PARAGLIDING CROSS COUNTRY TRAINING SYLLABUS

BASED ON FAI PARA PRO STAGE 5

BACKGROUND

Having achieved their BHPA Pilot Rating many paraglider pilots find themselves "stuck in a rut" wondering how to move on to cross country. I did!

Everyone I have talked to that has gone XC seems to have a different tale to tell, some were coached, others attended XC Courses and some simply went over the back and learned by their experience.

While the documents covering the BHPA Advanced Pilot Rating include an exam syllabus and a set of qualification tasks there is no guidance on how a pilot should actually prepare themselves to fly cross country.

With all this in mind my search for a syllabus was on!

I soon discovered that the BHPA Pilot Rating scheme was based on the FAI Para Pro Scheme. http://www.fai.org/hang_gliding/system/files/parapro_2008.pdf

Para Pro Stage 4 (Advanced Soaring) roughly equates to BHPA Pilot Rating and Stage 5 (Cross Country) to BHPA Advanced Pilot (AP).

The Para Pro Scheme uses a building block approach. Each stage includes a description of the tasks to be completed and examination criteria however unlike BHPA AP it also describes the skills and knowledge required to fly cross country.

Para Pro 5 then gave me the basis for my personal training syllabus and using this I embarked on a programme that eventually lead to a successful 20km cross country flight.

AIM

The aim of this syllabus is to provide fellow paraglider pilots with a syllabus based on Para pro 5 that will help them make the transition from ridge soaring to cross country.

METHOD

What I have done in this document is transcribe the text of Para Pro 5 into a set of training objectives. Training objectives are simply a statement of what the student is required to be able to do or to know.

The objective statement includes a performance standard and the conditions under which the standard must be achieved e.g. climb to within 300 feet of cloud-base using a paraglider with a vario.

The syllabus itself does not contain the detail on how to fly cross country; that will become more obvious as you work your way through developing your knowledge and skills.

THE SYLLABUS IN OUTLINE

The first step is to satisfy yourself that you have mastered your Pilot Rating skills particularly climbing efficiently in thermals.

You should also go over the Pilot Rating theory on air law, airspace, glider performance (polar curves) and meteorology as these are built upon in as you delve deeper into the theory under objectives 2 - 11. This knowledge will enable you to:

- Interpret weather forecasts and information in order to recognise good XC conditions.
- Plan and navigate a route avoiding out of bounds airspace.

- Search for and find the lift, avoid the sink and other weather hazards.
- Use “speed to fly” during climbs and transitions to maximise the performance of your glider, get to that next climb and increase your cross country distance.

Once you have completed objectives 1 – 11 you can start putting your cross country skills and knowledge into practice in the air.

Once you have achieved objective 18 (Speed to Fly) then you should feel much more confident about making your first deliberate pre-planned cross country flights.

As you work you way through you will see that there is a fair amount of planning and preparation to do before you go to the hill. Don’t be put off as this will drastically increase your chances of success and make it easier to make the decision to go for the following reason:

- You have spotted good XC conditions.
- You will have a cross country flight plan.
- By now you are regularly getting high within safe distance of cloud base.
- When you get to base you will be able to figure out where to fly for your next climb.
- You will have a good idea how fast to fly to get there.
- When you land you have a plan to get retrieved.

I would suggest you plan and prepare for XC even on less favourable days just to get into the habit, as the Roman Seneca said *“Luck is what happens when preparation meets opportunity.”*

In the longer term you may like to work towards your BHPA AP rating however this syllabus is designed to make that first transition to XC.

REFERENCE MATERIAL

In the second table you will find the list of training objectives repeated together with references to well known text books and hyperlinks to articles on the web. This list is by no means exhaustive however these references served me well. Just Googling these subjects bring up plenty of material on the web.

Those references marked with a * are strongly recommended, the most useful by far were:

- 50K or Bust by Nigel Page. A gold mine for cross country flying generally but more specifically in UK conditions. This book is a must in my opinion as it covers just about all the subjects in the syllabus in one cover!
- Paragliding Freedom by Jeff McCall, for honing basic Pilot Rating flying skills.
- Tom Bradbury’s met articles all available on the web.
- RASP, not a book but a superb tool, Regional Atmospheric Soaring Prediction (RASP) is brilliant for picking the right days.

CONCLUSION

Using this syllabus I spent more time with my head in a book than in the clouds however armed with the extra knowledge I made the transition to XC in about six flying days, three practicing thermalling intensively, one failed attempt (death glide) then a first proper flight with a second and third”ish” climb covering 20km.

From my own experience the key lessons learned were:

- Thorough planning on the ground helps build confidence and free up brain capacity in the air.

- Learn how to interpret weather forecasts to identify good cross country conditions, if it’s not good enough then you won’t be going far!
- Learn how to read the sky for signs of lift!
- Be current on your glider especially thermalling, speed to fly, and rapid descent techniques. If you are not current your brain will be pre-occupied with flying the glider not reading the sky around you!

Full credit to the FAI for Para Pro Scheme; thanks too to those that kindly proof read this document and the authors responsible for the reference material.

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CROSS COUNTRY SYLLABUS

Seri	Title	Desired Behaviour	Performance Sta	Applicable Cor
	REVISE AI MASTER E PILOT RA SKILLS AN THEORY	Revise and master BHPA tasks and theory.	BHPA Pilot Exam. BHPA Pilot Rating Tasks x flights during which the height gains exceeding 1	
	FLIGHT PLANNING INFORMAT	Understand how and whe information on: • Flying Sites • Terrain • Forecast Weather • Airspace / NOTAM		Use map and oth publications air t weather services
	WHERE TO FIND LIFT	Understand how to recog weather indications of us and meteorological hazar • Useable lift includ cloud streets, con wave, restitution. • Hazards include cl sink, squall lines c		Read the sky fron ground and in the
	XC WEATH ASSESSM	Understand how to interp information to assess sui cross country flying.		Weather forecast RASP and RASP Soundings.
	ROUTE PLANNING	Understand how to plan a country flight considering • Terrain and likely s and sink. • Routes and alterna • Hazardous and de • Landing areas • Communications • Retrieval		Use CAA Air char topographical ma maps and web ba resources e.g. Go Earth, Google Ma Planner, Use of GPS, wayp routes Garmin Ma and other plannir software.
	FLIGHT PLANNING	Understand how to make country flight plan.	Safe route avoiding confl airspace and NOTAMS, d terrain or risk to safe lan	Airchart Route Plan GPS
	SPEED TO	Understand the principles at optimum speed in lift, s tail-wind.		While soaring, cli and during inter-t glides / transition

	CROSS COUNTRY NAVIGATI	**Understand how to navig cross country flight.**		**Using airchart, co GPS and watch.**
	STANDAR PROCEDU	**Understand how to opera way radio.** **Understand how to plan a safe retrieve.**		
	EMERGEN PROCEDU	**Understand emergency p including:** • **Search and rescue** • **Incident reaction and**		
1	**XC GLIDE AND EQUIPMEI**	**Select and use appropria equipment for suitable fo** • **cross country flying:** • **altitude and low temp** • **emergency** • **rescue equipment** • **first aid survival** • **warning** • **radio communications**		
	XC FLIGH PLAN	**Prepare a cross country f including weather assess**	**Safe route avoiding confl airspace and NOTAMS, d terrain or risk to safe lan**	
	LAUNCH A SOAR IN MARGINA CONDITIO	**Launch and soar in marg conditions.**	**Emphasis should be on r and stronger thermic con**	**Light, strong, var turbulent wind ar within safe limits**
	SOAR IN TRAFFIC	**Soar and climb according rules**		**Ridge soaring** **Thermal in comp other gliders** **During glide/ tran**
	READING SKY	**Read the sky and interpre signs in flight in order to:** • **Search for and fin** • **avoid sink** • **avoid potentially d weather conditions**		**During pre-flight assessment and**
	THERMAL SOARING	**Locate, enter and climb e thermals**	**Consistently climb to wit cloud base.** **Make use of thermal heig**	

	RAPID DESCENT	**Perform rapid descent tec order to escape strong up cloud suck using appropr techniques such as Big E Dive and B Line Stall**		**B Line, Spirals or instructor during Course with radio with reserve pres water with a resc available.**
	SPEED TO	**Fly at optimum speed in l and tail-wind.**	**Fly downwind to next clir minimal height loss.**	**While soaring, cli and during inter-t glides / transition**
	CROSS COUNTRY NAVIGATI	**Navigate during a cross c**		**Using map, comp and watch.**
	LANDING	**Land safely in a selected making a precision appro**		
	RETRIEVA RESCUE	**Carry out a safe retrieval**		

REFERENCE GUIDE

Seri	Title	Title	Link / ISBN	Notes
	REVISE / MASTER E PILOT RA SKILLS AI THEORY	*BHPA Pilot Handbook		Good all round re book although a l XC.
		*BHPA Pilot Tasks	http://www.bhpa.co.uk/pd pilot_tasks.pdf	Online Pilot Task
		*Paragliding Freedom ebo McCall	http://www.paraglidingbo	Useful book aime honing CP and Pi Skills with a serie practical exercis
	FLIGHT PLANNIN INFORMA	BHPA Club Site Guides.		
		Paragliding Earth	http://www.paraglidingea pgearth/	Global internet si
		Met Office	http://www.metoffice.gov	Good for synopti and general weat resources.
		Met Check	http://www.metcheck.cor HOME/	By the hour predi wind and weather postcode / locatic
		Regional Atmospheric So Prediction UK (RASP)	http://rasp.inn.leedsmet.a RASPtable.html	Designed for glid strongly recomm getting to grips w especially for ass conditions for XC
		NOTAM Plot	http://www.notamplot.co NotamPlot/Home.html	Web based NOTA which shows NO map.
	WHERE T FIND LIFT	*A Met Guide for Beginner Bradbury	http://www.bfgc.co.uk/Te soar_met.aspx	A great article sta "How to pick a go packed with supe Bear in mind this at sailplanes!
		*50K or Bust – Nigel Page Section 1 Page 13 - 17 Section 2 Page 68 - 73	http://50k-or-bust.com/	

		*Soaring Association of C Flight Search Engine"	http://www.sac.ca/index.p option=com_wrapper&Ite	Type in the words Bradbury for a do useful met article published in Vol L downloadable in format. These arti really focus on wh find the lift!
		Meteorology and Flight – T	ISBN *10: 0713668318*	More extensive th pdf files, quite tec but a good refere will keep coming
		Understanding the Sky – D	ISBN 10: 0936310103 ISBN 13: 978-0936310107	Less technical tha Bradburys offerin more of a slant to & PG.
	XC WEATH WEATHER ASSESSM	*A Met Guide for Beginner Bradbury	http://www.bfgc.co.uk/Te soar_met.aspx	A great article sta "How to pick a go Bear in mind this at sailplanes!
		Interpreting RASP Blipma	http://www.soaringmeteo blipmap.pdf	Basic guide to int RASP Maps.
		RASP Basic Thermal Fore Parameters	http://www.drjack.info/RA basic_parameters.html	Basic guide to understanding th of RASP paramet Thermal Updraft V
		Interpreting RASP Soundi	http://www.soaringmeteo raspsounding.pdf	Soundings add an dimension to you assessment allow to look through a slice of the atmos winds, thermals, cloud base etc
	ROUTE PLANNING	*50K or Bust – Nigel Page Section 1 – Page 17 and 4	http://50k-or-bust.com/	
		Cross Country 101 –Will G	http://www.gravsports.co Paragliding%20Pages/ Paragliding%20Stories/X	
	FLIGHT PLANNING	As in Serial 5 Route Plann		

	SPEED TO	*Basics of Speed to Fly fo Pilots - Jeff Greenbaum	http://www.skynomad.co s2f_basics.html	Essential reading especially for effi gliding downwind much bar to apply
		Best Speed to Fly - Ulf	http://t3d2.sourceforge.n BestGlide/index.html	A short article tha use of a glider po and compares lov higher performan
		Wing Loading – AdrianTh	http://www.skynomad.co wing-loading.htm	Effect of weight a loading on speed descent rate, use ballast!
		Flying Height Bands – by	http://www.skynomad.co height_bands.html	
		10 Tips to get you there -	http://www.skynomad.co xc_tips.html	
	STANDAR PROCEDU	*50K or Bust – Nigel Page Section 1 Page 73	http://50k-or-bust.com/	
	EMERGEN PROCEDU	BHPA Incident Procedures	BHPA Coaching Handboo	
		BHPA Crash Drills	http://www.falcon-club.ne	
		EN-926 Paragliders — Par Requirements and test me classifying flight safety ch	http://www.hgfa.asn.au/H En926-2%20CEN%20PG%	
		Cross Country 101 by Will	http://www.gravsports.co Paragliding%20Pages/ Paragliding%20Stories/X	
	EMERGEN PROCEDU	BHPA Incident Drills	BHPA Coach Handbook	
		BHPA Incident Proforma	http://www.bhpa.co.uk/p	
		BHPA Crash Drills	http://www.falcon-club.ne	
	XC GLIDE AND EQUIPME	*50K or Bust – Nigel Page Appendix Page 100	http://50k-or-bust.com/	

	XC FLIGH PLAN	Cross Country Flying – W	http://www.skynomad.co cross-country.htm	
	LAUNCH A SOAR IN MARGINA CONDITIO	BHPA Pilot Handbook		
		*50K or Bust – Nigel Page Section 1 Page 10	http://50k-or-bust.com/	
		Active Flying – Jeff Green	http://www.paragliding-le active-flying/	
		Ridge Soaring a Paraglide Conditions –Jeff Greenba	http://www.paragliding-le ridge-soaring-a-paraglide conditions/	
		Avoiding Blow-Back by Je	http://www.skynomad.co ridge_soaring.htm	
	SOAR IN TRAFFIC	*50K or Bust – Nigel Page	http://50k-or-bust.com/	
	READING SKY	*50K or Bust – Nigel Page Section 1 and 2	http://50k-or-bust.com/	
		*A Met Guide for Beginner Bradbury	http://www.bfgc.co.uk/Te soar_met.aspx	A great article sta "How to pick a go packed with supe
	THERMAL SOARING	Thermalling Technique – V	http://www.skynomad.co thermalling_technique.ht	
		*50K or Bust – Nigel Page Section 1 Page 24, 30 and	http://50k-or-bust.com/	
	RAPID DESCENT	*50K or Bust – Nigel Page Section 1 Pages 49 - 51	http://50k-or-bust.com/	
	SPEED TC	See Serial 7		

	CROSS COUNTRY NAVIGATI	***50K or Bust – Nigel Page Section 1 Page 42**	**http://50k-or-bust.com/**	
	LANDING	***50K or Bust – Nigel Page Section 1 Page 73**	**http://50k-or-bust.com/**	
	RETRIEVA RESCUE	**See Serial 10**		