

# *Eagle Sport Aviation Club*

## Cub Written Exam

### Closed Book

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

Instructor: \_\_\_\_\_

This exam is designed to test your knowledge of the Piper J-3 Cub, Eagle Sport Aviation Club policies pertaining to J-3 Cub operations and aerodynamics and flight characteristics specific to tailwheel aircraft. Successful completion of this exam is required prior to taking your PIC check ride. All questions must be answered correctly to the satisfaction of your instructor. All incorrect answers must be addressed by your CFI and corrected to be considered a "GO". Your completed test will remain on file with the Eagle Sport Aviation Club.

#### Policy

To act as pilot in command of an aircraft with a tail wheel, what are the MINIMUM requirements must you meet according to the FAR's?

How do you stay current to fly the ESA J-3 Cub?

Minimum safe altitudes as defined by FARs are:

Except for conditions stated in FAR 91.119, Club policy dictates an absolute minimum safe altitude of:

As a club certified solo pilot, from which seat are you allowed to fly and whom may you carry as a passenger?

When does a flight need to be entered into MyFBO?

Upon return from a flight, what are your responsibilities?

If there is a maintenance issue with the J-3 Cub, what is the name and phone number of the person you MUST call?

#### Operational

Describe the construction of the Piper J-3 Cub: ( i.e. wing, spar, ribs, fuselage, covering )

Describe the engine in the Clubs J-3 Cub:

What 2 different ways are there to sump the Cub? Where are the fuel sumps located?

Describe, in your own words, the procedure for starting the J-3 Cub.

What is the minimum number of qualified persons required for starting? Who can hand prop? Who can hold the brakes?

What is the maximum taxi speed? What do you do if you realize you are taxiing too fast?

Is there a minimum RPM setting for the engine while on the ground?

Thoroughly describe the run-up procedures you will use prior to taking off in the J-3 Cub.

What are the conditions most conducive for the formation of carburetor ice and when should you use Carburetor heat in the J-3 Cub?

Describe the takeoff procedure you will use when taking off with a right quartering headwind.

In the event of an engine failure, describe (in order) your actions to ensure a safe landing.

What are the two types of landings used in the J-3 Cub and when do you use each type?

If you have just completed a solo flight in the Cub and are at the fuel farm, how do you ensure the airplane will not weathervane while you are fueling?

List the:

Best Climb speed:	Total fuel capacity:	Max oil capacity:
1 G stall speed:	Fuel burn (gal/hr):	Max engine RPM:
Vne:	Approved oil grade:	Max time that max RPM may be used:
Approved fuel grades:	Min oil capacity:	

## Deland Operations

Why is it important to fly STANDARD traffic patterns at DED?

Where is the RC Airplane Club located? Up to what altitude can you expect the RC Airplanes to go to, and what is the minimum altitude to fly over their area of the field?

If you are taking off from DED and notice sky divers dropping around you, how should you react?

## Aerodynamics/Stability and Control

Thoroughly describe the technique used for taxiing a tailwheel aircraft. When should the brakes be used? What will happen if you lock up the brakes while traveling at excess speed?

If you land a tailwheel airplane with the brakes engaged, what will happen?

Thoroughly explain why having the C.G. behind the main wheels causes a tailwheel airplane to be directionally unstable on the ground.

In flight, what is the primary purpose of the rudder?

Thoroughly explain weathervane stability and some of the factors that affect it.

Thoroughly explain the effect adding opposite aileron will have while in a spin.

The next set of questions refers to the following situation:

A pilot performs a takeoff roll in the cub with no crosswind corrections. The wind is strong and from the left. Please fill in the following blanks: The Cub will start to turn \_\_\_\_\_ (away from, into) the wind due to \_\_\_\_\_ (dihedral effect, weather vane stability, scuff effect). This turn is due to lack of proper \_\_\_\_\_ (elevator, rudder, aileron) control.

As a result, the cub will be on the \_\_\_\_\_ (upwind, downwind) side of the centerline. The proper placement of the ailerons when on this side of the centerline would be \_\_\_\_\_ (towards the centerline, away from the centerline, into the wind, downwind). The effect that can further aggravate this yawing situation is \_\_\_\_\_ (dihedral effect, adverse yaw, spiraling

slipstream). The airplane will tend to roll \_\_\_\_\_ (away from, towards) the wind due to \_\_\_\_\_ (dihedral effect, adverse yaw, weather vane stability).

Having the downwind wing down in a tailwheel airplane is \_\_\_\_\_ (stable, unstable).

The proper correction for this situation would be \_\_\_\_\_ (downwind, upwind) rudder and ailerons \_\_\_\_\_ (towards the centerline, away from the centerline, into the wind, downwind). The worst thing that can be done in this situation is to apply \_\_\_\_\_ (downwind, into the wind) ailerons.

Touching down with the longitudinal axis not parallel to the centerline is \_\_\_\_\_ (safe, unsafe). Touching down with any drift to the left or right is \_\_\_\_\_ (safe, unsafe). The proper correction for either of these problems is to \_\_\_\_\_ (go around).