

THE ARCTIC LITE GUIDE TO GLIDING

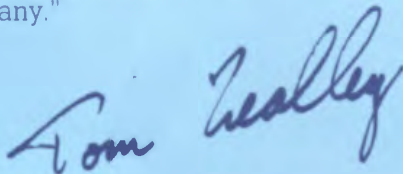


"If you visit a gliding club on any sunny summer morning, you are likely to see lots of pilots with maps in their hands and intense expressions on their faces. They will be getting their gliders ready for take-off and may well be pouring gallons of water into their wings or muttering incomprehensible gliding jargon into their radio microphones. Very Strange!

"If you watch one of the gliders get airborne and follow it closely (binoculars help) you may be able to spot when the pilot starts circling. Within a few minutes the glider will have climbed away until it has become a dot in the sky a few thousand feet up. Then the circling stops and the pilot sets off on course and rapidly disappears from sight.

"Just about when you are enjoying your picnic tea, you may notice the same glider come in to land. The canopy opens and the pilot steps out, takes off his parachute and stretches himself hugely. He needs to because he has been cooped up in his cramped cockpit ever since you saw him disappear five or six hours ago. And in that time he may well have flown 200 or 300 miles following a route that he decided after listening to the early morning weather forecast. It all seems quite incredible — and maybe a bit mystifying.

"This *Guide to Gliding* has been published in collaboration with Arctic Lite lager who have given considerable financial support to the British Gliding Association for which we are most grateful. The booklet will, I hope, answer many of the questions you have. If you want to know more, or you want to try this most fascinating and exciting sport yourself, call in at your local club. You will find a warm welcome and, who knows, one day you may be soaring the skies with just the noise of the air and an occasional bird to keep you company."



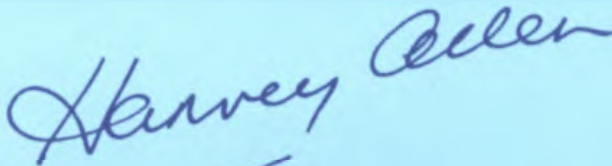
TOM ZEALLEY
CHAIRMAN, BRITISH GLIDING ASSOCIATION

"On January 28th this year, we announced that our company would become the major sponsor of British gliding.

"As a result, not only have the 1980 nationals been renamed the 'Arctic Lite British National Gliding Championships' but also the British Team for the 1981 World Gliding Championships will be supported by Arctic Lite.

"Arctic Lite is the new lite lager which we recently launched in England and Wales and which is fast becoming a household name alongside our other famous brands such as Skol and Double Diamond.

"It seems natural to us to link Arctic Lite's name with an exciting and colourful sport. So many sports nowadays are overcrowded with sponsors' names. Our aims with gliding are not only to promote the Arctic Lite name but also to create a greater public awareness of and interest in gliding on a national scale."

A handwritten signature in dark ink, reading "Harvey Allen". The signature is written in a cursive, flowing style. The word "Harvey" is on the left and "Allen" is on the right, connected by a thin line. There is a small horizontal stroke under the "y" in "Harvey".

HARVEY ALLEN,
NATIONAL BRANDS DIRECTOR,
ALLIED BREWERIES (UK) LTD

GLIDING AND ARCTIC LITE

Arctic Lite sponsorship of British gliding spans three areas: the Arctic Lite British National Gliding Championships; the British Gliding Team; and the Arctic Lite Challenge Trophy.

The 1980 Arctic Lite British National Gliding Championships are being staged at two venues. The London Gliding Club will stage the 15-metre class at Dunstable Downs between 24th May and 2nd June. The open and standard classes will be held at Lasham, Hampshire, between 16th and 25th August.

The Championships have been in existence since 1935, but 1980 is the first year that the event is being promoted on such a large scale and with such a heavy financial backing.

Among the entrants taking part at Dunstable Downs and Lasham are the squad from which the British Team for the 1981 World Championships in Paderborn-Haxterberg, West Germany, will be picked.

The Arctic Lite-sponsored British team will consist of four pilots who will compete in the open and 15-metre classes. They will be selected in September 1980 from a squad of sixteen who were themselves chosen from the top thirty pilots in last year's British National and Euroglide Championships.

Among the squad of sixteen is the current World Champion, George Lee, who won the Open Class in 1976 (Finland) and 1978 (France) and who will be looking to achieve the hat-trick in 1981.

British gliders are also displaying the Arctic Lite colours at Paderborn-Haxterberg this year in the West German International Gliding Championships between July 25th and August 10th. This competition is in effect a "dry-run" for the 1981 event.

There is considerable back-up for the British team. In

addition to the four pilots, there are eight crew members (two per pilot); team manager, Mike Carlton; deputy team manager, Mike Pope; communications ace, Rika Harwood; and meteorological expert, Tom Bradbury.

Closer to home, the Arctic Lite Challenge has been launched. This is designed specifically to encourage gliders to attempt flights which will alert the general public to the fact that gliders are capable of achieving considerable distances and carrying out spectacular flights.

The Arctic Lite Challenge Trophy 1980 provides the following prizes for flights:

★**£1,500** will be awarded for the maximum distance flown by a British pilot for a flight starting in the UK and measured in a straight line.

★**£1,000** will be awarded to the pilot flying the greatest declared "out and return" distance and starting in the UK.

★**£500** will be awarded for the fastest speed around a UK triangle exceeding 300 km with standard handicapping, provided the minimum actual speed is not less than 80 km/h.

It is certain that Arctic Lite's financial support for gliding will stimulate an even higher standard of British performance at national and international level. Equally important, it is hoped that the sponsor's involvement will increase awareness of gliding among the general public and encourage more people to take up this fascinating sport.



all pilots can read - but the BEST PILOTS read

SAILPLANE AND GLIDING

The magazine can be obtained from most Gliding Clubs in Gt. Britain, alternatively send £6.25 postage included for an annual subscription to the British Gliding Association, Kimberley House, Vaughan Way, Leicester. Single copies, including postage £1.05.

Red leather-cloth binders to take copies of the magazine are also available from the B.G.A.

Price £3.00 (£3.40, including post and packing).

OVERSEAS AGENTS

CANADA

T. R. Beasley, Soaring Supplies, PO Box 621,
St. Laurent, P.Q. Canada, H4L4V9

SOUTH AFRICA

Peter Eich, PO Box 82707, Southdale 2135, Johannesburg, Transvaal

HOLLAND

Aeropress (Ary Ceelen) P Stockmanslaan 53, 5652 RB Eindhoven

USA and all other Countries

Payable in either Sterling £6.25 or US \$13.75 but International Money Orders preferred, direct to the British Gliding Association

A VERY POTTED HISTORY

In the year 1060, his imagination fired by the Greek mythological flights of Icarus and Daedalus, an English Benedictine monk, one Oliver of Malmesbury, and the best contemporary aeronautical brains in the business, launched himself from the heights of the monastery tower equipped with rudimentary wings in the hopes of emulating the soaring flight of eagles. Alas both Brother Oliver's soaring hopes and his aeronautical brains took a nose dive through the monastery roof after a near vertical flight of only a few seconds. But at least it was a start, although it is fair to say that his lack of success proved something of a deterrent to other experimenters for the next eight hundred years.

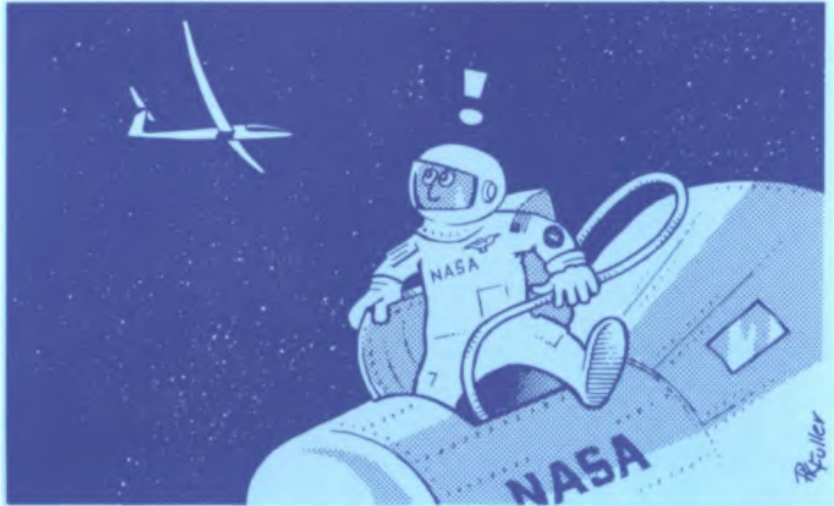




It was not until 1890 that a German engineer, Otto Lillienthal, with a more cautious and scientific approach to the problem, succeeded in making some protracted gliding flights in a bat-like rigid hang glider. Indeed he succeeded to such a degree that he was able to make some 2,000 flights, a number of them of several minutes duration, before he too bit the dust in 1896; dying with the immortal words "Sacrifices must be made" (in German of course) on his lips.

Thereafter, with the exception of the Wright brothers' successful experiments in America, gliding received but scant attention until the signing of the Treaty of Versailles after the First World War. Under this treaty, the manufacture of powered aircraft in Germany was forbidden. So with characteristic teutonic thoroughness, the Germans set to designing refined aeroplanes without engines. And thus the true foundations of sporting gliding were laid.

In Great Britain, interest in the sport required the stimulus of German gliding aces, notably Robert Kronfeld and Wolf Hirth to tour the country giving demonstrations in the late 1920s, before it was to get off the ground. In the event, such was the stimulus, that gliding clubs mushroomed up all over the British Isles; most died



with equal rapidity in a veritable orgy of accidents which quickly reduced most clubs' gliders and finances to ruins. The few clubs which survived formed the backbone of the British gliding movement and its governing body the British Gliding Association, to which just over 100 clubs are currently affiliated.

What a long way we have come in the last fifty years or so. Even the optimism of poor Brother Oliver or the realism of Otto Lilienthal could not have envisaged the startling progress sporting gliding has made. From flights of a few seconds' duration and a few yards' distance, the art has progressed until duration flights are measured in days, unaided height climbs reach the stratosphere and speeds averaging close on 100 miles per hour over distances of almost 1,000 miles are becoming the norm.

WHY GLIDE?

Like many people, you may be uncertain of what the sport really has to offer. Perhaps, like many, you feel that it may be the closest sensation to flying dreams in which you float about silently and effortlessly over beautiful countryside.

Well so it can be; a gliding flight in the still and balmy air of a summer's evening will indeed closely match your imagination. But pleasing as such flights would be at first, you would soon find that you required something more exciting and challenging. In choosing the sport of gliding you would not be disappointed for, depending on your temperament, you will always have new horizons to reach for and constantly encounter new and stimulating experiences.

If you watch gliding taking place in the immediate vicinity of a flying field, you can be forgiven for wondering what the attraction can be for the numerous flights of a few minutes' duration which merely circuit the airfield. Such flights seem to be little more than aerial tobogganing with little interest or purpose.

But everybody has to start with modest beginnings and such flights are simply a necessary training preliminary, much as the practising of scales would be to a musician. In fact training circuits call for more skill and judgement than is apparent from the ground. But the pilot sees them as a stepping stone to the accomplishment of more ambitious skills, to enable him to keep the glider airborne for more protracted periods of time.

Perhaps more important (and certainly more exciting) than just remaining airborne is the ability to fly a glider to distant places or to complete predetermined cross-country routes which may be as much as two or three hundred miles. A typical flight for a good pilot flying a good glider on a good day, might well take the pilot



from one of the clubs close to London, to South Wales, up to the Midlands and back home again to within a few feet of the departure point. Such a flight might take between five and nine hours to complete - or, if the pilot is unlucky or not sufficiently skilful, he might not get back and be obliged to land out in a farmers field!

Satisfying as the achievement of completing a cross-country task may be to many pilots, mere completion is not sufficient for those with a more competitive disposition. The latter derive additional satisfaction from trying to complete a cross-country route in the shortest possible time; in other words, racing against



the clock. In the United Kingdom where gliding conditions are usually only moderate, average speeds rarely exceed 65 m.p.h. but in those parts of the world where gliding conditions can be really good, speeds of over 100 m.p.h. are being achieved and both straight line and closed circuit distance flights only just fall short of 1,000 miles.

Naturally not everybody feels the need or has the temperament for cross-country flying. Many pilots are perfectly happy flying about well within range of their home sites, carrying passengers, instructing or getting involved with glider maintenance, construction or repair.

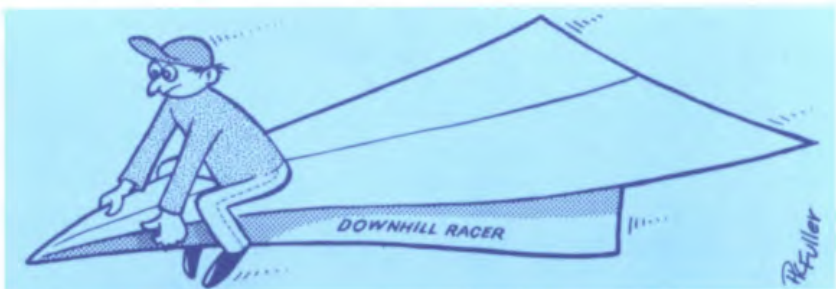
Whatever your inclination, gliding holds much of interest and excitement and you will be left to find your own level of amusement without any pressure being applied to you.

BASIC PRINCIPLES

Most people view gliding as being one of the more technical sports. Since not everybody is particularly technically inclined many dismiss the sport on the grounds that they will not be equal to the considerable amount of theory which they assume they will have to learn. But desirable as theory may be, gliding can be taught perfectly safely on a cause and effect basis, in much the same way that you can be taught to drive a car without understanding what goes on "under the bonnet."

Grasping the basic principles is simplicity itself if we use analogies with which we are familiar in everyday life; which is what we shall do.

The glider (better performance machines are sometimes referred to as sailplanes) is nothing more nor less than a refined paper dart. In still air conditions having been launched to a given height it will move forward horizontally relatively rapidly and descend vertically relatively slowly; behaving exactly as our paper dart would if launched across an empty room. It can be turned during its descending flight, or its glide path can be steepened, but its glide path remains essentially downwards.



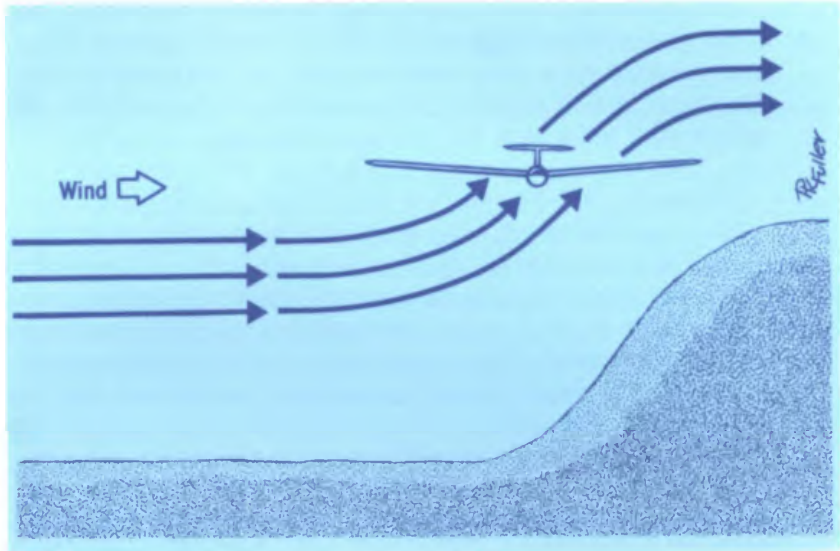
The behaviour of the glider is exactly similar to that of a cyclist freewheeling down a hill; he can turn corners and will go faster on steeper downslopes, but he cannot go up hills except for limited periods whilst the energy from his downhill ride lasts.

Now, you may say, if the glider only glides downwards it must have to be launched from an enormous height if it is to travel hundreds of miles. Not so. And this is why.

SOARING (i.e. gaining or maintaining height)

Fortunately for the glider pilot, the air — which as landlubbers we are conscious of as either being still or moving horizontally as wind — also moves up and down under certain conditions and in certain areas. So all our glider pilot has to do is to find some air going up faster than he is going down and he will rise. The principle is exactly the same as a man trying to walk down an upgoing escalator. If the escalator is going up fast enough, then in spite of his efforts, the man will be carried to the top.





Now where and how does the glider pilot find rising air (known simply as LIFT)? He or she cannot see what is invisible so how is it done? It would be nice to say it was easy but it takes quite a lot of practice before a glider pilot learns to find and use lift successfully.

SOURCES OF 'LIFT'

There are three main sources of lift which the glider pilot can use. The strength and extent of the lift will vary considerably, as will its character, such as whether it is rough or smooth.

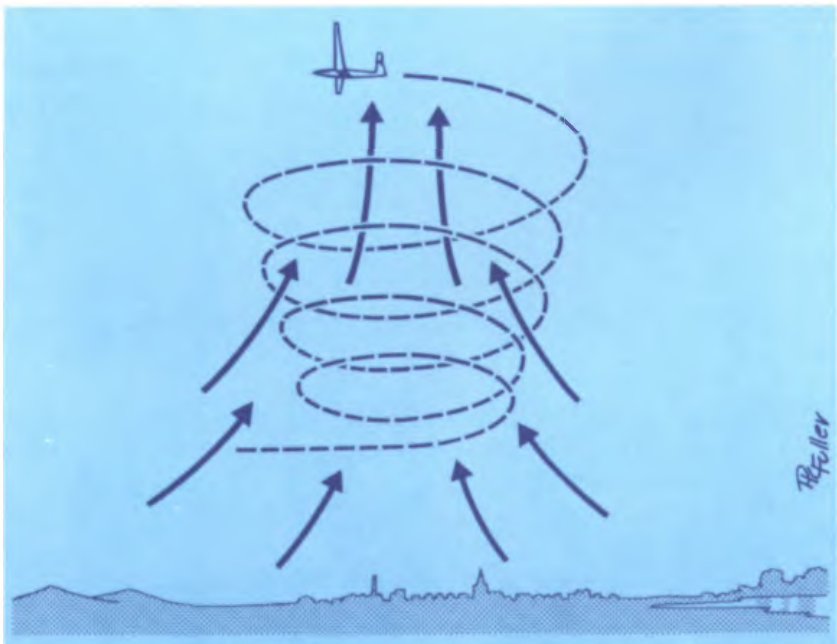
Hill lift

If there is a wind blowing and there is an obstruction to the wind such as a mountain or range of hills, since the wind cannot go through the obstruction, most of it is forced over the top and in doing so a band of rising air is formed immediately in front of the hill. Provided the glider pilot keeps flying within this band of lift, he can stay up all day and all night (in theory) if he wishes, so long as the wind keeps blowing strongly enough and in the right direction.

But pleasant as it may be (many "soarable" hills are in beautiful parts of the countryside), such flying is rather limited since there are few long unbroken ranges of hills in the United Kingdom. So for cross-country soaring or soaring where there are no hills, the glider pilot must look for another lift source.

Thermals

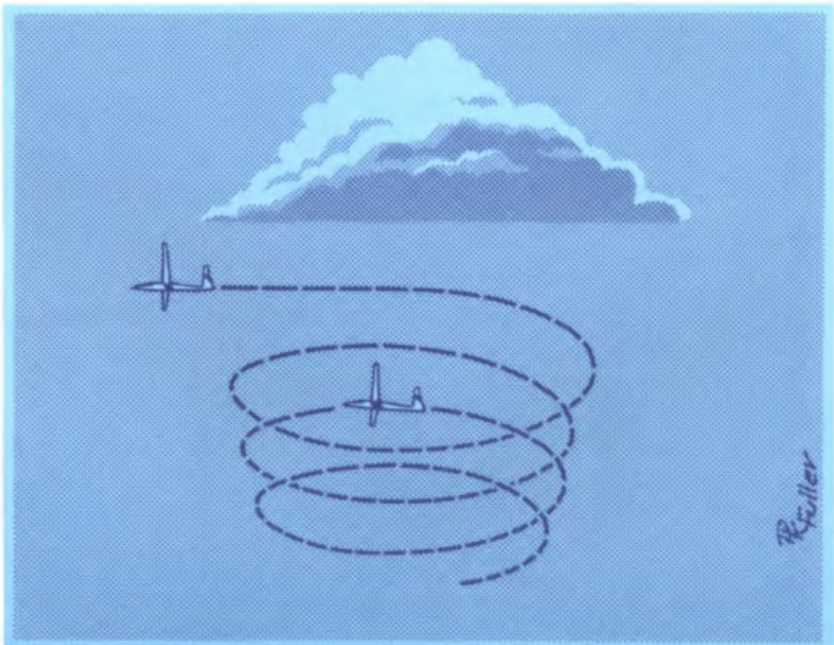
Have you noticed how, particularly on light wind days, the smoke from bonfires, stubble fires and factory chimneys always goes upwards? This is because the heat from the fire warms the air above it which, because warm air is lighter than cooler air, rises carrying with it particles of smoke and steam. Well exactly the same thing happens in nature but with the sun providing the source of heat. In this case, certain areas of ground get warmer than others and heat up the air above them which then rises. Once started the action usually continues for quite a long time forming a continuous stream of air in the form

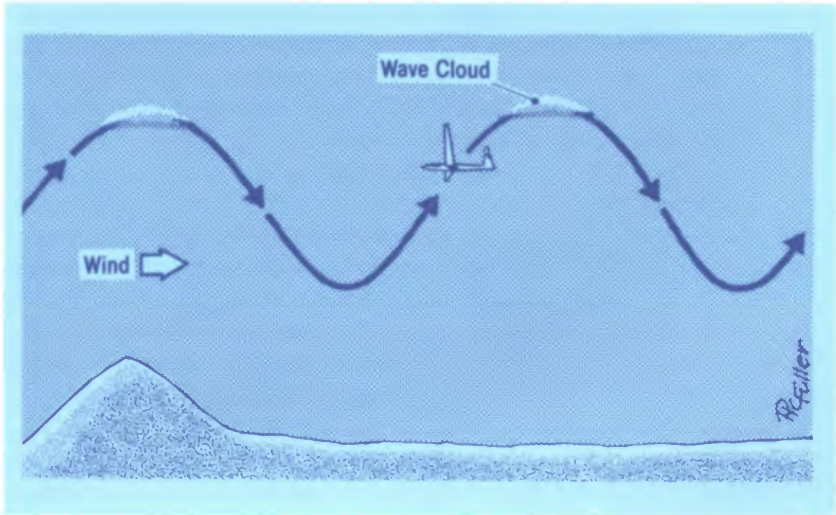


of a column or funnel. More often than not such a column — known to glider pilots as a thermal — is sufficiently large for him to keep within, provided he rotates in fairly tight circles. By doing this he effectively spirals his way upwards: like someone climbing a spiral staircase.

Often the air in the thermal is moist, but this moisture does not show up visibly as it is in the form of a gas. However, if the air cools enough, which it generally does at higher levels, then the moisture becomes visible in the form of myriads of tiny water droplets which we then see as a cloud. So, although the glider pilot may not see the thermal itself, he often has a signboard in the form of one of these fluffy cauliflower-shaped, cumulus clouds so common on warm summer days.

By flying from thermal to thermal by gliding from cloud to cloud, the glider pilot is able to make his way across country. But sometimes, especially in winter, when the heat from the sun is too





weak to form useable thermals, the glider pilot may be forced to seek an alternative form of 'lift' if he wishes to climb high or cross country.

Wave

When there is a wind blowing against a major obstruction, hill lift is generated on the windward slope as we have already described. But, under certain meteorological conditions, once the air has gone over the top of the hill or mountain, it cascades down the other side (leeward side) and then 'bounces' up again. This process can be repeated and go on for a considerable distance behind the obstruction, the oscillations in the airstream being rather like those which you could form by rapidly jerking one end of a long rope up and down.

In the airstream the wave oscillations are often very large going up to great heights — far greater than that of the hills or mountains originally causing them. By flying in the up going parts of the wave system and avoiding the downgoing parts, the glider pilot may be able to climb to considerable heights; the world height record in wave stands at around 45,000 ft. (nine miles). Or he may travel along the wave system such as the

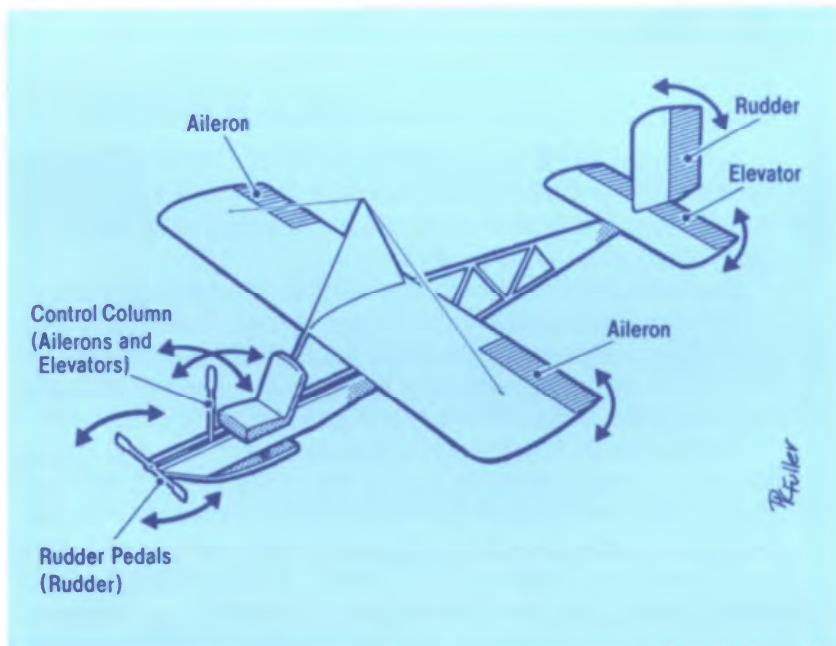
distance flights along the mountainous spine of New Zealand from South Island to North Island and back.

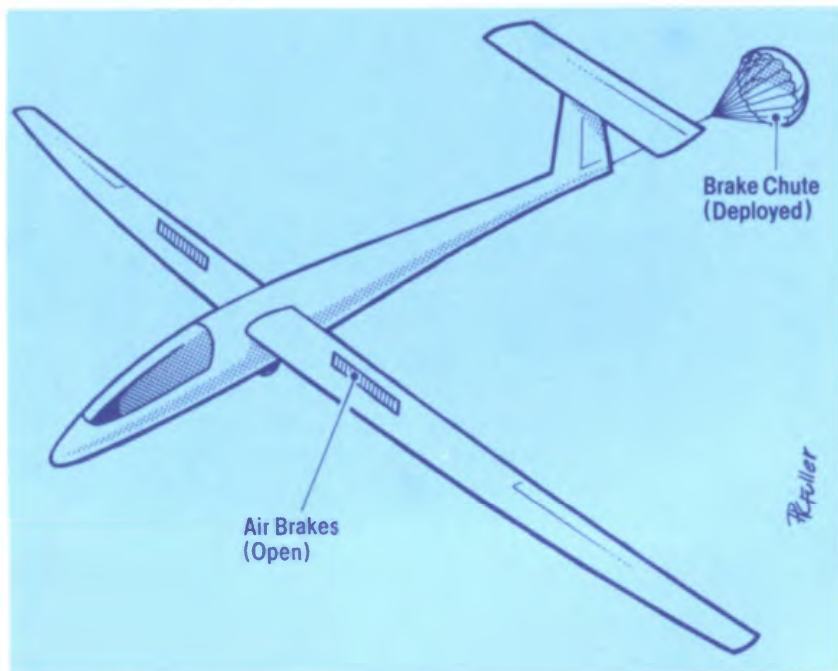
Although wave systems may be invisible, more often they are marked along their length by long clouds which lie approximately across the wind direction and which may be characteristically very smooth and even in shape.

CONTROLS

In the section Basic Principles the analogy was drawn between a glider and a paper dart. Although this analogy is broadly correct it did not take into account one fundamental difference — namely, that the direction and steepness of the dart, once launched, cannot be altered during flight whereas both can be altered at will in a glider by the pilot. How is this done?

The glider has a number of moveable control surfaces which can be operated by the pilot. To illustrate how these work, our artist has drawn a picture of the type of primary glider which used

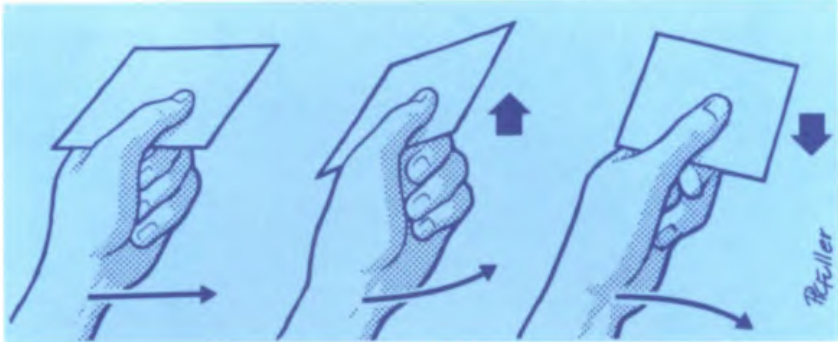




to be employed for training purposes and on which, conveniently, all the control wires were exposed. We have superimposed on this picture some of the secondary controls now found on most gliders for glide path control.

The directions in which the various controls would move the glider are illustrated by the broad arrows. Modern gliders look very different because they are made as streamlined as possible to reduce airflow resistance. But they are actually controlled on precisely the same principles in precisely the same way.

The action of the control surfaces is purely to offer a resistance to the air flowing over the glider due to its forward motion, which then tries to push the deflected control surface out of the way. You will appreciate the effect if you move a piece of stiff card held at arm's length through the air rapidly. If the card is held level no effect will be felt but if it is tilted up or down, you will notice the tendency for your arm to be lifted or depressed respectively.



INSTRUMENTS

Although experienced glider pilots become very sensitive to the behaviour of their machines as well as to the behaviour of the air in which they fly, their ability to soar more sophisticated gliders successfully would be seriously inhibited without at least the basic instruments with which all modern gliders are fitted. The diagram shows what might be a typical instrument panel, the individual instruments being as follows:

1. The Air Speed Indicator (known as the ASI)

This tells the pilot how fast he is travelling through the air (though not necessarily how fast he is travelling over the ground).

2. The Altimeter

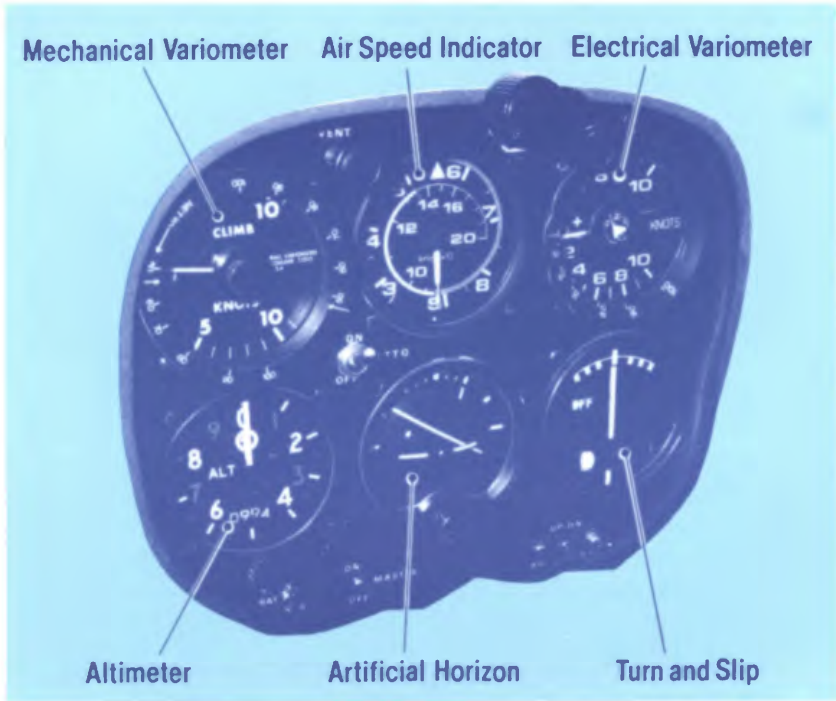
This gives the pilot a reading of height. The altimeter can be set by the pilot with whatever base height he chooses; usually the airfield from which he takes off or sea level.

3. The Compass

This shows the pilot in which direction he is facing.

4. The Variometer

This is the most important instrument for a glider pilot. It shows his rate of climb or descent.



5. The Turn and Slip Indicator (T & S)

This is an instrument which enables the pilot to fly 'blind' in clouds. It is used in conjunction with the other instruments. Flying blind in cloud on the T & S is quite difficult and requires a lot of practice to become proficient.

In addition to the basic instruments above, which are carried in virtually all gliders, competitive gliders may have in addition:

Electric variometers with audio. This is a fast-reading, electrically-operated version of the variometer.

Artificial horizon. This is a pictorial representation of what the glider is actually doing. It is used for blind flying and is much easier to use than the T & S.

Air data computer. This gives a great deal of information to a competitive pilot on how to optimise the performance of his glider.

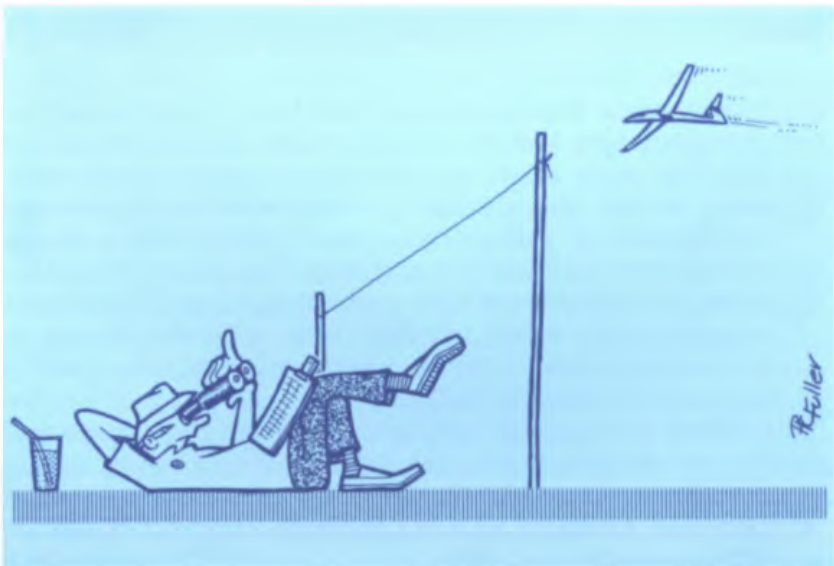
Oxygen. For breathing at altitude.

Radio. For glider-to-ground and glider-to-glider contact.

Desirable as all these instruments may be, it is quite possible to fly a glider without any, although these days it would contravene the glider's certificate of airworthiness.

COMPETITIONS

Many glider pilots are quite happy just flying about locally or doing cross-country flying primarily for the pleasure of viewing the landscape from a more interesting vantage point. But there are inevitably some pilots of a more competitive frame of mind who have the urge to compare their performances against those of other pilots. Such an attitude will eventually lead them into the



competition structure of the British gliding movement and, if they are exceptionally good, into international competition.

Gliding competitions are now based entirely on cross-country tasks, set daily according to the predicted weather, in which the object is to complete the predetermined course set in the fastest possible time. The shape of the task may vary from a triangle, a quadrilateral or an out and return to a dog-leg or even a straight line goal flight; but the principle of fastest speed remains the same. In practice nearly all tasks set in modern competitions are designed to get the pilots back to the point of departure.

Although the rules and procedures in competitions are rather complex, the basics are quite simple. After being launched, a competitor will cross a start line marked on the ground and will be timed by observers with telescopes and measuring lines from the time he crosses that line to the time he crosses a similar finishing line. The fastest competitor will be the winner with all others being graded down in proportion. Non-finishers are scored on the distance flown but lose all their speed marks of course. Because of the differences of performance of many machines, handicapping factors are frequently applied.

GETTING STARTED

After reading this booklet and watching gliding actually taking place, you may feel that you too would like to become a glider pilot. You may have been inhibited from doing so previously because you thought that gliding was too expensive, that membership of gliding clubs was in some way restricted or exclusive or that you had to possess some special qualities or talents to be able to take part in the sport. None of these misconceptions is true although some clubs temporarily restrict membership if there are too many people under training at any one time. So what are the facts?

There are approximately 100 clubs in the U.K. scattered fairly evenly throughout. The majority of these are run on an amateur basis by and for the benefit of their members. The remainder have one or more professional staff and vary widely in the facilities which they offer.



Nearly all clubs provide facilities for training in dual-controlled two-seaters and most have at least some single-seaters which are available for hire at hourly rates. Launching is generally by wire either drawn along by a vehicle (auto-tow), or by being wound onto a winch (winch launching), or by being pulled up with an aircraft (aero-towing); this is charged extra.

All clubs charge an entrance fee and then an annual subscription which is necessary to cover the general overheads of operating the club.

There are two main ways of starting your training. Either you can go on one of the intensive gliding courses, held throughout the summer by many gliding clubs, for a week or a fortnight. Or you can join a gliding club and go for training on those days most convenient to you; for many people this means weekend days which are the only days on which many amateur clubs regularly operate.

COSTS

Since the scale of operations and other factors vary so widely from club to club, no useful purpose would be served in trying to detail costs. But a realistic guide at current costs for a person intending to fly one day per week at a club using club gliders and launching facilities would be about £5—£10 per week in the smaller amateur-operated clubs or about £10—£15 per week in the larger professionally-operated clubs. Such figures should be sufficient to give a satisfactory amount of flying and sufficient to cover the cost of this plus the annual club subscriptions.

THE BRITISH GLIDING ASSOCIATION (BGA)

Gliding in the U.K. is controlled not by a government body such as the Civil Aviation Authority (CAA) but by the British Gliding Association which has been given more or less autonomous control of gliding activities by the CAA.

Most clubs in the U.K. are affiliated to the BGA so if you require detailed information about clubs in your area, about gliding courses or about any other matter connected with gliding, you should write to:

The Secretary,
British Gliding Association,
Kimberley House,
Vaughan Way,
Leicester.
Tel: Leicester 51051.

A full list of gliding clubs is detailed elsewhere in this publication.

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GLIDING CLUBS IN GREAT BRITAIN

ALBATROSS GLIDING CLUB,

Davidstow Airfield, Nr. Camelford,
Cornwall.

Tel: Plymouth 772598.

ALTAIR GLIDING CLUB,

Coldharbour Farm, Great Rollright,
Chipping Norton, Oxon.

ANGUS GLIDING CLUB,

Condor, Arbroath, Angus
Tel: Arbroath 72201.

AQUILA GLIDING CLUB,

Hinton-in-the-Hedges, Nr. Brackley,
Northants

AVRO GLIDING CLUB,

c/o Hawker Siddeley Aviation Ltd.,
Woodford, Stockport, Cheshire.

B.A.C. FLYING & GLIDING CLUB,

Sports & Social Club, British Aerospace,
Hurn Airport, Christchurch, Dorset.

BATH & WILTS. GLIDING CLUB,

Keevil Aerodrome, Keevil, Wilts.

BLACKPOOL FYLDE GLIDING CLUB,

Cock Hill Farm, Fiddlers Lane, Chipping,
Nr. Preston, Lancs.

THE BORDERS GLIDING CLUB,

Millfield Aerodrome, Nr. Wooller,
Northumberland.

BRISTOL & GLOS. GLIDING CLUB,

Nympsfield, Nr. Stonehouse, Glos
Tel: Uley 045 386 342

BUCKMINSTER GLIDING CLUB,

Saltby Airfield, Saltby, Leics.
Tel: Buckminster 385.

BURTON & DERBY GLIDING CLUB,

Ashborne Airfield, Derbyshire

CAIRNGORM GLIDING CLUB,

Feshie Airstrip, Blackmill Farm, Kincaig,
Inverness-shire

Tel: Kincaig 339.

**CAMBRIDGE UNIVERSITY GLIDING
CLUB,**

Cambridge Airport, Newmarket Road,
Cambridge.

Tel: Teversham 3344.

CORNISH GLIDING CLUB,

Trevellas Airfield, Perranporth, Cornwall.
Tel: Perranporth 2124.

COTSWOLD GLIDING CLUB,

Aston Down Airfield,
Nr. Minchinhampton, Stroud, Glos.

COVENTRY GLIDING CLUB,

Husbands Bosworth Airfield, Lutterworth,
Leics.

Tel: Husbands Bosworth 880 429

**CRANFIELD INSTITUTE OF
TECHNOLOGY,**

Cranfield, Beds.

Tel: Bedford 750111.

DEESIDE GLIDING CLUB,

Aboyne Airfield, Dinnet, Aberdeenshire.

Tel: Dinnet 339.

DERBY & LANCS. GLIDING CLUB,

Camphill, Great Hucklow, Buxton,
Derbys.

Tel: 0298 871270

DEVON & SOMERSET GLIDING CLUB,

North Hill Airfield, Broadhembury,
Honiton, Devon

Tel: Broadhembury 386.

**DONCASTER & DISTRICT GLIDING
CLUB,**

The Airport, Ellers Road, Bessacarr,
Doncaster, Yorks.

Tel: Doncaster 56066.

DORSET GLIDING CLUB,

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LASHAM GLIDING SOCIETY,

Lasham Airfield, Alton, Hants.

Tel: Herriard 270 (members)

Herriard 322 (office).

LONDON GLIDING CLUB,

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MIDLAND GLIDING CLUB,

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Tel. Linley 206

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NORTHUMBRIA GLIDING CLUB,

Currock Hill, Chopwell,

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NORWICH SOARING GROUP,

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By Kinross, Kinross-shire.

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For site, contact Secretary.
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Withybush Airfield, Haverfordwest,
Pemb.
Tel: Haverfordwest 3665.
WOLDS GLIDING CLUB,
The Airfield, Pocklington, Yorks

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their Associations is listed below.

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Can you spot 40 aviation terms in the puzzle?
WHICHEVER WAY YOU LOOK AT IT . . .

B X M C O C K P I T D G B M
 D P I N X H Y R D R T R U B
 G R C T Y S V O K A H O N C
 B A R O G R A P H I E U G A
 C S O T E K M E Z L R N E N
 M A P L N I W K W E M D E O
 R S H V G T F W I R A L G P
F L O W T E C H N O L O G Y
 U D N I C T B K C L N O L P
 S B E N W A N T H P S P I B
 E G T G V S A L T I T U D E
 L I F T A K B R A C E C E H
 A T C I R C U I T K A I R D
 G K H P I O V S R U D D E R
 E Z R S O M T A E R I A L A
 M A S K M P M T F L A S K G
 P M E T P A R A C H U T E W
 S T W U F S K I D N F O I L
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Answers to puzzle
 Across: COCKPIT, PIN, BAROGRAPH, MAP, FLOW, ALTITUDE, LIFT, RACE, CIRCUIT, AIR, HOODLE, AERIAL,
 MASK, FLASK, MET, PARACHUTE, SKID, FOIL, BADGES, SLIP
 Down: FUSELAGE, MICROPHONE, WINGTIP, TUG, OXYGEN, VARIO, KITE, TASK, COMPASS, ROPE, TAIL,
 WINCH, TRAILER, THERMAL, GROUNDLOOP, TOW, BUNGEE, GLIDER, CANOPY, DRAG



It's Electric