

NCSA Pre-solo written test (3/17/19 version)

Printed Name _____

Date _____

Signature _____

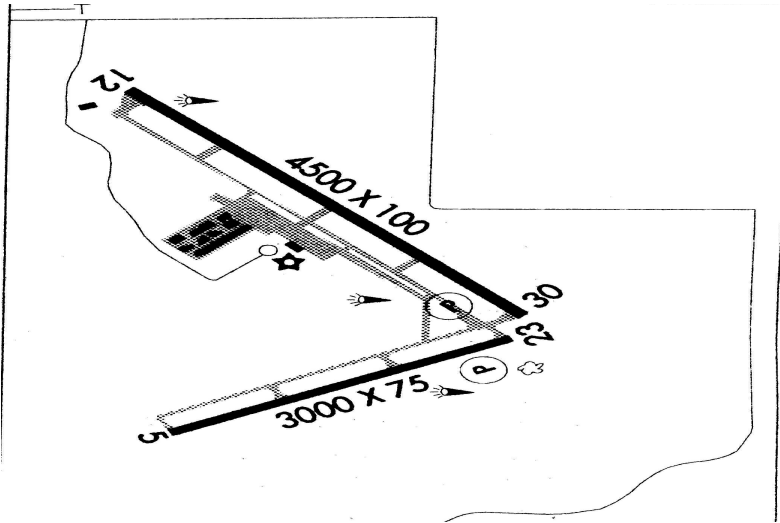
Reviewed by _____

BYRON Airport

1. What is the AWOS frequency? _____
2. What is the CTAF frequency? _____
3. What is the airport elevation? _____
4. What is the "calm" wind runway? _____
5. Basic VFR minimums for flying a high tow out of Byron are:
 - A. visibility 3 statute miles or greater; 500 feet below, 1000 feet above, and 2000 feet horizontally from clouds.
 - B. visibility 1 statute mile or greater and clear of clouds.
 - C. visibility 1 statute mile or greater; 500 feet below, 1000 feet above, and 1000 feet horizontally from clouds.
 - D. visibility 5 statute miles or greater; 1000 feet below, 1000 feet above, and 1 mile horizontally from clouds.
 - E. The same for all classes of airspace.
6. Using the diagram below, what would the preferred runway and pattern direction for the following wind conditions:
 - a. Wind 210 at 25 Kt. _____
 - b. Wind 070 at 12 kts. _____
 - c. Wind 100 at 15 kts. _____
 - d. Wind 310 at 11 kts. _____
 - e. Wind 050 at 2 kts. _____
7. As a solo student you will initially be restricted to flying "within 5nm of Byron maintaining an altitude that will allow you to return to Byron at 1500 AGL assuming a glide ratio of 18-1." What does a glide ratio of 18:1 mean? Check all that apply.
 - a. 18' forward for every 1' of altitude loss _____
 - b. 3 nm for every 1000' of altitude loss (a nautical mile is about 6000'; 1.15x a statute mile) _____
 - c. I'm 3000 MSL and 3 nm from Byron. I'm OK 😊 _____
 - d. I'm 2300 MSL and 4.5 nm from Byron. I'm low ☹ _____

8- Approximately, what minimum altitude you would want at Los Vaqueros Dam in a Grob 103 in order to guarantee returning to Byron at least 1500' AGL? Los Vaqueros is about 5 nm from Byron.

- a- 1500' MSL
- b- 4000' MSL
- c- 2000' MSL
- d- 3000' MSL



9- On the figure, draw the standard pattern you would fly for wind 320 at 10. Also, for wind 210 at 22.

10- When practicing thermalling you find it easier if you always turn in the same direction. You should (check all that apply)

- a- Say to yourself "this is OK", I like thermalling this way and there's no reason to make the effort to master the other direction _____
- b- "I always hated it when the instructors made me thermal the other way. Now that I'm on my I don't have to do it" _____
- c- Actively work on mastering thermalling in the other direction, because bad habits are easier to break now than after they get more ingrained _____
- d- Ask an instructor to work with you on mastering thermalling both left and right

Grob 103-

SPEEDS

1. Stall Speed _____
2. VNE _____
3. Maneuvering speed _____
4. Best L/D Speed _____
5. Minimum sink speed _____
6. Recommended tow speed _____
7. Recommended approach speed _____
8. Recommended approach speed with a wind _____
9. What is the book value of the Grob glide ratio _____
10. At a conservative glide ratio, how many miles can we travel per 1000' of altitude? _____

Take off

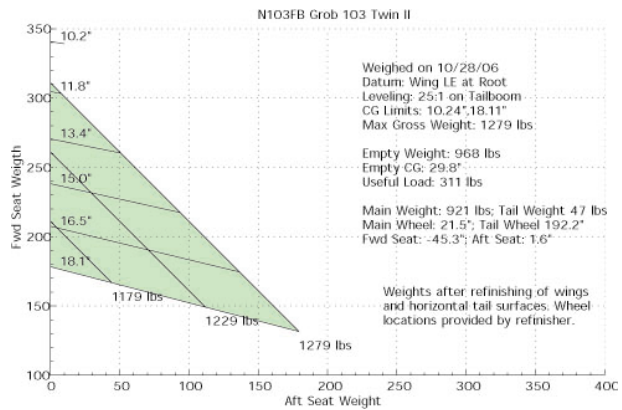
11. Describe the recommended take off procedure _____
12. Describe the actions required with a cross wind _____

Landing

13. Describe the procedure for a normal landing _____
14. Describe the procedure for a cross wind landing _____
15. What is the purpose of the yellow triangle on the airspeed indicator? _____
16. What is the maximum spoiler setting for landing _____

Weight and Balance:

17- Mark on FB's weight and balance chart where you would be flying FB solo wearing a 15# parachute. Would the aircraft's W&B be within the operational limits? If not, what would you do to bring it into the limits?



Emergencies

18. Immediately after becoming airborne you discover that you have failed to remove the pitot system cover. You should:

- release and land straight ahead on the remaining runway applying dive brakes as necessary.
- continue with the tow and set up a normal traffic pattern.
- continue with the flight since you know that the pitot system works equally well with the cover in place.
- Pull the release *immediately* due to the emergency.

19. Immediately after takeoff, halfway along a 3000 foot runway, your towline breaks. The most likely correct emergency procedure is:

- extend the dive brakes and apply full aft elevator and opposite rudder to reduce the airspeed then land straight ahead on the remaining runway.
- use the higher than normal airspeed to gain altitude in order to make a 180 degree turn.
- lower the nose to maintain flying speed, extend the dive brakes, and land straight ahead.

20- Your canopy pops open on aerotow. You should

- use both hands to immediately close the canopy
- fly the plane to a safe altitude with the canopy open, then do a safe landing using one hand on the stick and the other on the spoilers like you normally do. Leave the canopy open; don't try to use one hand to hold it. The glider will fly perfectly well with an open canopy
- do nothing; this is not an emergency

21- On the early part of the aerotow you start thinking, "that's strange... we're not climbing the way we usually do." You should

- immediately check that your spoilers are closed
- radio the tow plane for "more power"
- do nothing; this is not an emergency

- 22- According to the Glider Flying Handbook, "One of the most dangerous occurrences during aerotow is allowing the glider to fly high above and losing sight of the towplane." This is because (circle all correct):
- a- The tension on the towline caused by the glider pulls the towplane tail up, lowering its nose.
 - b- If the glider continues to rise, pulling the towplane tail higher, the tow pilot may not be able to raise the nose.
 - c- Ultimately, the tow pilot may run out of up elevator authority
 - d- In some towhook systems, the high pressure loading on the towhook causes towhook seizure, and the tow pilot may not be able to release the towline from the towplane.
 - e- This situation can be critical if it occurs at altitudes below 500 feet above ground level (AGL).
- 23- On aerotow you suddenly realize you've lost sight of the towplane. You should:
- a. release immediately because the abnormally large upward pull can upset the towplane
 - b. pitch down, dive on the towplane and worry about the slack rope later
 - c. do nothing; this is not an emergency

FARs

- 1- As a student pilot, what documents must be in your possession at all times while flying solo?
- A. Student pilot certificate and pilot logbook.
 - B. Student pilot certificate and FCC radio operators permit if the glider has a radio and you intend to use it.
 - C. Student pilot certificate only.
 - D. None of these documents are required to be on your person while flying solo.
2. If, as a student pilot, you have not had your pilot logbook endorsed for solo flight by a certified instructor within the past 90 days you:
- A. must receive instruction in the make and model of aircraft given by a certified flight instructor and have your pilot logbook endorsed for solo flight by that instructor.
 - B. are still legal to fly solo.
 - C. must pass both a practical and written examination.
 - D. must pass a check ride given by a certified flight instructor and have your pilot logbook endorsed for solo flight by a certified flight instructor.
3. While flying, you notice a large twin-engine aircraft approaching from your right on an apparent collision course. You know to:
- A. give right-of-way to the twin because he is on your right and has the right-of-way.
 - B. continue straight ahead since gliders have right-of-way over all engine driven aircraft.
 - C. see and avoid by maneuvering in any way you think necessary to avoid a possible collision.
4. The FAR's mandate that when two aircraft are approaching head-on:
- A. the smaller aircraft has the right-of-way.
 - B. both aircraft should alter course to the right.
 - C. the larger aircraft should alter course since it is more maneuverable.
 - D. the larger aircraft has the right-of-way.

5. A landing aircraft on final approach has right-of-way over:

- A. everything.
- B. aircraft on the ground.
- C. everything except a towplane with glider on tow.
- D. only those aircraft which it has right-of-way over in cruising flight.

6- As a student pilot you may / may not take a passenger for a flight. (circle the correct answer)

7. After your instructor has endorsed your student license for Solo flight, you may:

- A. attempt a cross-country distance badge leg.
- B. may fly cross-country only after your flight instructor has reviewed your pre-flight planning and endorsed your student pilot certificate and pilot logbook for cross-country flight.
- C. may fly and make landings anywhere within a radius of 25 statute miles from your home base.

8. Who has the final authority and responsibility for the operation of the aircraft when you are flying solo?

- A. your instructor.
- B. the aircraft owner.
- C. NCSA
- D. you, as pilot-in-command.

9- You are on the base leg of your approach to landing on 30. You notice a power plane on final for 30. What should you do? (FAR 91.113)

- a). Nothing, continue your approach as a glider has right of way over powered aircraft
- b). An aircraft on final has right of way. If you have sufficient altitude, turn downwind and follow him on. Otherwise turn towards another landing at Byron.

10- When practicing stalls, you should:

- a. perform clearing turns.
- b. start at an altitude that will allow for completion no lower than 1500' AGL.
- c. recover immediately.
- d. all of the above

The altitudes on the circles on this chart assume 18:1 glide ratio and arriving overhead at Byron at 1000' AGL. This would put you in a position to fly a pattern from about 1500 AGL. Note that the pattern may not be "normal". For example, returning from Brushy Peak, you might elect to make a left base entry to 30. What does that mean?

