

Evektor Harmony Written Exam

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Ground/Flight Controls:

- 1. What are the Primary Flight Control Surfaces, and describe how they are manipulated?  
\_\_\_\_\_  
\_\_\_\_\_
- 2. What are the Secondary Flight Control Surfaces, and describe how they are manipulated?  
\_\_\_\_\_  
\_\_\_\_\_
- 3. How does the Autopilot Disconnect from the Flight Controls?  
\_\_\_\_\_  
\_\_\_\_\_
- 4. What are the Flap Positions?  
\_\_\_\_\_  
\_\_\_\_\_
- 5. Where are the brakes located and how are they actuated?  
\_\_\_\_\_  
\_\_\_\_\_
- 6. How are the Rudder Pedal positions adjusted?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Powerplant and Fuel

- 1. What are the engine's Make and Model, and how much HP do they produce?  
\_\_\_\_\_  
\_\_\_\_\_
- 2. Total quantity of fuel and usable quantity of fuel?  
\_\_\_\_\_  
\_\_\_\_\_
- 3. How many fuel pumps does the Evektor have and when are each used?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. How do you measure the true fuel level on the ground and in flight?

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5. How do you switch fuel tanks?

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6. Fuel Type

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7. Describe the engine controls.

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8. How is the engine cooled?

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## Electrical

1. What type of Electrical System does the Evektor have?

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2. What are the electrical power sources?

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3. What are the main purposes of the Electrical Accumulator?

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4. With loss of all available power sources, how long will the G3X battery allow for G3X usage?

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5. With loss of all available power sources, how long with the G5 battery allow for G5 usage?

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6. With loss of all available power sources, where can you tell exactly how much time the G5 battery pack has left?

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## Aircraft Limitations

### 1. Speed Limitations

- a. Vne: \_\_\_\_\_
- b. Vno: \_\_\_\_\_
- c. Va: \_\_\_\_\_
- d. Vfe: \_\_\_\_\_
- e. Vs0: \_\_\_\_\_
- f. Vs1: \_\_\_\_\_
- g. Vy: \_\_\_\_\_
- h. Vx: \_\_\_\_\_
- i. Vapp: \_\_\_\_\_

### 2. Weight Limitations

- a. Empty Weight – \_\_\_\_\_
- b. With Vortex Generators
  - i. Max Takeoff Weight – \_\_\_\_\_
  - ii. Max Landing Weight – \_\_\_\_\_
- c. Without Vortex Generators
  - i. Max Takeoff Weight – \_\_\_\_\_
  - ii. Max Landing Weight – \_\_\_\_\_
- d. Max Baggage Weight – \_\_\_\_\_

### 3. Flight Crew Limitations

- a. What is the minimum flight crew weight and what can be done if the flight crew is under weight?

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### 4. Maneuvers

- a. What Maneuvers are approved in the Evektor?

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- b. What kind of aerobatic maneuvers are approved?

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- c. Are spins authorized?

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- d. What are the aircraft load factors?

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## Weight and Balance

1. You (your actual weight) and your friend Sarah (120 lbs) decide to take a leisure flight to KHII for a \$100 Hamburger. You will be taking 20 pounds of flight bags with you. Assuming the fuel burn to the destination is 5 gallons and the weather outside is a standard day (15C 29.92 and Calm Winds) at KBVU and KHII, calculate the following:
  - a. Take Off Weight: \_\_\_\_\_
  - b. Take Off CG: \_\_\_\_\_
  - c. Take Off Distance: \_\_\_\_\_
  - d. Takeoff Fuel Load: \_\_\_\_\_
  - e. Landing Weight: \_\_\_\_\_
  - f. Landing CG: \_\_\_\_\_
  - g. Landing Distance: \_\_\_\_\_
  - h. Landing Fuel Load: \_\_\_\_\_
2. Will you and Sarah make Weight and Balance for your trip? If not, what could you do?

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## Ground Handling (Notes to be covered by the flight instructor during checkout)

1. The POH states on 4.4 Preflight Check item 15, that the upper engine cowling must be removed for the first flight of the day.
  - a. The pilot is to check FSP to see if they are the first flight of the day. If not, DO NOT remove the upper cowling.
  - b. The cowling removal will be demonstrated by the flight instructor.
  - c. The cowling must be removed and replaced with the snub-nosed screwdriver located inside the baggage area.
  - d. Please try to treat the aircraft as if it were yours. Would you want to scratch your own airplane?
2. The engine must be burped before and after each flight.
  - a. This procedure is accomplished by opening the oil reservoir cap and turning the propeller until the oil reservoir makes a bubbling/gurgling noise. Replace the oil reservoir cap.
  - b. This is to be completed before every engine start and after every engine shut down.
3. Ground aircraft maneuvering may be accomplished ONLY through the aircraft tow bar and pressing/pulling at the propeller root.
  - a. The instructor will demonstrate proper usage of the tow bar.
  - b. If the pilot attempts to press on the wing or body to push the aircraft, you WILL wrinkle the skin and the skin will be required to be replaced.
  - c. This aircraft will operate on a "See and Report" system.
    - i. If you see bent or wrinkled skin (or any other major issues), report it BEFORE your flight to the Chief Flight Instructor. This will eliminate any possibilities of damage liability being placed on you as the pilot.