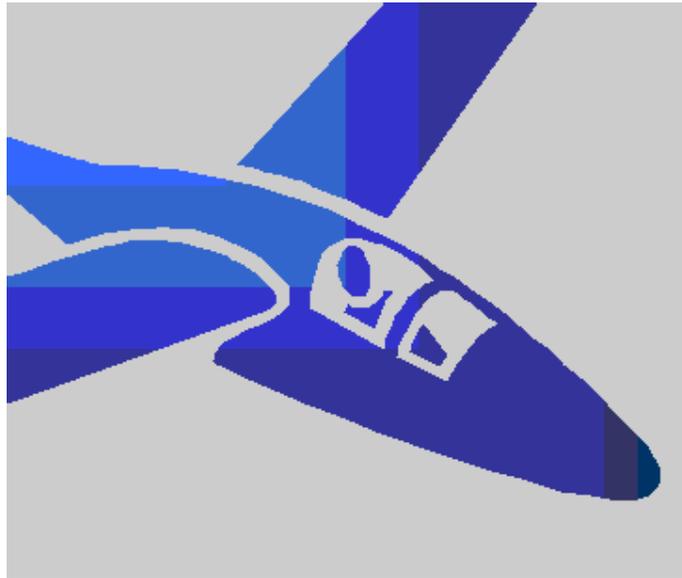


Derbyshire and Lancashire Gliding Club

PILOTS MANUAL



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SECTION 0 INTRODUCTION

0.1 FOREWORD

“Camphill is the site of a British fort of the early Iron Age. Traces of the perimeter of the camp can still be distinguished in the southwest quarter of the field. The remains of the important Roman station of NAVIO lie at the foot of Rebellion Knoll in the western angle of the Castleton and Tideswell roads. The last uprising against the Roman occupiers took place in the area and the Brigantes, the tribe occupying most of the north of England, were finally defeated by the Romans at Brough.

The mines mainly on the south slopes have yielded lead since before the Roman invasion, but for some years the output has consisted entirely of fluorspar.

Camphill Farm itself is probably about 200 years old and has been occupied by the Derbyshire and Lancashire Gliding Club since autumn 1935. Soaring took place on the south slope (Bretton Mount/Eyam Edge) and occasionally on the West Slope (Bradwell Edge) for some time before the club took over the site.”

These words were used in the introduction to new members taken from the first full Camphill Pilots Manual, which was published in 1959. That manual brought together for the first time all the ground and flying practices established since the club was founded in 1935. From that time the manual has been updated on several occasions each time attempting to ensure the information is relevant to the clubs operations. Every attempt has been made to ensure that the guidelines and advice offered is simple and practical.

Camphill is unique in the world of gliding. It has probably the oldest clubhouse premises in the movement set in some of the finest countryside in England. Following its foundation the club was one of the premier clubs of the country; in the post war years probably the world. It is one of the few British clubs to have hosted a World Championship. Advances in launching and glider technology mean that Camphill will probably never return to those post war glory days.

This does not mean that Camphill is a backwater of the gliding movement. It offers soaring in all conditions throughout the year; few other UK sites can make this claim. Flights qualifying for almost all the international badges and diamonds have been achieved from the site. Even in today's more restricted environment the club has tremendous potential for those who take up the sport.

Flying gliders well is not a mystical or black art. It does, however, require knowledge of what to do and how to do it. The information contained within this manual is written to help you understand just that. Going solo is the opening of the first door to a fascinating sport, hobby, past time or addiction. Only you can realise your own and the site's potential. The instructors and the club officials are there for your support; if you are unsure do not be afraid to ask.

The members of this club welcome you and hope that you derive the maximum amount of pleasure, companionship and safe enjoyable flying at Camphill.

0.2 CLUB HISTORY AND CULTURE

Flying first started near Camphill in 1934. The Derbyshire and Lancashire Gliding Club, or simply, the Club was founded in 1935 when the Matlock Gliding Club and the Gliding Section of the Manchester Aeronautical Society joined forces.

Since those early days the club has been run as a members club, entirely by the membership. A small number of employees have worked for the club in a variety of roles over the years but these have generally been in a support capacity rather than as managers.

Over the years a great deal of effort of voluntary effort has been sunk into converting a farm with numerous small fields into the working airfield you see today. The club not only needs members to fly, it needs them to help out with the daily administration. Without the efforts of the past and present members there would be no future for the club, indeed there would be no present. It is not only the glamorous jobs, such as flying instruction, that are done by the members but the more mundane things such as grass cutting and general maintenance work.

It is thanks to our members that we own the buildings, site, the aircraft, and that your club has a place in the history of British gliding. You are asked to take care of these assets and help preserve them for your use and future members. If you can contribute in any way to that future then "the club" will be grateful for that assistance.

0.3 ABOUT THIS MANUAL

This manual serves several purposes. It is mainly a guide for new members, and a reminder/reference document for existing members - providing a wealth of background knowledge as well as key information. It serves to inform visiting pilots about the flying rules and operational practices at Camphill. The contents provide all pilots flying at Camphill with the local rules, and a great deal of other guidance mostly oriented for Camphill, but in many parts it is a valuable reference about gliding and airmanship in general.

Section 1 of the manual provides guidance and information about learning to fly at Camphill. This is followed by a section on rules and guidance about flying – applicable to every pilot. The next section covers the ground-based aspects of operations. The topography of Camphill requires specialised circuits and approaches. A complete section of the manual is devoted to a full description of these. Then the manual advises on miscellaneous other general subjects. Glider/trailer care and maintenance and amendments form the final section.

Flying is not inherently dangerous but it can be very unforgiving. Every member is required to conduct him or herself with safety, (i.e. the prevention of accidents) in mind. Members must understand they are expected to think of the consequences of their actions or omission of them. For new members especially this means acquiring knowledge of, and attention to, rules and guidance. This manual is a key resource in this respect.

0.4 UPDATES

Between re-issues, this manual may have updates added by the CFI, Deputy CFI, Safety Officer or Technical Officer in the form of additional or revised pages. Please see the final page for a record of any updates. Copies are held on-line, in the clubroom and on the launch point vehicle. Members are responsible for updating their own copies

SECTION 1

LEARNING TO FLY AT CAMPHILL



1.1 GENERAL

This section is primarily for new members and especially those who are learning to fly at Camphill.

There are many opportunities for pilots of all levels of experience to achieve their potential at Camphill. For the experienced, the variety of soaring conditions offered means that there are opportunities all year round. For the beginner, your first priority will be to progress by learning the basics before you move on to make use of the soaring opportunities.

Like most gliding clubs Camphill is a close-knit community. The new members who settle in quickest are those who get involved right from the outset. They also make the best progress. There's a lot more to belonging to a gliding club than paying your fees and popping along for the occasional flight. Don't be shy and retiring. Get involved; you'll be made most welcome. In simple terms, the more you put in to Camphill, the more you will get out of it.

1.2 TRAINING

An 'Ab-initio' member, which is a pilot at the very start of his/her flying training, needs to master the handling of the glider; the effects and use of the controls and their proper co-ordination. The quickest way to perfect the basic handling exercises is to have plenty of time in the air on each flight but there is a simulator in the club-house which we can use especially when long flights have been scant. If it is not soarable, training flights are usually given in a consecutive series of three for each pupil but this number may be varied at the discretion of the duty flying instructor, depending on demand.

You will require a medical before being allowed to fly solo. You are advised to obtain it when you start your training. Advice is available from the BGA website

When the time comes, you will do your first three solo flights in the two seat trainer, usually one after the other. You will then, after a satisfactory conversion training, fly the K8 for your initial solo flying. After a period of flying in the K8, you will convert to the K18. Before you can apply for your gliding certificate from the BGA you must be tested on the basic rules of the air, so you should study "Laws and Rules for Glider Pilots" from the outset.

A useful document called "Pilot's Training Guide" has been prepared for pre-solo pilots and is supplied to all new members under training. This, together with the Students Log Book, should give you some idea of what to expect from your training.

New members and visiting pilots with no experience of hill sites will be given instruction and briefings to give them the skills necessary to fly from our site.

All flying members are required to keep a record of their flying in a logbook. It is important to have your logbook available for the flying instructor to consult before each training flight, or series of flights. Log books may be bought from the office and a special logbook is supplied free to all pilots under training.

1.3 GETTING THE MOST OUT OF CAMPHILL_[PG2]

One full day per week is the recommended minimum for the first year or so. By a full day we mean from before the hangar is opened, until after it is closed at the end of play. Each of us depends on the rest to keep the operation going so to disappear off home early, i.e. after you have flown but while other trainees are still awaiting their turn, not only spoils it for others, it also denies you the opportunity of flying again in the late afternoon or evening when all the trainee pilots have flown the first time round.

Contrary to what you might expect, we usually get everyone into the air before dusk and the evening often provides ideal weather conditions for training flights. Once all the thermals have gone, the air is usually very calm and the south or west ridges may provide enough lift to sustain the two seaters for prolonged training flights.

Come to the club every available day no matter what the weatherman says. He often gets it wrong and in any case Camphill has a climate of its own. When it really is un-flyable we can teach you on the simulator and in the classroom. There is a library in the quiet room above the bar for solo studying.

Unflyable days also give you the opportunity to get to know your fellow members, and vice versa. A very good way of doing this is to help out with one of the many fettling jobs that are normally being done such as maintaining the clubhouse, vehicles, winches, gliders and airfield.

It is important to be on site early in the morning as flights in club gliders work on a first-come-first-served basis. The best way of being on site first thing is to come the previous evening (Friday or Saturday) and stay the night at the club. Book your bed at the bar or by ringing 01298 871270 or 01298 871207. (The club provides covered duvets, bottom sheet and pillowcases.) Evenings in the bar provide some of the best opportunities to meet other members.

If you have access to the internet, it is recommended that you regularly browse the DLGC members website at www.glidering.org.uk/members. The office will give you the current password. There you will see news of interest to club members, safety guidance and useful reference information.

1.4 THE DUTY ROSTER

The roster officer compiles a list of qualified members to be on duty, running the airfield operations for Saturdays, Sundays and most Bank holidays. All members are expected to carry out rostered duties commensurate with their experience. Members may be excluded from the roster only by written application to the committee. Members excluded from the roster may be required to carry out some other task for the benefit of the membership, such as, grass cutting or other general maintenance duty on a regular basis.

Midweek flying takes place every day during the summer when professional staff are employed and up to four days a week in the winter, weather permitting, when a reduced number of rostered volunteers ensure flying takes place.

While you are a very new member your name will not appear on the roster but after a month or two it will start to appear under 'duty clerk' and your job that day will be to keep the flying log where all the flights are recorded. You will receive a reminder through the post or by email a few days before your duty day. Please turn up and do your stint or find another member to stand in for you. It is in everyone's interest, especially the members under training, to keep things running efficiently. However don't fail to put your name on the flying list and press-gang a substitute for when it's your turn to fly.

As you gain more experience you may be asked to be a winch driver, launch marshal or flying instructor.

1.5 CLUB ORGANISATION

Ours is a members club. Although we employ a small number of part time staff to look after the administrative and domestic side of things and some aspects of winch and aircraft maintenance are handled professionally, everything else is done voluntarily by the members themselves. That's why gliding costs comparatively little in financial terms.

The club has a management committee with Chairman, Secretary, Treasurer and Chief Flying Instructor (C.F.I.), as it's principal members. Other committee members take responsibility for safety, maintenance of gliders, buildings, winches, tractors, and the airfield. The identity of the members of the committee and their areas of responsibility is posted in the clubhouse and on the website.

The club always needs help and assistance from its members and you are welcome in any areas you feel you can assist – just contact the committee member concerned.

The Chief Flying Instructor (CFI) has overall responsibility for all matters concerning gliding operations on or from the club site, and no flying may take place without his authority. His decision in flying matters is final. The CFI may appoint rated deputies to assist him but he remains responsible for all flying matters.

All Derbyshire and Lancashire Gliding Club flying instructors with a British Gliding Association full rating can authorise flying to commence. The CFI has authority to depute specific assistant rated instructors into that role. The instructor who authorises flying to commence must remain on duty until flying ceases unless the responsibility is handed to another qualified member. This does not preclude the duty instructor from instructional flying.

Working with the CFI is the Flying Safety Officer. His role is to advise and monitor the safety of club flying operations.

1.6 GLOSSARY OF CAMPHILL TERMS

AIRWAY – Usually refers to that part of Daventry CTA that passes above our site – with no entry for gliders. Its base is at FL 65 (Flight Level 65) This varies in altitude with atmospheric pressure but does not descend below 5,500ft amsl. i.e. about 4,500ft above our airfield. See section 5.1 more about controlled airspace near Camphill.

BACK WALL - The dry stone wall between the airfield and the moor on the East side of the airfield.

BOND STORE - A locked store, looked after by the Technical Officer, at the west end of the Glider workshop. Valuable equipment and spares used for maintaining gliders are stored here. Only a small number of members carry keys to the store in order to protect its contents.

BOWL – The part of the west edge with a cliff face, south of the windsock.

BROUGH FIELD - An emergency landing field situated about 2 miles to the north of the airfield.

BUNGEE SLOPE - Camphill is one of the few gliding sites where bungee or catapult launching is still possible. The slope from which gliders are launched by this method is just outside the normal boundary of the airfield at the north end, where a 50' length of wall has been replaced by a collapsible fence.

BUNGEE GATES - The gates in the wall at the northwest end of the site giving access to the Bungee slope from which gliders used to be launch by bungee (elastic rope).

BUS – The current Launch Point Vehicle (LPV) positioned at the launch point when flying is taking place.

CLOUGH - The valley running east from the south end of the airfield.

CLUTCHING HAND - A powerful down draught, well known to all experienced hill site glider pilots. The Camphill version lives behind (east of) the back wall and emerges from the heather when the wind is from the west.

COTTAGE – the residential accommodation for club staff next to the bar.

DAMS – “The dams” are the Ladybower, Derwent and Howden Dams that create the network of reservoirs north of Camphill.

DIESEL PUMP - Just west of the winch cave is an underground 600-gallon tank from which diesel fuel is pumped manually into diesel-engined vehicles. The pump of this tank is locked and the keys are held in the Office.

DUTY DOG - Slang expression for the duty Launch Marshal.

EVENING THERMAL or WAVE - When the wind is from the west it often happens that within about two hours of sunset a large area of smooth, weak lift is to be found just west of the site, over Bradwell Valley. It can be soared to 2,000' or more and it occurs at any time of the year once the normal thermal activity has died down. Members who go home early, or who de-rig long before dusk, tend to miss it.

GAS TANK - The LPG (Propane) tank situated between the diesel tank and petrol pump.

GLIDER WORKSHOP - The lean-to extension at the south end of the hangar. This is large enough to house a glider while repairs are carried out. Contains parachute storage and club battery charging facilities

GROUSE SHOOTING - Covenants in the deeds of purchase stipulates that flying shall not take place before 4.00 p.m. on up to seven days each year while grouse shooting is in progress on the moor. In practice, there are usually less than four such days per annum. The grouse-shooting season begins on 12th August and shooting never takes place on Sundays.

GULLEY - The small valley on the west ridge north of the trig point, called Deadman's Clough.

HOAGY'S LEAP - The Sleeping Policemen and drain, which lie across the road from the clubhouse to the hanger, named after their creator.

LANCASHIRE - As in D & LGC, the reason for the reference to two counties in the title of our club is that it was formed in 1935 by the merger of the Derbyshire Gliding Club and the Gliding Section of the Manchester Branch of the Royal Aeronautical Society.

LAUNCH MARSHAL - Usually an experienced solo pilot who acts under the authority of the CFI. Responsible for the launching of gliders at the launch point.

MAM TOR - Known locally as the Shivering Mountain because of the continual landslip on its SE face, this hill, 1700' high and three miles away from the airfield, is used for slope soaring in easterly winds. It can be reached from a good winch launch but getting back again requires the finding of thermal or wave lift; otherwise the glider will have to land near Castleton Village. Mam Tor is now very popular with hang glider pilots and modellers.

MANCHESTER TMA(Terminal Manoeuvring Area, a no-go area for gliders) and **CTA** (Control Area, a restricted area for gliders) around Manchester International Airport. The eastern boundary passes over the town of Chapel en le Frith, about 7 miles west of the site.

NESTING BOXES – Old term for the bunkrooms in the 'Ramsholme' above the clubroom. They can accommodate up to 10 people and are used for members and visitors wishing to stay the night at the club.

OFFICE - Portakabin in the car park - nerve centre of the club.

PILOT'S MANUAL - This manual. A copy is always kept in the clubroom and must not be removed from there. Also available as a computer file via the club members' web site. It is one of several manuals containing information regarding the club's operation.

RADIO MAST - The transmitter mast on the hilltop some two miles east of the airfield is a useful guide to visibility and cloud base. If the top is in cloud then cloud base is probably too low for flying.

SHATTON - A north facing soarable slope north of Abney Moor, overlooking Bamford and Hathersage.

SIGGATE - A north facing soarable slope running west from the Cement Works as far as the Winnats Pass.

SKYLAUNCH - The small purpose built trailer-mounted winch (No 1), bought new by the club.

SOUTH FIELD - An emergency landing field situated about half a mile due south of the airfield.

TALURIT - A generic name for the hydraulic press used by winch drivers for mending broken steel cables.

THOUSAND FOOT RULE - Another condition of the club's purchase (see also Grouse Shooting) stipulates that gliders should not be flown over the moor at less than 1,000' except in cases of genuine emergency. This rule is in force 365 days per year but it can be relaxed a little outside the grouse-shooting period, which is during the months of August and September.

TONY'S LAWN - The area of grass immediately to the north of the hangar - formerly a duck pond.

TOST - Purpose built glider-launching winches (No 2 & No 3) of German manufacture, bought new by the club, each mounted on an ex-Army lorry chassis.

TRACTOR SHED - (Formerly the Beaver Shed) - The shed on the east side of the clubhouse where the tractors are kept. The former name derives from the fact that it used to house ex-Army vehicles called Beaverettes.

TREAK CLIFF - An east facing soarable slope between the Winnats Pass and Mam Tor at the west end of the Hope Valley.

VIEWING AREA - Fenced off area on high ground on east side of airfield uses as a public viewing enclosure, with separate entrance from the road 200 yards east of the club, and a cairn for collection of donations,

WAVE BOXES - Areas of class A controlled airspace east of [Camphill](#) which cannot normally be entered by gliders but which can be entered [provided](#) required procedures are adhered to, pilots have required qualifications and the glider is equipped as required. This airspace is therefore available to DLGC gliders for high climbs and cross country tasks whilst wave soaring.

WEST FIELDS - A series of fields used for bottom landings by gliders soaring the west edge when they are unable to climb high enough to start a safe circuit onto the airfield.

WIN HILL - a hill across the valley north of the site that provides hill soaring in west and south west winds.

WINCH WORKSHOP - The large workshop on the east side of the member's car park.

WINCH CAVE - The shed west of the hangar where the winches are stored.

WINDY WENDY - (Corruption of "Wendy Windblows") The pole to the north of the windsock. This passes meteorological information to a computer in Castleton from which details of the current weather can be obtained by telephoning[PG3] 0901- 6660011. There is also a read-out in the clubhouse.

1.7 READING LIST FOR STUDENT PILOTS

Student pilots should be familiar with the booklet "Training Guide for Pilots". This is a DLGC publication that conveys the knowledge, skills and standards expected to be achieved before flying solo for the first time at this club.

Formal lecture programmes are arranged during winter months but as pilots progress at different rates it is not always easy to accommodate everyone's requirements. Instructors should be coaxed into giving a talk when the weather is poor. Pupils are expected to do homework and should seek advice when they encounter difficulty. Compared with the cost of flying the financial outlay in providing your own library is small. The CFI recommends that you have the following

Meteorology Simplified

Theory of Flight for Glider Pilots - R. Stafford Allen

Laws and Rules for Glider Pilots - BGA

Passenger to pilot - Longland

Gliding – the BGA manual

Gliding - Derek Piggott

Understanding Gliding – Derek Piggott

The Glider Pilot's Manual - Ken Stewart. An alternative to Piggot's two volumes

Some of these are available from the office and others from the BGA. or the second hand market.

For deeper understanding the following are recommended but may have to be bought from the second hand market.

New soaring Pilot – Irving and Welch

Meteorology for glider pilots – Wallington

Meteorology and flight – Tom Bradbury

Flying sailplanes – Helmut Reichman

Cross country soaring - Helmut Reichman

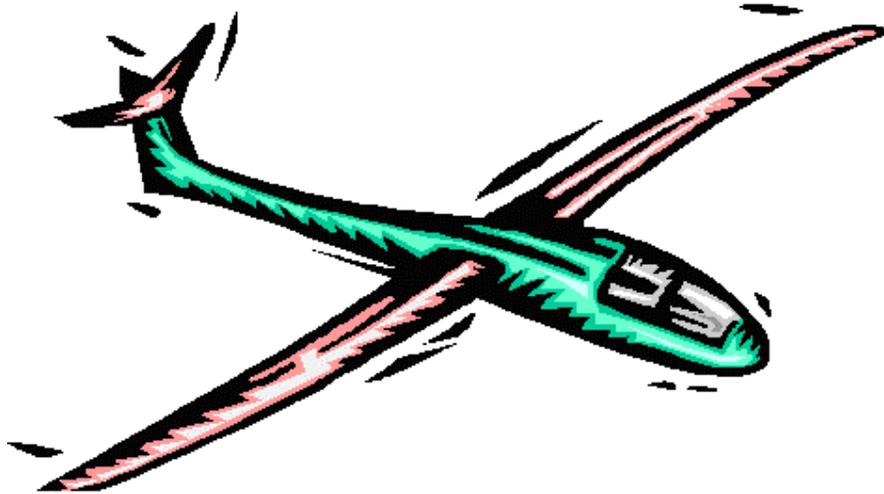
The BGA magazine is "Sailplane and Gliding" published every other month. You can buy it over the bar or direct from the BGA.

The BGA publishes infrequent documents such as the annual "Accidents to Gliders" and other safety related stuff that pilots must take seriously.

Pilots should subscribe to the web based information services of relevant aviation bodies, especially the BGA.

SECTION 2

FLYING RULES



2.1 INTRODUCTION

These Flying Rules apply at Camphill in addition to the Law and the Operational Regulations of the British Gliding Association, and are for the furtherance of safe flying. All pilots in charge of gliders at Camphill are to comply with these rules. This is the definitive statement of these rules and therefore takes precedence, and only the Chief Flying Instructor may add to, or waive them. See Section 1.5

2.2 GENERAL REQUIREMENTS

- a. Flying may take place only under the overall supervision of a person authorized by the C.F.I. All DLGC Full and some Assistant Rated Instructors are so authorised. Trial lessons may only take place under the supervision of a full rated instructor.
- b. Launching may only take place under the supervision of a locally qualified Launch Marshal
- c. All pilots must have read and be familiar with this Pilots Manual (including visiting pilots)
- d. All persons wishing to fly must ensure they meet the requirements of the duty instructor (See also Section 2.5)
- e. Any pilot flying club aircraft, or using club equipment will be responsible for the integrity and safe return of that aircraft or equipment to the hangar or place of storage, it's adequate picketing or transference to another member for their use.
- f. Pilots are required to ensure the aircraft are washed clean prior to being returned into the hangar after use.
- g. The Duty Instructor, CFI or his deputies may require any pilot to produce evidence that he is qualified to fly on any day. Failure to do so may result in the pilot not being allowed to fly or being subject to a check flight.
- h. If the Duty Instructor is away from the launch point for some time, for instance when flying, DLGC green card pilots and Silver C pilots may launch without the permission of the Duty Instructor. This is subject to the pilot meeting currency requirements and a Launch Marshal with sufficient ground crew being present to launch the glider safely.
- i. Basic Instructors must obtain a briefing from the Duty Instructor each day before starting to instruct.
- j. Instructors holding a restricted rating due to age or medical conditions may only instruct pilots who can reasonably be expected to land the aircraft safely in the event of instructor incapacity. This means they may only fly with a solo pilot and in weather conditions that are likely to be no more than one card above the card held by the P2.

2.3 THE INSTRUCTOR IN OVERALL CHARGE

2.3.1 Weekend and Bank Holidays

The senior duty instructor shown on the club rota or
In the absence of the instructor above, the instructor who authorizes flying.

2.3.2 Midweek

The club instructor, either professional or a volunteer.
Or in the absence of the above then the course instructor.
Or in the absence of the above then any full category instructor or assistant instructor authorised by the CFI.

2.4 LIMITS

Pilots must establish before flying that they have the experience and qualifications to fly in the prevailing conditions, as determined by the Duty Instructor. This applies equally to all pilots. The Duty Instructor will set down parameters of experience/qualifications required on the board mounted on the launch point vehicle.

Pilots who do not meet the set levels may only fly with the specific permission of the Duty Instructor. A satisfactory check flight may be required. It is the responsibility of the individual pilot to demonstrate that they are competent to fly in the prevailing conditions.

2.5 PRE-FLIGHT PREPARATION

- No glider, private or club, may fly without a satisfactory Daily Inspection (DI) which is entered into the DI book. The DI will include a positive control check.
- All flights will be preceded by an external check using the mnemonic ABCD
 - Airframe
 - Ballast
 - Controls
 - Dolly
- All flights will be immediately preceded by an internal cockpit check using the mnemonic CBSIFTCBE
 - Controls
 - Ballast
 - Straps
 - Instruments
 - Flaps
 - Trimmer
 - Canopy
 - Brakes
 - Eventualities
- Pilots rigging their gliders, performing the DI or doing their preflight checks will not be engaged in conversation or distracted in any other way.

2.6 LAUNCHING TO THE WEST

Pilots may launch to the West only if they have been signed off all relevant launch failure procedures. Launching should take place to the West if the West Ridge is expected to be soarable at or above 600 ft. in ridge lift.

2.7 CROSS WIND LAUNCHING

Winches must be placed in such a position, and pilots must control their launch, to ensure that the falling cable cannot endanger persons or objects on the ground, or fall off-site, even if the winch fails or the cable breaks.

2.8 SHARED TWO SEATER FLYING

Shared two seater flying is permitted only if at least one of the pilots is either an instructor of any rating, or is authorized to carry passengers or is authorised by the CFI. The pilot in charge must be recorded in the flying log prior to the launch of any two-seater.

2.9 LOW LEVEL HILL SOARING

When ridge soaring, pilots without a Bronze Badge, must not fly below a safe circuit height

Pilots holding a Bronze Badge with cross country endorsement or higher qualification may deliberately carry out low-level hill soaring on the west edge after appropriate training. Pilots must exhibit commonsense and good airmanship when carrying out low level hill soaring. (This is by way of emphasis and does not mean that they are not needed at other times). This is of particular importance if more than one glider at a time deliberately descend onto the hill. Pilots should keep a watchful eye for hang gliders and paragliders, especially when north of the gully. Generally speaking sailplanes should overtake hang gliders on the upwind side, the reverse of the normal rule.

2.10 VISITORS

Visiting pilots must familiarize themselves with the Pilots Manual and these Club Flying Rules. Visitors wishing to fly MUST seek permission from the Duty Instructor and obtain a briefing, regardless of their experience. This permission may be subject to a check flight, dependent on the prevailing weather conditions, pilot experience and site knowledge. All visitors are expected to have a check flight if they have not flown at Camphill before.

2.11 LOG BOOKS AND PAPERWORK

All pilots must keep a personal logbook as described in the BGA's Laws and Rules. Club gliders will routinely carry a DI book, a copy of the Airworthiness Renewal Certificate, a valid insurance summary, evidence of the form 267 renewal date and a laminated copy of the local part of a current CAA 1:500,000 VFR chart. Private owners are responsible for their own carriage of paperwork as required by law but the club does require them to utilise a DI book.

2.12 RECIPROCAL LANDINGS

Reciprocal landings may only be carried out in the following circumstances: -

In an emergency, OR where the down wind component is within the glider's limitations as specified in the glider handbook AND it is being carried out as a training exercise AND there has been prior arrangement with the Launch Marshal, OR There is a very limited operation such that all landings may be reciprocal

2.13 CHECK FLIGHTS

Pilots who have not flown for the periods of time shown below are subject to check flights before flying solo: -

- Instructors 86 days (nominal 3 months)
- Silver Badge 58 days (nominal 2 months)
- Bronze Badge[PG5] 30 days (nominal 1 months)
- Pre-Bronze 23 days (nominal 3 weeks)
- White card pilots 8 days (nominal 1 week)
- Early solo pilots 1 day

An early solo pilot may be taken off 'daily checks' following a minimum of 15 solo flights and a satisfactory check flight with a full or assistant rated instructor, who will sign the pilot's log book. A pilot may be returned to daily checks if it is considered necessary by an instructor.

Separate checks may be required for specific reasons such as west wind soaring;(see section on the card system), or any other strong or turbulent conditions in which pilots are inexperienced. Visitors will be expected to have a site check whatever their experience and must obtain a briefing before flying each day.

All non-instructors must undertake annual check flights with an Assistant or Full rated instructor. To be current on these checks, (i.e. allowed to fly solo), pilots must have satisfactorily completed the check flights no more than 12 months after the previous completion date. Check flights undertaken between 10 months and 12 months after the previous completion date can be counted as having a new completion date of 12 months after the previous. If a pilot is in any doubt about his/her currency then a check flight should be undertaken.

2.14 CROSS COUNTRY FLYING

- Pilots must hold a BGA Bronze Badge and Cross Country Endorsement, (this is a BGA operational rule).

- Pilots without a silver badge, intending to fly beyond gliding range, must obtain a specific briefing on the day from a flying instructor.
- Pilots wishing to make a silver distance badge flight must obtain a briefing prior to the flight from a Full Category Instructor who shall satisfy himself that the pilot has the capability to carry out the flight safely and is properly equipped.
- Silver Badge holders are classed as self-briefing.

2.15 AEROBATICS

2.15.1 General

Aerobatics may only be performed in a glider fitted with a serviceable accelerometer and when wearing a parachute.

No aerobatic manoeuvres or beat-ups are permitted during Trial Lessons.

No pilots may complete an aerobatic manoeuvre below 2,000 ft above ground level unless authorized by the C.F.I. This rule does not apply to practice stalls and spins, although it is advisable for early solo spins.

No pilot may carry out advanced aerobatics involving rolling or inverted flight without specific authorization from the C.F.I., a pre-requisite of which will be proof of adequate instruction in the planned manoeuvres.

The mnemonic "HASSLL" should be used before carrying out any height-losing manoeuvre

HEIGHT	check sufficient for the manoeuvre and to glide back to the airfield afterwards.
AIRFRAME	check the placard for maximum rough air , never exceed, flap speeds, etc.
STRAPS	check that the straps of each occupant are tight.
SECURITY	check security of any loose objects in pockets, cockpit or luggage space.
LOCATION	check not over towns or villages or directly over the airfield.
LOOKOUT	do a steep turn in each direction to look all round <u>including downwards</u> - but avoid circling because it attracts other gliders.

Some of these checks can be dealt with before take off.

2.15.2 Stalls and Spins

All solo pilots are encouraged to practice deliberate stalling and spinning whenever the opportunity presents itself. The airmanship considerations to be thought of before any height-losing manoeuvre should be run through using the HASSLL checks outlined above.

2.15.3 Loops, Chandelles, Tight Turns, etc.

Obtain dual instruction in these manoeuvres before trying them solo. Two seaters flown by flying instructors for instructional purposes may perform aerobatics at lower heights at the discretion of the instructor concerned.

Low-level aerobatics above the airfield and beat-ups of the airfield itself are permitted only on rare occasions for display purposes and the specific permission of the CFI must be obtained on each occasion.

2.16 FINAL GLIDES

Pilots on final glides should aim to arrive with enough height or speed to convert to height, to carry out a normal circuit and approach. They should monitor the airfield radio frequency in use and take care to avoid other airfield traffic. Finishes from final glides should not be carried out over the airfield itself instead using a remote turnpoint such as Camphill Start

2.17 Hill SOARING

2.17.1 Rules of the Air

Gliders approaching head on normally turn right to avoid each other but when hill soaring the glider with the hill on the right shall have right of way and the one with the hill on the left shall turn to the right away from the hill.

Aircraft overtaking another normally do so on the right, taking the overtaken aircraft to the left except that gliders may pass on either side. When hill soaring, gliders normally overtake on the inside. i.e. between the hill and the overtaken craft.

All turns when hill soaring are outward, away from the hill.

Thermalling amongst hill soaring traffic can be dangerous and local rules apply. Below 800ft above the edge hill soaring traffic can become congested and a circling glider effectively sterilises a section of the ridge thus compromising the safety of pilots who may be just hanging on or trying to set up a circuit. Pilots wishing to take a thermal should adopt hill soaring convention by, initially, not circling, instead doing outward turns to lurk or do outward S turns while the thermal lasts. A full circle may only be contemplated if there is manifestly no potential conflict with hill soaring traffic. Below 800ft circling gliders should give way to hill soaring ones.

2.18 PRE-LANDING RADIO CALL

Pilots flying gliders equipped with radio from Camphill are recommended to make the following radio calls prior to landing

CALL	<i>"CAMPHILL GROUND"</i>	
	<i>"ALPHA BRAVO CHARLIE"</i>	(i.e. appropriate glider call sign)
	<i>"DOWNWIND"</i>	(or <i>"BASE LEG"</i> or <i>"FINAL"</i> as appropriate)
	<i>"RIGHT HAND"</i>	(i.e. direction of turns in circuit)
	<i>"To the West"</i>	(as appropriate),

Calling the direction of the final should be in terms of the general direction, not a bearing as Camphill pilots are not accustomed to thinking of directions on the field in degrees

Once the call has been made pilots will be expected to land. The call should not be made before commencement of the downwind leg. Pilots intending to make a dummy approach, for instance in west winds or a motor glider, should add that intention to their call.

Radio calls should only be made if the pilot has the capacity to do so; Pilots must prioritise 'Aviate – navigate – communicate'

The frequency of Camphill Ground is 129.975Mhz. This is designated by the Civil Aviation Authority for air to ground communication, within 10 nautical miles and up to a height of 3000 feet from the base station. Pilots flying locally from or intending to land at Camphill should monitor this frequency. This frequency must not be used for air-to-air "chatter" or for ground to ground communications.

Under no circumstances should the ground station give instructions to aircraft calling Camphill on this frequency. Permission to land must not be given to any aircraft. Only information such as weather conditions, changes to launch points and landing areas may be passed from the ground. Only those with knowledge of aircraft radio operational procedures should pass this information.

2.19 STUDENTS LOGBOOK

The Derbyshire and Lancashire Gliding Club has its own Student Glider Pilot's Logbook. This is a self-contained document and is issued free to all new members. It contains a series of training exercises and a record of flights undertaken. These provide a record to plot the student's progress prior to going solo. It allows sufficient space for records to be kept by the student up to the level of the silver badge. The student should produce his/her logbook to the instructor each time the student wishes to fly.

2.20 THE CARD SYSTEM

The Card System is a safety measure aimed at ensuring pilots fly only within their competence level. There are 5 cards colours. Associated with each colour are some limitations placed on the cardholder.

The card held and student's logbook, together provide the duty instructor with a wealth of information about a pilot. Pilots can monitor their progress through a defined plan. The card system can be used to structure post solo training and can assist the instructor in limiting who can fly in conditions prevailing on a particular day.

The white, red and yellow cards list a number of checks that must be completed before moving on to the next card.

The colours, in order of progression, are :-	1	WHITE
	2	RED
	3	YELLOW
	4	GREEN

2.20.1 White Card

Qualifications	Limitations
Three solos	On daily checks for at least 15 flights and until cleared by instructor. Must not fly out of gliding range of site Must not launch to west Maximum 45 minutes flight Must only fly gliders cleared to fly

Issued by instructor sending solo

2.20.2 Red Card

Qualifications	Limitations
"B"Certificate Launch failure 25 flights P1 Cross wind flight East wind flight West wind flight Speed control Accurate landings Stall awareness Lookout.	Must not fly out of gliding range Must have pre-flight brief from instructor Subject to currency, conditions, annual checks and limits. May launch onto soarable ridge after two launch failures and check on day. Not to fly below circuit height or above cloud base until bronze is completed. May only fly gliders cleared to fly.

Issued by Chief Flying Instructor or DCFI

2.20.3 Yellow Card

Qualification	Limitations
Bronze badge. DI, de-rig, rig club solo gliders Two launch failures on soarable West ridge Observed solo stalls Dual spin Under training winch driver At least 3 flights to check: - Cross wind flight East wind flight West wind flight Speed control Accurate landings Stall awareness Lookout	Must obtain briefing from instructor May fly out of range after XCE, but must get pre-flight briefing for XC Self briefing after silver badge Subject to currency conditions and annual checks May only fly gliders cleared to fly.

Issued by Chief Flying Instructor or DCFI

Bronze C checks can only be carried out by a fully rated instructor (Laws and Rules)

Field landing checks will be carried out in line with the procedures described in this Pilots Manual and BGA Laws and Rules. See section 2.21

2.20.4 Green Card

Qualifications	Limitations
Cross country endorsement XCE Silver Badge 150 hours solo or Instructor rating	May only fly gliders cleared to fly. Subject to currency, conditions and annual checks Renewable annually by CFI subject to proof of Check flight and Launch Failure.

Issued by Chief Flying Instructor or DCFI

Expected to set a good example of flying and airmanship.

2.20.5 Visitors' Blue Card

A Blue Card is issued by the Duty Flying Instructor to visiting pilots before they fly. The card is endorsed with a colour from the Camphill set of card colours White, Red, Yellow, Green.

Before flying, visiting pilots must also have completed all the following

Signed a temporary membership form
 Familiarised themselves with DLGC Pilots Manual
 Produced their personal flying log book

In determining the endorsement colour, the instructor will take account of

Flown at Camphill before?
 How many different sites?
 How many hill sites?
 How many types of glider?
 Current on winch launching?
 Current gliders flown?
 Last flight –where and when?

The instructor should refer to the details of each card colour in assessing where the visiting pilot fits in to the Camphill system. The instructor issuing the card must satisfy himself or herself that the pilot is qualified to fly in the prevailing weather conditions. Visiting pilots who already hold a Blue card from previous visits may be required to undergo check flights on each visit or if inexperienced in the conditions on a given day. The duty instructor's decision is final.

2.21 BRONZE BADGE - FIELD LANDING EXERCISES

In order to comply with the recommended practices laid down in the Laws and Rules for Glider Pilots the following method of training for the field landings will be adopted for pilots trained at Camphill.

The procedures must be completed in the sequence shown before the pilot makes either his first attempt at a Silver Distance flight or attempts a solo soaring flight beyond gliding range of the club site.

Two simulated field landings on the airfield in a two-seater in accordance with the latest edition of BGA Laws and Rules for Glider Pilots. The instructor must be a full rated instructor.

On successful completion of the above, the student pilot must apply for the CFI's approval to carry out the Cross-country endorsement.

The pilot will then be expected to carry out the cross-country endorsement flights in accordance with the latest edition of BGA Laws and Rules for Glider Pilots. This will normally be carried out at a different site but if sufficient pilots are ready for the exercise then a motor glider may be brought to Camphill for this purpose.

On successful completion of the cross country endorsement the pilot will be expected to carry out a local dual soaring flight/or briefing in which he/she will be expected to demonstrate their knowledge of suitable landing fields close to the club. If the cross-country endorsement was carried out from Camphill then there will be no need for this further local field selection flight.

All flights should be certified in the pilot's logbook and on the BGA form provided for that purpose.

NOTE There is no formal requirement for a pilot to land in a bottom field prior to the Silver badge cross country flight but it is recommended that cross country pilots maintain their competence by actually landing in a field at least once a year. Any pilots holding a bronze badge with XCE or higher qualification who feel that they may wish to practice field landings off site may do so.. Before any field landing is made, the pilot must inform the Duty Instructor who shall satisfy him/herself that the pilot has the ability and is qualified to carry out the flight.

The usual courtesy arrangements must be made with the landowner.

Pilots landing in fields especially following a flight from Camphill should make a note of the farmers details and pass them to the office.in order that they can be invited to the annual neighbours night

2.22 SELF-LAUNCHING MOTOR GLIDERS AND TURBO GLIDERS.

2.22.1 General Guidance for use at Camphill

- a. Following the purchase of the site the club was restricted, by covenant, to the operation of two self-launching motor gliders (SLMG).. The committee of the club reserves the right to specify who may operate SLMG or Turbo powered gliders from its site and what type of aircraft they may be.
- b. The proliferation of self-sustaining or "Turbo" gliders in recent years means that the club can expect more private owners to purchase these aircraft for use at Camphill. Whilst not strictly motor-gliderng the local residents may see these as powered aircraft. Situated in the heart of a national park with many local villages, the gliding club and owners of such gliders must be sensitive to these issues. Sensible use by pilots will ensure that the club does not have to introduce draconian measures in the future or ban the use of the engines locally. .
- c. The terms motor-glider and turbo glider are as defined in the latest copy of Laws and Rules for Glider Pilots
- d. No person may permanently bring a self-launching or turbo glider onto the site without first seeking permission from the committee and the Chief Flying Instructor. Any person

- wishing to bring either type of glider onto the site must satisfy the Chief Flying Instructor that they are properly qualified and licensed to operate such an aircraft.
- e. Owners of both types of aircraft will be responsible for ensuring the safe storage of any fuels or other inflammable products used with the aircraft.
 - f. The following 'rules' are guidelines for the safe and considerate operation of both types of glider from Camphill and may be subject to alteration from time to time.

2.22.2 Self Launching Motor Gliders (SLMG's) - General

- a. Pilots in charge of SLMG's shall be licensed as required by the Civil Aviation Authority (C.A.A.).
- b. SLMG's shall be licensed by the C.A.A. in accordance with the current legislation
- c. Only two SLMGs with non-retractable engines shall operate from Camphill
- d. SLMG's capable of retracting the engine may be allowed to be based at Camphill when the number of motor-glidern as defined in (c) exceeds two, provided the engine is not used for take off.
- e. Private owners shall be required to provide sufficient fire prevention and safety equipment as is needed for safe operations.
- f. Powered aircraft including micro-lights, other than motor-glidern and turbo's as defined, are not allowed to be permanently based at Camphill.

2.22.3 SLMG - Operational Regulations

These shall be as for gliders where appropriate and in addition: -

- a) The aircraft must be operated within the recommended practices of the British Gliding Association and the flying rules of Derbyshire and Lancashire Gliding Club.
- b) The pilot in charge of an SLMG taking off or landing at Camphill is responsible for ensuring that any manoeuvre is undertaken safely and without interfering with other airfield traffic.
- c) Any take off or landing will be carried out at the discretion of the pilot in charge of the motor-glider, subject to the approval of the Launch Marshal and/or the Duty Instructor.
- d) Any take off and landing should be in line with the direction of the take off direction being used for winch launching on a particular day.
- e) There may be exceptions to d. for given weather conditions on a particular day. It will be the responsibility of the pilot to ensure that the launch point and winch are aware of the intention to take off or land in these conditions.
- f) Circuits should conform to the circuit patterns being flown on a particular day.
- g) Taxiing should be confined to the edges of any landing area, where possible.
- h) Engine warm ups and tests should be carried out so as not to blow dust/gravel over other aircraft through prop wash.
- i) The ground frequency of 129.975 should be used to communicate with the launch point.
- j) Pilots flying a motor glider from Camphill must leave a note of their route plan at the launch point control vehicle.
- k) Pilots flying motor gliders from the site must comply with the clubs rules on supervision i.e. there must be a person on site qualified to authorize flying and a launch marshal at the launch point.
- l) Pilots of SLMG must not carry out repeated circuit practice around the airfield where noise pollution could cause a problem to our neighbours
- m) Pilots should also be aware of the sensitive nature of noise pollution in the local community and use climb out patterns that avoid local villages.
- n) Climb out patterns should avoid circuit patterns and areas where gliders may be soaring.
- o) All winch cables MUST be wound in to the winch before any take-off is attempted and also, ideally, before taxiing.

2.22.4 The Operation of retractable engine gliders

No pilots taking a launch from Camphill may use the engine without demonstrating to the satisfaction of the CFI that they meet the following conditions.

- a) They are fully briefed on the operating procedures for the turbo unit.
- b) They know the rules to prevent noise pollution in the local area. (see 2.22.4 (e))
- c) They are capable of landing safely in a field with the turbo unit deployed but inoperative.

d) They have satisfied the CFI that they are fully aware of the problems caused by the engine being out and not running.

Inexperienced pilots may be required to visit a large aero-tow site where the emergency procedures can be practiced.

No pilot should attempt to use the engine in order to avoid landing out without the pilot having successfully practiced starts, engine retraction and landing with the engine deployed but not operational.

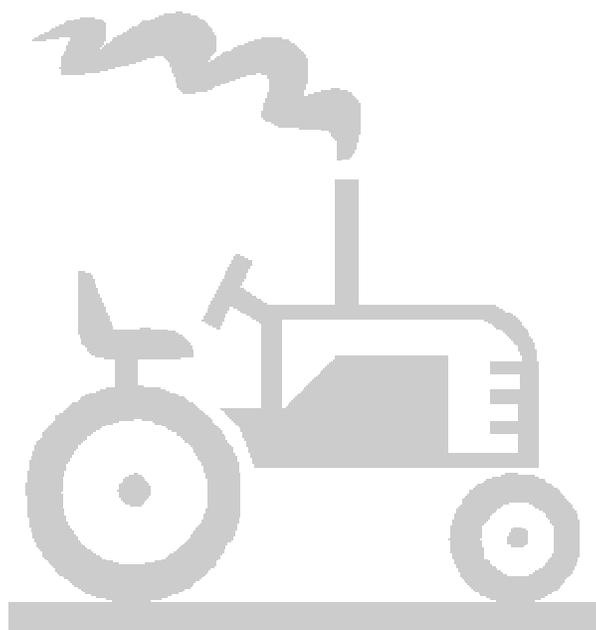
e) Noise pollution is a sensitive issue to local residents and visitors to the Peak District. For this reason the following practices are recommended for starting the engine in the air close to the site:

- Where possible pilots should not use the engine below 3000 feet and within 5 nautical miles of the site.
- Prior to cross-country thermal flights, the glider should be thermal climbed to a height above which it is intended to start the task. The engine should then be run for no more time than necessary to satisfy the pilot that the engine is working (Typically 30 to 60 seconds).
- On returning from a cross-country flight where the engine has been used to return to the site the pilot should climb to sufficient height to be able to retract the engine prior to approaching the site.
- Pilots should not use the engine, persistently, low down to climb away from the site in search of soarable conditions elsewhere..

f) Pilots of self sustaining gliders should obey club-flying rules in relation to gliders and any guidelines relating to motor gliders that may cover aspects of their flight.

Pilots who fail to observe the spirit of these guidelines may have their permission to operate the glider from Camphill withdrawn.

SECTION 3
ON THE GROUND



3.1 GROUND RULES

Pilots are expected to know and observe the BGA operational regulations and recommended practices as contained in the latest edition of Laws and Rules for Glider Pilots.

The hangar is normally only packed and unpacked by flying instructors and launch marshals. However, single seaters may be removed or put away if a competent solo pilot takes charge provided that no two-seater or private glider needs to be disturbed.

An authorised person must inspect club gliders on a daily basis before flying. All faults should be recorded in the DI book, which should be signed by the person making the inspection.

No gliders should be taken from the area of the hangar or trailers to the launch point until they have been fully rigged and a "Daily Inspection" (DI) completed.

In calm weather when the visibility is good, prior permission is not required before taking a glider to the launch point. Where conditions may be outside the experience of the pilot they should consult the Duty Instructor before taking any glider to the launch point. Gliders should not be left parked at launch points. Gliders left out unattended should be properly picketed.

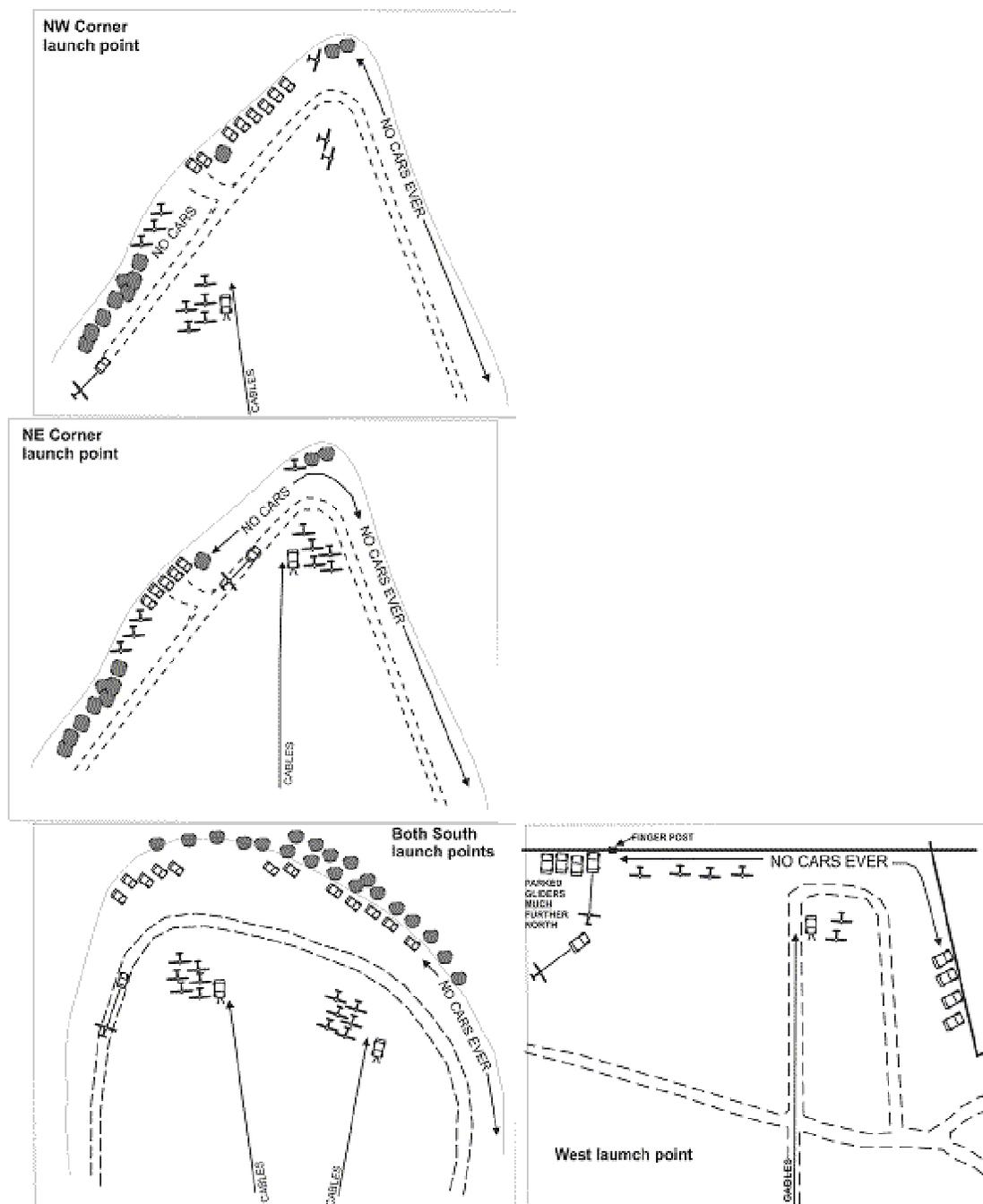
Members are reminded that they are responsible for their actions and, in the interests of safety, any damage found or caused must be reported on a Fault Report which is posted through the office letterbox. (pro-forma's are stored in the payment area of the clubhouse and other strategic places).

3.2 MOTOR VEHICLES

Vehicles "air side" on the field are governed by a code of behaviour based on good airmanship and the need to conserve the fabric of the field, The model rules governing this are laid out under the heading "NOTES ON GROUND MOVEMENTS" – Section 3.10

In general terms, vehicles are limited to 15 mph and are normally restricted to the roads and tracks except for the purposes of retrieving aircraft off the field, essential work and emergencies.

They should not be parked within 10 metres of any roadway nor in the immediate vicinity of any launch point. See the following diagrams for appropriate parking areas,



Most motor insurance companies do not cover private vehicles airside on any form of flying site. So it is likely that in respect of any accident involving your car on an airfield, you are NOT covered and are personally at risk in the event of a claim. However the club insurers *may* indemnify members for liability in the event of 3rd party claims (but NOT visiting non-members). Some glider policies may include a degree of cover for towing the glider airside. It is important to know the terms of your policy.

3.3 PARACHUTES

All parachutes are items of life saving equipment. They are expensive to purchase and maintain and must not be thought of as mere cushions or ballast weights. They must be treated with the utmost respect.

All pilots are encouraged to learn how to inspect a parachute to see if it is serviceable. Any instructors or solo pilots can carry out this training.

Parachutes MUST be: -

Stored in lockers overnight.

Never put down on the grass, even for a moment.

Never left out when they might get rained on.

Always stored in their protective bag when not in a glider.

Never left in a glider cockpit when there is a risk of rain.

Parachutes at the launch point and NOT in use should be placed safely in their bags and left in the launch point vehicle from where they should be returned to the locker at night.

Parachutes should be inspected daily, before use by a competent person and any suspected fault reported.

Club parachutes are inspected regularly and repacked every six months. Records are maintained on the blackboard in the aircraft workshop

At night they should be returned to the heated lockers in the aircraft workshop. Faulty parachutes should be marked with a label so that they can be repaired/repacked.

Privately owned parachutes should be re-packed at least every 12 months.

3.4 LAUNCH MARSHALS (LM)

The Launch Marshal has a multitude of tasks and responsibilities and this is not the place to list them all. His authority is delegated from the duty flying instructor. Members should appreciate that the LM is in charge of everything that happens at the launch point and should do everything they can to assist the LM in running a safe and efficient operation. Whenever possible members should arrange to relieve each other - at winch driving, cable retrieving, observing, signalling, glider retrieving and so on - without necessarily bothering the Launch Marshal. Please keep the LM informed of who is keeping the flying log and let there be no doubt as to who is looking after the money collected for flying. The duties of LM's have been written down in a manual and copies can be obtained from the office or the Chief Launch Marshal. There is a copy in the clubroom.

Launch Marshals are solo pilots with sufficient training and experience to carry out the duties safely, who have been briefed and authorised by the CFI, DCFI or Chief Launch Marshal.

3.5 ANIMALS

Dogs taken onto the airfield must be on a lead. Care must also be taken to ensure that they do not foul the airfield or the site generally. Any sheep that stray onto the site should be shepherded away before launching starts

3.6 GLIDER GROUND HANDLING

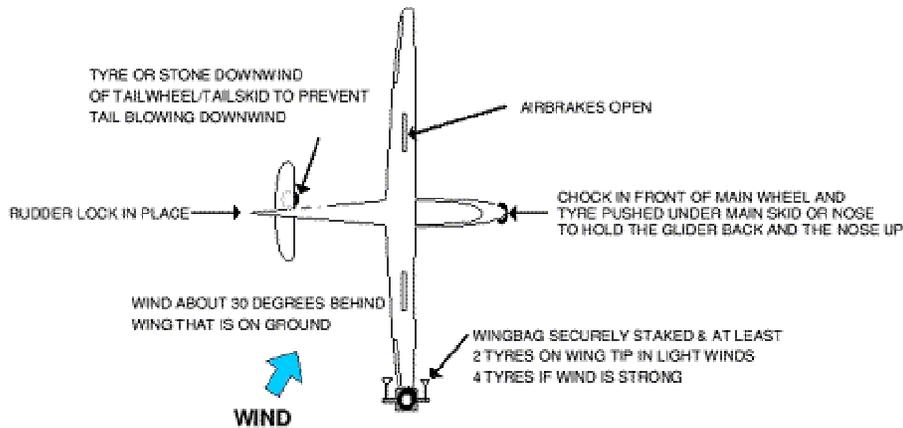
3.6.1 Parking a Glider

The aircraft is turned so the wind is blowing over the rear quarter, the windward tip is lowered to the ground and a wing tip bag placed on it which is secured to the ground by stakes that go through the holes in the straps. These bags and stakes are part of the aircraft's kit; when kept in the glider they should be securely stowed. They may be needed when the aircraft lands and needs to be secured whilst the pilot(s) seek a retrieve.

Several tyres can be placed on top of the bag to hold the wing down. Do not use a tyre complete with wheel adjacent to the wing as the rim can cause damage. It is bad practice to put the tyres directly on the wing, but in strong gusty winds, it may be necessary as there is not enough room on the bag for the tyres needed without building an unstable pile.

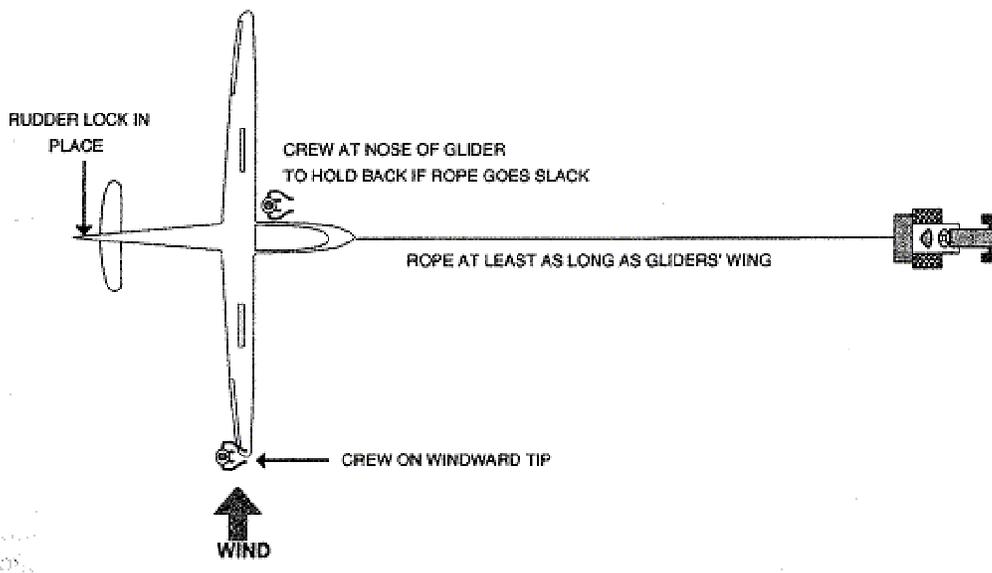
The aircraft must be prevented from weather cocking on its main wheel by pushing tyres under the nose wheel or skid to ensure the tail wheel/skid is hard on the ground.. Another alternative is for a strap and stakes to secure the tail to the ground

In addition, a weighty obstruction, (usually a couple of tyres) is placed adjacent to the downwind side of the tail wheel/skid once the nose is jammed upwards. A rudder lock should be used to prevent the rudder being blown against its stops. It may also be necessary to chock the main wheel to prevent the aircraft from rolling down a slope.



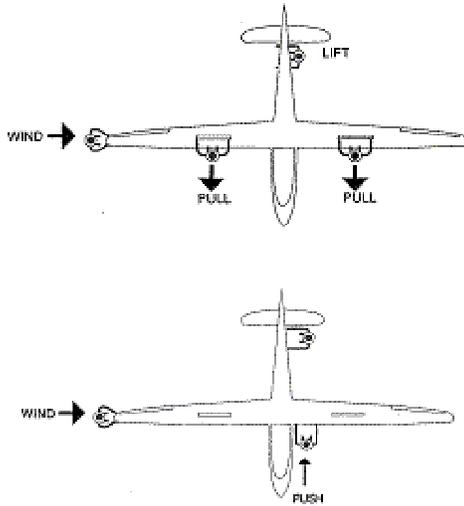
3.6.2 Moving a Glider with a Vehicle

The glider is towed by a vehicle using a rope at least as long as the glider span, approximately 50 feet, attached to one of the launching hooks. It is steered by a person holding a wing tip who must always be on the windward side. The leeward wing is not held as the steering is effected by the wingman pulling back or pushing forward on his tip to rotate the aircraft on its main wheel and change direction. A person on the other wingtip impedes this. There must always be a third person in front of the root end of the main wing to act as a brakeman in case the aircraft catches up with the car. This person is normally the one in charge of the retrieve.



3.6.3 Moving a Glider by Hand

You may pull on the front of the airbrake slot, the firm parts of the cockpit structures or the straps. You may push on the root end leading edge of the main wing, most nose cones or the firm parts of the fuselage. You must not push or pull on the brake paddles, the trailing edge of the main wing, any part of the wing outboard of the brake slot, the canopy or any part of the tail assembly. You may only lift where a handle is fitted or by reaching under the fuselage at the base of the tail. If pushing backwards, ensure that the rudder cannot dig into irregularities in the ground and get damaged.



When moving gliders on the ground, on no account reach through the DV panel when moving. Stop the glider before opening the canopy to access the cockpit. If the glider is overrunning, given that the rope is a full span length, then the wingman can stop in his tracks and slew the aircraft around him, without hitting the towing vehicle, until it is running across the slope and out of danger. This is not the time to try and reach into the cockpit to release the cable. The towing driver must always be aware of what is happening behind him by looking backwards regularly in case of trouble. The windows must be open and any non-aviation radio, tape deck etc. turned off so that he can hear instructions from the crew.

When retrieving downhill, three people manhandling the aircraft are in better control than two with a third in the vehicle. This practice is recommended for retrieving down the road from the windsock to the hanger. The vehicle should be left near the windsock or out of the way near the hangar. Don't forget the rudder lock when you go to the glider.

3.6.4 Retrieving off the Field

Detailed guidance on behaviour when retrieving off the field is given in "Notes on Ground Movements" from 3.10 onwards. In general terms it is a priority to clear the field of landed aircraft. Club vehicles and private ones should be used interchangeably to retrieve both Club and private aircraft at least to the periphery of the field. The Club tractors are not restricted to retrieving club aircraft. Single seaters need a crew of two plus the pilot for safe handling. For a two-seater it is sufficient for the tractor driver to go alone. In strong winds, add one person to these complements. Always take the rudder lock appropriate to the aircraft. Keep a good lookout for flying aircraft. The first priority is the safety of airborne traffic trying to land.

3.6.5 Turning a Glider Around

To turn a glider on the spot it is important to keep both the tail wheel/skid and the nose wheel/skid clear of the ground or they may be damaged. If the main wheel is in a hollow it may be impossible to turn the glider at all. One person should hold a wing tip and another should be at the nose or tail pressing or lifting as required. It may be necessary to change tips part of the way round. Remember the wind direction!

3.7 CABLES - DRIVING THE CABLE RETRIEVE VEHICLE

3.7.1 Driving to the Winch End

If the spreader is the type with extending arms, ensure the arms have been retracted before driving off. The route to the winch must be along proper roads or on the grass outside the peri-track, never across the airfield inside the peri-track. When passing the hangar area, do not drive across the apron in front of the hangar - go round the west side of the winch shed. Watch the launches that take place when driving along so that you will notice if a cable break occurs; then you could go and collect the broken cable and retrieve it to the winch after ensuring it is safe to do so.

3.7.2 At the Winch

Park alongside and about a wingspan away from the winch, on the upwind side. When the last cable of the set has dropped to the ground, move into position in front of the winch when safe to do so. When all the cables have been hooked on (it may be quicker to do this yourself if the winch crew are busy) check that the winch driver is ready for you to tow out the cables, engage gear, move forward slowly until all the cables are tight then accelerate smoothly away.

3.7.3 Towing Out

The important things are to drive in a STRAIGHT LINE and to accelerate and decelerate smoothly and gradually. If a cable becomes detached from the spreader, do not stop to retrieve it, carry on. Generally speaking do not stop unless an approaching glider looks like landing very near you, or on the cables behind you, in which case slow down smoothly and stop. There is usually no need to apply the brakes because of the drag of the cables. Once the glider is clear of the cables or not in your path, check behind that the winch driver has not given a stop signal and then carry on towards the launch point.

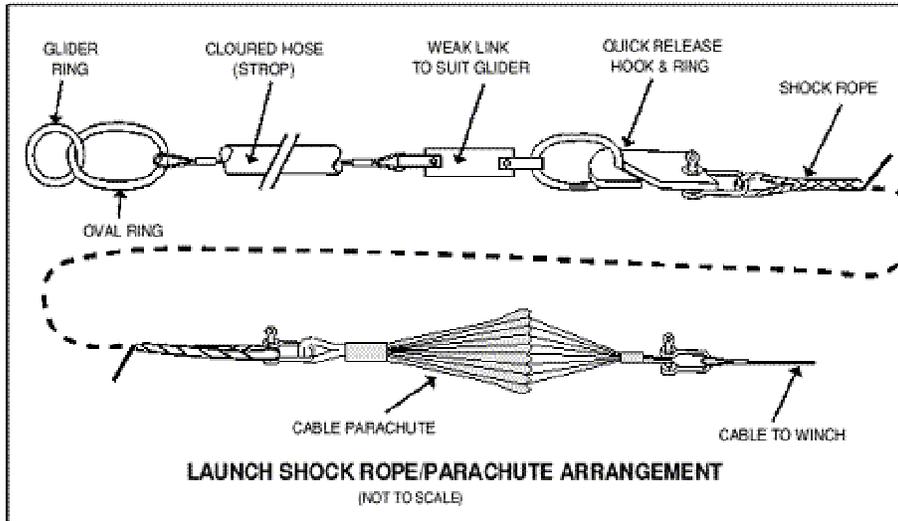
On arriving at the launch point it is better to go a few yards too far than a few feet short. After stopping, reverse a few inches to slacken the cables. If you have arrived with fewer cables than you set off with, tell the Launch Marshal, mentioning at what point the particular cable(s) came off. DO NOT STOP to collect cables that have fallen off the spreader.

If you think there is something wrong with the cable retrieve vehicle, tell the Winch Driver or Launch Marshal. Keep an eye on the fuel level on a long flying day; it may need topping up.

3.7.4 At the Launch Point

The person carrying the cable across to the glider should ensure that both of the rings are free from cracks or distortions. The correct weak link should be connected to the rope before it is attached to the aircraft. The cable/weak link must not be attached to the glider until the pilot has indicated he is ready and has completed his cockpit checks. It must never be connected using the back release but only by the pilot opening the hook. Only then should the wings be held level, for this is a signal both to the Winch Driver and anybody else on the airfield that the launch is about to commence. After the cable has been attached, the crew should check that the smaller ring (the one grasped by the glider mechanism) is free to rotate.

The make-up of the end of the cable is as shown below:



3.7.5 Cable Breaks

As far as the people sorting them out on the ground are concerned, cable breaks normally fall into three types; the rope may snap, the glider weak link may break or the shock rope may fail, usually where it passes round shackles. In the first instance, someone on the ground will have to take the broken end with the parachute, etc to the winch. It is important to collect a broken cable promptly since it is a hazard and prevents further winch launching so long as it is lying on the field. The easiest and quickest way to find the broken end of the cable is to go first to the parachute and then to drive alongside the cable towards the winch. The broken end is the bit that is dragged to the winch for repair. The cable may only be dragged away when it is manifestly clear that it will not snag on anything, especially aircraft and people. Launching may not recommence until the cable is out of the way. On the tow back, it may be possible to manoeuvre the cable out of harm's way so that flying can begin again before the repair is effected. This judgment is up to the Winch Driver. If the weak link or shock rope fail then someone on the ground will have to collect the strop and/or part shock rope.

3.8 THE LAUNCH POINT VEHICLE

The only vehicle allowed at the launch point is the Launch Point Vehicle. This is kitted out with automatic light signalling equipment.

It is also equipped with a radio for communication with aircraft on 129.975MHz. This channel is designated by the CAA for ground/air communication with the local air traffic manoeuvring near the airfield and is used by airfields up and down the country. It is not intended for ground-to-ground or air-to-air use.

There is also a radio on the fixed frequency used by many hang/para glider pilots. This may be used to request that their pilots clear a specific area close to the airfield for operational safety reasons.

The Launch Point to Winch communications and Launch Point to Visitors Car Park are through separate, short range, hand held radios which should only be used for these purposes. They are not air band transceivers. A mobile phone is fitted for emergency use only.

The flying log is maintained from this vehicle by way of an on-line internet connection. All members should be conversant with the system

3.9 NOTES ON LAUNCHING FOR GROUND CREWS

3.9.1 Signals

The signaller should repeat all instructions given by the Launch Marshal, out loud, so that there can be no misunderstandings.

The primary method of signalling between the Launch Point and Winch is by using automated lights fitted to the Launch Point Vehicle. However, in the event of a failure of this system, car headlamps or a "two bat" signalling system may be used as described below.

3.9.2 Lights Method

TAKE UP SLACK	(three words)	flashes of one-second duration with gaps of 3 seconds duration
ALL OUT	(two words)	rapid flashes; one per second
STOP	(one word)	a continuous light.

Currently (June 2011) the Launch Point Vehicle is equipped with automatic signalling equipment. By pressing the buttons, the correct signal is given. Again the positioning of the signaller should be so that he can see the Launch Marshal, the pilot and the cable. Repeat clearly the exact commands you have heard from the Launch Marshal and that you are carrying out so that he knows you have heard them correctly.

3.9.3 Two Bat Method

TAKE UP SLACK (three words) one bat moved slowly up and down, going no higher than the shoulder (Often it does not matter whether you use the white or red side but sometimes the winch driver may ask for one colour as a preference).

ALL OUT (two words) two bats moved up and down simultaneously using a faster rhythm than for Take Up Slack; still no higher than the shoulder.

STOP (one word) both bats held still above the head; keep the bats up there until given permission to put your arms down.

Give yourself a clear background; ensure you are not standing in front of a car or glider. The side on which you stand tells the winch driver which cable is attached to the glider. When using bats the signaller should be so placed that he can see the winch, the cable and the Launch Marshal.

3.9.4 Winch Driving – see the Winch Manual

Winches may only be operated by pilots who have satisfactorily completed the training detailed in the winch manual. If winch driver training is in progress, the Launch Marshal should be informed. Only solo glider pilots may normally train as winch drivers.

3.9.5 Observing at the Winch when Required

The observer's job, when required, is to watch the signals. It is very dangerous to stand on or near a winch during a launch. Cables can break and when they do, they can recoil dangerously. Observe from a safe place; the safest place is inside the winch cab. Give the winch driver a running commentary on what's happening at the launch point. Tell him which glider has its wings level, when

it appears to be hooked on etc., and then he can have all the levers in the right position to begin the launch promptly when the signals actually start.

Call out the signals in full; TAKE UP SLACK, ALL OUT and possibly STOP. These words are chosen for clarity and variations should not be used. Signals are explained in Section 3.9.1 to 3. Watch the signals all the time. STOP is sometimes given after ALLOUT, even after the glider has taken off. In such emergencies your responsibility is considerable. Keep looking back at the signalling position until the glider is up to 400 ft or so in case a late Stop signal is being given. If you can't make out the signals clearly, call Stop.

Be alert for hazards that the Launch Marshal and winch driver may not have noticed such as gliders on the approach and people or animals straying onto the airfield. Find out how to operate the cable chopping guillotines. Everyone at the winch should know how and when to use them.

3.9.6 Launch Point Crew

The glider should not be turned to face a strong wind unless the pilot is aboard or the nose is being held down. Where the launch point slopes downhill a person on each wing tip should prevent the glider from over-running. They should both hold back until the take off run starts when only the pre-arranged wing runner should run. Normally the windward tip should be held, but in strong cross winds it is useful to hold the downwind tip of gliders known to be prone to wing dropping and ground looping but look to the pilot for his preference. The tip can be held back slightly to prevent the glider swinging into wind. If the glider over-runs the cable, someone should shout STOP repeatedly until the pilot has released the cable and a STOP signal given to the winch.

If the glider's brakes come open during the launch, let the launch proceed as normally as possible.

3.9.7 Keeping the Flying log

The flying log is an on-line electronic system use of which requires training. An accurate log of all flying and some related matters such as use of controlled airspace is a legal requirement and the means by which the club ensures it's revenue. It is essential it is accurately kept. Paper log sheets are available in the LPV in case the system goes down.

The Duty Clerk keeps the log on behalf of the Launch Marshal. The DC should refer any queries to the Launch Marshal. If you hand over the log to someone else, tell the Launch Marshal and ensure that any cash already collected, for trial lesson flights, is in the cash box in the LPV.

At the end of day – a check of the log must be made by the Launch Marshal that all launched gliders are accounted for – either by a recorded landing time at Camphill or a note confirming a landing elsewhere. After careful checks that a landing has not been overlooked, aircraft missing procedures must be initiated for any glider that cannot be accounted for. The procedures are at the club house phone points and in the red emergency procedures box on the bus.

3.10 GROUND MOVEMENTS

A Pilots Manual is not complete without general consideration of activity on the ground and some debate on the airmanship of those pilots and crew who are not actually flying. The following notes touch on some specific problem areas and give a set of solutions. The emphasis is on safety and efficiency. Efficiency should not be confused with expediency.

3.10.1 Retrieve Movements

3.10.1.1 The Problems

- Aircraft cannot (normally) hold for a landing slot.
- A lot of aircraft may all have to land together.

- Final glides and returns from nearby hills may result in landings unexpectedly and at very short notice.
- Inexperienced pilots need a lot of room.

3.10.1.2 The Solutions

The whole airfield should be reserved for aircraft to land anywhere anytime. To this end vehicles should only traverse the field to retrieve aircraft and then as expeditiously as possible. Vehicles other than those clearing aircraft should use the perimeter track. The grass is for aircraft; roads are for vehicles, an aircraft on retrieve is a vehicle. Vehicles and people on retrieve must minimise the target presented to landing aircraft both physically and temporally.

In general terms: -

- Move as fast as safely possible. Don't gossip.
- Use roads to reach the closest upwind point from which you can reach the aircraft in line with the general direction of landing.
- At the glider, park the vehicle to point in the direction of the retrieve, which will probably be the reverse of the access route before hitching up the glider. Be aware that the direction in which the vehicle points is a very clear signal to airborne pilots who are assessing landing alternatives, which way the retrieve combination is going to go. Be sure you signal your actual intention.
- The tractor, plus rope, plus glider is about 100 feet long - twice the target of an aircraft pointing into wind, three times the target of one parked across wind. Do not drive across the direction of landing. This doubles the target and restricts the landing space. Where an aircraft is close to a peri-track such that another one landing cannot fit in the intervening space, access and retrieve should be crosswind from and to the peri-track.
- When the field is very crowded a doglegged retrieve into the line of other landed aircraft will minimise the target and maximise the landing area.
- Do not retrieve towards the launch point unless it is safer for an aircraft on approach to overfly the retrieve combination than land short. Under this circumstance it will be better to access the aircraft from down wind. This is common practice when launching from the back wall in west winds.
- Retrieves that are crossing the field via a road and that need to stop, e.g. for cables, should do so in line with another aircraft on the field to minimise the target. (Not all landing aircraft stop before the roads that run east/west!).
- Do not stop when to keep going would reduce risk or increase the landable area.
- If there is a choice of route, always take the one that minimises the damage to the airfield.

3.10.2 Pilots on the Ground

3.10.2.1 The Problems

- Aircraft littering the field are a hazard to those needing to land.
- Aircraft not retrieved are aircraft and pilots not flying when they could be.
- In very strong winds aircraft may be at risk of damage if left unattended.
- Once landed, a pilot is less aware of the needs of those still in the air than he was when he was flying.

3.10.2.2 The Solutions

- The pilot should only remain in the cockpit when the wind is strong enough to present a hazard to an unoccupied aircraft or the canopy cannot be safely removed. Otherwise he should climb out and be aware of what is happening around him.
- Wing bags and stakes should ideally be carried in the aircraft so the pilot can, if necessary, stake his machine down cross wind (minimising the target) and help others on the field or get his own retrieve. He should be prepared to move/help move his or somebody else's aircraft around to minimise the targets and maximise the landing area.
- If he has a radio in the aircraft it should be tuned to 129.975 and left on when on the ground. He should listen for indications of imminent landings. Pilots in the air should announce their intention to land.

- When on foot, don't dawdle. Use the same route as you would if driving a vehicle.
- There should be no distinction between moving private and club aircraft off the landing area. Safety is paramount, petty class distinctions are not.

3.10.3 Launch Points

3.10.3.1 Objective

To safely launch, as expeditiously as possible, pilots who are in the right frame of mind.

3.10.3.2 Logistical Problems

- A pilot cannot concentrate on his proposed flight until his aircraft is in line.
- If the launch rate is what it should be, he won't have time for this unless he can join in line more than four aircraft back (assuming four cables).
- Time is also required to park towing vehicles, stow towing out gear, and transfer odd essentials to the aircraft etc., before being "ready" in line.

3.10.3.3 Safety Problems

- Failure to flow pilots/aircraft through the launch point promotes delay, frustration and ill preparedness and the wrong frame of mind.
- Sloping launch points, close to the peri-track, make manoeuvring difficult increasing the risk of collision between aircraft or aircraft and vehicles.
- It is difficult to get six aircraft in line.
- Lumpy and eroded ground makes the ground run unpleasant and potentially hazardous. Eroded ground produces dust in the summer (canopies, wings, bearings) and mud in the winter (packed frozen wheel boxes, bearing, wheel brakes).
- Erosion is a product of all forms of traffic.

3.10.3.4 The Solutions

- Unimpeded flow of retrieved aircraft from both sides into the back of the launch point.
- Room for two lines of three aircraft in line.
- Smooth grass covered launch points.

3.10.3.5 In General Terms

- Motor vehicle movements should not drive across or in front of the launch point.
- Vehicles and aircraft should not be parked near the launch point (or anywhere on the airfield) where they would impede the passage of aircraft of at least 20-metre span travelling on a road.
- Position the Launch Point Vehicle so that it does not obstruct the desired flow and marks the front of the launch point.
- Forbid the parking of aircraft where they would impede the flow into the launch point.
- Forbid the use of vehicles to tow into the launch point where the risk of collision is maximal - stay on the road to the point where gravity assists and enlist manual help.
- Forbid the use of vehicles apart from the LPV on the launch point areas altogether.

3.11 TRACTORS – SAFETY RULES AND GUIDANCE

Members must not permit those under 16, or non-members to drive or ride on tractors.

Before driving a tractor, members must be trained by another experienced member of the club

Training for tractor driving must include the following safety aspects;

- an understanding of the risk of roll-over,
- the care of passengers riding on the back,
- the limitations of the braking and steering,
- safe parking on a slope,
- the hazards of manoeuvring on the airfield,

- good practice when retrieving gliders,
- basic daily checks and maintenance.

Tractors are unstable at speeds over 10 mph if turned sharply or driven over rough ground. Such driving must be avoided because of the danger of overturning and consequent serious injuries.

Tractors carrying passengers on the rear must not be driven at speed over rough ground so as to risk the passenger losing footing or grip.

Tractor steering systems are heavy to handle and the braking systems are less effective than cars. Allowances must be made for these factors.

Tractor parking brakes cannot be relied upon solely. Tractors on slopes must be parked across the slope, with handbrake on, with both gear levers in gear and the fuel cut-off activated.

Tractor drivers must take care, by good look out, when going to retrieve gliders, not to drive into the path of landing gliders or unnecessarily obstruct the landing areas on the airfield.

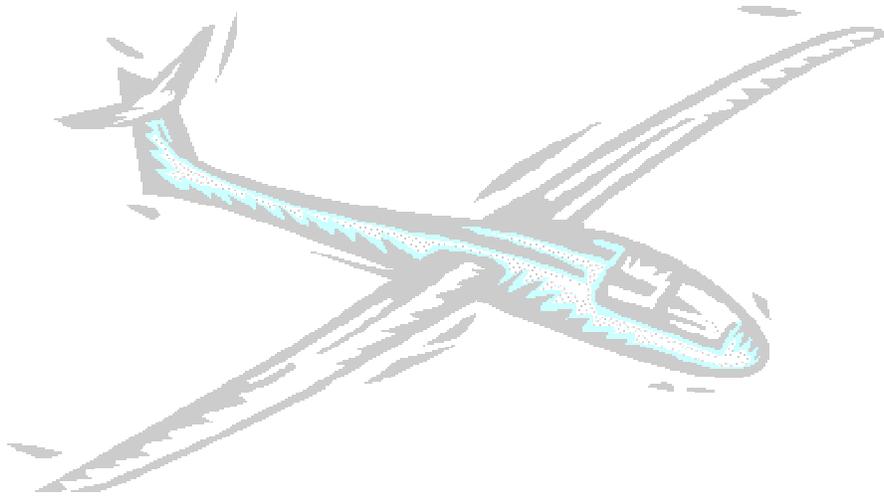
When towing, tractor drivers should observe the glider and its handlers at all times in case of a need to stop. Stop is signalled by a hand raised above the head.

When going to retrieve a club glider, it is required practice to take a rudder lock.

To avoid obstructing landing aircraft the perimeter track and roads should be used to the maximum, To prevent destruction of grass care should be taken not to skid when braking on grass and unnecessary driving on the grass anywhere should be avoided.

Before use each day tractors should be visually checked. Fuel, oil, coolant, tyre pressures and battery electrolyte should be topped up if necessary at that time. Guidance on these procedures must be sought from an experienced member.

SECTION 4
LAUNCHES AND LANDINGS



4.1 LAUNCHES - GENERAL

4.1.1 General Responsibilities

The Launch Marshall is responsible for initiating the launch.

Whilst the above statement is correct, the pilot at all times remains responsible for the safety of others outside the glider, the glider and him/herself. If the pilot is not happy that the launch should commence, he/she should not accept the cable or release the cable if it has been attached.

A full cable release check, covering release under tension and back release, should be made before the first flight of the day. Ideally this should be completed before the aircraft reaches the launch point.

4.1.2 Launch Sequence – On the ground

Only when the cockpit checks have been completed should a pilot request the cable.

The person attaching the cable should ask the pilot: "CHECKS COMPLETE? BRAKES CLOSED AND LOCKED?"

The pilot must be able to reply: "CHECKS COMPLETE BRAKES CLOSED AND LOCKED."

The person attaching the cable should tell the pilot: "OPEN."

The pilot should then open the release mechanism and the person attaching the cable should insert the smaller of the two rings into the release mechanism and instruct the pilot: "CLOSE"

The pilot should close the mechanism and the person attaching the rope should pull it firmly forwards to check it is on and secure. He should also ensure that the strop/shock rope/parachute links are laid out straight in front of the glider to ensure the quick release hooks are not twisted. The glider is now ready to be launched and this information should be passed to the Launch Marshal.

The Launch Marshal should be positioned in front of the glider while the cable is attached. When satisfied that the cable is connected, the LM will move to the side while checking that it is safe to launch particularly above and behind the pilots field of view but also in front to ensure no-one is crossing the airfield. In particular it is important, if launching from the south in a west wind, to check that no gliders are likely to be making a westerly landing during the duration of the launch. If satisfied that it is safe for the launch to proceed, the LM will give the following commands in a loud and clear voice so the pilot and signaller can hear them. Once the commands are given the signaller should repeat them in a loud clear voice. These commands should inform all persons close to the launch point that a launch is about to take place.

LM checks that, and in a loud voice, says :	"ALL CLEAR ABOVE AND BEHIND AND IN FRONT"
then says	"TAKE UP SLACK"
then says	"ALL OUT"

Although it is left to the ground crew to check "All Clear Above and Behind", the main responsibility for delaying a launch because of obstructions in front falls to the pilot. He/she must be certain the glider will not collide with anything even if it yaws unexpectedly during the ground run, that the cable (even if it breaks) will not drop on any people, aircraft or vehicles on the airfield, or outside the airfield, and that there is enough room in which to make a safe landing should the launch be aborted at any stage. At all stages of the launch the final responsibility for safety rests with the pilot.

4.1.3 The Stop Signal

Should any person at the launch point see any event that may interfere with the safe launch of a glider or that the launch of the glider may cause problems of any nature for other persons they should shout "STOP" repeatedly until the emergency is acted on by the pilot releasing and/or the stop signal given.

It is easier and safer to stop a launch than to allow it to continue in circumstances that may put others at risk.

4.2 THE LAUNCH – FOR THE PILOT

4.2.1 General

Once the glider starts to move the successful completion of the launch is a combination of skill and judgement between the winch driver and the pilot.

The pilot's left hand should be placed on the release handle during the ground run and the early part of the launch, and the cable should be released promptly if:

- a) There is any jerk, snatch or hesitation in power on the ground run such that the glider is at risk of over running its launch cable.
- b) The glider swings towards the other cables and runs over them.
- c) A wing drops onto the ground.
- d) He/she hears anyone shout STOP.

4.2.2 Launch Signals

Too Slow

If the launch speed is below that recommended by the glider manufacturer the pilot should lower the nose. This is a signal for the winch driver to accelerate the winch. If the airspeed remains too slow the only safe policy is to release the cable and gain sufficient speed for a safe landing. There is a very real danger of stalling or spinning if the pilot hangs on and 'lives in hope'.

Too Fast

If the launching speed is faster than that recommended by the aircraft manual, the pilot uses the rudder to positively yaw the tail from side to side. This is the signal to the winch driver to slow down. If the airspeed continues to rise or fails to slow down then the pilot should release. In the early phases of the launch a certain amount of excess speed is acceptable but in the higher part of the launch the cable should be released if excess speed continues.

There are many reasons why a winch launch may be unsuccessful. It is the pilot's responsibility to ensure that if the launch fails for whatever reason he has sufficient height and speed to make a safe landing.

4.3 CROSS WIND LAUNCHING and DRIFT

Drift occurs when launching takes place in cross winds and gets worse the stronger the cross wind. It can mean that falling cables especially broken ones may potentially fall outside the airfield perimeter track. Safe launching is possible in cross wind provided sensible precautions are taken. Remember safety is paramount.

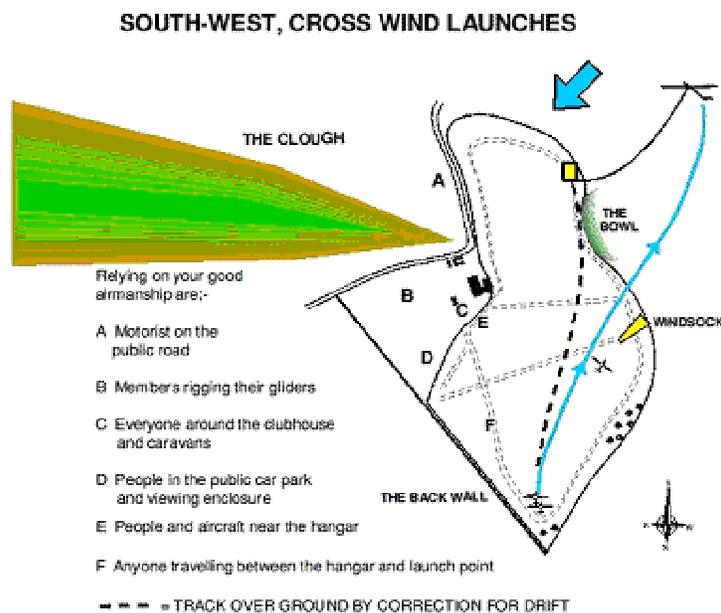
Pilots should make a habit of always looking again at the windsock after having the cable hooked on in order to reappraise the wind strength and direction. They should refuse to launch if it is outside the limits in the glider's manual or they feel unable to cope with the crosswind.

Pilots launching in cross winds must be capable of flying the glider well out to one side of the cable run, into the direction from which the wind is blowing. The pilot's objective must be to drop the cable, whether it breaks or not, near the cable run and to achieve this in strong cross winds the glider needs to be taken well out to one side, perhaps 100 to 200 yards upwind. This is called laying off for drift. Pilots who fail to lay off for drift will be given coaching in the two seaters until they learn how to carry out this type of launch correctly.

The Instructor, Winch Driver and Launch Marshal have a duty to ensure that when launching in cross winds there is no danger of the cables falling on areas that may cause danger or damage. If there is a cross wind producing any likelihood of the cable doing so as it falls then gliders should not be launched. The launch point and/or winch should be moved into a position where there is no possibility of falling cables causing damage whilst still allowing safe launching. If this cannot be achieved then flying must stop.

If winch drivers feel that they cannot launch gliders safely then they must inform the Duty Instructor and refuse to launch until the winch position or launch point has been moved. It may not be apparent to those at the launch point that the Winch Driver is having difficulty with the crosswind. If the Winch Driver believes that continuing a launch would risk dropping a cable outside the airfield boundary then he/she must abort the launch in good time to prevent it.

Correction for drift is especially important when launching to the south in south westerlies. In a moderate to strong SW wind gliders are often launched to 1500' or more: so up to 500 yards of cable are dropped. The hangar is only 400 yards from the winch, and the public road is closer still. Pilots are reminded that they are responsible for articles dropped from their aircraft; this includes the winch cable and its attachments.



4.3.1 FAILED LAUNCHES.

At Camphill there is often a marked wind gradient. If the launch fails in or above the wind gradient, then it may be necessary to put the glider into a surprisingly steep nose down attitude to maintain an adequate approach speed. Merely lowering the nose to the 'normal approach altitude' is often inadequate because of the pronounced wind gradient effect.

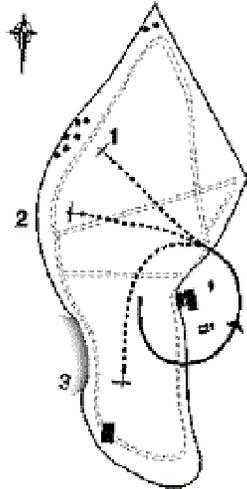
ALWAYS LAND AHEAD IF THERE IS ENOUGH ROOM.

As a general rule, when the full length of the airfield is being used for launching, as soon as the glider is too high to land ahead it is normally quite high enough to be turned through 360° by means of a single, continuous turn which should only use up 100 to 200 ft. If the pilot realizes he is quite high during the 360° turn, he can readily open it out into a mini-circuit but should still introduce as few turns as possible. It does not matter where the glider comes to rest on the airfield so long as a good landing is made.

If there is no room to land ahead, then favoured options vary in different wind conditions. They are described with text and diagrams on the following pages.

4.3.2 Launch failures when launching to the South

The wind might be anywhere between east, through south, to west but the configuration of the airfield dictates that the best option is turning to the east, i.e. to the left.

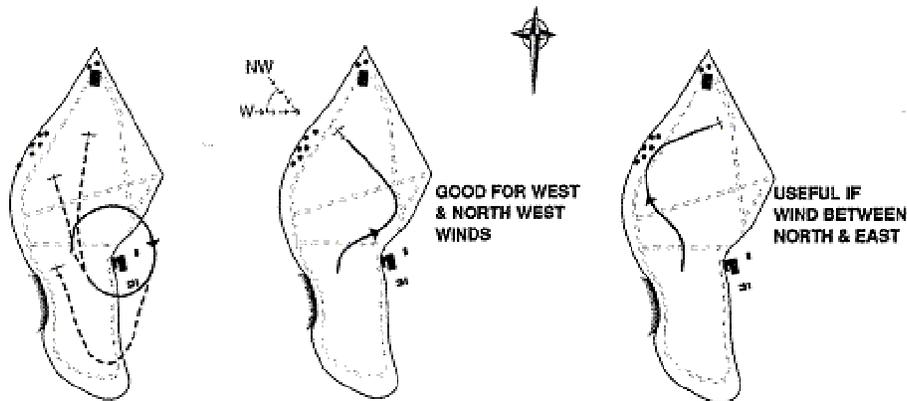


- 1. Suitable in W wind
- 2. Suitable in W or SW wind
- 3. Suitable in SW, S, SE or E wind

S-turns are undesirable when launching to the South because the South end of the airfield is rather narrow & leaves little room for error.

4.3.3 Launch failures when launching to the North

The wind might be anywhere between west, through north, to east. Since the north end of the field is quite wide, rather more options are possible, including S turns. Unless the wind is from the E of north, an S turn would be right followed by left and so the commonest way to turn will again be east, i.e. to the right in the first instance. This opens up lots of options. However it is rare to find a circumstance where the aircraft is too high for the “land ahead” option but not high enough for the “mini-circuit” option so the “S” turn or landing out of wind are not preferred options.



If the first turn is to the right, the above shown options are available plus the opening out into a mini circuit to the right

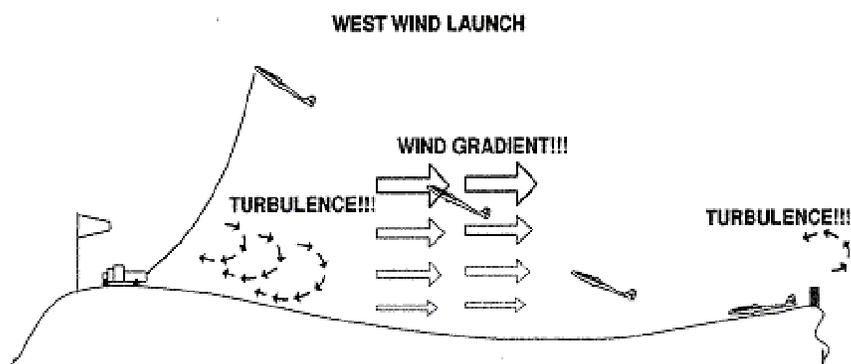
This is the only justifiable exception to the general advice that the first turn should be on the east. The north end of the field slopes upwards in a NE direction.

4.3.4 West Wind Launches and launch failures

In addition to the points made on the preceding pages, launches to the west deserve the following considerations. The height attained is usually a mere 400 to 600 ft but this is acceptable since we only launch in this direction when good hill lift is expected immediately beyond the winch.

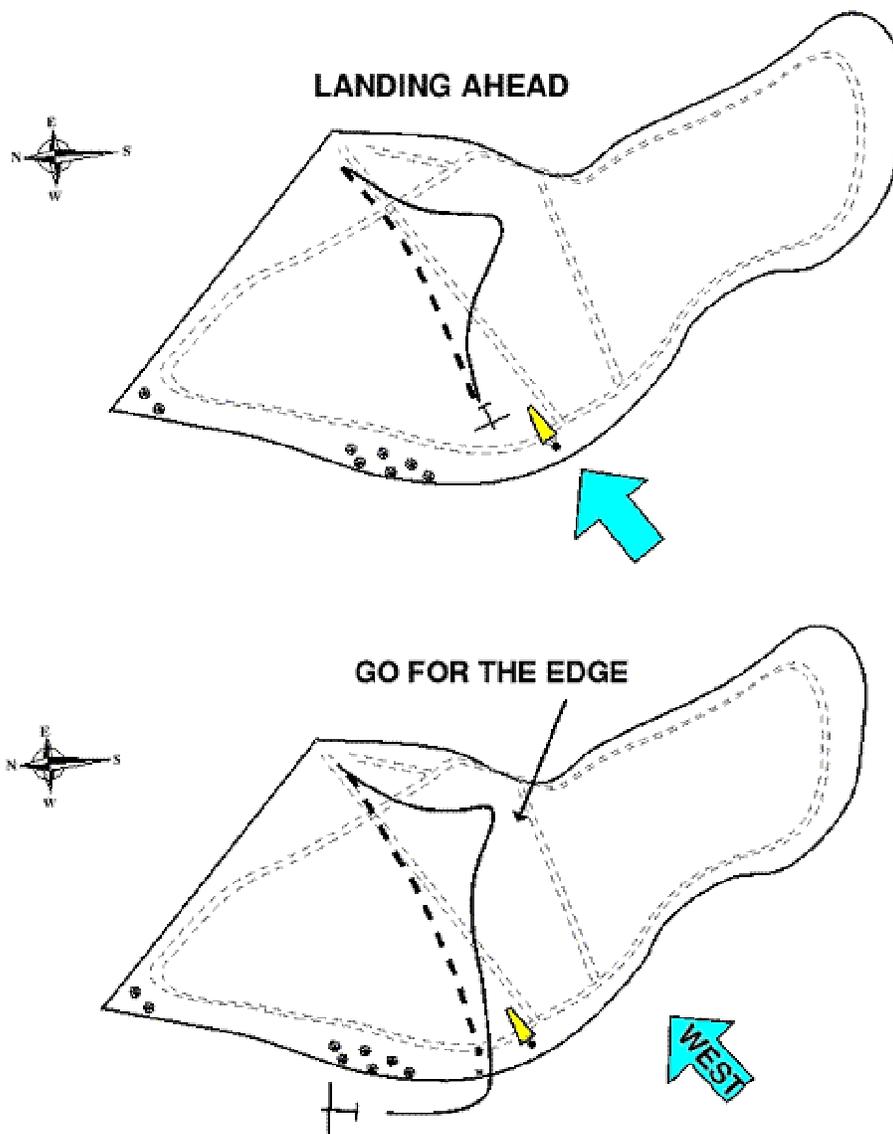
The distance from winch to launch point is only 400 yards and there is bound to be some wind gradient, perhaps a severe one, and therefore a cable break may put the pilot into a critical situation demanding fast reactions and good judgement. It follows that pilots should do what they can to reduce the probability of the cable breaking and to make recovery from a cable break easier. Therefore, the glider should be climbed gently through the wind gradient and then an angle of no more than 30° .

In very strong winds e.g. 30 knots or so the glider will reach an ample height even if the nose is raised no higher than 20° or so. Always climb steeply enough however so that the winch driver can see that the launch is going satisfactorily. If you keep the attitude in a very shallow climb the winch driver may assume that the speed is too low and increase it.



That part of the west edge south of the windsock has a sharp contour and spills turbulent air into its lee. This turbulence will involve the area around the hangar and the west wind launch point if there is a southerly component in the west wind and may add to the pilot's problems during the initial launch. It certainly will if a landing is made South of the cable run.

If the cable breaks early, the glider should be dived very steeply to maintain speed for a round out in the wind gradient. Since west wind launches are normally only undertaken when the hill is soarable to over 600', there are only two sensible options for a west wind cable break – use airbrakes (after safe approach speed has been reached) and land ahead before the edge or fly fast forwards over the edge into the hill lift. If flying to the edge, it is essential to aim for a point approximately one wingspan to the North of the weather station mast to clear obstructions.



4.4 CIRCUITS

Before entering the circuit gliders equipped with radios are recommended to make a call on Frequency 129.975. (See section 2.17)

4.4.1 Pre Landing Checks

Specific downwind checks are not mandatory. However, to ensure the pilot and aircraft are configured for landing, mnemonics such as LUFSTAL, WULF, FUST, etc. may be used. Importantly these should be started as pre-circuit checks before entering the downwind leg to minimise distractions during the circuit.

4.4.2 General

Pilots should avoid a ground run over the cables.

A landing should not end up in a place that will obstruct the launch operation unless it is unavoidable on safety grounds.

Always aiming at the windsock represents poor airmanship and possibly a lack of competence that will require additional training.

4.4.3 Camphill Circuits

Circuits at Camphill fall into two types. These are where there is negligible wind and the pattern is the same as that taught at flat sites, and those on windy days when the circuits are peculiar not only to Camphill but each individual wind direction

Winds over hills produce areas of turbulence which tend to usually be in the same place for a given wind direction. The turbulence may manifest itself to a pilot as dramatic changes in air speed and high sink rate as well as a rough ride. Even when the air flows smoothly, it spills downwards over lee slopes giving areas of strong sink.

These areas are no place to be turning or flying low or slow so our circuits are modified to ensure that the turns are completed above the bad air and the time spent flying through it is minimal, i.e. the circuits are close into the airfield and the final turn disproportionately high.

Because of the airfield's position on the top of a plateau there is, effectively, no undershoot option so landing safely on windy days entails an additional skill set to that called into play when landing in calm conditions or in the flatlands.

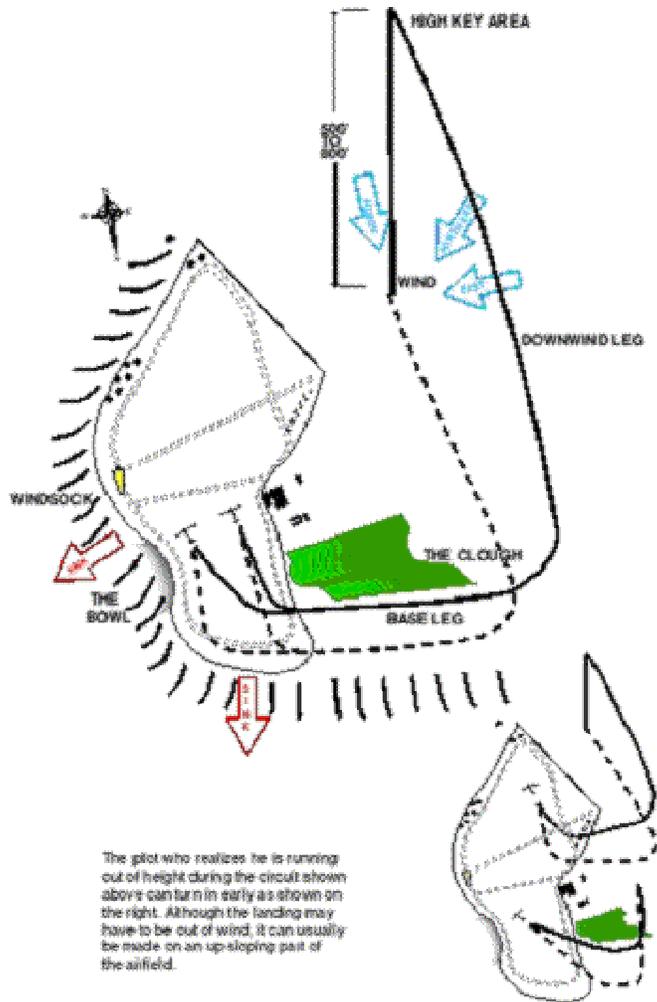
Trainees must appreciate that circuit tuition is varied and things they are told in one scenario may be inappropriate in another. They must learn the reasons behind the various techniques.

Strong winds produce strong wind gradient and most landings at Camphill are uphill so approaches are usually faster than they would be on a flat site or calm day.

There follows a series of diagrams outlining the typical circuit patterns for the various wind directions. Final approaches and landings are considered on the subsequent pages.

4.4.4 Right Hand Circuit Landing to the North

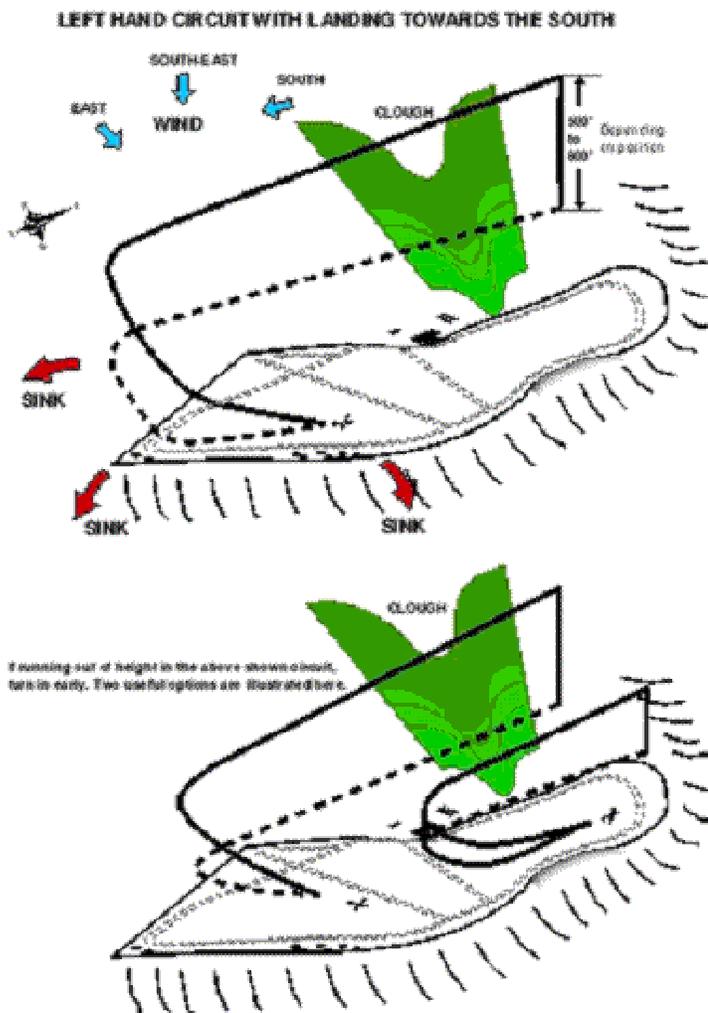
This circuit is suitable for winds of any significant strength from N through NE to E. It is not recommended when the wind is NW unless it is light. In moderate to strong winds between NW and W the circuits shown for W winds should be used instead. This is because strong sink can be expected over the Clough



If there is a light W or NW wind when launching from the south, then left hand, similar, circuits may be preferred, using the same landing areas.

4.4.5 LEFT HAND CIRCUIT WITH LANDING TOWARDS THE SOUTH

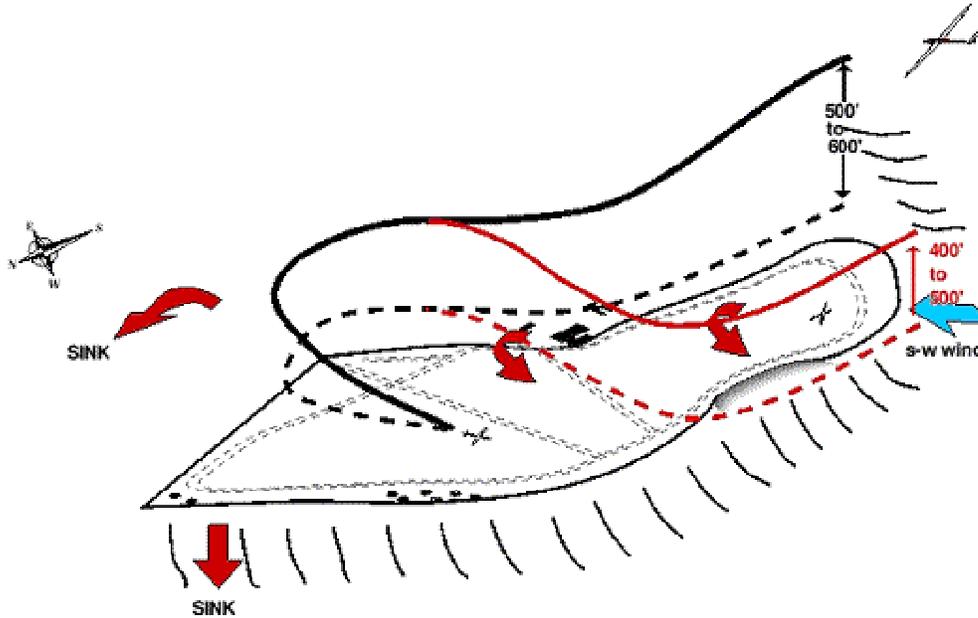
This circuit is suitable for winds of any strength from E through SE to S. It is only appropriate in south westerlies if the wind is light, (circuits for strong south westerlies are shown overleaf). The circuit begins roughly above the south edge.



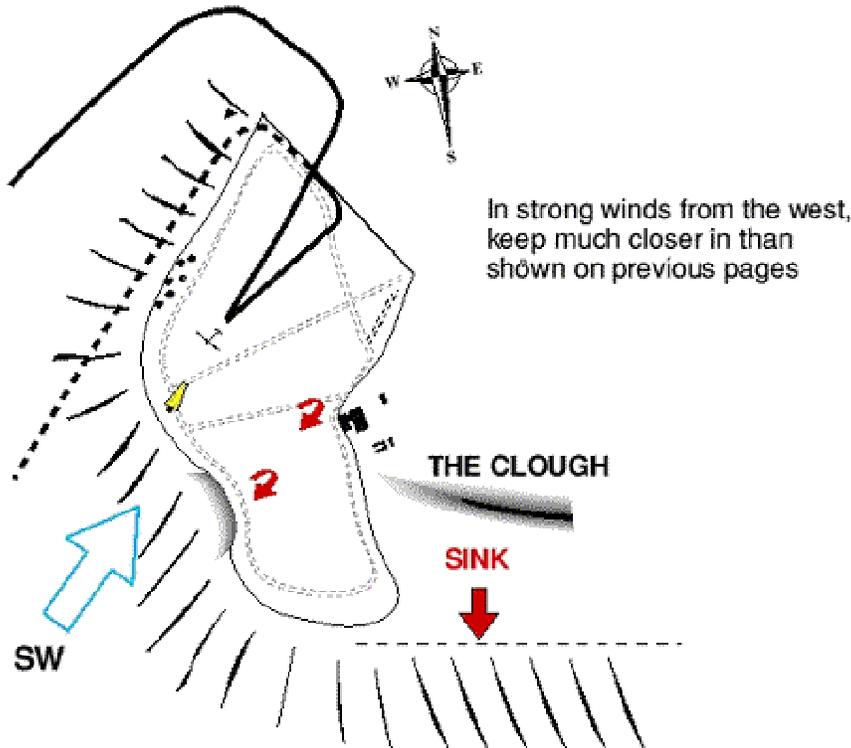
4.4.6 CIRCUITS FOR STRONG SOUTH WESTERLIES

The recommended left hand circuit starting either on the south edge at 500-600' along the public road or from the west edge just south of the windsock at 400-500' (but be alert for launching aircraft). There will be turbulence (curved arrows) downwind of The Bowl and sink over the Clough, the Back Wall and even just NW of the field.

CIRCUITS FOR STRONG SOUTH WESTERLIES



Below is shown a right hand circuit applicable to SW winds. Expect no lift (and possibly sink instead) north of the windsock, which should be passed at 400' or more. Turn in before reaching the north end of the airfield.



4.4.7 THE RIGHT HAND CIRCUIT FOR SOARABLE WEST WINDS

The Camphill soarable west wind circuit is different from most other circuits, and particularly so if you are a visitor from a flat site. The following points will enable you to make a safe landing. If you have any doubt about the conditions or correct approach then ask for a briefing or demonstration from a club instructor: -

More height than your judgement tells you, is required for such a short circuit, to enable the final turn to be completed above the wind gradient and turbulence.

Extra airspeed is required,,. 65 to 70 knots is not uncommon. This speed must be maintained until close to the ground.

If you have the height and speed correct then you want a lot of airbrake for a steep descent in front of the bad air to a sensible round-out but the wind gradient may be severe enough that you need a positive reduction in airbrake before round-out to maintain speed or avoid excessive descent.

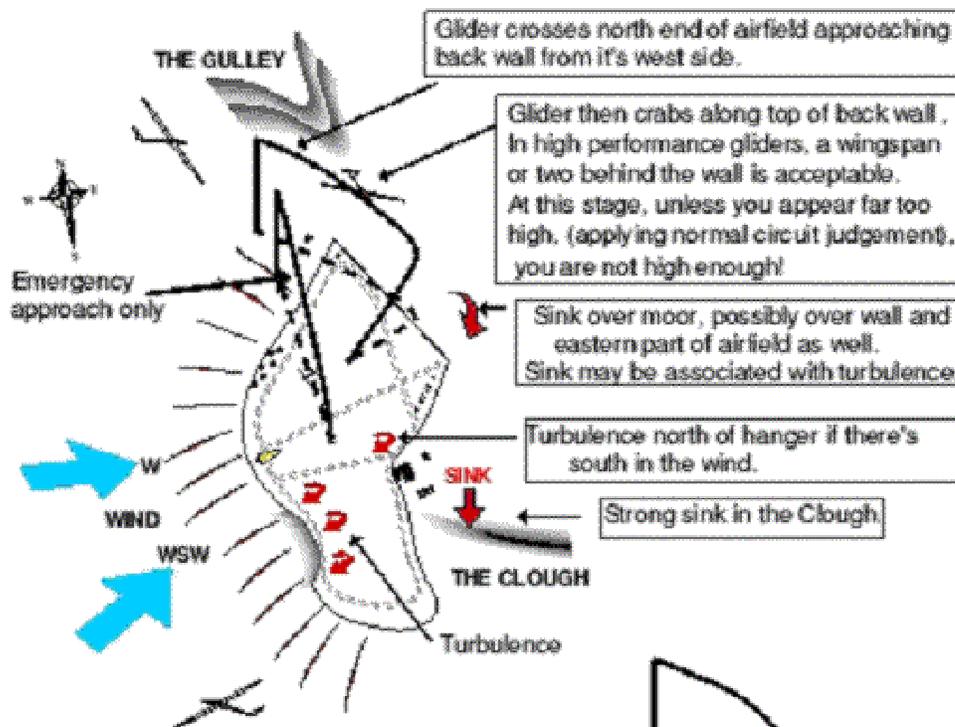
This circuit is suitable when the wind is from the west and is preferable to a left hand circuit if there is a southerly component in the wind. If the launching is along the length of the field be particularly sure that there is not a launch in progress since you will land across the launch line.

An inward turn, from a northbound may be made if it is proving difficult or impossible to maintain height but be aware this conflicts with the rule on overtaking whilst hill soaring whereby the faster glider passes between the slower glider and the hill. Assuming the hill is providing good lift, the circuit should be started by making an outward turn from a northerly beat either just beyond or tucked into the gully. The outward turn provides an opportunity to have a good look round for nearby gliders. Making a left hand turn behind the general traffic flow on the west edge allows the glider to come out of the turn facing along the east wall, in the correct line for the right hand circuit. Travelling further north before making a left hand turn out into the valley towards Bradwell allows more time and allows an extended crosswind leg. [Alternatively, if height is available, you can fly west well into the valley and make a conventional downwind leg towards the north end of the airfield followed by the base leg along the east wall; especial care must be taken to avoid conflict with hill soaring traffic when crossing the hill, particularly since ground speed will be high. It is not a favoured pattern as hill soaring pilots do not expect aircraft to come in direct from the West and it is entirely inappropriate when the hill only supports gliders at 600' or less. Whatever method you use, careful lookout is required so that you do not endanger pilots soaring the west edge.]

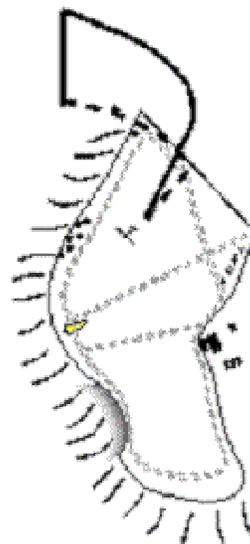
In light winds, the absolute minimum height for leaving the west edge is 350ft.. However, it is far better to start the circuit between 400ft and 600ft (or higher when the wind is very strong).

If a pilot is caught out very low on the hill then a "straight in" approach to the south, landing down the middle of the field is possible since there is rarely significant wind low down in the middle of the field. The approach is made over the bungee gates and gives the opportunity to turn away into the valley if there is insufficient height to clear the gates safely. This is shown on the diagram as an emergency approach. However a particular lookout needs to be kept for aircraft doing a conventional west wind approach since the landing will be across the normal landing line.

The following two pictures show the latter part of the right hand circuit for soarable west winds



Turn into wind early, as shown on the right, if height is marginal or if sink or bad turbulence are encountered. Don't continue so far along the back wall that the final turn becomes a low one. Wings must be level again before encountering the wind gradient e.g. by 200ft. in light winds and by 400ft. in strong and gusty winds.



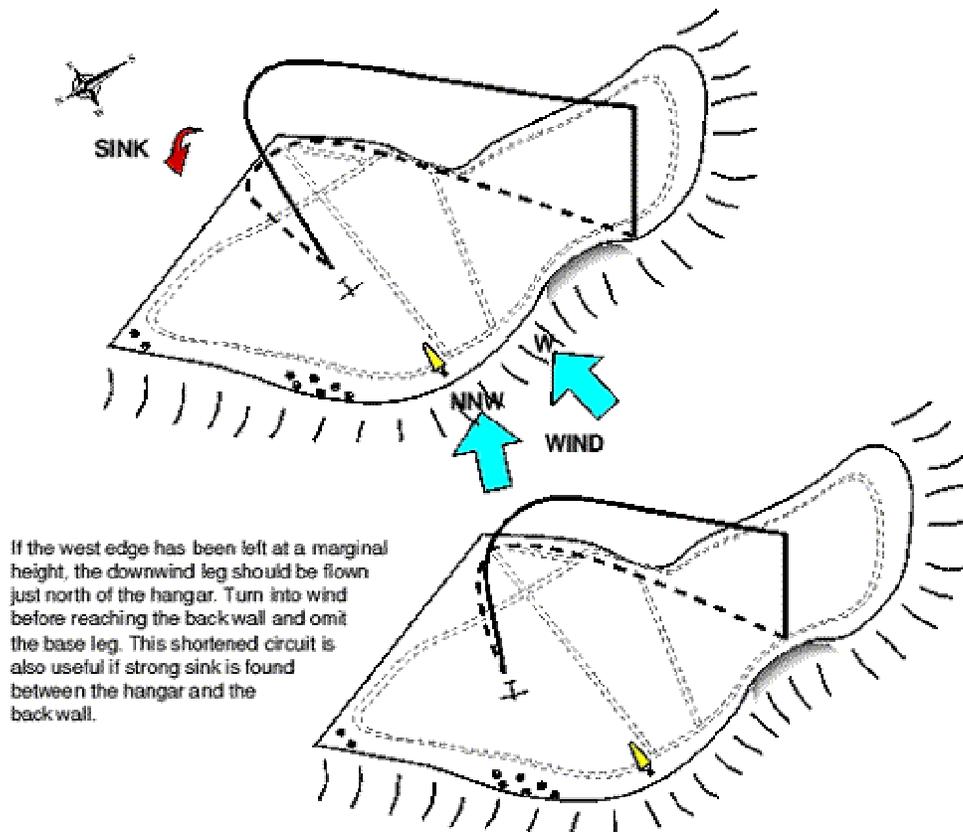
4.4.8 THE LEFT HAND CIRCUIT FOR SOARABLE WEST WINDS

This circuit is suitable when the wind is from the west and may be preferable to the right hand circuit shown on the previous page if there is a significant northerly component in the wind although the right hand circuit is normally preferred since it tends to be a longer circuit with more time for pilots to prepare for the landing.

With the same provisos as for the right hand circuit an inward turn from the southerly beat may be made as the windsock is passed if it is proving difficult or impossible to maintain height. If the hill is providing good lift the circuit should be started by continuing southwards to the south end of the west edge and turning outwards in the normal way. During the outward turn the pilot can have a good look round for nearby gliders and if all is clear, the turn can be continued so that the glider leaves the hill lift at about a right angle.

A downwind leg is flown directly over the top of the hangar and the high ground speed necessitates an early start to the left turn onto the base leg along the top of the back wall, checking carefully for gliders who may be approaching on a right hand circuit.

If sufficient height is available the circuit may be flown from a high key point well out into the valley before starting the circuit which is taken around the South end of the field. The height minima are dealt with on the previous page. Blasting through the hill soaring traffic is discouraged.



NOTE

Pilots soaring the west edge may experience other sailplanes, hang glider and para-gliders in close proximity. They may also find other gliders returning low to a soarable edge, gliders from Camphill launching and others returning to land. This calls for airmanship of a high standard.

4.5 APPROACHES

4.5.1 Approach Speeds

When the wind is calm or light, the circuit patterns at Camphill are similar to those used at flat sites. In these conditions the glider's speed should be adjusted and the trimmer set at the start of the downwind leg. Thereafter it should be the pilot's aim to keep the speed within a knot or two of the chosen value until the start of the round out.

On these light wind days, Camphill is no different in this respect from the flat site. But when a strong wind is blowing, especially if it has a westerly component, it is not uncommon to put the glider's speed up to some 60 or 70 knots for the final approach, i.e. for the descent (or dive) through the wind gradient after the final turn. But to fly the whole circuit at such a speed would be undesirable. The radii of the turns would be increased, producing a danger that the pilot will swing wide, maybe place the base leg too far back and in a medium performance glider (whose best performance is achieved around 45 knots) flying at 60knots or more for such a prolonged time would consume excessive amounts of valuable height.

A rather different technique can be used at a hill site on a difficult day. The circuit is started at a moderate speed around the glider's best L/D speed. During the downwind/base leg, the glider accelerates to a safe intermediate airspeed. After the final turn, the glider is accelerated further to the final desired approach speed and the nose held down sufficient to maintain approximately that speed despite the wind gradient.

A flat site rule of thumb for determining the approach speed is by adding ten knots to the gliders stall speed and adding half the surface wind to that. This does not always work at Camphill, where wind gradients can often be more than 20 knots. Curl over and wind shear can also cause problems for even the experienced pilot. This means that approach speed may well have to be 10 or more knots higher than calculated by this formula.

Mistakenly exercising the windy day techniques on a calm day risks an overshoot so pilots should always be mindful of the distinction and when ever possible practise the wide (half brake) circuits on a calm day.

Flying at flat sites is always beneficial.

Sideslipping is an essential skill for pilots who find themselves too high and too close.

4.5.2 Use of Airbrakes

As with the difference in circuitry between the calm day and the windy one, there is a difference in the use of airbrakes for the two circumstances. On windy days when the circuit is high and close and the pilot knows the brakes will be required it is acceptable to open them before or during the final turn unlike on a calm day circuit when use is deferred until the glider is well onto final.

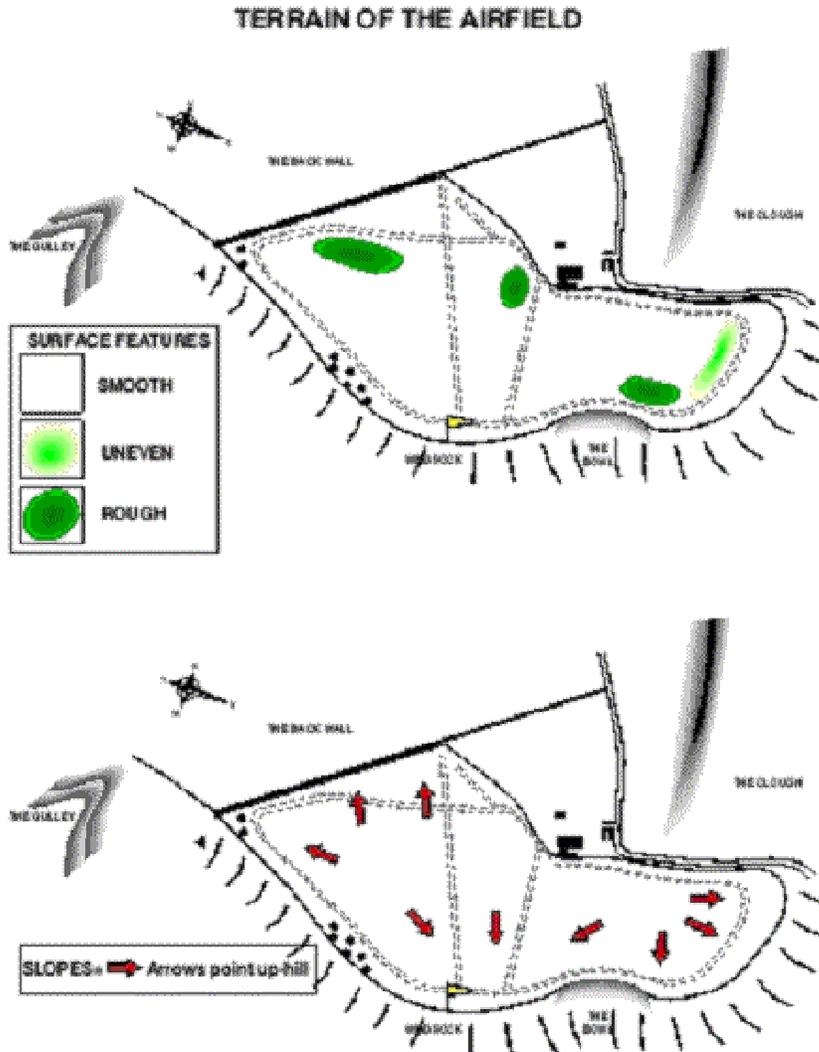
If this earlier use becomes habitual it can be dangerous especially when attempting low final turns. Whilst the brakes may be deployed at any time given adequate airspeed, use when near the stall can precipitate one, so it is essential that pilots only use airbrakes after considering the need and their airspeed.

Once on the ground the general advice is to open the brakes fully to avoid unseen obstacles ahead. In a known environment pilots should use the brakes to control the length of the ground run. At Camphill you should not land short on the cables and obstruct the launch so it becomes a necessary skill to lengthen the ground run by reducing the brakes as the glider rolls along. If another glider is known to be landing number two it behoves you to land long (and to one side) to give them adequate room.

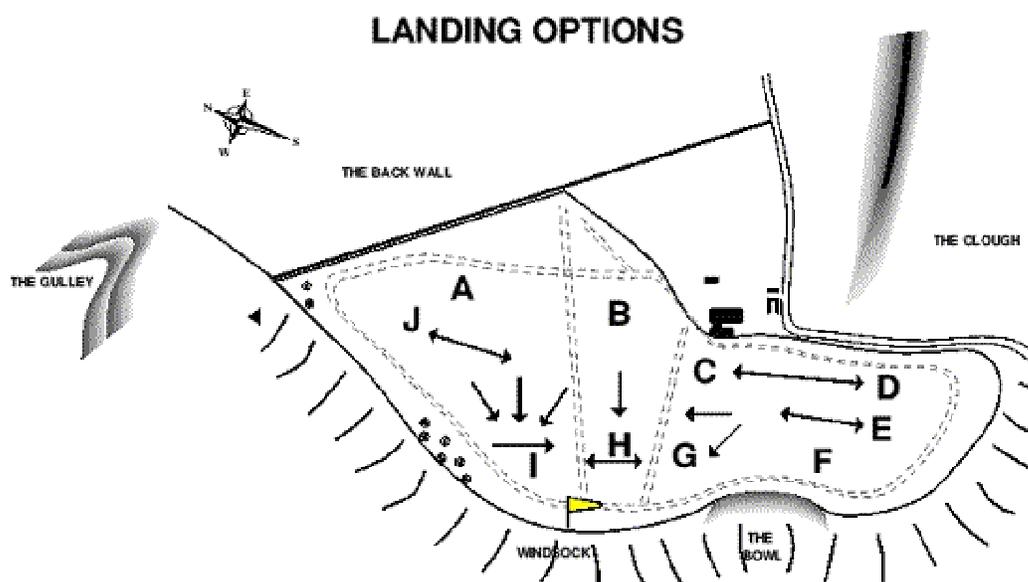
4.5.3 Landings

The environmental conditions at Camphill have created a unique place to locate an airfield. Various factors including erosion, old hill fort workings, the old farm field system of numerous stonewalls, duck ponds, sheep washes, streams and drains have contributed to create the shape and surface texture. The shape of our airfield means that in most conditions pilots will be landing uphill. In exceptional circumstances, (generally easterly winds) landings may be carried out downhill. It is therefore important to have some knowledge of the general shape of the airfield. The slopes are not all bad as they can be used to a pilots advantage when landing uphill.

The next two pictures give some idea of the surface condition and directions of the slopes. The third picture gives some idea of the landing options and the problems the pilot may encounter.



4.5.4 Landing Options



The main landing areas are C, G, H and I. Try not to land in areas A and B which can be rough and the grass sometimes left longer than the ideal (D, E and J are useful in some circumstances). These areas are described on the next page.

A is 'the rough'. It is uneven in places and often quite boggy. Although we often launch across it we try to avoid landing here.

B just north of the hangar is a very small area of smooth ground hemmed in on all sides by roads and tracks. It is tempting to land short here in soarable west winds in order to shorten the retrieve but it's tricky so inadvisable. Area H is preferable and is only a slightly longer walk.

C is a good landing area, the surface is smooth. There may be turbulence in easterly winds.

D is not a good landing place, as the ground is quite rough with undulations and slopes.

E is the best place to make for when landing a long way up the field in a southerly wind e.g. after a cable break. In north winds it provides expert pilots with a 'short landing' area.

F is too rough to use unless there is no option.

G is the normal landing area for north winds. This area is quite narrow and can easily become cluttered with gliders. When this happens, fly further up the field to H or I.

H is a reasonable place to land in any wind except a stiff south westerly when the air here will be rough.

I is the normal landing area for S, SW and W winds. In strong SW winds, use its most northern part.

J is the reciprocal of E, with comparable uses. It slopes up quite strongly at its north end.

4.5.5 General Advice about Landings

Plan the approach and landing so the glider passes over no obstructions such as vehicles and aircraft when below about 100 ft. Especially do not overfly the launch point. If it is possible to land into wind and up a slope then this should be done.

In most weather conditions the brakes should be used to achieve a spot landing in a chosen place. However, when there is a strong wind gradient only the line of the landing can be chosen with certainty.

Our airfield is quite big and so there is usually no excuse for landing in a congested area. Give yourself plenty of room. Make allowance for the ground run being longer than expected. Leave generous margins of clear space to the left and right of the ground run, especially on the upwind side. If there is any cross wind assume that the glider will weathercock despite your best efforts with the rudder and choose your landing spot accordingly.

When landing across a slope, care must be taken not to allow the wingtip on the uphill side to touch the ground.

Keep straight. Never deliberately rudder the glider round unless there is a good reason like an obstruction in front. Taxiing turns merely to save a bit of walking are not allowed. Someone coming in to land behind you will not be expecting you to veer off.

Don't land too near the hangar. For the last landing of the day, the best landing area for a club glider (destined for the hangar) is up near the windsock - in areas G, H and I (see map on previous page).

If the wind is strong, pilots of single seaters should remain in the cockpit until help arrives. The pilot who last flew the glider is in charge of its safety until it is packed in the hangar, securely parked or handed over to the next pilot. Personal ballast should be removed promptly and must not be left aboard a glider that is parked.

4.5.6 Obstruction Ahead!

There are a number of options available to the pilot who realises rather late in the day that he has insufficient room in which to fit his landing and ground run before the glider hits something; the choice largely depends on exactly how soon the problem is recognised.

On final approach, a slight turn can be made, to face a larger landing area. Use the wheel brake.

Just after touchdown the rudder is initially fairly effective to steer to left or right. Use some aileron as well to prevent the glider toppling onto the inner wing tip.

If the glider has a big main skid, rub it on the ground by pushing the stick firmly forwards; this provides an effective brake but risks damaging the aircraft nose.

As last resort - ground loop. Apply full stick and rudder in the direction you wish to turn. By putting the wing on the ground the glider will rotate round it. If possible in the time available raise the tail wheel or skid off the ground. You are at risk of causing serious damage to the glider and for this reason ALL ground loops should be reported to the Duty Instructor and the glider inspected before the next flight.

4.5.7 Cross Wind Landings

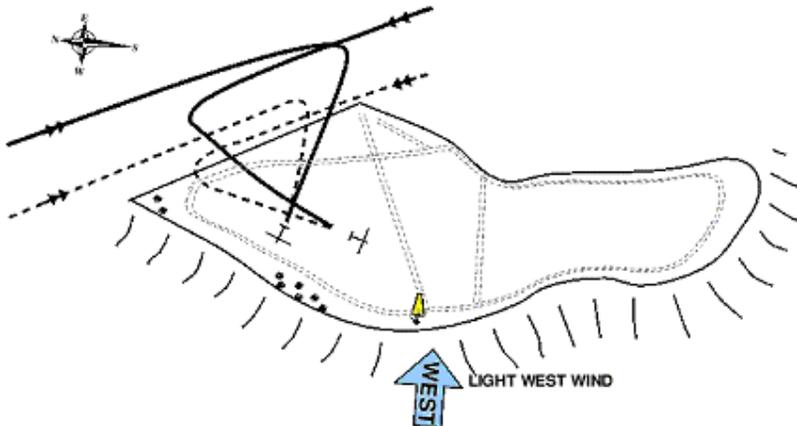
It is not always possible to land directly into wind. Furthermore there are occasions when it is far better deliberately to land out of wind even though an into wind landing is possible. The main examples are as follows: -

Running out of height in the circuit.

One major cause of serious gliding accidents is spinning from a low turn. Often the turn is made in a needless attempt to get the glider round into wind when the safe option is to abandon the normal circuit pattern and make a crosswind landing. All solo glider pilots should be able to recognise when they are getting low in the circuit and should know what to do about it; turn promptly towards the nearest available landing area and go straight in. Several examples are illustrated in the sections dealing with circuits.

Light west winds.

In a light west wind (10 knots or less) inexperienced pilots are in danger of overshooting if they land at right angles to the west edge. In such conditions it is safer to land obliquely across the field towards the Northwest or Southwest. Even if the pilot has started to do a normal west wind circuit he/she has the opportunity, while flying North or South along the back wall, to assess the wind strength (by the glider's crabbing angle) and the amount of excess height he/she needs to get rid of. The base leg can then be extended if necessary (by continuing rather further along the back wall than originally intended) and a turn through about 130° can be made to provide a final approach and ground run with plenty of room. However, because the wind is light, it would be better to move the base leg further behind the back wall.



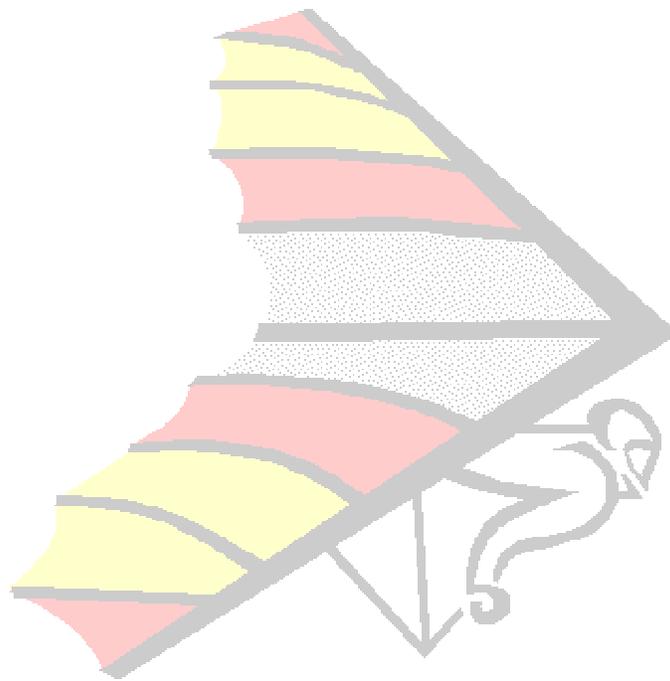
When the Sun is Setting.

When soaring the west edge in the evening, keep an eye on the length of the shadows cast across the airfield and then you will know whether you are likely to be dazzled by the sun during the round out and hold off. It is worth landing some 30° out of sun to avoid this problem, or continue soaring until the sun has gone.

East Winds.

None of the smooth landing areas provide the option of an uphill into-wind landing in an east wind. We usually land towards the N or S and accept the crosswind. The main landing areas (G, H and I see Section 4.6.4) slope downwards towards the east which means that if the wings are kept parallel to the ground (as opposed to horizontal) the glider will slip slightly towards the east, partially offsetting the drift, but you must still be ready to kick off drift with downwind rudder just before touchdown and leave plenty of room to the east of the ground run because if the glider does weathercock it may continue downhill quite some distance before coming to rest.

SECTION 5
GENERAL MATTERS



5.1 LOCAL AIRSPACE

5.1.1 General

Camphill is surrounded by controlled airspace. This section does not attempt to identify all the airspace and the rules governing access to it. However pilots must not enter controlled airspace either by mistake or voluntarily unless they are qualified to do so and have followed the correct procedures.

The airspace around Camphill is quite complex. Therefore all pilots should carry with them, whenever they fly, up to date maps of the area with the airspace clearly marked.

Pilots planning cross-country flights from Camphill should be aware of any airspace they may encounter en route and the correct action to be taken. Pilots locally soaring should be aware of the local airspace, its boundaries and heights. All solo pilots should be aware of the effects of barometric pressure on the heights of any airways. A brief description of some local airspace follows:

5.1.2 Airways (Class A airspace) areas

Part of Daventry CTA (CTA10) passes north-south directly over Camphill, base FL65, minimum altitude 5,500ft
M868 and L26/L603 are airways that lie east of both the site and airway N57, base FL85.
L975 is an airway running east-west that lies north of the above areas.
Daventry CTA extends west and south of the site as well. Some of its base in the adjoining areas is at 4,500ft amsl, most is at 5,500ft..

5.1.3 Wave Areas (or "Wave Boxes") in M868 and L26/L603 and the L975 Crossing

Negotiations with Manchester Air Traffic Control have produced letters of agreement, which allow qualified pilots who have had an appropriate briefing within the previous six months to climb in airspace nearby and cross a section of the airway. Full details of the terms and conditions are available from the CFI or on the members website. Pilots wishing to use this facility must comply with the letters of agreement.

5.2 HANG GLIDERS and PARAGLIDERS

The sport of hang gliding first made its appearance in Britain during the early 1970s and we now have a considerable amount of flex-wing traffic operating on the slopes that had been the domain of sailplanes since before the Second World War. A more recent development is the soaring paraglider. Many of these "aircraft" fly from the usual local hang glider sites. They are classed as hang gliders, but, en masse, present a large, vertical, usually slow moving obstacle. Hang gliders and para-gliders are rapidly increasing in numbers and improving in performance. The two sports are coming to have more and more in common. Hang glider/para-glider pilots are no longer confined to mere hill soaring. They often make protracted climbs in thermals and wave. People with little solo experience fly hang gliders sporting a red flag.

There are now occasions when the sky around Bradwell, Castleton and the Hope Valley contains more hang gliders than sailplanes. So far there has been no serious conflict between the two kinds of aircraft and it is our intention to keep it that way. A few gliding clubs elsewhere in England have resorted to legal battles with the hang gliding fraternity. It has got them nowhere and has created avoidable animosity. At Camphill we have followed a policy of co-existence and co-operation.

Due to outside factors, The Derbyshire Soaring Club no longer controls the Bradwell Edge site; pilots flying from there do so as individuals and thus there is no control over the pilots. However we have established understandings with the DSC regarding our operations and they make considerable efforts to convey these to the hang/para gliding community generally. They normally have members on Bradwell Edge when there is flying from the hill and there is a radio on the hang/para glider frequency in our Launch Point Vehicle. This radio can be used to request them to clear an area near the airfield if there could be conflict with our circuits or launch operations.

Erosion creates ruts and potholes, which at best are uncomfortable and certainly potentially dangerous when traversed by a glider especially at the beginning of the launch.

Whilst erosion is a product of all forms of traffic continually compacting and wearing away at the ground it is compounded at our hilltop site by virtue of the exposure and the fact that on sloping ground the soil tends to run downhill. This is a particular problem when cultivating since it is quite a tedious job dragging it back up again.

The onset of erosion is readily observable. The early stages are evidenced by a change in the growth pattern of the grass. It does not produce fleshy leaves or become stalky and flower. It loses its springiness and become a firm, close cropped, stunted layer, tightly hugging the earth below and takes a minimum of trauma to skim off a layer of grass and its roots, much like taking the skin off rice pudding. Little holes start to appear, especially at the edges of undulations and changes in the ground's shape. Erosion of the soil out of these holes makes bigger edges for feet and wheels to break off the compacted and unhealthy roots and the defect slowly gets bigger. More soil blows away and potholes develop. They become confluent. The confluent potholes become watercourses and the soil is washed away.

The deep holes are now big enough to create turbulence and vortices of their own in a strong wind which then scours the sides of the holes and - suddenly - the grass has gone and most of the topsoil too.

If you stop using compacted, part eroded grass, it won't rejuvenate itself. It remains stunted and re-growth across defects is desperately slow. Replacing soil naturally that ventilates, drains and supports growth takes millions of years, somewhat longer than it takes a man's feet or his motorcar to destroy it. When it gets badly damaged the only cure is to plough/rotovate the ground, replace the missing topsoil and re-seed and then uncompromisingly leave it alone for a full twelve months.

Whilst maintaining healthy grass requires feeding and cultivation, the crucial factor is keeping wear down to a minimum. Balloon tyres and varied routes help but only in postponing the evil day. The peri tracks were laid sufficiently far from the boundaries so that a 20-metre glider could circumnavigate the field on the roads and not encroach on the airfield. Apart from when a specific grass route is designated there is no need to drive on the grass except when retrieving a freshly landed aircraft or in emergencies.

While it may seem obvious to stick to the roads and preserve the grass people often find it difficult principally because they are not thinking about it. Just as absentmindedness is no excuse for poor airmanship nor should it be an excuse for poor "airfieldmanship".

The sorts of things that are entirely unnecessary include: -

Driving a retrieve vehicle with a pair of wheels on the grass verge or weaving on and off the road.
Taking to the grass to avoid an obstruction on the road which will shortly move of its own accord or which can be moved by you if you stopped and took the trouble.

Taking a shortcut to get there quicker.

Not taking the trouble to prove to yourself that you and your aircraft will fit past something at the side of the road if you stayed on the carriageway.

Trying to park your car as close to the launch point as possible and obstructing the flow of aircraft into the back of the launch point.

Parking anything anywhere that will force an aircraft on retrieve off the road.

To take a whole launch point or major part of the airfield out of commission for a year or more is immensely disruptive. It is therefore vital that we all take great care when we are compelled to take to the grass that we do it in such a fashion that the least damage is done and if possible go on grass that can be taken out of service for a year without any serious effect on operations, e.g. take to the outside of the peri-track if you can, rather than the airfield side.

To help keep conservation in mind, there are four basic rules to guide our behaviour:

Never drive on the grass unless the flying operation demands it. (e.g. retrieving off the field; retrieving broken cables; repair and maintenance; rescue.)

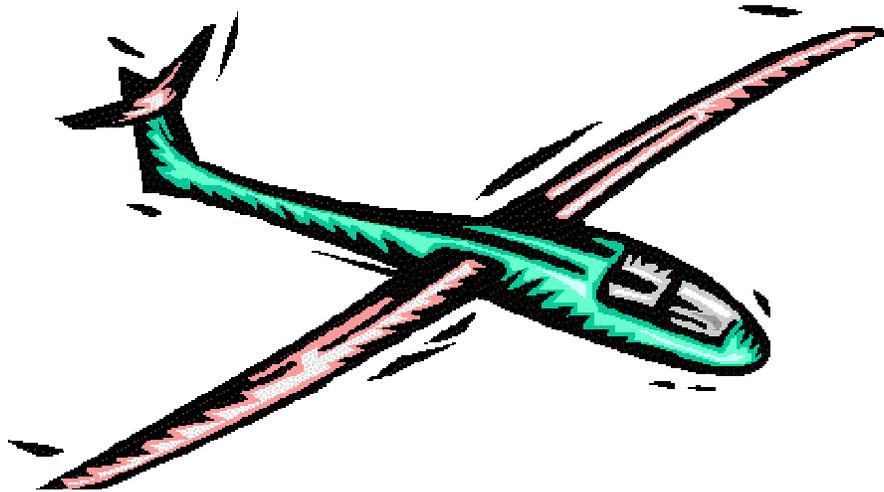
Keep the retrieve vehicle and aircraft on the peri-track.

If all, or part of the retrieve combination must leave a track and take to the grass, then go on the bit that matters the least.

Never force somebody off the road by parking, leaving or planting any obstacle within a semi wingspan of the roadway i.e. not within 10 metres.

Park as shown on the diagrams in Section 3.2.

SECTION 6
GLIDER/TRAILER CARE AND MAINTENANCE



6.1 CANOPY CARE

Adequate lookout in flight is highly dependant on clean, optically good Perspex. Smudges and scratches are often opaque in their own right especially when seen tangentially but tend to remain minimally apparent until other influences bring them to light - principally fading light and high humidity with lowering temperature.

When the ground becomes ill lit, the residual better light falling on the canopy from above is scattered by dirt, smudges and scratches. Outside features being poorly lit don't reflect enough light to shine brighter than this scatter so all you see is blemishes on the canopy. You cannot see out.

When the dew falls, it forms first on dirt and blemishes which means your canopy becomes (patchily) opaque prematurely and light scatter doesn't come into it. Canopies therefore should have no dirt, no smudges and no scratches.

Smudges are easily avoided - Never, ever; under any circumstances touch the Perspex. You don't need to, so don't do it. Greasy hair is also a problem but if your head is so close to the canopy as to "grease" it, then you are risking damage and an accident and you must rearrange yourself or think twice about flying. For those with bushy hair, wear a hat (without a centre button).

Dirt and grit are very difficult indeed to cope with. If you "clean" Perspex with even the smallest trace of contaminant grit you will put a myriad of fine scratches on and ruin it. You won't see them in a bright light and won't know you've done it.

"Sparkle" is deceptive stuff - it helps being anti-static and fills the very fine scratches with a material of similar optical density to Perspex but the effect is neither complete nor permanent. Every time you "resparkle" you almost certainly add more scratches. What is more, "Sparkle" and similar products contain isopropyl alcohol, which denatures Perspex and ultimately causes crazing. It is not recommended for regular use. There are products available that are approved for Perspex such as "Plexus"

There is no point at all in doing anything to a canopy unless you wash off all the grit first with huge amounts of water. The insides also get very dirty and so do the canopy frames, rails etc., so unless you scrupulously clean all parts then you will contaminate your cleaning rag and have achieved nothing. Similarly, your polishing materials must be scrupulously clean and of a known source. The "clean" chamois leather you keep for washing the wings will not do.

Canopies therefore should ideally never be washed (or polished). You should treat them with sufficient care that they never need it. Unfortunately even canopies undamaged by human hand will get grimy and dusty. When they do, washing them is a job that needs special tools, special conditions and some skill. The club maintains a stock of cleaning materials in the cupboard in the hangar workshop. Each kit has a set of instruction; make sure you know them and obey them.

Actual polishing to remove scratches is very difficult and time consuming e.g. removing fine scratches only from a 7ft. canopy, inside and out, took 16 hours of genuine rubbing time in a grit-free environment. At the end of it all, the result is never as good as new for the surface is distorted and optical clarity irretrievably lost.

The following four ground rules should go a long way toward preserving the integrity of your canopy and your safety in the air.

1 Never touch the Perspex – ever

To check for "canopy locked" visually inspect the catches and lift on the frame and handles etc. not the Perspex.

The practise of "holding the nose down or back" when retrieving is not achieved by walking along with a hand on the canopy!

Nor incidentally should you ever reach through the DV panel on the move. If you believe you may need to because the tractor drivers may be inattentive or lacking knowledge then stop and brief them. Then they will learn.

2 Do not demist a canopy by wiping it

Prior to the launch if the canopy won't demist by being held open, you should not launch. The conditions and materials at the launch point are never appropriate to canopy maintenance - only destruction.

For the canopy that steams up in flight and must be wiped and you don't have a dedicated and scrupulously clean wiper-cloth that lives in a poly bag in the cockpit use your bare hand. Do **not** use your sleeve, glove, hat etc.

3 Replace the canopy cover when the aircraft is parked

Blown grit is almost unavoidable.

Do all you can to avoid raising it - like driving slowly past aircraft especially if you're upwind of them.

Do all you can to stop it settling on the aircraft.

Wash the canopy covers regularly and have a spare.

Dusty peri-tracks and dry eroded ground are major contributors. Do all you can to preserve the grass of the airfield.

4 Never clean or polish a canopy without washing it first with a lot of water. From a hosepipe to start with if possible.

You need a scrupulously clean bucket, cloth and warm soapy water.

Washing includes de-gritting everything inside and out.

It takes a long time and must not be casual. You can't do it on a windy, dusty day when dirt devils scurry past the hangar or passing vehicles raise clouds of dust.

Do not skip the washing with water – ever.

6.2 ENERGY ABSORBENT CUSHIONS

Energy absorbent (EA) cushions are provided for every seat in club gliders. These are essential pieces of safety equipment that reduce spinal injury in the event of heavy landings. They are made of special material that absorbs energy by compression without rebounding.

EA cushions should not be used other than for their purpose. They should not be used in combination with any other cushion because to do so reduces their effectiveness.

Private glider owners should obtain and use EA cushions for their gliders.

6.3 DAILY INSPECTIONS – CLUB GLIDERS

Only a qualified glider pilot (one who holds a glider pilot's licence) may DI a glider. Pilots under training for the glider pilot licence (pre bronze level) may be taught to DI type specified club gliders and maintain their skill by doing the inspections. Until licensed they shall be supervised by a full or assistant rated instructor who will countersign the pupil's entry in the DI book

Instructors and qualified inspectors having familiarised themselves with the construction and rigging of the type, may DI and sign the DI book for any club glider. Other licensed club pilots may DI the club single seat aircraft only

Training to DI competently can be obtained from knowledgeable instructors, but preferably from BGA inspectors. To get signed off as competent for a construction type, members must demonstrate ability to follow the guidelines at the front in the DI book and the BGA GMS booklet

Any flying member can and should mark in the DI book that a glider is unserviceable (U/S) if they have any concerns about a defect or uncertainty about airworthiness and leave the DI book open on the seat. That person must inform the duty instructor(s). A Camphill fault report form is completed and posted into the office or dedicated posting box in the club hallway but this does not substitute for the legally required entry in the DI book.

Any heavy landing checks and investigation of suspected damage due to excessive flying loads (over 3.5g) are to be undertaken by a BGA qualified inspector.

The requirements for Daily Inspections (DI's) are defined in BGA Laws and Rules for Glider Pilots. The DI should be carried out as described in the BGA Glider Daily Inspection Book.

6.3.1 Positive Control Checks

These checks form part of the DI.

In the absence of an assistant an acceptable method is to fit a rudder lock and secure the control column and airbrake lever with the harness straps. Apply firm but gentle hand pressure to each rudder pedal in turn, noting that the pedals should not move. Apply firm but gentle hand pressure to each airbrake, aileron and elevator in turn and check for absence of movement.

Even if the glider has not been dismantled and re-rigged prior to the DI the PCC should still be carried out as a precaution against developing a complacent attitude.

6.4 SERVICEABLE and UNSERVICEABLE STATUS

A glider will be deemed unserviceable ("U/S") in any of the following circumstances

- After a heavy landing, exceeding 3.5g or a ground loop
- If anyone judges that any damage incurred or found (notably during a DI) does or might affect a glider's airworthiness or is expected to require work not permitted of an owner
- By the undertaking of any work that is not permitted of an owner.

The U/S status must be recorded in the DI book, with a clear indication of the reason for that status.

Once a glider has the status of U/S in the DI book it may not be flown for general club use until steps A. and, if required, step B. below have been completed.

- A. It has been deemed flyable by a qualified inspector and signed to that effect in the DI book, including a statement as to whether a test flight is required or not.
- B. If required by the inspector, the glider has passed a test flight (conducted as is section 6.7 of this Pilots Manual) and that has been recorded in the DI book by the testing pilot along with a status of Serviceable ("S").

6.5 TEST FLIGHTS

A Test Flight may be required before a glider is returned to Serviceable status from being U/S, (see section 6.6 above). Test flights may only be performed by pilots authorised by the CFI. It is recommended that owners of private gliders also follow this test procedure.

Pre Flight

Carry out a thorough DI and instrument check.

Launch

Handling to be normal for type, sensible ASI, vario and altimeter readings

Free Flight

Trim for hands off, yaw string centred.

Carry out a straight stall, recovery to be normal with no wing drop.

Check airbrakes, deployment to be symmetrical. If asymmetric, plan for no-brake approach.

NB wing bending may prevent deployment in some cases.

Carry out medium turns left and right.

Carry out dive, handling normal, no snatch or flutter of controls.

Approach/Landing

Check airbrake operation - no abnormal trim change.

Post Flight

If handling satisfactory, make an appropriate entry to that effect in the DI Book, mark the glider as serviceable ("S") and sign it. If there are queries or concerns, record these in the DI book, confirm the U/S status and report the outcome to an inspector, preferably the inspector involved prior to the test flight.

6.6 INFORMATION FOR OPERATION OF PRIVATELY OWNED GLIDERS

- a. All gliders flown at this site are to be in an airworthy condition, and carry documentary proof of continuing airworthiness whether as a CAA registered or Annex two aircraft.
- b. All gliders to have a BGA logbook kept up to date, with all the Airworthiness Directives, modification, repairs, inspections etc recorded and certified by a BGA Inspector
- c. The glider must be covered by third party insurance to the minimum amount currently specified by the BGA.
- d. Any airworthiness significant defect should be reported by the owner to the Club Technical Officer in writing, for onward transmission to the BGA.

