TRAINING SYLLABUS

Introduction

Lasham has a well-defined training programme that covers pilot training from the beginning (known as 'ab-initio') to becoming fully-fledged cross-country pilot. These notes describe the entire syllabus.

The progress sheets

The training programme is organised using a series of five progress sheets. These are completed by the instructor at the end of each training session and indicate when the student pilot has successfully completed a particular part of their training. When each sheet is completed it must be signed by the pilot for it to become valid. By signing the sheet the pilot acknowledges that the training on the sheet has been received. For red, yellow and blue sheets, the CFI or DCFI must also sign the sheet. The progress sheets are in addition to the logbook, which should also be completed at the end of each day's training and in which instructors will usually enter a comment to ensure the continuity of training and progress. Most student pilots staple their progress sheets into the back of their logbooks for safekeeping.

Pre-solo training

The first progress sheet covers training from ab-initio to first solo. It details all of the exercises and lessons required before your instructor will send you on a first solo. As you progress your instructor will indicate on the sheet your level of proficiency. The instructor should also make suggestions about the next steps in the pupil's training in the student's log-book.

Post-solo training

After the first solo flight, Lasham requires pilots to continue to follow the progress sheet system. These provide a means for the pupil and the instructors to monitor your level of proficiency. Each sheet is designed to teach new skills and build on those already learnt and, if followed, will guide the pupil through the training system in a structured and systematic way. Ask at the office for your next progress sheet after current sheet has been completed.

The ultimate aim is Blue Card which is self-authorised cross-country flying but pupils may wish to remain at Yellow or Red Card stage for some time in order to consolidate what they have already learnt.

Some of the exercises are solo flying requirements and, as such, will develop the pupil's experience and confidence as well as the pupil's abilities. In difficult weather conditions solo flying may be restricted to more experienced pilots. When a restriction is in force a red, or in more extreme conditions, a yellow windsock is displayed on the launch-point control vehicle. Only those pilots holding at least the corresponding colour rating may fly on such days. The decision to apply or remove a restriction rests with the most senior instructor on duty.

The following cards are earned after solo:

- White Card, after completion of the White Card Progress Sheet
- Red Card, after completion of the Red Card Progress Sheet
- Yellow Card, after completion of the Yellow Card Progress Sheet
- Blue Card, after completion of the Blue Card Progress Sheet

However no cards are actually issued.

Pre-solo Progress Sheet

Exercise	Syllabus
Care & use of parachutes	See *Care & use of parachutes*
Ground handling (& strong winds)	See *Ground handling*
Pre-flight checks	CB SIFT CBE Risks from omitting checks
Visual scan and lookout	Risks from collision Limitations of the human eye Systematic and maintainable scan technique
Effect of the controls	Use of elevators to maintain pitch control Position of horizon Use of ailerons to turn Effect of rudder Adverse yaw
Aileron/rudder co-ordination	Practise co-ordinated turns Use of yaw string
Use of trimmer	Setting of speed before using trimmer Removal of stick pressure to reduce work
Straight glide and scan cycle	Keeping wings level Aileron/rudder effects Look-out Flying in a chosen direction
Turning	Turning onto a heading Speed control and attitude Look-out Rudder co-ordination
Elevator/airbrake co-ordination	Effect of airbrakes on airspeed/attitude
Round-out and landing-roll	Point at which round-out is started Change of visual reference point Holding off Maintaining control on ground run
Approach control & use of airbrakes	Reference point & landing area Undershoot/overshoot demo Approach speed for light winds Establishing steady speed
Light winds	Demonstrate steepness of half airbrake setting

Strong winds	Concept of wind gradient Approach speed for strong winds Demonstrate steepness of half airbrake setting Risk of undershoot
Cross-winds	Techniques for counteracting Practice cross-wind landings
Symptoms of stall	Briefing and demonstration of symptoms HASLL
Nose drop stalls	Recovery technique Look-out/checks before height loss manoeuvres
Shallow & mushing stalls	Difference from normal flight Recovery technique
Steeper nose drop stalls	Recovery technique
Stall with wing drop	Recovery technique Spin avoidance
Winch-launching: Full climb and release	Correct attitude Flying straight Speed monitoring Releasing tension on cable
Winch-launching: Ground-roll and initial climb	Weak links Hand on release Keeping wings level Position of stick Speed and acceleration at start of climb Rate of rotation into full climb
Winch-launching: “Too fast” signal	When stress on glider is highest How to give “too fast” signal “Too slow” technique (lower nose/release)
Winch-launching: Cross-wind launches	Risk of yaw Cross-wind correction
Winch-launching: Strong winds	Appreciation of rapid take-off
Further stalling: Lack of effect of elevator	Effect of stick back after nose has dropped
Stall speed increases in turn	Stall speed in level flight Stall speed at moderate angle of bank Stall speed at steeper angle of bank Reason for increase in stall speed

High speed stall (demo only)	Cause Risks Recovery
Stall and reduced 'g'	Demonstration and practice of the two manoeuvres to show difference in recovery
Aerotow: Maintaining station on tow	Correct position behind tug How to stay in position (vertically & horizontally)
Aerotow: Recovery from out of position	How to get back into position Pulling off if unmanageable
Aerotow: Ground-roll & take-off	Position of stick on ground roll Cross-winds Take-off Position behind tug
Aerotow: Signals	Tug requires glider to release Glider cannot release Airbrakes open signal
Aerotow: Boxing slipstream	Practice of boxing wake to demonstrate control and limits of position allowable Releasing only under tension
Circuit planning: Standard circuits	Reason for circuit Shape of circuit Demonstration of angles (too far out and too close in)
Modified circuits	No need to return to launch-point Turning in early Circuits from unusual directions Alternative landing areas
Circuits without altimeter	Judgement by height, angle and distance
Changing effect of rudder	Rate of roll and yaw at different speeds
Spin recovery	HASLL Spin recognition and symptoms Spin recovery technique with minimum height loss Spin avoidance
Spin entry: Shallow, over-ruddered turn	Practice spin entry as if slow final turn
Spiral dives and recoveries	Difference from spins Recovery

Spins from a steep turn	Demonstration and practice
Spin from a failed winch launch	Demonstration and practice
Spin entry below 1000 feet agl & recover	Demonstration by instructor only (K13 only)
Prolonged spins (at height)	Demonstration of change in pitch
Launch failures: Recovery from launch attitude	Getting recovery attitude Getting manoeuvring speed
Launch failure >200 feet straight ahead	Demonstration and practice Record in log book
Launch failure high straight ahead	Demonstration of full airbrake approach Demonstration of straight ahead CB and practice Record in log book
Launch failure: Intermediate level – circuit	Demonstration and practice Record in log book
Launch failure: Gradual power failure straight ahead	Demonstration and practice Record in log book
Launch failure <100 feet straight ahead	Demonstration by instructor by power failure only Record in log book
Thermal centring	Techniques Demonstration and practice Thermalling with other gliders
Steeper turns (45 degrees and greater)	Co-ordination Speed control
Steeper turn reversals	Co-ordination Speed control
Large jet aircraft movements	Briefing See *Movement of jets*
Rules of the air (oral test) (Pupil to read *Airmanship* before being tested)	Straight ahead Converging Ridges Give way in case you have not been seen Thermals When landing Collision avoidance

First solo

After all exercises on the Pre-solo Progress Sheet have been completed, the pupil must sign and date the card to confirm that the training listed has been received. Before a first solo is undertaken, the pupil must lodge a medical certificate with the Lasham Office (see *Responsibilities of pilots)*.

White Card Progress Sheet

After your first solo, pupils should get the new progress sheet from the office. This is the progress sheet to gain the White Card. During this period there will have several more dual flights. The pupil may also fly solo in an LGS glider, but you must ask for a briefing before each flight from an instructor, who may also require the pupil to have a dual flight before authorising another solo. The following exercises appear on the White Card Progress Sheet:

Exercise	**Syllabus**
'A' Badge form sent	After first solo, complete BGA form to obtain gliding certificate
Stall & spin revision –Stall & reduced G	Symptoms of stalls Recovery from stall Reduced g exercise
Spin from under-banked turn	Symptoms of spins Pupil to demonstrate spin entry Recovery from spins Spin avoidance (Spin recovery with minimum height loss and at an acceptable speed. The rudder and ailerons should be centralised after rotation has been stopped.)
Spin from a well banked turn	As above
Fixed airbrake approaches	Benefits of minimising air-brake movement Pupil requests half-airbrake to achieve predefined touch-down
Problem circuits	Running out of height Circuits from unusual directions Pupil to demonstrate good decision making
Circuits without altimeter	Pupil to demonstrate good height judgement
Strong winds (circuit and landing)	Pupil to demonstrate appreciation of risk of undershooting and modified circuit to compensate. Pupil to demonstrate appreciation of wind-gradient

Crosswinds (circuit and landing)	Pupil to demonstrate ability to correct for cross winds in circuit and landing
Aerotow: Boxing slipstream	Pupil to demonstrate control over position of glider behind tug
Aerotow: Signals on tow	Pupil to demonstrate knowledge of signals Practice wave-off by tug Demonstration of signal by instructor of signal for being unable to release
Winch-launch failure	A further five winch launch failures after solo Pupil to take correct actions and show good decision making
Thermal centring	Demonstration of techniques Practice of centring
Climbing with other gliders	Awareness of other gliders Joining thermals safely Maintaining correct position in thermals relative to other gliders at the same height and just above and below Collision avoidance
Solo flying	20 solo flights A half-hour soaring flight from winch or an hour soaring flight from an aerotow launch to no more than 2000 feet AGL A second half-hour soaring flight from winch or an hour soaring flight from aerotow
Conversion to ASK21	Glass conversion ie airbrake/elevator coordination at altitude before demonstrating good speed control on approach
Cleared to fly a single seater with daily briefings	This may any simple single seater (Grob 102)
Pre-flight self briefing	Pupil to demonstrate awareness of the potential issues before flying, including current and forecast weather, movements by ATC, obstructions on the airfield such as the grid, eventualities after launch failure, amount of traffic, approach speed and crosswind.
Cleared off daily checks	Flights with full rated instructor
Daily inspections of aircraft being flown	Pupil should be able to perform daily inspection of K13s, a glass fibre aircraft such as the K21 and Grob 102
Care and use of parachutes (See Care and use of parachutes)	Handing, inspection, storage and how to use in an emergency

Assistance at the launch-point	Knowledge of tasks during winch launches Cable-truck driving Knowledge of tasks during aerotow launches Ability to use radio at launch-point to talk to the winch, the office and the tugs
White card written test	Pupil to demonstrate the knowledge needed to fly safely and efficiently at Lasham
Jet movement revision	Pupil to demonstrate knowledge of issues from jet movements at Lasham

Completion of the White Card

Upon completion of the exercises on the White Card Progress Sheet, the pupil should contact the Chief Flying Instructor, DCFI, or any full rated instructor. The CFI/DCFI will sign the sheet, though another dual flight may be required.

Even with the White Card the holder is still a student pilot and should get a briefing from an instructor before flying. However if conditions are more difficult, a red or yellow windsock may be flown. Do not fly solo in these conditions without clearance from an instructor.

Red Card Progress Sheet

To gain a Red Card, the pilot must gain a Bronze Badge and the BGA Cross-Country Clearance plus the pilot must also complete some additional exercises to meet Lasham's requirements. The Bronze Badge is a formal stage in the progress of the pupil and is in essence the gliding equivalent of the Private Pilot's Licence. The Bronze Badge requires:

- 50 solo flights or 20 solo flights and 10 solo hours
- Two soaring flight of 30 minutes each (if launched by winch car or bungy) or 60 minutes each (if from an aerotow not exceeding 2000 feet)
- Oral test
- Flight tests in a dual-control glider with a Full-rated Instructor
- Passing multiple-choice written papers on air law, airmanship, meteorology, principles of flight, radiotelephony and navigation).

All the flying and ground tests must be completed within the 12 months before the application for the Bronze Badge.

Also part of the Red Card is the BGA's Cross Country Clearance. This requires:

- A Bronze Badge and approval of the CFI.
- Two soaring flights of at least 1 hour and one flight of at least 2 hours.
- Field selection flight with at least 2 successful approaches into fields.
- Plan and fly a triangular task of at least 100km (in a glider, motor-glider or light aircraft).

A Bronze Badge and a Cross Country Clearance allow the pilot to apply for the Glider Pilot's Licence (currently not essential). All the requirements for Cross-Country Clearance must be completed within 12 months of the second soaring flight.

Strong winds (at least red sock) including self briefing	Winch-launching in strong winds Circuit planning in strong winds Approach speed in strong winds
Observed solo spot landing (plus or minus 40 metres)	Precision landing with minimal alteration of air-brake setting during approach
Side-slip approaches	Side slipping at altitude Side slipping on approach with full airbrakes Directional control
Aerotow signals	Pupil to demonstrate knowledge of aerotow signals Practice unable to release signal Demonstration of wave-off If not already solo on aerotow
Solo on aerotow	Pupil to have demonstrated control behind tug at all stages of launch and ability to box wake
Descent on tow	Maintenance of position behind tug
Winch: Strong winds	Control of rapid take-off
Winch launch failures: Short field	Artificially limit length of airfield available for landing so that pupil can demonstrate safe manoeuvres at low altitudes
Spin recovery after a full turn on a pre-determined heading	Pupil to demonstrate an ability to recover when required
Spin from a failed winch launch	Pupil to demonstrate spin entry Recovery from spins Spin avoidance
Spin entry from a steep turn	Pupil to demonstrate spin entry Recovery from spins Spin avoidance
Observed solo spin & recovery	Pupil to demonstrate a spin with enough rotation to show that a full spin had occurred. Correct recovery to be demonstrated.
Efficient centring in thermals	Demonstration of centring technique by pupil
Joining crowded thermals	Demonstration of airmanship when thermalling with other gliders

Exercise	Syllabus
Bronze Badge: Two soaring flights	See White Card requirements
Bronze Badge: 50 solo flights in log-book	Should be verifiable from the flying logs of sites flown at
Bronze Badge: Field landing practice Part 1	A session in a motor glider selecting fields and practicing circuits
Bronze Badge: Written Paper	Instructor to supervise and mark test
Bronze Badge: General Flying Test with Full-rated Instructor	At least three flights with a Full-rated Instructor needed to gain Bronze Badge
Oral test	Understanding of flight manual and flight limitations Altimetry and altimeter setting procedures Awareness of daily and annual maintenance procedures NOTAMs
Application for Bronze Badge sent to BGA	CFI signature required

Field landings Part 2	Field selection Demonstration by pupil of a good circuit into at least two fields
Navigation in flight	Pupil to prepare for a 100km triangular flight including airspace and NOTAMs. Pupil to navigate during 100km flight without use of GPS Demonstration of ability to read aeronautical chart
One hour duration flight	Flight to be done solo under observation of instructor or Official Observer
Two hour duration flight	Flight to be done solo under observation of instructor or Official Observer
Approval to fly authorised cross-countries only.	BGA form signed by CFI/DCFI and sent.

Holders of a Red Card are able to fly solo without a briefing from an instructor on duty before every flight in red or white card conditions. However if conditions are very difficult, a yellow windsock may be flown. Do not fly solo in these conditions.

Yellow Card Progress Sheet

Exercise	Syllabus
No-brake approaches and landings	Pupil to demonstrate ability to side-slip to control approach without use of airbrakes
Flying in strong winds (yellow sock)	Pupil to demonstrate control in winch launch and to perform a safe circuit and approach in very windy conditions
Dual cross-country: Cloud selection and route selection. (see *Cross-Country*)	Because the navigation exercise for Red Card can be done in a motor glider, a cross-country flight in a two-seater is a requirement. Pupil must be able to navigate without the use of a GPS. Instructor to demonstrate cloud selection and when to deviate from track. Ideally along a potential Silver Distance route
Dual cross-country: Inter-thermal speeds	Instructor to demonstrate the appropriate inert-thermal speeds
100 solo flights and 50 hours P1	As evidenced by pilot's log-book
Five hour duration flight	Evidenced by a flight recorder/barograph
Silver Distance	Verified
Silver Height	Verified
Authorised to fly a) DG1000	Type conversion from an instructor
b) Duo Discus	Type conversion from an instructor
c) Discus	Minimum 30 hr P1 and type conversion briefing
Use of gliding frequencies	Purpose Knowledge of the frequencies Correct use of radio
Yellow Card flying test	To be done by CFI/DCFI

Yellow Card Test

The Yellow Card Test is not a BGA requirement but it is a useful demonstration of the skills needed to fly in difficult conditions and cross-country. It may be done by any full-cat instructor. Ideally it should be done on a day to allow the assessment of thermalling technique and the pupil's ability to climb with other gliders. The test should consist of:

- Boxing the slipstream on an aerotow

- Descent on tow
- Spin entry from under-banked, over-ruddered turn with recovery
- Spin entry from a turn at 45°/45kt, allowing at least one full rotation before a recovery
- Prolonged mushing stall, maintaining wings level and glider flying straight
- 45° angle of bank turn reversals at 45kt using full control deflection at constant speed demonstrating good co-ordination throughout
- Turn-reversals at increased speed and angle of bank. If 45°/45kt was used for the previous exercise require 55kt and 60°
- Climbing with other gliders in the same thermal at similar heights. Lookout and airmanship considerations and polite protocol
- Winch failure with limited airfield length involving low abbreviated circuit
- Full winch launch demonstrating good technique with regard to acceptable speeds, angle of climb and cross-wind requirements, release at the top of the launch without tension
- Circuit without altimeter (may also be tried with a blanked-off ASI as well as the altimeter)
- Other exercises may be included if time allows.

Holders of a Yellow Card are able to fly solo in difficult conditions, ie even when a yellow wind-sock may be flying.

Blue Card Progress Sheet

The award of the Blue Card is aligned with the BGA's Cross-Country Diploma. Until a Blue Card is gained pilots require a specific briefing before flying cross-country on each occasion.

Exercise	Syllabus
Task planning and selection	Desk-based exercise with an instructor to give pupil an appreciation of the considerations when planning a task
BGA 100km diploma (Part 1)	Completion of pre-declared 100 km task with correct documentation and evidence required by FAI Sporting Code Flight should be authorised and briefing before flying. All documentation should be checked by an instructor before signing off.

Cross-country training

Once you have done a reasonable amount of flying (close to solo and beyond) and you fancy the chance to venture further afield, add your name to the Compass List which is found in the CFI's office. Every summer weekend, subject to weather, novices are offered the chance to do some cross-country flying in one of the club's glass 2-seater gliders with an experienced pilot. This is a fantastic opportunity to discover what cross-country flying is all about.

Aerobatic training

There is also a progress sheet for pilots wishing to pursue aerobatic training. These cards are also available from the office.