

Practical Flight Training for the LPL(S)

AMC to FCL.110.S and to FCL.210.S

FLIGHT INSTRUCTION FOR THE LEISURE PILOT (SAILPLANES) AND THE SAILPLANE PILOT LICENCE (SPL)

1. ENTRY TO TRAINING

1.1 Before starting training an applicant should be informed that the appropriate medical certificate must be obtained before solo flying is permitted.

2. FLIGHT INSTRUCTION

2.1 The LPL (S) / SPL flight instruction syllabus should take into account the principles of threat and error management and also cover:

- (a) preflight operations, including verifying mass and balance, aircraft inspection and servicing;
- (b) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- (c) control of the aircraft by external visual reference;
- (d) flight at high angle of attack (critically low airspeeds), recognition of, and recovery from, incipient and full stalls and spins;
- (e) flight at critically high airspeeds, recognition of, and recovery from spiral dive;
- (f) normal and crosswind takeoffs in respect with the different launch methods;
- (g) normal and crosswind landings
- (h) short field landings and outlandings – field selection, circuit and landing hazards and precautions
- (i) crosscountry flying using visual reference, dead reckoning and available navigation aids;
- (j) soaring techniques as appropriate to site conditions
- (k) emergency actions
- (l) compliance with air traffic services procedures and communication procedures.

2.2 Before allowing the applicant for a LPL(S) / SPL to undertake his/her first solo flight, the flight instructor should ensure that the applicant can operate the required systems and equipment.

3. SYLLABUS OF FLIGHT INSTRUCTION

3.1. The numbering of exercises should be used primarily as an exercise reference list and as a broad instructional sequencing guide; therefore the demonstrations and practices need not necessarily be given in the order listed. The actual order and content will depend upon the following interrelated factors:

The applicant's progress and ability
The weather conditions affecting the flight
The flight time available
Instructional technique considerations
The local operating environment
Applicability of the exercises to the sailplane type

3.2. At the discretion of the instructors some of the exercises may be combined and some other exercises may be done in several flights.

3.3. Each of the exercises involves the need for the pilot under training to be aware the needs of good airmanship and lookout, which should be emphasised at all times.

- Exercise 1: Familiarisation with the sailplane
 - characteristics of the sailplane
 - cockpit layout – instruments and equipment
 - flight controls – stick, pedals, airbrakes, flaps, cable release, undercarriage
 - check lists, drills, controls
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- Exercise 2: Procedures in the event of emergencies
 - use of safety equipment (parachute)

- action in the event of system failures
- bailout procedures
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Exercise 3: Preparation for flight

- preflight briefings
- required documents on board
- equipment required for the intended flight
- ground handling / movements/ tow out, parking, security
- preflight external and internal checks
- verifying in limits mass and balance
- harness, seat and/or rudder panel adjustments
- prelaunch checks
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Exercise 4: Initial air experience

- area familiarization
- lookout procedures
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Exercise 5: Effects of controls

- lookout procedures
- use of visual references
- primary effects when laterally level and when banked
- reference attitude and effect of elevator
- relationship between attitude and speed
- effects of:
 - flaps (if available)
 - airbrakes
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Exercise 6: Moderate Banking and Coordination

- lookout procedures
- further effects of aileron (adverse yaw) and rudder (roll)
- coordination
- banking at moderate angle, return to level flight
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Exercise 7: Straight flying

- lookout procedures
- maintaining straight flight
- flight at critically high airspeeds
- demonstration of inherent pitch stability
- control in pitch, including use of trim
- lateral level, direction and balance, trim
- airspeed: instrument monitoring and control
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Exercise 8: Turning

- lookout procedures
- demonstration and correction of adverse yaw
- entry to turn (medium level turns)
- stabilizing turns
- exiting turns
- faults in the turn (slipping / skidding)
- turns on to selected headings, use of compass
- use of instruments (ball indicator and/or slip string) for precision
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Exercise 9A: Slow flight

NOTE: The objective is to improve the student's ability to recognise inadvertent flight at critically low speeds (high angle of attack) and to provide practice in maintaining the sailplane in balance while returning to normal attitude (speed).

- safety checks
- introduction to characteristics of slow flight

- controlled flight down to critically high angle of attack (slow airspeed)
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Exercise 9B: Stalling

- safety checks
- prestall symptoms, recognition and recovery
- stall symptoms, recognition and recovery
- recovery when a wing drops
- approach to stall in the approach and in the landing configurations
- recognition and recovery from accelerated stalls
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Exercise 10: Spin recognition and avoidance

- safety checks
- stalling and recovery at the incipient spin stage (stall with excessive wing drop, about 45°)
- Instructor induced distractions during the spin entry
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NOTE: Consideration of manoeuvre limitations and the need to refer to the sailplane manual and mass and balance calculations.

Exercise 11: Takeoff / Launch methods

NOTE: At least one launch method must be taught containing all the subject below.

Exercise 11A: Winch launch

- signals and /or communication before and during launch
- use of the launching equipment
- pretakeoff checks
- into wind takeoff
- crosswind takeoff
- optimum profile of winch launch and limitations
- launch failure procedures
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Exercise 11B: Aero tow

- signals and/or communication before and during launch
- use of the launch equipment
- pre take off checks
- into wind takeoff
- crosswind takeoff
- on tow – straight flight / turning / slip stream
- out of position in tow and recovery
- descending on tow (towing aircraft and sailplane)
- launch failure and abandonment
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Exercise 11C: Self launch

- engine extending and retraction procedures
- engine starting and safety precautions
- pre take off checks
- noise abatement procedures
- checks during and after take off
- into wind takeoff
- crosswind takeoff
- power failures / procedures
- abandoned takeoff
- maximum performance (short field and obstacle clearance) takeoff
- short takeoff and soft field procedure / techniques and performance calculations
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Exercise 11D: Car launch

- signals before and during launch
- use of the launch equipment

- pre take off checks
- into wind takeoff
- crosswind takeoff
- optimum launch profile and limitations
- launch failure procedures
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Exercise 11E: Bungee launch

- signals before and during launch
- use of the launch equipment
- pre take off checks
- into wind takeoff
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Exercise 12: Soaring techniques

Exercise 12A: Thermalling

- lookout procedures
- detection and recognition of thermals
- use of audio soaring instruments
- joining a thermal and giving way
- flying in close proximity to other sailplanes
- centring in thermals
- leaving thermals
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Exercise 12B: Ridge flying (if applicable during training and if possible at training site)

- lookout procedures
- practical application of ridge flying rules
- optimisation of flight path
- speed control
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Exercise 12C: Wave flying (if applicable during training and if possible at training site)

- lookout procedures
- wave access techniques
- speed limitations with increasing height
- use of oxygen
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Exercise 13: Circuit, approach and landing

- procedures for rejoining the circuit
- collision avoidance, look out techniques and procedures
- circuit procedures, downwind, base leg
- effect of wind on approach and touchdown speeds
- use of flaps (if applicable)
- visualisation of an aiming point
- approach control and use of airbrakes
- normal and crosswind approach and landing
- short landing procedures/techniques
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Exercise 14: First solo

- instructor's briefing including limitations
- awareness of local area, restrictions
- use of required equipment
- observation of flight and debriefing by instructor
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Exercise 15: Advanced turning

- steep turns (45°)
- stalling and spin avoidance in the turn and recovery

- recoveries from unusual attitudes, including spiral dives
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Exercise 16: Outlandings

- gliding range
- restart procedures (only for selflaunching and selfsustaining sailplanes)
- selection of landing area
- circuit judgement and key positions
- circuit and approach procedures
- actions after landing
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Exercise 17: Cross country flying

Exercise 17A: Flight Planning

- weather forecast and actuals
- NOTAMS, airspace considerations
- map selection and preparation
- route planning
- radio frequencies (if applicable)
- preflight administrative procedure
- flight plan where required
- mass and performance
- alternate aerodromes and landing areas
- safety altitudes
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Exercise 17B: In Flight Navigation

- maintaining track and rerouting considerations
- altimeter settings
- use of radio and phraseology
- inflight planning
- procedures for transiting regulated airspace / ATC liaison where required
- uncertainty of position procedure
- lost procedure
- use of additional equipment where required
- joining, arrival and circuit procedures at remote aerodrome
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Exercise 17C: Cross country techniques

- lookout procedures
- maximising potential cross country performance
- risk reduction and threat reaction