

Solo Achievement Pack

Narrogin Gliding Club

Compiled and coordinated
by
Stephan Lewandowsky

Congratulations on your achievement of having gone solo!

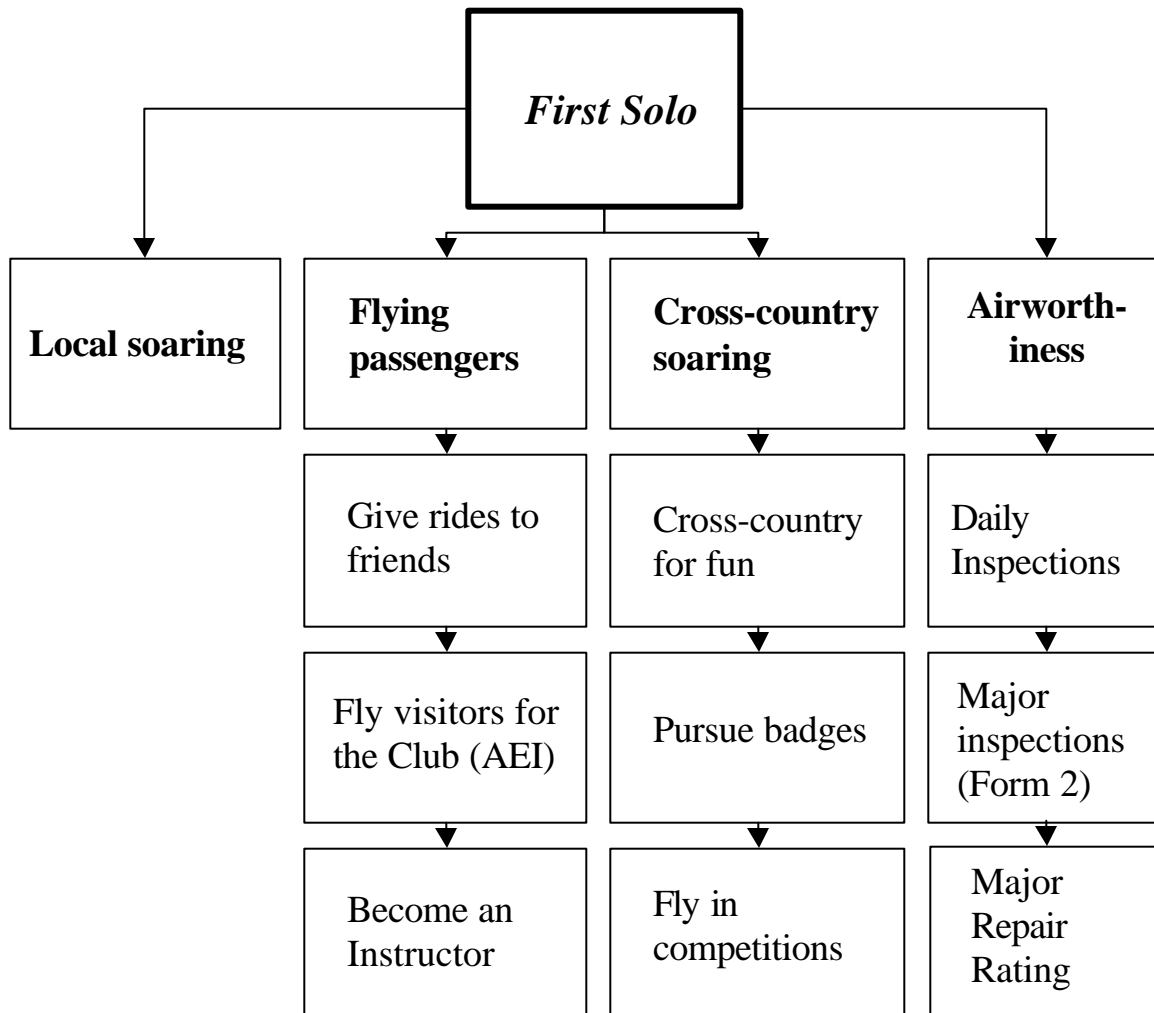
This pack contains information about your possible future steps in gliding: Going solo is just the beginning of “real” soaring—from now on, the excitement and exhilaration grows with every step that you invest in gliding.

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Your Future Options in Gliding: Overview

Many new glider pilots think that “going solo” means that they have “learned how to fly.” Nothing could be further from the truth! In fact, your first solo flight is really just the beginning of a learning process that extends your skills every time you take to the air. While continued learning may sound like a “hard” or “tedious” process, it is actually a lot of fun. Importantly, you are in control of your own learning process. You may pursue any one or several of the following paths.

Start by memorising the following cardinal rule of gliding: If you don’t know something, ask someone. If you think you know, ask someone anyway just to be sure.



Aircraft Conversions and Badges

Regardless of the type of flying you wish to pursue, the use of the fleet is governed by a few rules.

Most important among them is that you may not fly anything without the permission of an instructor who is physically present at the airfield.

Check Flights

- ◆ Initially, after your first solo flight, you will remain on daily checks. That means you cannot fly solo on any day without first having flown with an instructor. However, once you've completed the check flight, it is usually possible to have multiple solo flights on the same day, at the instructor's discretion.
- ◆ ***It is important that you make the most out of your check flights. Do not think of them as a "necessary evil" or "nuisance." Instead, use check flights to polish up on weak areas or to learn new skills (e.g., entering or leaving thermals).***
- ◆ After several solo flights, an instructor may upgrade you to weekly checks by endorsing your logbook accordingly. That means that after your check on Saturday, you may be able to fly without a check on Sunday, at the instructor's discretion.
- ◆ The next step, again by logbook endorsement at the instructor's discretion, is to upgrade to monthly checks.
- ◆ The final stage is to convert to annual checks. All glider pilots in Australia, including instructors, are subject to an annual check. Annual check flights comprise a rigorous syllabus aimed at maintaining our skills and keeping us safe.

Progressing to a single seater

- ◆ You need at least 10 solo hours and 10 solo landings in a Puchacz before you can consider progressing into a single seater.
- ◆ The first single seater you will fly is the Astir 77 (VH-IKQ). In order to progress into the Astir 77, you need to fly with an instructor in the Twin Astir (VH-IKD) until the instructor is satisfied that you can safely fly high-performance gliders.

The Gliding Certificates

- ◆ As soon as possible after going solo, you should obtain your "A", "B", and "C" certificates.
- ◆ The requirements for those certificates are set out in *Basic Gliding Knowledge*, the book you received with your pilot pack upon joining the club. Briefly, each certificate requires that you pass an oral exam plus complete a specified number of flights of a certain duration.
- ◆ Each certificate entails a specified set of privileges. For example, the "B" certificate allows you to share a flight with another solo pilot who holds a "B" certificate or above.
- ◆ A sample application form is attached in the Appendix. Any instructor can administer the exam and sign the form. Make sure you read the corresponding section in *Basic Gliding Knowledge* before attempting the exam.

- ◆ In addition to the “A”, “B”, and “C” certificates, you may obtain additional badges (e.g., “Silver C”) upon completion of more stringent flight criteria. These are covered later in this information pack.

Aircraft Conversions

- ◆ You need at least 10 hours and 10 landings on any aircraft type before converting to a type of higher performance. For example, you need 10 hours and 10 landings in the Astir 77 (VH-IKQ) before you can convert to the Standard Jantar (VH-IZY), and so on.
- ◆ Pilots must hold or have applied for a minimum of a “C” certificate before flying the Standard Jantar (VH-IZY).
- ◆ Additionally, a minimum of 100 hours flying time and currency during the last 3 months (as assessed by the duty instructor) are required to fly the Open Jantar (VH-IUG). Pilots also need to hold or have applied for a minimum of a “Silver C” certificate.

Aircraft Booking Rules

Once you have progressed into a single seater, you will often wish to book an aircraft so that it is guaranteed to be available on a certain day. Aircraft can be booked according to the following rules:

- ◆ Members may book any glider for cross-country or badge flights after 9pm on the preceding day.
- ◆ Members must make their own booking (no proxy).
- ◆ Only one booking per member per weekend.
- ◆ Any glider not booked by midday will become available in the following order of priority:
 1. For second booking by a member
 2. For local flying by members
 3. For cross-country or badge flight by non-member
 4. For local flying by non-member

Local Soaring

Many glider pilots elect to fly locally, in safe gliding distance of the airfield, for most of their career. Local soaring can be a highly rewarding experience:

- ◆ Local soaring is not a competitive activity, but it nonetheless provides continuing challenges. For example, trying to thermal away from low altitude but within reach of the airfield is just as challenging—but perhaps less threatening—than doing the same thing over a remote paddock.
- ◆ Local soaring is great for sight-seeing. Unlike cross-country flights, where navigation and speed management require continuous attention, it is much easier to take in the scenery (*after* looking out for traffic!) during local flights.
- ◆ Local soaring is as good an opportunity as any to refine your thermalling techniques. In fact, if you combine thermalling practice with fast cruises between thermals, local soaring can be an excellent way of increasing your cross-country speed. The Appendix of this Information Pack contains a set of recommended exercises that hone selected skills that can be performed during local flights.

Flying Passengers and Instructing

It is a tremendous thrill to introduce others to the sport of gliding by taking them up in a two-seater. If you enjoy talking to people about flying and like to take them up, you may pursue the following options:

Mutual Flying

Usually, the first step towards flying passengers is to share flights with other eligible solo pilots. A minimum “B” Certificate must be held by both pilots. A sample application form is attached in the Appendix. The pilot in command must occupy the front seat unless he or she holds an AEI or higher instructor rating.

Friends and Family

After sufficient suitable post-solo experience, pilots can approach the Club’s CFI to obtain their Level I Passenger Rating, which entails the privilege of carrying friends and family as passengers. Passenger-rated pilots must occupy the front seat unless he or she holds an AEI or higher instructor rating. *Passengers are not allowed to touch the controls in flight.*

Air Experience Instructor (AEI)

Visitors to the club are typically flown by the Air Experience Instructor (AEI) on duty. As the name implies, AEI’s are endorsed to familiarise others with the basic principles of flying on a Trial Instructional Flight (TIF). Specifically, AEI’s may demonstrate the basic effects of the controls at a safe altitude, which includes letting the passenger operate the controls. *However, AEI’s must not engage in any form of instruction beyond demonstrating the basic effects of the controls.*

Frequently, suitable pilots are invited by the Club’s CFI to obtain an AEI rating. However, feel free to signal your interest in this option early on so that your routine check flights can be tailored to your intended future steps. Once your candidacy is approved by the CFI, any Level 2 instructor (i.e., the Duty Instructor of the day) can conduct your AEI training, followed by a final acceptance flight by the CFI.

Instructor

Our instructors are the backbone of the Club’s flying operations. Until you have an Independent Operator endorsement, obtainable from the CFI, you may not fly without an Instructor present to supervise operations. And of course, Instructors perform all our theoretical and practical training.

Instructing is an arduous and challenging task that carries with it significant responsibility. So, if you are contemplating a career as an Instructor because of “free” flying, think again. You are probably underestimating the challenges of the task.

Instructor candidates are typically selected by the Instructors’ Panel and are then approached by the CFI. However, nothing precludes self-nomination, although you must be willing to accept the possibility of a negative response. Instructors are selected

according to several criteria, for example good communication abilities, and there are countless seasoned pilots in clubs around the world who never became instructors for reasons that have nothing to do with their flying skills.

Should you become an instructor, you would start out as a Level 1 instructor. As a Level 1 instructor, you may instruct students during all phases of the training syllabus under the supervision of a Level 2 instructor. A Level 1 instructor may not authorise a first solo flight, although he or she may conduct post-solo check flights.

After gathering the required instructional experience (see the *Instructor's Manual* for detailed specifications), you may upgrade to a Level 2 rating. The Level 2 rating carries with it two primary privileges: First, you may send people on their first solo flight and, second, you may take responsibility for the Club's flying operations on a day. This includes the responsibility to decide who may or may not fly, and when to discontinue flying if adverse weather conditions develop.

Finally, after considerable additional experience, you may be a candidate for a Level 3 rating. Level 3 instructors are qualified to train other pilots to become (Level 1) instructors. Typically, you would prepare Club pilots for attendance at an instructors' course where they complete their training with a Level 3 instructor from a different club.

Cross-Country Soaring

Overview

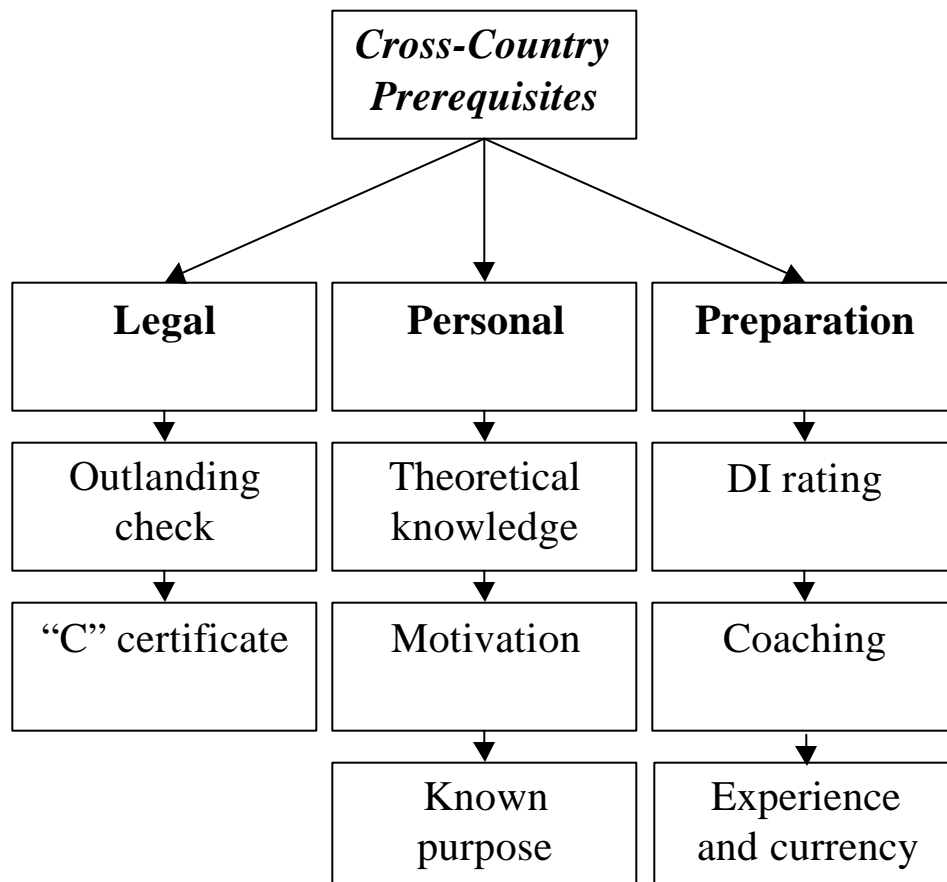
Many pilots consider cross-country flying to be the ultimate soaring experience, and this is the end objective of the GFA training programme. Flying 100km, 300km, or even 500km in an aircraft without an engine is a considerable achievement.

Pilots fly cross-country for several reasons: To have fun; to obtain an F.A.I. badge ; or to fly in a competition. Above all, cross-country soaring is an intensely liberating personal challenge that brings out the best of all the skills you have acquired.

Prerequisites

Cross-country flying, by definition, takes you out of gliding range of the airfield. Needless to say, to do so safely requires considerable skill and preparation. Sooner or later, every cross-country pilot will be forced to land in a paddock. *No cross-country flying should be attempted by anyone who is not comfortable with the idea of landing a glider in an unknown paddock.*

To ensure safety, the following prerequisites must be satisfied before you go cross country:



Legal prerequisites

- ◆ You need to have an outlanding check with an instructor. This is typically done by flying away from the airfield after a normal release with the explicit intention of getting low and landing in a suitable paddock. Selecting a suitable paddock from the air is of critical importance. Relevant criteria are reprinted in a later section on Tools for Cross-Country Flying.
- ◆ You must obtain a “C” certificate before being legally entitled to attempt cross-country flights. You cannot obtain a “C” certificate without an outlanding check.
- ◆ You need to have sufficient experience (and currency) with the aircraft in question. Specifically, you need a minimum of 10 hours and 10 landings in a glider of that class and you must have approval from the duty instructor to take the aircraft cross-country. ***If you are not 100% sure that you are authorized to go cross-country—don’t go!***
- ◆ It is mandatory to carry a “World Aeronautical Chart” (WAC) or Visual Navigational Chart (VNC) with you in the glider when going cross-country. These can be purchased at aviation supply stores. Other cross-country pilots in the club will be happy to point you in the right direction. One outlet is the *Western Airmotive* shop at Jandakot Airport in Perth.

Personal prerequisites

- ◆ Some theoretical knowledge of soaring is indispensable. You should at least be conversant with concepts such as the MacReady theory, which determines the optimum airspeed at any point during a flight, and basic gliding meteorology (e.g., how to predict thermal height and spacing and compute a height band). The Narrogin Gliding Club has a library (located in the Office at the airfield) that has more than enough literature on these concepts.
- ◆ You should have a purpose or goal for every cross-country flight (even if you decide that it is “just for fun”).
- ◆ Perhaps the most important prerequisite is that you really **want** to go cross-country—don’t go if you feel pushed into it.

Preparation

- ◆ It is strongly recommended that you obtain a DI rating (see *Airworthiness* section below) before going cross-country.
- ◆ You need to be familiar with the rigging and de-rigging procedure of the aircraft you are flying.
- ◆ It is highly recommended that your first cross-country flight is with one of our coaches in a two-seater. The Twin Astir (VH-IKD) is a high-performance glider that is ideally suited for coaching purposes.
- ◆ Each cross-country flight must be prepared and planned. At the very least, you should obtain weather information in the morning (i.e., the “temp trace” that allows you to predict thermal height and strength). You also need to plan your course. To facilitate flight planning, charts (a WAC and a VNC) have been placed under perspex on a table in the Office.

The Basics: Cross-Country Flying and Landing Out

Some simple hints

It takes many years to become an expert cross-country pilot. Indeed, doctoral dissertations have been written on this topic, so don't feel bad if at first things seem to be extremely complex and difficult. Nonetheless the following simple hints for cross-country flying may get you around the first few tasks:

- ◆ Don't fly too fast between thermals (70 kts maximum) but...
- ◆ ...climb fast! That means, select the best thermals only and center them.
- ◆ If you get below 2500ft AGL fly best L/D (~45 kts) only and...
- ◆ ...look for good thermal sources (sunny slopes, white sandy patches, etc.)
- ◆ ...concentrate on finding a thermal (turn radio volume down).

Landing out—A great experience

Try and avoid having to land out by observing the tips above. It will save you a lot of hassle and money. However, if it is unavoidable—and sooner or later it will happen to you—don't lose your cool! It is just another landing, except not at your airfield.

◆ Paddock Selection

If you get below 2000 ft AGL several paddocks should be selected and the choice narrowed as the glider gets lower. By the time the glider has to be in the circuit area (approximately 1000 ft AGL), the landing area must be decided upon.

Check paddocks for the following (in order of importance):

- ◇ **SIZE:** Must be at least 300m long (in the direction you want to land=into wind).
 - ◇ **SURFACE:** Should look smooth; avoid lush green fields and high crop (the seeding pattern and tractor marks give them away); stubble is acceptable but not as good as fields that have been rested and had sheep in them.
 - ◇ **OBSTRUCTIONS:** Have a good look out for power/phone lines, their poles and their direction; also ditches, rock piles, trees, fences; not all fences are obvious!
 - ◇ **STOCK:** Avoid paddock with animals in it (horses and cows in particular!)
 - ◇ **SLOPE:** Avoid steep slopes (not much of a worry in W.A.); always land up-slope.
 - ◇ Consider your paddocks' *proximity to houses and roads*. If you can't land close to them, look in what direction they are from your landing area—it may save you a lot of walking.
- ◆ The circuit and landing
- Once you have selected your paddock, you must fly your normal circuit routine and conduct all checks:
- ◇ Make sure you plan *landing into wind* (the dams will always tell you)
 - ◇ Do your FUST check—select *wheel down!*
 - ◇ Fly a circuit close to the landing area so that you will always be able to reach it. While in the circuit keep an eye out for thermals until you are down to 6-800ft AGL. If you fly through continuous lift for 3 seconds, turn in the direction of the

- up-lifted (!) wing and concentrate on centering the thermal. Keep your landing field in sight—**check drift constantly! Leave your wheel down** until you are sure that you are not landing out.
- ◇ When you are finally landing, keep your approach higher than normal and use lots of airbrake.
 - ◇ Keep your touch-down speed as low as possible and your ground run as short as possible! If you have to shorten your ground run drastically due to an unforeseen hazard in front of you, do a **ground loop** (put one wing tip on the ground to spin the glider around). Don't do this unless you absolutely have to because you will probably damage the glider!
- ◆ *After Landing*
- ◇ Once on the ground, ascertain your actual position (from map, GPS, farmer etc). You may not be where you think you are.
 - ◇ Then turn the volume on your radio back up and call other gliders (or phone the club) and give a precise report of your position.
 - ◇ Before you walk more than a few metres away from the glider, **tie it down properly**.
 - ◇ If you are not sure of your position, find out first before you call for the tug or trailer. If possible give a phone number where you can be contacted (pubs are very popular).
 - ◇ When retrieving a glider in a trailer make sure that you pick up all the trailers' and gliders' bits from the paddock where you de-rigged the glider! Secure all glider parts in the trailer with its appropriate locks! Stop after 30 km and check everything. Drive carefully—more gliders have been wrecked on retrieves than on out landings!
 - ◇ To determine whether you can get an air retrieve, you must pace the paddock and satisfy yourself that it is long enough for the tug to pull you out. **The minimum length of the paddock—assuming no slope and no obstructions at the upwind end—is 600 m (about 700-750 paces)**. If there is a slope or an obstruction, this minimum length may increase dramatically. If in doubt, get a trailer retrieve.
 - ◇ If you get an air retrieve, stay on the radio and guide the tug in for a landing. Use the mirror in your outlanding kit to attract attention (see below for suggested contents of the kit). Advise tuggie of possible hazards in the paddock, wind direction, etc.

Tools for Cross-Country Flying

The crew

No cross-country flight should be conducted without the pilot first arranging for a crew to stand by if a trailer retrieve is required.

Crewing for a cross-country pilot is not always an easy task. It may involve getting a glider out of a paddock several hundred kilometres away late on a Sunday afternoon, and it is not unheard of for a crew to return to the airfield late at night. Clearly, therefore, the crew are a valuable resource and pilots are well advised to look after their helpers.

Before departing on a flight, the pilot must verify that the retrieve crew:

- ◆ ...have available a car with a towbar and plenty of petrol.
- ◆ ...have the *keys to the car*.
- ◆ ...know where to find the appropriate trailer *which must be in working order before departing on your flight*.
- ◆ ...have a map in the car, together with warm clothes, a torch, some small change for phone calls, *and lots of drinking water*.

Outlanding Kit

Sooner or later you will land out. To be prepared for that event, most pilots fly with a small “kit” on board that contains a number of items that come in useful after a paddock landing. For example;

- ◆ mirror (to attract the attention of the tow pilot)
- ◆ spare sunscreen
- ◆ money (in particular small change for payphone)
- ◆ helpful phone numbers (NGN airfield, other gliding clubs)
- ◆ pocket knife
- ◆ screwdriver(s)
- ◆ bandaids
- ◆ thermal blanket (if it gets colder than anticipated)
- ◆ torch (try de-rigging a glider in the dark without one)
- ◆ mossie repellent (roll-on only; *not* spray!)
- ◆ compass (for long walks)
- ◆ “Haensel and Gretel” ribbon to tie around fences and trees (to find the paddock from the pub).

A Cross-Country Checklist

It helps to prepare your cross-country flight with the aid of a check list. A sample checklist is reproduced on the next page. If you don't understand what some of the items refer to, then it probably means you should ask the instructor or coach a few more questions before setting off:

Sample Cross-Country Check list

CREW

Car keys?
 Map?
 Drinking water?
 Towbar, trailer OK?
 Torch
 Country road directory

PILOT & AIRCRAFT

Drinking water accessible?
 Sunscreen applied?
 Money, driver's licence?
 Phone numbers (major W.A. Clubs)
 Tie-down kit secured
 Outlanding kit secured (see above for suggested contents)

BAROGRAPH (For badge flights and competitions only)

Smoked? (if not electronic)
 Wound, on and ticking? (switched on if electronic)
 Date of flight?
 Name of pilot?
 Type, serial no & range of barograph?
 Type of glider?
 Registration of glider?
 Altitude of release?
 Proof of no intermediate landing?
 O/O identification before take-off?
 O/O signature & date after landing?

DECLARATION BOARD (For badge flights and competitions only)

Date of flight?
 Name of Pilot
 Glider registration?
 Glider type?
 Departure point?
 Turn point(s)?
 Finish point and or goal?
 Time of declaration?
 Date, signature and name of pilot?
 Date, signature and name of O/O?

PHOTOGRAPH SEQUENCE (For badge flights and competitions only)

In a single uncut length of film

Including mark on canopy in front of lens

Flight declaration board?
 Turn points from above the correct zone?
 Declaration Board OR
 Glider on landing field showing registration and features?

Further tools for cross-country flying are attached in the Appendix. Now that we have introduced some of the basic tools, let's turn to the various different ways in which pilots may pursue cross-country flying.

Cross-Country Flying for Fun

At least initially, most pilots go cross-country “for fun”; that is, without pursuing a badge or competing against other pilots in any systematic manner. These flights are an ideal opportunity to hone relevant skills, for example taking turn point photographs or observing the effects of flying within various different height bands.

To maximise the benefit from those flights, seek advice from the instructor or coach about things such as how (and *where*) to take turn point photographs; how to determine a height band; how to interpret the temperature trace and met info of the day; and so on.

A great way to go cross-country for fun is with other gliders. Get another pilot or two others to come along and share the experience.

Obtaining Badges

Collecting badges to officially record your cross-country experience is one way of challenging yourself a bit more. Briefly, the principal cross-country badges are:

- ◆ Silver C: 50 km cross-country flight, 5-hour flight, 1 km (approx. 3300 ft) height gain
- ◆ Gold C: 300 km cross-country flight, 5-hour flight, 3 km (approx. 10,000 ft) height gain
- ◆ Diamond Goal: 300 km cross-country flight to pre-determined goal
- ◆ Diamond Distance: 500 km cross-country flight
- ◆ Diamond Height: 5 km (16,500 ft height gain)

Make sure you check the precise rules and conditions with an Official Observer before embarking on a badge flight.

Regardless of which badge you seek, certain general rules apply for all flights:

- ◆ All evidence pertaining to your badge flight(s) must be scrutinised by an Official Observer.
- ◆ You must present evidence that you were continuously airborne. Unless you spend 5 hours in the vicinity of the airfield in direct visual contact with an official observer, that means you must carry a barograph. *Barographs (especially the old pre-electronic variety) require a bit of care and attention to use successfully.* As with everything else in gliding, this means you should ask a senior pilot for help.
- ◆ You also need to present evidence that you have been to the places specified in your task (unless you land at the destination of your flight). This means mounting a camera in the glider and taking the correct sequence of pictures. Once again, check with the Official Observer on the correct sequence and technique.

Chances are that your first few attempts at a badge will be unsuccessful. If that happens, don't give up—ask a more senior pilot how many times they flew 48.9km (or 497.9 km)

instead of 50 (or 500), or how many times they opened the camera after their 500 km flight before rewinding the film. In badge flying, persistence pays off.

Gliding Competitions

Perhaps the most advanced form of cross-country flying involves participation in competitions. By the time you are ready to participate in a competition, you probably won't need the brief summary provided here. Nonetheless, to get you going, here is what you can look forward to:

Club Championship

Every year, the Club holds a cross-country competition that all club members "automatically" participate in if they fly the designated tasks on days that count towards the club championship. The rules for the Club Championship are as follows:

- ◆ The Competition is held during the 6 months from the 1st weekend in October to the last weekend in March.
- ◆ The Club Champion is selected from the results of these competitions.
- ◆ Classes

| | |
|--------------------|---|
| a) Diamond: | Any pilot holding a "C" certificate. |
| b) Gold: | Any pilot holding a "C" certificate but not Diamond Distance. |
| c) Silver: | Any pilot holding a "C" certificate but not Gold or Diamond Distance. |
| d) "C": | Any pilot holding a "C" certificate but not Silver, Gold or Diamond Distance. |
| e) Pilot Handicap: | All pilots from the above three classes. |

- ◆ Eligibility for a class is based on the corresponding badge distances that have been completed by the pilot at the commencement of the competition season. A pilot remains in that class for the duration of the season even though a longer distance may be flown at some time during the competition.
- ◆ A pilot can be eligible for more than one class. For example, a pilot holding Silver Distance but not Gold or Diamond Distance is entered in Silver, Gold, Diamond and Pilot Handicap classes.
- ◆ Scores are calculated using the aircraft handicaps set by the W.A. State Gliding Championship.
- ◆ Competition requirements
 - a) Pilots must score a minimum of 3 days to be eligible for a class. Any number of days within the competition period may be flown. A pilot with the highest average from all days scored will be determined the winner in the respective class(s). A pilot with more than 5 days may drop their worst score.

- b) To be eligible for Club Champion, pilots must score a minimum of 5 days and have flown at least once against all other Club Champion contenders.
- c) In the event of a draw in scores the winner will be determined by totalling the scores from the days that the drawn pilots competed against each other.
- d) Cameras or barographs will not be required but should be carried if pilots intend claiming badge flights or records.
- e) Start times will be taken when the aircraft crosses over the club house. There is no height restriction. However, pilots should be aware that height or distance restrictions may apply to an intended badge or record attempt. Pilots may start as many times as they wish.
- f) Finish line will be the airfield boundary.

◆ Tasks

- a) Three tasks will be set each day. Pilots must fly the appropriate task for the glider that they are using:
Novice: Any pilot who has not participated in a full season of cross country competition, flying a glider with a wingspan of 15m or less.
Sports: Any pilot flying a glider with a handicap equal to or higher than that of a single Astir.
Standard: All other pilots.
- b) Each task will be set such that the slowest pilot would be expected to complete the task within the soarable part of the day.
- c) Pilots must nominate before they start which task they intend to complete, either by entering their name and aircraft registration on the task score sheet for the day (which the logkeeper should have) or by advising the logkeeper by radio prior to their first start. Only pilots that nominate a task will be part of the days competition. Once nominated and a start is made the pilot will be scored for the day. Task nominated cannot be changed after a start has been made.

◆ Task Scoring

- ◇ All tasks will be speed tasks.
 - ◇ Scoring in each class except the Pilot Handicap Class will be carried out according to the following formulae.
- a) Highest handicap speed = 1000 points, or if no finishers longest handicap distance = 1000 points.
 - b) Speed points = Handicap speed / Fastest handicap speed x 1000
 - c) Distance points = Handicap distance / Longest handicap distance including finishers x lowest speed points of finishers, or 1000 if no finishers.

◆ Pilot Handicap Scoring

- a) If a pilot has flown in a previous year and has established a pilot handicap, this will be the beginning handicap for the new competition.
- b) If a pilot has not flown in the club competition before, the beginning handicap will be 250 or as set by the competition director after discussion with the pilot where the level of experience of the pilot is known.
- c) The maximum handicap a pilot can hold is 500.

- d) To calculate the pilot's handicap score, the pilot's handicap is added to the task score. eg a pilot scoring 850 for the day with a handicap of 275 scores $850+275=1125$ in Pilot Handicap Class.
- e) Pilot handicaps are adjusted after each flight, to apply to the next flight.
- f) For pilots holding handicaps between 100 and 500, the handicap is adjusted up or down by 25 points if the pilot scores 50 points or more either side of a handicap score of 1000. eg the pilot in d) above would have a new handicap of 250.
- g) For pilots holding a handicap below 100, the handicap is adjusted up or down by 25 points if the pilot scores 25 points or more either side of a handicap score of 1000.

W.A. State Gliding Competition

The State Comps are an annual event, held in January, that involves some 10-14 days of flying, with tasks set for all classes of gliders on every day. By the time you are ready to fly in the State Comps, you will know quite a lot about cross-country soaring.

At this point in your career, you just need to be aware of the fact that a supporting letter from the Club's CFI is required for anyone who wishes to enter the Comps.

Airworthiness

Gliders require a lot of tender-loving care. From the daily inspections through to the annual Form 2, regular maintenance is crucial to keep the fleet in the air. This is both good news and bad news. The bad news is that maintenance is quite labour intensive. The good news is that maintenance work requires skills that many club members enjoy exercising. If you enjoy knowing how things work and using precision tools, then you may wish to consider the following options:

Daily Inspector

The first step towards becoming proficient at airworthiness inspection is to obtain a Daily Inspector's rating. A daily inspection (DI) must be performed on an aircraft before its first flight on a given day, and this inspection can only be performed by people who hold the appropriate rating. The DI rating can be obtained by contacting the Club's CTO (Club Technical Officer; now also known as AAO or Airworthiness Administration Officer). It is strongly recommended that all pilots obtain their DI rating as soon as possible after their first solo flight.

Form 2 Inspector

Form 2 Inspectors are as essential to the Club's operation as Instructors. Without a valid certificate of Airworthiness a glider cannot be legally flown. The validity of a Certificate of Airworthiness must be extended through a certified inspection every 12 months. The inspection must be conducted by a Form 2 Inspector.

This rating requires considerable preparation and training and is usually obtained by attending two 1-week courses over two years at the State level. See the Club CTO (AAO) for details.

Major Repair Rating

Major repairs must be carried out by properly authorised repairers who have qualified for a major repair rating. This is a specialist trade qualification which allows structural repairs and rebuilding of the aircraft. There are only a handful of people with this rating in W.A. It is essentially equivalent to that of licensed mechanics for powered aircraft.

Appendix: Further Tools for Cross-Country Flying

1. *THERMALLING EXERCISES (From Helmut Reichmans's book "Cross-Country Soaring"; which is a doctoral dissertation on the theory of cross-country flight)*
2. *TASK DECLARATION SHEET*
3. *STATE CHAMPIONSHIP TASK SHEET*
4. *BADGE APPLICATION FORM*
5. *INSTRUCTOR CERTIFICATION FORM*

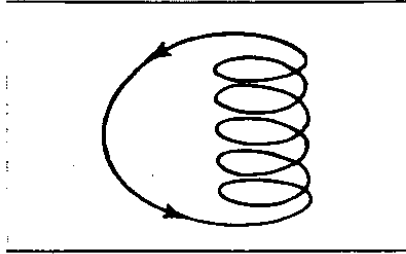
See pages following ...

GAINING HEIGHT IN THERMALS

TASK

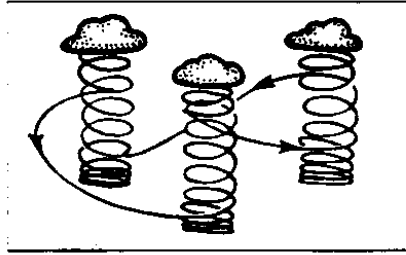
AIM OF EXERCISE:

1. On nearing the top of a thermal, leave the area of lift, take a good look out and descend about 1500 feet using airbrakes. Then try to relocate thermal, center in it, and climb back up again.



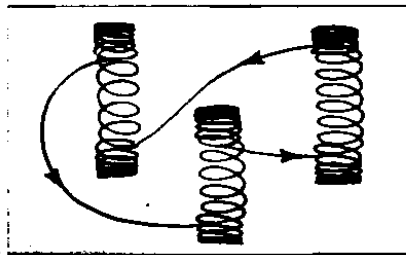
1. To find a known thermal quickly and center in it promptly. To recognize the structure of thermals at various heights.

2. On a day with cumulus, leave your thermal some distance below cloudbase (optionally, at a pre-determined height) and then try to find another which yields an initial rate of climb better than a minimum figure you have previously decided upon. If you descend below a pre-set height, you may if necessary accept weaker thermals.



2. To seek out and find thermals of a pre-determined minimum strength. To change tactics as altitude reduces.

3. On a blue thermal day, leave your thermal as soon as the rate of climb falls below a previously determined figure. Then find another which yields at least as good an initial rate of climb. Again, take weaker thermals below a cut-off height if you have to.

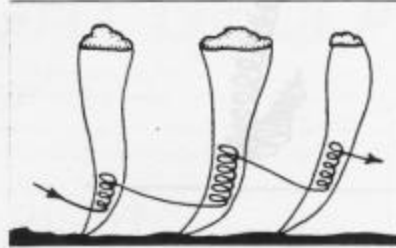


3. To leave a thermal promptly when the climb-rate decays. To practice the equation: "final climb = initial climb." Otherwise as for Exercise 2.

TASK

AIM OF EXERCISE

4. Flying within safe gliding range of the airfield, break off your climb and find another thermal each time you reach a comparatively low self-imposed ceiling.



4. To explore the structure of thermals at lower levels and the inter-relationship between cloud formations and ground features.

5. Essential requirements for this exercise:

- intimate familiarity with the aircraft type.
- thermal immediately adjacent to the airfield.
- approach and surrounding airspace clear.

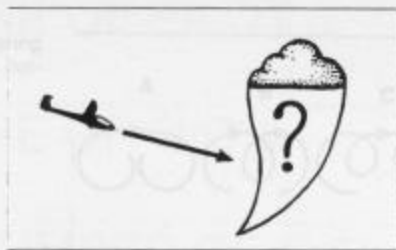
By briefly leaving lift and then re-entering it lower down, or alternatively by using airbrakes, work your way a step at a time down in a thermal.

Beware: Well-coordinated slip and skid-free flying with adequate airspeed is vital at low altitudes. As each turn is completed, a decision must be made on whether it would be wise to break off and land.



5. To explore the structure of thermals very close to the ground. To use an appropriate angle of bank in narrow thermals. To practice circling at low altitude within easy reach of a landable field.

6. Each time you are about to enter lift, call out loud the rate of climb you expect to achieve in z.



6. To learn to anticipate and plan ahead. The mistakes one makes in estimating thermal strength are revealed and can be minimized (a 30 to 40% success rate is very good).

TASK

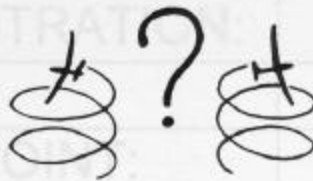
AIM OF EXERCISE

7. Without getting in their way, try to outclimb other pilots who are sharing your thermal!



7. To observe what other pilots are doing, instead of having eyes glued to instruments. Not only is this safer, but it also makes for better centering. Judgment of relative movement, jockeying for position without impeding others and gaggle flying are all important accomplishments for competitor pilots.

8. Throughout a flight, resolve to circle only in the direction which does not come naturally to you!



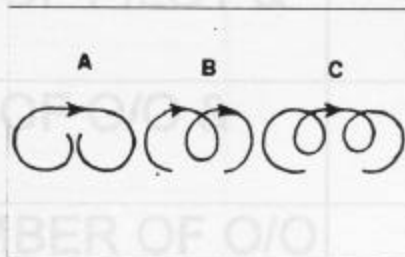
8. Those who can turn efficiently in both directions do not have to make unnecessary positioning maneuvers when entering and centering in thermals.

9. On a day with weak convection, fly your glider at a high wing loading—if possible in company with unballasted gliders of a similar type.



9. Weak thermals which are difficult to center in are ideal for practicing the—not altogether easy—technique of circling in a heavily laden aircraft.

10. Use a method of centering different from the one you normally employ.



10. More flexibility when centering makes for faster and safer progress.

2. TASK DECLARATION SHEET

| <i>FLIGHT DECLARATION</i> | |
|--|--|
| DATE: | |
| NAME OF PILOT: | |
| GLIDER REGISTRATION: | |
| GLIDER TYPE: | |
| DEPARTURE POINT: | |
| FIRST TURN POINT: | |
| SECOND TURN POINT: | |
| THIRD TURN POINT: | |
| FOURTH TURN POINT | |
| FINISH POINT: | |
| GOAL: | |
| TIME OF DECLARATION: | |
| SIGNATURE OF PILOT & DATE: | |
| SIGNATURE OF O/O & DATE: | |
| NAME & NUMBER OF O/O | |
| <small>DECLARAT:OR/J96.1 22-May-00</small> | |

3. STATE CHAMPIONSHIP TASK SHEET

WESTERN AUSTRALIAN GLIDING ASSOCIATION

STATE CHAMPIONSHIPS

DATE: _____ DAY: _____

CLASS: _____ POST TIME: _____

TASK DETAILS:

| MAIN TASK | | DISTANCE (km) | TURNPOINT I/D | TRACK (deg) |
|-----------|----|------------------|------------------|----------------|
| 1: | to | | | |
| 2: | to | | | |
| 3: | to | | | |
| 4: | to | | | |
| 5: | to | | | |

| ALTERNATE TASK | | DISTANCE (km) | TURNPOINT I/D | TRACK (deg) |
|----------------|----|------------------|------------------|----------------|
| 1: | to | | | |
| 2: | to | | | |
| 3: | to | | | |
| 4: | to | | | |
| 5: | to | | | |

| |
|---------------------------|
| GRID POSITION: |
| FIRST LAUNCH: |
| START LINE: |
| MARSHALLING TIME: |
| I/P AREA: |
| FINISH LINE: |
| OTHER INFORMATION: |

4. BADGE APPLICATION FORM (Sample)

5. INSTRUCTOR CERTIFICATION FORM (Sample)

See pages following ...



THE GLIDING FEDERATION OF AUSTRALIA
**GLIDER PILOT CERTIFICATE
APPLICATION FORM**

(A, B AND C CERTIFICATES)

(PLEASE USE BLOCK CAPITALS)

SAMPLE ONLY

SURNAME:

GIVEN NAME(S):

GFA NUMBER (IF KNOWN):

CERTIFICATE NUMBER (B AND C APPLICANTS):

DATE OF BIRTH: NATIONALITY:

PLACE:

ADDRESS:

..... POSTCODE:

TELEPHONE NUMBER: FAX:

CLUB:

Address to which Certificate should be sent if different from above

.....

I hereby apply for the gliding certificates indicated in the appropriate sections overleaf.

SIGNATURE: DATE:

This application form should be sent to the GFA/FAI Certificates Officer as detailed below.

Mr. Colin Hey,
6 Faye Crescent,
Gooseberry Hill,
W.A. 6076
Telephone/Fax: (09) 293 3406

The cost of each certificate claimed is \$15 (i.e. if three certificates are claimed on the one form, the cost will be \$45. This cost includes the badge. In the case of claims for more than one certificate on this form, only the badge appropriate to the highest qualification will be sent.

Note: There is no requirement for a photograph to appear on the gliding certificate. However, if your certificate does not carry one, you may be required to produce a document bearing a photograph and signature on proof of identity.

| |
|--|
| CERTIFICATE NO. |
| 2 PASSPORT PHOTOS (OPTIONAL — SEE NOTE) |

INSTRUCTOR CERTIFICATION

SAMPLE ONLY

“A” CERTIFICATE

I hereby certify that that applicant has fulfilled the following requirements:

1. Has completed five solo flights with normal landings.
2. Has completed the pre-solo training syllabus in accordance with the MOSP and the Instructor's Handbook.
3. Has been successfully examined on basic theory and flight rules and procedures.
4. Has signed a GFA Medical Declaration Form (or has counter-signature of parent/guardian).

INSTRUCTOR'S NAME:

SIGNATURE:

CLUB: DATE:

“B” CERTIFICATE

I hereby certify that the applicant has fulfilled the following requirements:

1. Has completed 15 solo flights with normal landings, including at least one solo soaring flight lasting 30 minutes.
2. Has completed the post-solo training syllabus in accordance with the GFA Instructor's Handbook.
3. Has been successfully examined on basic theory, flight rules and procedures and basic airworthiness.

INSTRUCTOR'S NAME:

SIGNATURE:

CLUB: DATE:

“C” CERTIFICATE

I hereby certify that the applicant has fulfilled the following requirements:

1. Has completed 20 solo or mutual flights, including two solo soaring flights of at least one hour's duration each.
2. Has been successfully examined on basic theory and flight rules and procedures.
3. Has received a "passenger awareness" briefing.
4. Has been trained and checked in safe outlanding practices.
5. Has been checked for satisfactory entry and recovery techniques in fully developed spins.

INSTRUCTOR'S NAME:

SIGNATURE:

CLUB: DATE: