venues, without conflicting with the existing competition calendar.