



Cotswold Gliding Club

A Guide to Preparing for a Cross Country Flight

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Introduction.....	3
NOTAMS.....	4
Meteorology.....	5
Route Planning.....	6
Map marking.....	6
Glider and Instrument setup.....	7
Barograph/Logger setup.....	7
Water Ballast.....	8
Radio.....	8
Declaration.....	9
Speed to Fly.....	9
Final Glides.....	9
Suggested Items that should be carried.....	10
Retrieve Planning.....	10
Permission to Fly.....	10
On landing.....	11
Checklist.....	12
Notes.....	13

Introduction

This booklet is not designed to be a definitive or complete guide to cross country flying but can be used as a prompt to ensure that the basics have been completed before embarking on a cross country flight.

Good flight planning is one of the secrets of successful cross country flying.

This booklet does not contain all the answers and you may need to seek advice from instructors, Official Observers or experienced club members for more in-depth information.

Responsibility for knowledge of airspace restrictions, navigational hazards and other Cross Country requirements exist with the pilot and not with the author.

If you would like a printed copy, please set your printer to print this in booklet format to make it more manageable.

NOTAMS

(Notice to Airmen)

NOTAMS provide information about any temporary restrictions of airspace (such as Royal flights or Air displays) or warnings about temporary hazards (such as gliding competitions or balloon festivals)

To ensure that you understand all the NOTAM information it is advisable to access the information the day prior to the planned flight, this will also aid your flight planning. Check again on the day of the flight.

NOTAMS active for the area of the planned flight **MUST** be understood before going cross country. Strictly speaking you should access NOTAMS from the AIS website, but these are often difficult to decipher. The process to logon to NATS/AIS can be found on the club webpage.

The following programs are examples available for download to access at home and can be used to analyse NOTAMS. They are also available on the club PC.

They are reasonably intuitive but it makes sense to become familiar with their use.

- Spine - [Software \(jeffg.co.uk\)](http://jeffg.co.uk)
- Navplot - https://navplot.asselect.uk/today_south.pdf
- Notam Info is a very useful online Notam application and can be accessed at <http://notaminfo.com/>
- Sky Demon (Requires a subscription)
- For up-to-date information on recently created NOTAMs you can ring the AIS Information Freephone number – 0808 5354802

- **Meteorology**

For general weather information across the UK refer to the BBC weather website at – <https://www.bbc.co.uk/weather>
for more detail use the Met Office - <http://www.metoffice.gov.uk/>

For the soaring season gliding weather analysis there are many sites providing weather data, these are a few: -

- Metcheck - <http://www.metcheck.com/V40/>
- Sid's (Nympsfield) - [Sids Weather – Bristol & Gloucestershire Gliding Club Lasham -SoarMet - Lasham Weather](#)
- Rasp - [RASPTable 'desktop' - RASP UK \(Stratus\)](#)

Other specialised applications are Top Meteo or Skysight (subscription required)

The following items are useful to note –

- Wind speed and direction.
- The potential cloud cover.
- The potential for sea breeze activity (this might make it difficult getting back to AD).
- Note the difference in the night and day temperatures
- Inversion level
- Review the weather for the probable area of the flight and for the potential duration of the flight.

A good day is often after the passage of a cold front and when a ridge of high pressure is approaching.

Route Planning

Use the NOTAM and weather information to plan your task.

Use a task setting program such as SeeYou to give you turnpoint, leg distance and bearing information

Hints –

- Understand the duration of the soaring day and your probable launch time.
- Avoid if possible, a task that has the final leg directly into wind.
- Also consider the time of year and the crop state of the fields, use this link to help define which crops can be found during the year.

[Field Crops - Home Page \(fieldselection.co.uk\)](http://fieldselection.co.uk)

Map marking

- Ensure that your map is the latest edition.
- Mark your map with your planned route and turnpoints.
- Include wind direction arrows (don't forget that wind veers with height)
- Mark bearing information.
- Mark active NOTAMS
- Mark 5 or 10km distances from base on the final leg.
- Identify active airfields, parachute drop zones and other potential hazards.
- Identify land out options (other gliding clubs or airfields etc.) Also note their radio frequencies.
- Ensure that you know what the turnpoints are, I.E. Road Bridge over river or major roundabout etc.
- If possible, fold your map so that the whole task is visible or fold it in a way that all the parts of the task are easily accessible.

Glider and Instrument setup

You should have the latest airspace and turnpoint files loaded.

If you have a FLARM unit, make sure it is at the latest firmware level and that you have registered it with Flarmnet, this helps your crew to see where you are and if you are still airborne.

Make sure that the glider batteries are fully charged.

Note the airfield QFE and QNH also note the difference in height between an altimeter setting of 1013.2 and the setting that you will be using during your flight. (All airways are at flight levels referenced from a 1013.2 altimeter setting).

Set the task into the instrument and verify the route is correct.

Make sure that you have the parameters for the start line, turnpoints and finish line correctly setup. Most badges (with exception of Silver Distance) require that you go through a start and finish line. Remember that if you use barrels for your turnpoint zones, you will be deducted 1km for each turnpoint, I would suggest using the FAI sector for your claims, you are far more likely to log a GPS point in the sector this way and your task distance won't be reduced.

Barograph/Logger setup

Ensure that a declaration has been completed either electronically or on a sheet of paper, an email is also acceptable.

If your navigation instrument (such as an Oudie) is not connected to your aircraft battery make sure that it is fully charged and that you also have a back up battery pack to power it.

If possible, carry a secondary logger.

Water Ballast

Do NOT exceed the Max All-up-weight of the glider – this includes you and all equipment, drinks, lunch etc. that you are going to carry!

Consider carrying less than max ballast if day is only average.

Use Fin ballast to adjust C of G

Re-Calibrate the Speed-To-Fly instruments for the higher glider weight.

Be prepared for a lower than usual winch launch and a tougher first thermal climb.

Radio

The frequencies that are commonly used for cross country flying are :-

130.105

130.130

The common ground frequency is 129.980 but not all gliding airfields will use it, a good gliding site reference card can be found at :-

[Gliding Matters - BGA-FRC \(ruskin.me.uk\)](http://ruskin.me.uk)

The full Frequency Reference cards can be found at: -

[NATS UK | Frequency Reference Cards \(ead-it.com\)](http://ead-it.com)

Hint – Don't always believe or be led by what you hear on the radio, "only 1 knot over Didcot" can mean a number of things such as, an inexperienced pilot in the wrong part of the sky or temporary cloud cover. It could also mean that the weather is recycling and by the time that you get there the conditions will be booming. Use your own observations of the sky en-route and make appropriate decisions.

Aston Down airfield frequency is 118.665MHz

Declaration

If you are planning a badge flight, you must ensure that you either have a task declaration form signed and countersigned by an Official Observer (OO) or have an electronic declaration in the logger PRIOR to the flight, a task altered in flight will result in an invalid claim.

Speed to Fly

MacCready theory is not an exact science so don't try to stick to it too doggedly.

In UK set McCready ring or setting conservatively – best to glide further and get more chance of a strong thermal.

Zero McCready setting is NOT an option – you will fly too slowly. Use 1, 2 or 3 depending on the day. Be prepared to change the setting as conditions change.

Do not try and chase every change in lift or sink. It's less tiring to fly at a fairly constant speed – also gives you more chance to pay attention to your route and where the next lift is going to be.

When setting the McCready ring, base the setting on the average rate of climb in the last thermal from the time circling began until the glider departed the thermal. If no averager is fitted in the glider, use half the perceived rate of climb e.g., if the thermal would be described as a '4 knotter', then the average is probably about 2 kts.

Final Glides

- Mark your final leg with dashes every 5 or 10 km from your goal.
- Get a good estimate of wind speed and direction at flying altitude.
- Decide on your “Safe” return height (normally between 600 and 1000 feet, don't forget to add this to any calculated final glide heights.
- Pre-calculate the heights required for a “best L/D” final glide – this is your minimum glide slope.

Note the QFE setting – you will need it if you change to QNH or flight levels en-route.

Suggested Items that should be carried

Make sure that you have these available and carried in the glider, be prepared for a potential land out.

- Current aeronautical map marked with your task.
- Charged mobile phone with contact numbers of the club and retrieve crew.
- Sunglasses or prescription glasses.
- Sun hat.
- Sunscreen cream/lotion.
- Drinks and food.
- Appropriate equipment to be able to urinate (freezer bags work well).
- Appropriate clothing (for flying and a landout).
- A road map may also help identify your location and route for your retrieve crew.
- Money and credit card (in case an aerotow retrieve is required).
- Signed declaration certificate (if a claim flight).

Retrieve Planning

Ensure that the trailer is serviceable, unlocked and ready for a road retrieve. Ensure that all derigging tools and aids are in the trailer. Identify a retrieve crew and inform them of your planned task. Load the club and retrieve crew phone numbers into your mobile phone.

- Join the club WhatsApp retrieve group.
- Load the 'what3words' App into your phone (and your retrieve crew's).

Permission to Fly

Ensure that you have the permission of the Duty Instructor to fly your planned task and have entered the details in the Cross Country book in the launch point bus.

On landing

If a successful badge flight you will need to ensure that an OO either downloads the log file or watches you download the log file.

Let your retrieve crew know that you are back.

If you land out call your retrieve crew with your position, your landing coordinates might help the crew find you.

If possible, find the landowner and let them know that you have landed in their field and explain how you will recover the glider.

The BGA have produced some field landing guidance, this can be found at :-

[Guidance - After a Field Landing - Pilot & Club Info \(gliding.co.uk\)](http://gliding.co.uk)

Checklist

Date					
NOTAMS checked?					
Met Checked?					
Route planned?					
Map marked?					
Instrument setup?					
Batteries charged?					
Barograph/logger setup?					
Declaration signed?					
Water Ballast filled if required?					
Food and water available.					
Hat, Sunglasses and sunscreen?					
Fully charged mobile phone with what3words app and retrieve crew numbers.					
Land out equipment onboard?					
Trailer serviceable and retrieve crew identified?					
Permission to fly?					
Cross Country book completed?					

Notes