

GBSC PRE-SOLO WRITTEN QUIZ

Version: January 2012 - FJL

Version: January 2018 – AHV

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Student Name: _____ FAA License #: _____

Date Test Reviewed: _____ By (CFI-G): _____ CFIG #/exp. date: _____

61.87 Solo requirements for student pilots

- (a) *General.* A student pilot may not operate an aircraft in solo flight unless that student has met the requirements of this section. The term “solo flight” as used in this sub part means that flight time during which a student pilot is the sole occupant of the aircraft or that flight time during which the student performs the duties of a pilot in command of a gas balloon or an airship requiring more than one pilot flight crew member.
- (b) *Aeronautical knowledge.* A student pilot must demonstrate satisfactory aeronautical knowledge on a knowledge test that meets the requirements of this paragraph:
- (1) The test must address the student pilot's knowledge of—
- (i) Applicable sections of parts 61 and 91 of this chapter;
 - (ii) Airspace rules and procedures for the airport where the solo flight will be performed; and
 - (iii) Flight characteristics and operational limitations for the make and model of aircraft to be flown.
- (2) The student's authorized instructor must—
- (i) Administer the test; and
 - (ii) At the conclusion of the test, review all incorrect answers with the student before authorizing that student to conduct a solo flight.

Instructions

1. Print out this pre-solo test.
2. Answer all questions in a neat and concise form. Make sure your answers are readable.
3. Where possible, cite the specific paragraph in the FAR's/AIM to justify your answer.
4. Bring this quiz to the airport and have it reviewed by a GBSC Instructor (or make other arrangements to have it reviewed by a GBSC Instructor).

Pre-Solo Quiz

1. American Standard Soaring Signals: What will you do if the tow plane:

a. rocks its wings

b. wags its rudder from side to side- 3 different meanings

1. _____

2. _____

3. _____

2. An authorized flight instructor has endorsed the log book of a person with a student's pilot certificate. How long is this endorsement valid for the student operating in solo flight?

3. Your instructor has endorsed your logbook authorizing you to fly the 2-33 solo. Can you legally fly another type of sailplane solo without another endorsement?

4. Are you permitted as a student pilot to fly cross-country solo?

5. What is the proper procedure for removing slack in the tow rope?

6. What should the breaking strength of a tow line be that is used for aero tow? Why? If the tow line is too strong, what is required?

8. When does a student pilot certificate expire?

9. What documents are required to be on board your sailplane prior to take-off?

10. When flying below 10,000' MSL, what distance must you remain below/above and to the side of clouds?

11. List 6 signs of an approaching stall. (Note: Not every pattern is seen in every type of stall or glider.)

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____

12. There are two gliders circling to the right in a thermal, and you are approaching them with the intention of entering the same thermal, which direction should you circle? Why?

13a. You are going to pass another glider from behind, which side should you normally pass on? Why?

b. You are going to pass another glider straight on, which side should you normally pass on? Why?

14. When you fly solo, are you required to carry your student pilot certificate?

15. An airplane is on final approach to land, and you are on base leg landing on the same runway. Who has the right of way?

16. List the following speeds of the 2-33 / L-23 / ASK-21 (**circle one**). Consult the sailplane flight manual for this information. Use **mph** for the 2-33, **knots** for the others.

- 1. Best L/D speed _____ solo
- 2. Minimum sink speed _____ solo
- 3. Stall speed straight & level _____ solo
- 4. Maneuvering speed _____;
- 5. Normal pattern speed _____;
- 6. Never exceed/red line speed _____;
- 7. Maximum aero tow speed _____;

17. What is "maneuvering speed"? If not stated in the flight manual, what is a good approximation for maneuvering speed?

18. Based on the 2-33 / L-23 / ASK-21 (*circle one*) flight manual what are the minimum and maximum **solo** weights for the pilot?

_____ pounds minimum _____ pounds maximum

19. If your weight is below minimum solo weight, what should you do?

20a. If your Center of Gravity (C.G.) is *too far forward*, what are the dangers? What can you do?

b. If your Center of Gravity (C.G.) is *too far aft*, what are the dangers? What can you do?

21. What causes a stall?

22. A glider stalls at 36 kts in level flight. What is the stall speed in a 60 degree banked turn? (hint: 41% increase)

23. What is the purpose of the elevator trim?

24. a. What is the field elevation at Sterling (feet MSL)?

b. How long is the runway at Sterling?

25. What is the CTAF at Sterling?

b. Give an example of a proper "self-announce" radio transmission when entering the pattern.

(Hint: see <https://www.soargbsc.com/inststud/student/Documents/radio.html> - - and also AIM 4-1-9 (g)).

26. What major landmarks near Sterling may be used to locate the airfield.

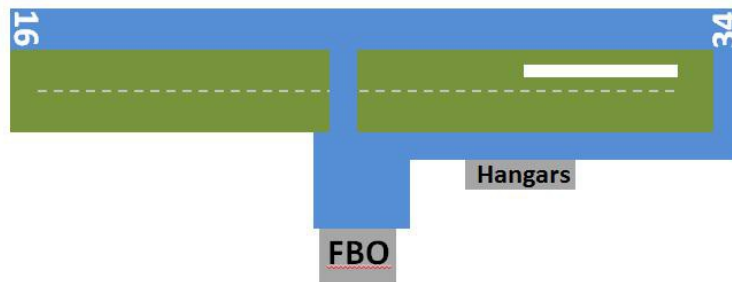
27. The primary concerns with making a downwind landing are?

28. a. What is meant by wind shear?

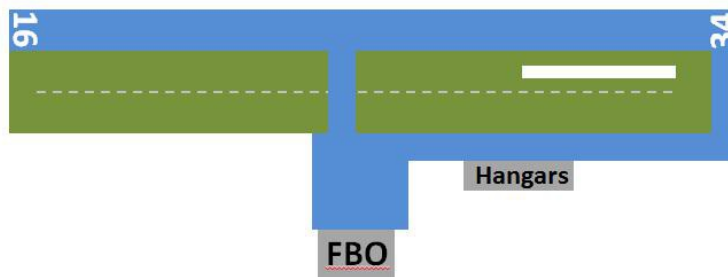
b. How can wind shear affect a glider if encountered during final approach during a normal upwind landing?

29. What must you do to prepare a dual seat glider for solo flight?

30. Sketch the landing pattern with approximate calm wind (MSL) altitudes at the IP and downwind abeam the touchdown point, for **runway 34** at Sterling. Indicate where power traffic will be seen.



31. Sketch the landing pattern, with approximate calm wind (MSL) altitudes at the IP and downwind abeam the touchdown point, for **runway 16** at Sterling. Indicate where power traffic will be seen.



The following can be used as a check list by students and instructors to insure that the required maneuvers and procedures have been covered prior to solo flight in a glider.

See FAR 61.87(i)

<https://www.ecfr.gov/current/title-14/chapter-I/subchapter-D/part-61/subpart-C/section-61.87>

Maneuvers and procedures for pre-solo flight training in a glider. A student pilot who is receiving training for a glider rating or privileges must receive and log flight training for the following maneuvers and procedures:

- (1) Proper flight preparation procedures, including preflight planning, preparation, aircraft systems, and, if appropriate, power plant operations; _____
- (2) Taxiing or surface operations, including run-ups, if applicable; _____
- (3) Launches, including normal and crosswind; _____
- (4) Straight and level flight, and turns in both directions, if applicable; _____
- (5) Airport traffic patterns, including entry procedures; _____
- (6) Collision avoidance, wind shear avoidance, and wake turbulence avoidance; _____
- (7) Descents with and without turns using high and low drag configurations; _____
- (8) Flight at various airspeeds; _____
- (9) Emergency procedures and equipment malfunctions; _____
- (10) Ground reference maneuvers, if applicable; _____
- (11) Inspection of towline rigging and review of signals and release procedures, if applicable; _____
- (12) Aerotow, ground tow, or self-launch procedures; _____
- (13) Procedures for disassembly and assembly of the glider; _____
- (14) Stall entry, stall, and stall recovery; _____
- (15) Straight glides, turns, and spirals; _____
- (16) Landings, including normal and crosswind; _____
- (17) Slips to a landing; _____
- (18) Procedures and techniques for thermalling; and _____
- (19) Emergency operations, including towline break procedures. _____