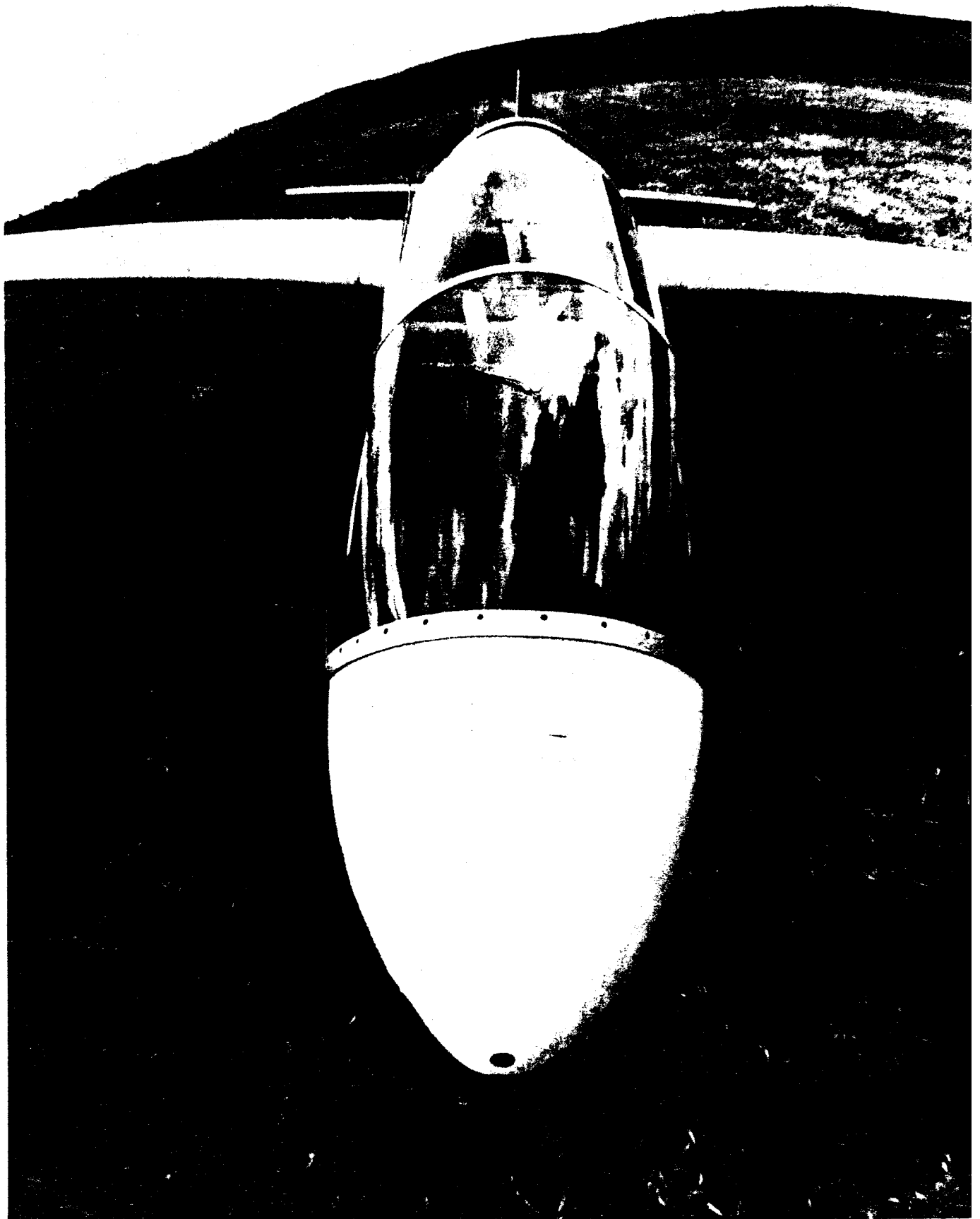


Uni Gliding

Official Journal Of The Adelaide University Gliding Club.



EDITORIAL

Well, here we are again, a whole month later than the last time. A lot has been happening in the club this April (though not, unfortunately, much in the way of training). The Bergfalke has been repaired, although, what with one problem after another, we lost three weekend's flying because of it. Work is progressing, albeit slowly, on the Bocian, and we expect that it will be a good few months yet before this aircraft flies again. The Ka6 has been operating at Gawler, and flew in the Easter Regatta there. A report will be in the next newsletter.

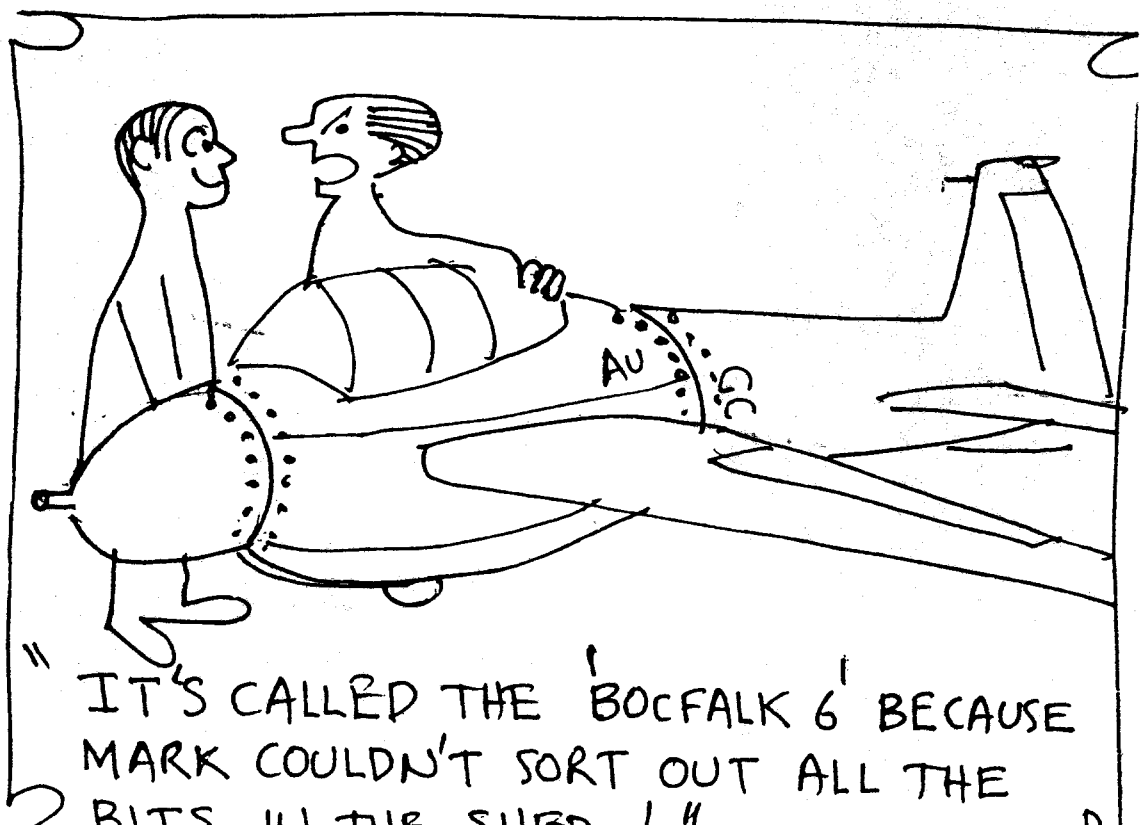
I am sorry to say that I have not received a lot of material for printing in this newsletter; I would like to remind you that I am grateful for contributions from anybody (yes, I'll print something by anybody, from the lowliest passenger or bystander, right up to Guy). Contributions may be put in at the Sports Association Office, or can be given to me (or, indeed, to any exec. member) directly. Articles need not be typed, but it does make it easier for me if they are (on A4 paper, especially); that way I can just put them straight in.

You may have noticed that the print quality in this edition is greatly improved; (or then again, maybe you haven't) this is because, thanks to Tom Nemeth, we can now get the printing done on a laser printer connected to the university's VAX computer. We also plan to begin to use the university mail system to distribute the newsletters to student members in future, due to increased postage costs.

I eagerly await your deluge of poems, cartoons, articles, stories, songs, puzzles, photographs, etc.,

your Beloved Newsletter Editor,

Andrew



NEXT MEETING

The next General Meeting will be held on Wednesday, 6th of June, at 7:30 p.m., in the usual place in the Jerry Portus Room, Lady Symon Bldg., Union House.

General Meetings of the Gliding Club are usually held in the above-mentioned room, on the first Wednesday in every month, thus the meeting after next will be held on Wednesday, 4th of July.

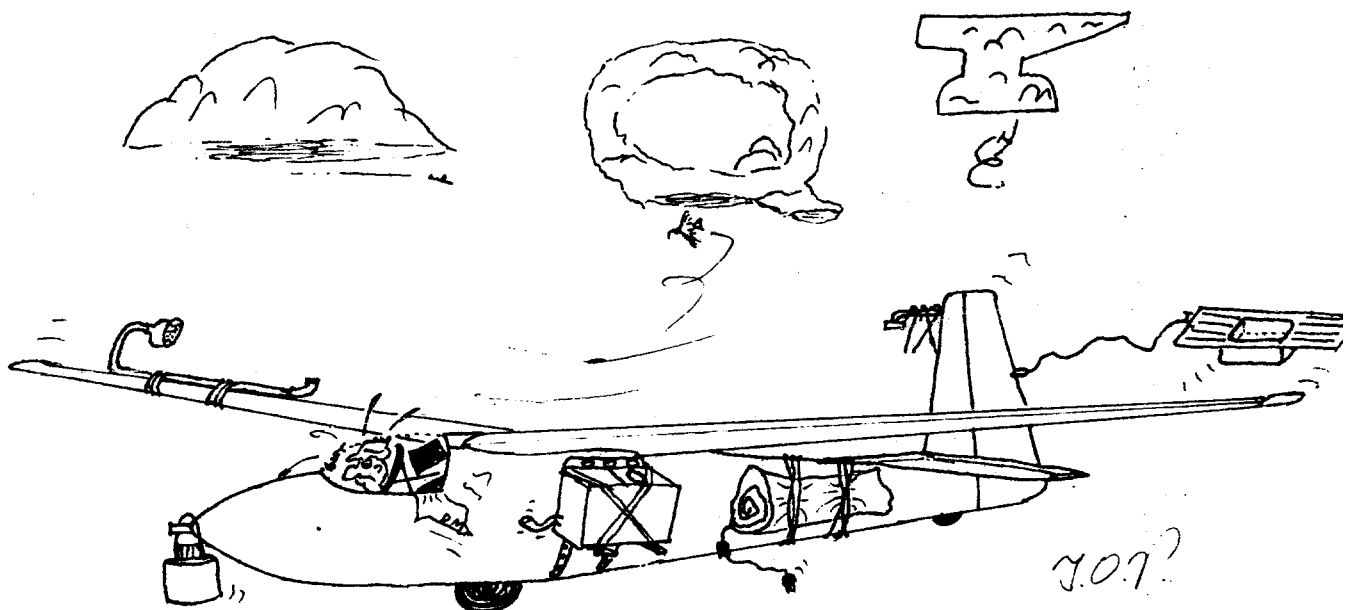
Each general meeting is divided into two sections; a business section, where the important day-to-day running of the club is discussed; and a training section, where an experienced club member (usually an instructor) gives a talk on some aspect of training (topics can range from elementary flying, to correct radio operator's technique, to the aerodynamics of stalls and spins). Although it is not essential that trainees attend these sessions, much can be gained from them. Alternatively, there may be an

ENTERTAINMENT

section, where some relevant film or video tape is shown, or some other interesting and/or entertaining event occurs.

Refreshments, in the form of tea and coffee (and sometimes even orange juice and biscuits as well) are provided.

All interested people are invited to come along to our meetings, not just our members.



POOR DENNIS - HE'S TRIED TO GET AWAY SIX TIMES SO FAR !
.... JUST NOT HIS DAY, I SUPPOSE

A STORY THAT SHOULD HAVE BEEN PRINTED AGES AGO BUT WASN'T.

~~~~~

Nick Abbott

With the KA6 required on the Barr Smith lawns for orientation week the opportunity to fly my first cross country arose. So close on the heels of the club's newest cross country pilot/trainee navigator, Andrew McGrath, I attempted to fly from Lochiel to Gawler.

A phone call to Gawler confirmed the expected airspace restriction. The Mallala area surrounding Edinburgh was closed to traffic which meant a detour via Kapunda.

With a choice of raspberry cordial or plain water supplied from intravenous bags, maps, barograph and a few other assorted odds and ends I was launched skywards. After a poor launch to 750' I felt sure I would be flying a circuit. I cautiously head north of the field and was relieved to find 3 knots of lift over a burnt paddock. Perhaps now I would be flying a cross country rather than six circuits. With a light 2-5 knot Northerly breeze I drifted slowly down the ridge. After 10 minutes I found myself at 2200' and centred on a steady 6-8 knot thermal and climbing at a rather more respectable rate. At 4700' the lift seemed to weaken so I decided it was time to head off towards Nantawarra.

Flying very cautiously I decided to take any lift encountered as I was haunted by the thought of a retrieve only 20km from the field. I arrived over Nantawarra at 3000' after flying through nothing better than reduced sink and beginning to wonder if I would soon be on terra firma. Slowly I edged towards Witwarta finding at best 1-2 knots lift. At 2500' I made for a dark burnt area as a likely thermal source and was rewarded with a booming 10 knotter.

With renewed confidence at 5000' I made for Balaklava watching as I left an unidentified glider thermalling several thousand feet below. Balaklava was made at 4000' and I headed down the railway line towards Owen. Once again just short of Owen I found myself at 2400' and heading for the darkest paddock I could find. This was rewarded with a weak 2-3 knot thermal which I hung on to for 30 minutes and which topped out at 6600'. With this height I headed across the hills and made for Tarlee with the thought that at least an outlanding now would yield Silver C distance.

I arrived over Tarlee at 4700' and found a nice 6-8 knotter to take me back to 6300' with which I easily made Kapunda. With 4500' I headed for Gawler by which time a sea breeze was producing a light 5 knot head wind. Soon after realizing I hadn't final glide I fortuitously bumped into a welcome 6 knots up which I rode to 5200'. After a careful and at times tense watch on my glide angle I arrived over Gawler at 1000' and went straight onto circuit.

After landing on an unusually smooth strip a relieved and excited pilot was met with an enthusiastic welcome (some may even say unusually enthusiastic) from Mark Forster who was within minutes soaring a KA6 over Gawler.

The flight of 130km had taken 2 hours 55 minutes with an average speed of 44km/hr. Why hurry when its such good fun!

CONGRATULATIONS MARK RAFTERY  
CONGRATULATIONS MARK RAFTERY  
CONGRATULATIONS MARK RAFTERY

on going SOLO on 28-4-84 !!!

CONGRATULATIONS MARK RAFTERY  
CONGRATULATIONS MARK RAFTERY  
CONGRATULATIONS MARK RAFTERY

(I hope this makes you really embarrassed.)

ADELAIDE UNIVERSITY GLIDING CLUB (INC)

PRESIDENT'S REPORT -- APRIL 1984

1983 has been a mixed year for the Gliding Club, with various ups and downs (sorry about that dreadful pun).

Membership was good, with around 25 members renewing from 1982 and 55 new members making a round total of 80, a small but significant increase over the previous year.

The club provided the usual high standard of instruction, and until late in the year, operations were generally maintained at two flying days on each weekend.

However, the heavy landing early in 1983 which cracked the Berg Falke skid has plagued the club throughout the year. The skid was repaired, but found to be unsatisfactory, and a completely new skid fabricated. This skid is still in service, but has itself given problems, necessitating further repairs. Unfortunately this has occurred while our ever faithful Socian was out of service for maintenance, leaving the club without any two seaters for well over 2 months, in the best part of the soaring season. This has affected both club morale and finances, and we must work together to prevent such a reoccurrence.

Contact with GFA, the Gliding Federation of Australia, has been maintained, with officials visiting the airfield to observe our operations. Feedback from the National Coach at a club meeting was also invaluable. One recommendation we have implemented was to move our strips further from the power lines alongside the road.

Our present winch will not last forever, and with that in mind, a preliminary design for a new winch has been drawn up, and a suitable truck, motor and transmission purchased. The new winch will provide a challenging project through the coming year.

Club members have been active in attending a number of courses, e.g. assistant instructors, full instructors, airworthiness and daily inspection. Whilst we could certainly do with more instructors and airworthiness inspectors, daily inspectors are well represented -- some eleven people passed the course!

After 0-week this year, about 70 people were on the club membership list, but with a few other prospective members. It would be nice to see this number grow -- talk with your fellow students and friends, see if any are interested in joining! Both two seaters are currently undergoing maintenance, but the Berg Falke should be flying again very soon, and training can continue. Despite the problems over summer, we were still able to enjoy many fine days of soaring, including cross country flights and flights above 3000 feet. Now is the time for new members to train so that they too can experience these pleasures next summer.

I look forward to another great year's flying within the club.

R Temple,  
President.

## PRESIDENTS REPORT FOR APRIL

My first words as the new President are to welcome all new members to the club and to welcome any person who may wish to join the club.

With the Bergfaulke ( twin seater ) back flying and eager new members injecting new enthusiasm into the club we are set for a successful year. But the degree of success will depend on YOU.

In past years a small core of club members have been responsible almost totally for the general organisation AND work done within the club. The result has been slow but steady progress.

If every member offered a small amount of time regularly to work on club projects , the club would operate more efficiently and everyone would benefit, e.g. time spent working on the Boccian wings now will result in more flying for You when it goes back into service.

To help on club projects you need not be an ' expert aircraft welder ' or possess a certificate of airworthiness rating - there are jobs for everyone. So regardless of whether you have been in the club 10 minutes or 10 years pitch in and lend a hand.

If you are able to help contact one of the executive members or come to any general club meeting on the first Wednesday of every month in the Jerry Portus Room at 7.30 pm .

Achievements for April include

- (1) recommencement of twin seater flying/training
- (2) flying of the KA6 in the Easter Gawler Regatta
- (3) successful overhaul of the winch carburettor
- (4) congratulations Mark Raftery on going solo !

Nick Abbott

OLD NEWSLETTERS

The gliding club has been printing newsletters since 1976 (that's why we're up to volume 9 now).

I have gathered together a set of newsletters that I believe to be nearly complete (see list below), and these newsletters are available for short term loan to anybody who is interested.

Some of the earlier ones include interesting snippets of information about the formation of the club, the discovery of the field at Lochiel, the purchase of the Bocian, etc.

| 1976 | 1977  | 1978        | 1979        | 1980 | 1981 | 1982 | 1983       | 1984              |
|------|-------|-------------|-------------|------|------|------|------------|-------------------|
|      | Jan   | Jan<br>Feb' | Feb         | Feb' | Jan  |      | Jan<br>Feb | Feb               |
| Mar  | Apr   | Apr<br>May  | Apr<br>May" | Apr  | Apr  | Mar' | Mar        | Mar<br>Apr<br>May |
| June | June  | June        | June        | June |      | June | June"      |                   |
| July | July' | July        | July        | July | July | July | July       |                   |
| Aug  | Aug   | Aug         | Aug"        | Aug  | Aug  | Aug  | Aug        |                   |
|      |       | Sept        | Sept        | Sept |      | Sept | Sept       |                   |
| Oct  | Oct   | Oct'        | Oct         | Oct  | Oct  |      | Oct        |                   |
| Nov  |       | Nov'        | Nov         | Nov  |      | Nov  |            |                   |
|      | Dec   |             | Dec         |      |      | Dec  | Dec        |                   |

- ' - Exact date uncertain (newsletter undated).
- " - I have two newsletters for the dates shown.

It can be seen that this list is full of holes, so if anyone knows of or has any other newsletters, please let me know so that I can make copies to make this set more complete.

If anybody wishes to borrow some of these newsletters, phone me (Andrew McGrath) on 356-2466.

### SELF-CATAPULT FROM HILLTOP

"MOUNT ELIOT PARK" CORRYONG

Special pre-launch check to be added to normal "CHAOTIC" check.

- R-Release strapping to cockpit
- O-Open hook free, etc.
- T-Tail hold-back safety-pin out.
- P-Prop - free to fall from wing-tips. ENTER GLIDER.
- A-Acceleration precautions (stick central, brace elbow, head back)
- W-Wind strength adequate.

**RELEASE!** Fly well forward before turning.

Take the Biggara road, turn right at signpost "FISHERS TRACE".  
(Crash Talbingo Mountain, NSW., 16-1-69. ABC National News (1976))

# UNITS OF MEASUREMENT

## Unit

For Measurement of—

Distances used in navigation, position reporting, etc.—generally greater than 2 to 3 miles

Short distances, such as those relating to aerodromes, e.g. runway lengths

Altitudes, elevations and heights

Horizontal speed, including wind speed

Vertical speed

Wind direction in observations for landing and take-off

Wind directions, except for landing and take-off

Visibility, including runway visual range

Altimeter setting

Temperature

Weight (mass)

Time

\*Nautical miles and tenths

Metres

Feet

Knots

Feet per minute

Degrees magnetic

Degrees true

Kilometres or metres

Millibars

Degrees Celsius

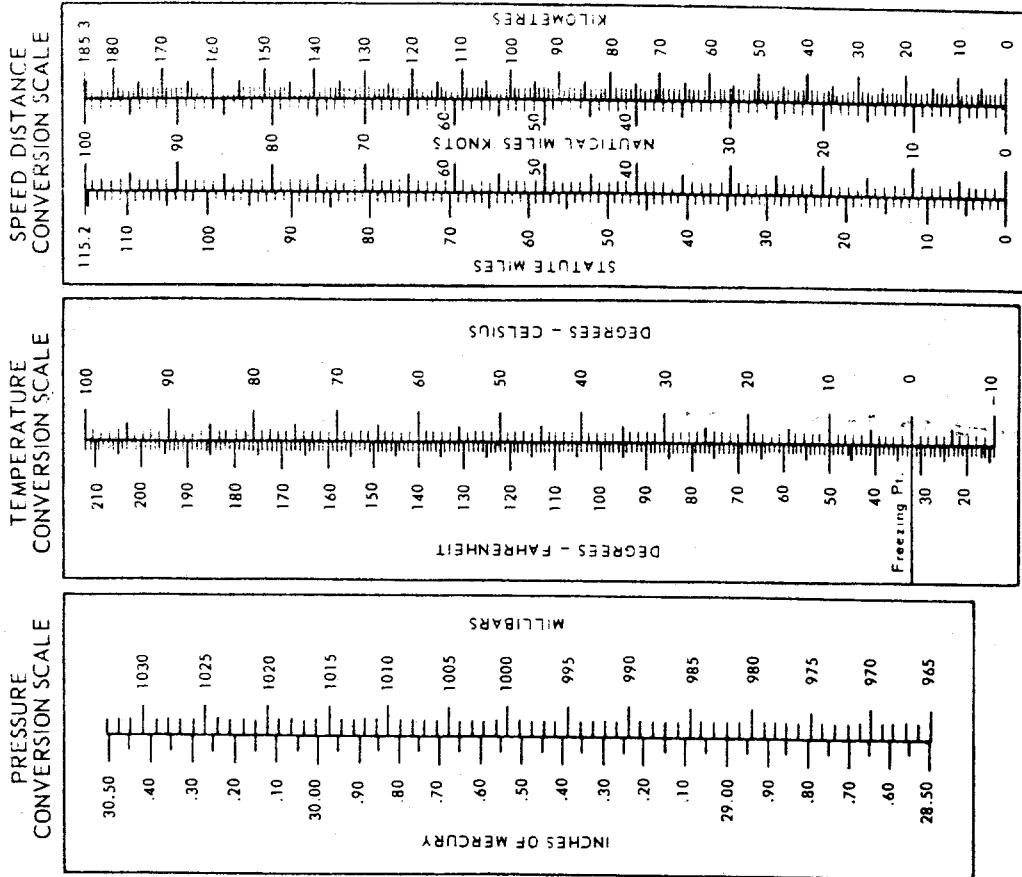
Kilogrammes

Hours and minutes, the day of 24 hours beginning at midnight Greenwich Mean Time. (To be stated in minutes only when no misunderstanding could occur.)

\*Miles shall be read as meaning nautical miles unless stated otherwise. The word 'nautical' may be omitted from ground-air communications.

If you are unable to use these units, you should advise the airways operations unit you are working and ask it to transmit in units you can use.

# CONVERSION OF UNITS



| To Convert | Into             | Multiply by |
|------------|------------------|-------------|
| DISTANCE   | Feet             | 3.28        |
|            | Metres           | 0.31        |
| VOLUME     | Imperial Gallons | 4.546       |
|            | Litres           | 0.22        |
| WEIGHT     | Pounds           | 2.21        |
|            | Kilogrammes      | 0.45        |



## A NOTE ON UNITS FOR GLIDING

For those new members who know little about flying, an average sort of speed for a glider is about 50 knots; it can't go much slower than about 35 knots, and is really screaming along at 100 knots. An average launch is to an altitude of about 1,000', and on a good ridge day in winter, 1,500 feet is a good height. Heights in excess of 6 or 7,000 feet are not uncommon in good weather in summer, and before the glider sinks much below 1,000' or so, the pilot should be committing him/herself to a landing.

## AN APOLOGY

It was stated in last month's newsletter that an updated membership list would be printed in this newsletter.

Unfortunately, the new membership list was not compiled in time for inclusion, and so you will all just have to persevere with the list printed last month, with all of its errors and omissions. If you know of any errors in the list, could you please contact Andrew McGrath or Mark Raftery.

( Those phone numbers, at least, are correct !)

## T-SHIRTS & WINDCHEATERS

The club is looking into producing a silk screen to print a suitable design onto T-shirts and/or windcheaters. If you would be interested in purchasing one, or if you have any suggestions for a design, please contact the secretary, Jenni Sleigh, on 794995.

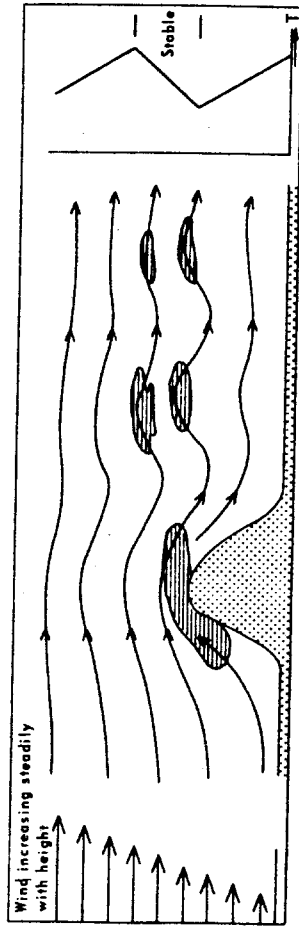


### 5.15 Mountain waves

Airflow over a ridge or mountain range may set up an undulatory flow downstream or 'mountain waves', provided certain preconditions are met.

To gain an appreciation of mountain wave forms, consider the idealised situation of wind flow at right angles across a symmetrically shaped mountain ridge, as shown in Fig. 5.17. The flow upwind of the ridge is smooth and horizontal. At the ridge line the airflow is lifted and follows the shape of the ridge as you would expect. But it is downwind of the ridge that a dramatic change in the flow takes place if certain preconditions are met. The flow does not return in this case to a smooth horizontal flow but continues as a wave which may still be smooth or may contain dangerous turbulent zones.

Fig. 5.17 Mountain wave formation and characteristic lenticular clouds



The wavelength—the distance from trough to trough—may vary from 5 to 50 km. The amplitude—half the distance from wave trough to wave crest—varies with height and depends on the size and shape of the mountain.

Vertical speeds may be more than 15 knots and have been measured at more than 40 knots in the Sierra Nevada, California. Large vertical currents are favoured by:

- strong winds;
- large amplitudes;
- short wavelengths.

The preconditions required for mountain waves, apart from flow at almost right angles to the mountain, are:

- wind strength of at least 25 to 30 knots near the mountain top;
- wind speed increasing with height;
- an upper stable layer sandwiched between an unstable layer at the surface and another unstable or weakly stable layer above.

If the air stream is sufficiently moist at any level affected by the wave, cloud may form in the ascending sections and produce an almond or lens shaped cloud called lenticular cloud. These show the existence of waves but it will pay to remember that waves may exist without any visual indication.

In fact in very smooth waves, the first indication to a pilot may well be a rapidly increasing or decreasing altimeter reading. The

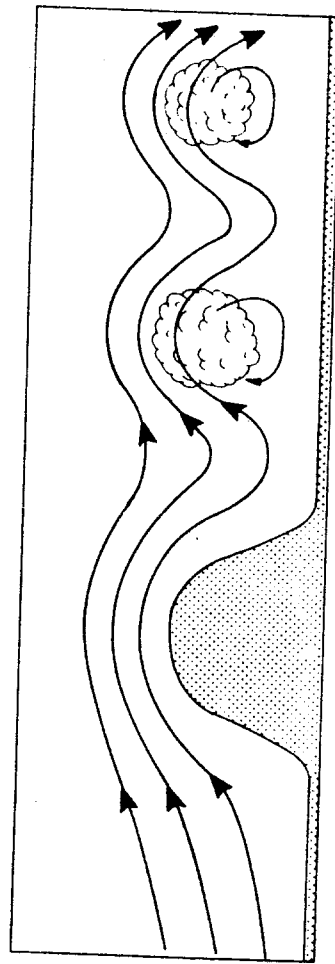
usually be flying at a lower altitude than more powerful aircraft, but the downward velocity in a strong wave may approach or even exceed the rate of climb capability of the aircraft. As trying to maintain altitude could bring the aircraft close to a stall, the main precaution, if waves are suspected, is an altitude well above terrain clearance reached well before the mountain range.

Just as an aircraft flying across a mountain range in wave conditions will experience alternate up and down motion, an aircraft flying parallel to the range will experience continuous downmotion or continuous upmotion depending on its position downwind of the range. Should the pilot notice strong downdraughts, a quick diversion downwind will put the aircraft into a region of rising air. Glider pilots use this procedure to considerable advantage to establish high altitude records or to stay in the air for far longer than allowed by ordinary thermal activity.

However, not all waves are smooth. As most mountains have rugged terrain and waves are associated with strong winds, the friction or boundary layer will be deep and turbulent immediately above and in the lee of the range (see section 5.13).

The most severe turbulence in mountain waves is where amplitudes are large and shear conditions such that complete rotation is produced in wave crests. This is called the rotor zone and is strongest in the first wave crest. The turbulence in such a zone is severe. If cloud is present it will appear as a ragged rounded cloud called a rotor cloud (see Fig. 5.18). Remember again that the cloud will not be there in a dry atmosphere.

Fig. 5.18 The rotor zone



At high altitudes wave effects are not usually very noticeable although the existence of some wave motion at height is shown by the presence of lenticular shaped cirrus cloud. As well, statistics suggest that high level turbulence is more common over mountainous terrain than elsewhere.

In Australia, the combination of strong westerly streams and the Great Dividing Range and mountainous west coast of Tasmania provide the most suitable conditions for mountain wave formation.

Ban Ko Noi  
Sisatchanabai  
Sukhothai Province  
Thailand.

26 Mar 1989

Dear AVCC,

I will try (but not promise) to send cartoons now and again. The photo is for the notice board if you wish. You might include my address in the news letter for anyone prepared to give me helpful unbiased news of club activities! The kind of thing I am getting at the moment is - "The club is doing well now that we have got rid of some of the dead wood!"

The Thai word for thermal is lombar (mad wind) and boy are they massive. I stood on some scales the other day as one went through and my weight reduced from 60 to 15 kilos. The gravel rash from under my outstretched arms is gradually healing!

Anyone go to any comps & skin any-thing? Love to all (D.M. excepted).

Don Heis

P.S. Please keep my cartoons original for me.

## RESULTS OF THE A.G.M.

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The A.G.M. of our club was held at about the time that the last newsletter came out, with the following results;

|                        |                           |                 |
|------------------------|---------------------------|-----------------|
| President:             | Nick Abbott               | (383 6236)      |
| Secretary:             | Jenni Sleigh              | ( 79 4995)      |
| Treasurer:             | Russell Norman            | (390 1824)      |
| Exec member:           | Mark Raftery              | (293 6276)      |
| Exec member:           | David Conway              | (297 8638)      |
| Newsletter Editor:     | Andrew McGrath            | (356 2466)      |
| Airworthiness Officer: | Dennis Medlow             | ( 42 5093)      |
| Winch Officers:        | Dick Temple, David Conway | (D.T.:390 1827) |
| Radio Officer:         | Tom Nemeth                | (251 3127)      |

## FLYING DURING TERM BREAK

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Can't find enough time to come flying during term time?  
Need a real break from the rigours of study ?

Flying at Lochiel may well continue throughout the uni term break, depending on interest and availability of instructors. If flying does take place during this time, it will be possible to stay up at Lochiel for the duration of such flying, with accomodation free at the nearby shearers quarters, where there are all the comforts of home. (Hot and cold running water, beds, heating, stoves, a fridge ... even a toilet that flushes ! ).

Flying for a few days in a row advances flying skills much more than the same number of days scattered over several weeks.

If you are interested in flying in this period, please contact Redmond Quinn, the secretary of the instructors panel, on 445331.

# DON

QUEST FOR REVENGE .

THE STORY SO FAR; DON WEIN, CFI OF RUGG, WENT TO THAILAND ON AN ARCHEOLOGICAL EXPEDITION, LEAVING MARK FORSTER IN CHARGE OF HIS SHED AND HOUSE. WHEN NEWS OF THE DAMAGE TO THE SHED REACHES DON, HE IMMEDIATELY HEADS FOR HOME ...

