GLIDING FEDERATION OF AUSTRALIA

SELF-TEST QUESTIONS AND ANSWERS FOR INSTRUCTOR UPGRADING

LEVEL 2

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The self-test questionnaire for Level 1 instructor candidates covered a number of topics, in the interests of re-visiting some basic areas to "brush-up" on some areas which may have become rusty. However, it might be recalled that the lion's share of questions at Level 1 were directed at the area of instructional theory and practice.

In upgrading to Level 2, it is assumed that active involvement in club instructing will have kept basic knowledge on the boil and this document will concentrate on the differences between the responsibilities of a Level 1 and Level 2 instructor.

This means concentrating on legal, regulatory, leadership and supervisory aspects of the instructing role, on the basis that a Level 2 instructor is entitled to run a gliding operation, can send pilots on their first solo flights and is eligible for selection as a club CFI.

As with the Level 1 questionnaire, the answers to all questions are provided here, the intention being to direct the candidate to the source of the information, not to create a formal examination atmosphere. Where possible, the appropriate document references are included with the answers.

Reference documents are the same as for Level 1 and are as follows :-

> GFA Operations Manual, October 1994 issue. Note that this document includes the GFA's "exemption" Civil Aviation Orders, CAO 95.4 for ordinary club operations and CAO 95.4.1 for charter operations. It also includes the GFA Operational Regulations, a CASA-approved document, as well as the Ops section of the Manual of Standard Procedures.
>
> GFA Instructor's Handbook, April 1993 edition and the associated Flight Reference Cards.
>
> Basic Gliding Knowledge, fourth (1996) edition.
>
> Daily Inspector's Handbook, May 1996 edition.
>
> Airspace and Radio Procedures for Glider Pilots, May 1996 edition.
>
> FAI Sporting Code, Section 3, Class D (gliders) and DM (motor-gliders).

The above publications are available from the GFA Secretariat or GFA Sales.

LEGAL AND REGULATORY ASPECTS

1. What is the legal basis for glider pilots to be able to fly gliders and powered sailplanes without holding a licence issued by the Civil Aviation Safety Authority (CASA)?

2. Is it necessary for a person to be a member of the GFA in order to fly gliders in Australia?

3. Is it necessary for a person to be a member of the GFA in order to fly tug aircraft in Australia?

4. Is a medical examination required to fly gliders as pilot-in -command?

5. What effect does a pilot's age have on the medical requirements for a Charter rating?

6. What are the experience requirements for upgrading from Level 1 to Level 2 instructor?

7. Who may train and carry out the oral examination to authorise a glider pilot to hold a GFA Radiotelephone Operator Authorisation?

8. Is it possible to allow a person undertaking a charter flight to manipulate the controls of a glider or powered sailplane?

9. What precaution must be taken when flying a person under the age of 18 years in ANY capacity?

10. What is the legal basis for the carriage of passengers for hire and reward under the terms of an Air Operator's Certificate?

11. What are minimum strip lengths required for winch-launching, auto-towing and aerotowing? Where will this information be found?

12. Is it possible to vary the minimum strip lengths for the above launch methods? If so, who is authorised to make such a variation?

13. What is the minimum number of "legs" required to meet the strict legal requirement for circuit-joining at an aerodrome?

14. What are the radio requirements in (a) an MBZ (formerly MTAF) and (b) a CTAF?

15. What are the three gliding frequencies? Is it necessary to have a Flight Radiotelephone Operator's licence or GFA logbook endorsement in order to operate a VHF radio on these frequencies?

16. Is an Air Traffic Control clearance required to fly a glider in Class D airspace? What about Class G?

17. Give an example of the broadcast a radio-equipped glider would make on entering a CTAF area. Can a non-radio glider enter such an area?

18. Is it necessary for a glider to monitor the "Area" VHF frequency when operating above 5,000 feet AMSL?

19. What sub-scale setting shall be used on the altimeter (a) below 10,000 feet AMSL and (b) above 10,000 feet AMSL?

20. (a) What is the standard marker to be displayed at an aerodrome when gliding operations are taking place? (b) What size should this marker be? (c) Should it be left out all the time or only when gliding ops are taking place?

21. What is the minimum height AGL by which all aerobatics (including spinning) should be completed?

22. Is thermalling permitted on the "live" side of the circuit at a licenced aerodrome?

23. Like any other aircraft, the minimum height for a glider to fly is 500 feet AGL, unless it is in the process of taking off or landing. Is there an exception to this rule for hill-soaring?

24. To whom must an accident be reported? What is the degree of urgency for this report to be made and where can the relevant phone numbers be obtained?

25. If there has been no communication from a glider flying cross-country in a Designated Remote Area, what is the latest time by which Search and Rescue (SAR) action must be initiated? How do you do this?

LEGAL AND REGULATORY ASPECTS - ANSWERS

1. Civil Aviation Order (CAO) 95.4 (buff pages in GFA Ops Manual, page 3, sub-section 3A "Licence not required").

2. No. A person may choose to either be a member of GFA or to undertake in writing to maintain and operate the aircraft in accordance with the standards of the GFA (CAO 95.4, page 3, sub-section 4.1 (a).

3. No.

4. No, unless a person is unable to sign the medical declaration at Appendix A to the GFA Operational Regulations or if a person is returning to gliding after a serious illness (GFA Op Regs, blue pages of Ops Manual).

5. If a pilot is under 40 years of age, a medical examination by the person's GP (NOT a CASA-authorised medical examiner) is required every four years for the renewal of a Charter rating. If a pilot is over 40, the examination is required every two years (GFA Op Reg 5.2.4).

6. An FAI Silver C or higher badge, 25 hours instructing experience as a Level 1 (GFA Op Reg 5.4.9).

7. Any instructor who holds a Flight Radiotelephone Operator Licence issued by CASA or a Radiotelephone Operator Authorisation issued by GFA (GFA Op Reg 5.5.1).

8. No (GFA Op Reg 6.3.3 (c) (v)).

9. No person under the age of 18 may fly in any capacity without the written permission of parent or legal guardian (GFA Op Reg 6.1.12).

10. CAO 95.4.1 (Buff pages of GFA Ops Manual, following on from CAO 95.4).

11. Winch-launching 1200 metres, auto-towing 1600 metres, aerotowing in accordance with published take-off performance in the towing supplement of the tug's flight manual (GFA MOSP 22.1.7 and Op Reg 7.4.1).

12. In the case of winch or auto launching, the RTO/Ops has discretionary powers to vary strip length. For aerotowing, the tug-pilot (as the command pilot of the combination) must base all take-off decisions on the requirements of Op Reg 7.4.1).

13. 3 (GFA Op Reg 8.25).

14. (a) Carriage and use of VHF radio is mandatory in an MBZ (GFA Op Reg 6.4.8).
(b) Non-radio aircraft, including gliders, may operate in a CTAF without a radio, but if radio is carried it must be on the CTAF frequency and used to monitor all broadcasts and respond as appropriate.

15. 122.5, 122.7 and 122.9 Mhz. No.

16. Yes in Class D. No in Class G.

17. "All stations Bacchus Marsh CTAF, glider Alpha Bravo Charlie entering the CTAF from the west at 2,000 feet, descending to enter left-hand circuit downwind for runway 27". Yes, a non-radio glider is permitted to operate in a CTAF area.

18. No. Gliders are encouraged, but not required, to monitor the area VHF frequency when operating above 5,000 feet outside of controlled airspace (GFA Op Reg 6.4.9).

19. (a) The aerodrome or area QNH. In the absence of actual QNH information, it is sufficiently accurate for a glider to set airfield elevation AMSL on the altimeter prior to take-off (GFA Op Reg 6.4.4).
(b) The altimeter shall be set to 1013.2 hPa and heights shall be reported as Flight Levels.

20. (a) A double white cross in the signals area or next to the primary windsock.
(b) The cross should be 5M long by 2.5M wide, the two cross-bars to be approximately 2M apart and the thickness of all bars to be 0.4M.
(c) Only when gliding ops are taking place.

21. 1,000 feet AGL, except within 2 NM of a licenced aerodrome, when they should be completed by 2,000 feet AGL.

22. Legally yes, but only if the glider is monitoring the CTAF frequency and responding to calls as appropriate. Airmanship considerations often outweigh legalities.

23. Yes (GFA Op Reg 8.11 (b) (iv). However, notwithstanding this general exemption, Op Reg 8.12 states that a glider engaged in hill-soaring shall maintain a minimum of 100 feet AGL when within 100 metres of any person, dwelling or public road.

24. To the RTO/Ops and the Bureau of Air Safety Investigation, without delay (GFA Op Reg 11.1). Relevant phone numbers are on the cover sheet of the GFA Simplified Accident Report Forms, supplied to all club CFIs.

25. 2100 hours local time (GFA Op Reg 12.3). SAR action is initiated by contacting the Rescue Coordination Centre on 1800 815 257. Further details may be found in the GFA publication "Airways and Radio Procedures for Glider Pilots".

LEADERSHIP AND SUPERVISORY ASPECTS

1. What duties may a Level 2 Instructor carry out that a Level 1 can't?

2. What are the three obligations which define the difference between the responsibilities of a Level 1 Instructor and those of a Level 2?

3. What is the most potent factor for creating a suitable climate for effective discipline in a club's flying operation?

4. What essential step must be taken before making a decision affecting field operations?

5. What are the two kinds of discipline and what are the differences between them?

6. As far as a gliding club is concerned, how would you define "morale"?

7. If correcting a club member for a misdemeanour on the flying field, what basic dictum must always be kept in mind?

8. Still on the above misdemeanour, nominate the three factors which sum up the ideal approach to a disciplinary solution.

9. Is the use of praise for a good performance likely to have a positive or negative effect on a pilot?

10. At what stage would you ground a pilot for a misdemeanour?

11. What actions on the part of individuals, especially instructors, are likely to have an adverse effect on morale within a gliding club?

12. What is the most common source of resentment among club pilots when they are involved in disciplinary measures?

13. What is the most important guideline to be observed by an instructor assessing a pilot's suitability for his/her first solo flight?

14. What is the checklist for the final assessment to be made by an instructor or instructor's panel before allowing first solo? (Note: this is a checklist of things to be known beyond doubt by those making the decision, not necessarily things to be carried out on one check flight).

15. What action would you take if an overconfident student puts pressure on you to send him/her solo prematurely?

16. What are three most common differences between flying a two-seat glider dual and flying the same machine solo?

17. What is the common definition of the standard to be attained by a student before first solo?

18. What are the requirements for the three basic pilot certificates?

19. Must an Official Observer sign the application forms for the various certificates?

20. A pilot holding a C Certificate may fly cross-country and/or carry "family/friend" passengers, but only subject to a certain proviso. What is it?

21. For mutual flying, which is the "designated command seat" for the purpose of nominating a pilot-in-command?

22. When converting a pilot to a single-seat glider, what should a pilot be encouraged to do before being confronted with the detail of the conversion?

23. When checking out a pilot for conversion to a single-seater, what benefit might there possibly be in putting the pilot into the back seat of the two-seater for at least one of the check flights?

24. What measures would you consider taking to help a student pilot overcome persistent airsickness?

25. If a Level 1 Instructor operating under your supervision reports that a particular student is "negative G sensitive", how would you help the instructor further investigate this?

26. If some people arrived at the club "off the street" for a flight in a glider and all you had available was a C-Certificated pilot who had regularly taken his wife and children flying with him, would you permit that person to take these people for a flight?

27. If you are briefing a C-certificated pilot for a cross-country which uses as a turning point a licensed aerodrome with a Regular Public Transport (RPT) service, what specific point would you emphasise to that pilot?

28. As a supervising instructor, if you observe an early solo pilot consistently doing very close, steep circuits and high approaches, would you worry about it and if so, why?

29. If briefing a student to carry out a sideslipping approach, what primary reference would you suggest for maintaining a safe speed on the approach?

30. What is best method of building a pilot's confidence in judging the glider's angle/distance relationship in the circuit?

LEADERSHIP AND SUPERVISORY ASPECTS - ANSWERS

1. Supervise the entire day's operation at a club and send a pilot on his/her first solo flight.

2. (i) Responsibility for the performance of others, (ii) Responsibility for the maintenance of standards, especially those relating to safety, (iii) Responsibility for the care and protection of equipment (IH Part 1, page 35).

3. To set a good example and to be unwavering in its application (IH Part 1, page 36).

4. Ensure that you have all the facts necessary to make the decision, in order to avoid jumping to conclusions and running the risk of having to reverse the decision (IH Part 1, page 36).

5. Positive (or internal) discipline, which encourages a person to comply with the rules of the club because he/she can indentify with them and has confidence in "the system".
Negative (or external) discipline, which relies on the fear of consequences to force compliance. To be regarded as a last resort (IH Part 1, page 38).

6. The desire of a club to discipline itself with a view to achieving a common objective (IH Part 1, page 38).

7. Calm down. Never correct in anger (IH Part 2, page 38).

8. (i) Get the facts. (ii) Determine the real cause for the lapse. (iii) Apply appropriate measures in accordance with the gravity of the occurrence (IH Part 1, page 39).

9. Very strongly positive in almost 90% of cases (IH Part 1, page 40).

10. If no other course of action is likely to succeed (IH Part 1, page 40).

11. Favouritism, uncontrolled temper, unkept promises, biased decisions, belittling the club's management, excessive display of authority, spreading unsettling rumours (IH Part 1, page 41).

12. Being belittled in front of other club members (IH Part 1, page 41).

13. Safety before polish, with the skill to handle the degree of responsibility given (IH Part 2, page 78).

14. Checks, airmanship (especially good lookout), launch-failure procedure (all stages), caution on early stage of launch (winch/auto), speed limitations, circuit procedure, good stabilised approach and well-controlled landing, stalls, incipient and full spins, awareness of impending spin, safe speed near the ground, knowledge of rules of the air, flying without instruments, modified circuits (IH Part 2, page 80).

15. Such pilots are usually not as good as they think they are. A useful strategy is to give them a check flight, setting very high standards to be maintained, while still being fair to them. This will usually convince them to be guided by their instructors as to their suitability to fly solo.

16. Improved climb-rate on the launch, lower sink-rate in free flight, different trim position and longitudinal feel (IH Part 2, page 81).

17. Safety before polish, with the skill to handle the degree of responsibility given by the instructor (IH Part 2, page 78).

18. Refer to pages 82 to 84 of the Instructor Handbook and ensure that you have a good working knowledge of the requirements.

19. No. Official Observers play no part in the verification of the A,B and C Certificates, this being carried out by instructors.

20. That such flying is at the discretion of the Instructor Panel and under the supervision of the Duty Instructor.

21. There is no designated command seat, both seats being "crew seats" in the eyes of the regulations. The command pilot may occupy whichever seat is considered most appropriate under the circumstances.

22. To use his/her imagination in trying to predict the likely characteristics of the new type, based on certain features of its design. This encourages an ability to "self-brief" and helps to eliminate surprises. The pilot should also be encouraged to put on a parachute (if applicable) and sit in the cockpit to become familiar with the layout of the controls and instruments (IH Part 2, pages 88, 89).

23. It introduces the pilot to the reduced forward visibility of some single-seat types with semi-reclined seats, large instrument panels, etc (IH Part 2, page 89).

24. Refer to the list of possible remedial measures on page 101 of Part 2 of the IH.

25. The most likely starting point is a stalling exercise. If the instructor has not been emphasising looking outside the cockpit during this exercise, this may be the key point in effecting a cure. Secondly, if the student has not been taught when the recovery has taken effect and the nose is able to be returned to the normal flying attitude, this could also be a contributory factor. Don't dismiss a person as being "negative G sensitive without good cause - explore the teaching of the stalling exercise as fully as possible. Very few people are negative G sensitive to the point of being incurable (IH Part 2, page 31).

26. Tempting though it might be, you would be very foolish to be suckered in by this one. If there are no AEIs (in the case of trial instructional flights) or charter pilots (in the case of pure joyrides) available, and you are too busy to do the flights yourself, you would have no alternative but to tell the people they are in for a long wait or put them off until another day.

27. The turning point must not be used unless VHF radio is carried, a broadcast made on the AREA frequency prior to entering the CTAF area (5NM radius up to 3,000 feet AGL) of the aerodrome and response made to calls from the RPT aircraft while within that area (GFA Op Reg 6.2.5).

28. Close circuits and high approaches often reveal a lack of confidence in circuit planning on the part of a pilot. They stay close because they do not have the confidence to move out a bit and exercise their judgement. Persisting with what they see as a "fail-safe" technique of circuit planning, they never get to exercise any judgement because they are always so close in the circuit and steep on the approach that they don't need to. The first time they strike heavy sink or make an error of judgement, their familiar and ultra-conservative picture rapidly becomes unfamiliar. The most likely outcome of this is an undershoot, because the pilot has become used to automatically opening the airbrakes on every approach, because he/she has always been very high.

Some two-seater flying, insisting on a lower, flatter circuit (not to extremes of course) and emphasising that an overshoot situation must be established on EVERY approach before the airbrakes are opened, will go a long way towards fixing this problem (IH Part 2, page 72).

29. Maintain the same nose attitude as for a non-sideslipping approach and use that attitude as the reference. The ASI will probably be useless due to pitot/static errors in slipping flight (IH Part 2, page 74).

30. Cover up the altimeter, to remove the temptation to use it a primary reference. This should be done a number of times before first solo (IH Part 2, page 67).