Skybolt Transition Training Program

Overview

Federal aviation regulations section 91.319(a) prohibits the for-hire use of experimental aircraft unless a deviation is provided in the form of a Letter Of Deviation Authority (LODA) issued by the FAA. The LODA allows type-specific transition training to be offered for hire in the specific aircraft listed in the LODA. The instructor providing the training must also be listed in the LODA.

LODAs do not permit flight training leading to the issuance of a pilot certificate or endorsement (i.e., tailwheel). Training for aerobatic flight maneuvers is also prohibited. Flight training considered acceptable under a LODA consists of, but is not limited to:

- Initial or recurrent flight training for the operation of a specific make and model of experimental aircraft.
- Training for a flight review in a specific make and model of experimental aircraft.
- Instrument competency training for specific make and model experimental aircraft.
- Formation training for specific make and model experimental aircraft.

Since completed Skybolts can vary significantly in avionics, engine, and cockpit configurations, this training is not intended to prepare the student for a mastery of the specific configuration of the training aircraft. Instead, this program includes enough specific training to provide the student only with the information that he or she needs to be able to learn the flying characteristics of the type. This philosophy especially applies to operation of the avionics and fixed-pitch propeller.

This program does not make use of audio/visual aids, mockups, charts, aircraft components, or other special training aids. Similarly, this program does not use a flight simulator or flight training device.

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Prerequisites

Training candidates must have at least a Private Pilot certificate with an Airplane Single Engine Land rating, and a "tailwheel endorsement" as required by 14 CFR 61.31(i).

The Flight Instructor for this program must:

- Hold a current Certified Flight Instructor certificate
- Have a minimum of 5 hours flight time in the type of training aircraft being used.
- Meet all currency requirements outlined in 14 CFR Part 61.
- Meet medical certification requirements called out in 14 CFR Part 61 as they pertain to the training being given.
- Possess a Letter Of Deviation Authority (LODA) from the cognizant FAA Flight Standards District Office (FSDO) listing the specific aircraft being used for the training and the instructor.

The training aircraft must have all required inspections and maintenance including a current condition inspection.

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Introduction to Skybolt Characteristics

Generally speaking, the Skybolt is a safe and predictable airplane to fly. The stall characteristics are not particularly threatening. The primary concerns for transition training are the limited forward visibility, narrow landing gear, and tailwheel ground handling. As far as tailwheel airplanes go, the Skybolt's ground handling is quite favorable - but even a favorable tailwheel is an unstable aircraft on the ground.

Description of Lessons:

The program includes three lessons. Each of these lessons is intended to advance the progress of the training program, and while each may be completed in a single session, they may also be spread over several sessions to help accommodate student comfort and learning style. The first flying lesson is focused on everything but the traffic pattern, which is saved for the second lesson. This configuration helps familiarize the student with the Skybolt's flying characteristics in an incremental way, starting with the easier operations and advancing to the more difficult operations. Completion standards are based on the most recent version of the Private Pilot Airman Certification Standards. Students must meet those standards in order to complete training and receive a completion endorsement.

Ground Lesson 1

Objectives:

The student will receive a briefing about the purpose and limitations of this specialized training and the scope and contents of the training program. The instructor will survey the student's flight experience. The instructor will provide a basic overview of the similarities and differences of the Skybolt and the other aircraft which the student has recent experience. The instructor will compare the expectations and training requirements of the student to ensure that this program will meet the student's needs.

Standards:

This lesson will be complete when the instructor verifies that the student meets the prerequisite requirements and is eligible for participation in the program.

Planned time for completion: 30 minutes

Expected Accomplishments and Standards for Completion:

This lesson will be complete when the student and instructor both agree that the program will meet the needs of the student.

Ground Lesson 2

Objectives:

The student will receive a briefing about the FAA special emphasis areas listed below. Each emphasis area will also be discussed as they occur in the Flight Lessons.

- Positive aircraft control
- Positive exchange of the flight controls procedure
- Stall/spin awareness
- Collision avoidance
- Wake turbulence avoidance
- LAHSO
- Runway incursion avoidance
- CFIT
- ADM and risk management
- Wire strike avoidance
- Checklist usage
- Temporary flight restrictions(TFRs)
- Special use airspace (SUA)
- Aviation security
- Single-Pilot Resource Management (SRM)
- Loss of Control

Standards:

This lesson will be complete when the instructor has briefed the student on each of these special emphasis areas.

Planned time for completion: 30 minutes

Flight Lesson 1

Objectives:

Familiarize the student with the basic handling characteristics of the Skybolt in the context of the student's prior experience.

Lesson Components:

Preflight Elements

- Preflight Preparation
- Briefing of lesson objectives and goals
- Overview of local airport and airspace considerations
- Explanation of Skybolt handling characteristics, including relatively poor forward visibility and highly effective rudder.
- Avionics and cockpit familiarization.
- Weather Briefing and weather information
- Preflight Procedures
- Aircraft exterior inspection and preparation Engine Starting
- Runway incursion avoidance
- Airport Operations:
- Radio Communications

Flight Elements

- Engine Starting and Taxi
- Before Takeoff Check
- Level flight, climbs, turns, descents
- Directional stability exercises
- Slow Flight, Power Off Stalls, and Power On Stalls
- Spin Awareness
- Steep turns
- Ground reference maneuvers to prepare for the traffic pattern

Standards:

The standards for this lesson are consistent with the scope of the Private Pilot ACS with the objective standards such as altitude and airspeed standards increased by 50%.

Planned time for completion

Preflight Elements: 1 hour

Flight Elements: 1.5 hours

Expected Accomplishments and Standards for Completion:

This lesson will be complete when the student can confidently operate the Skybolt in basic flight maneuvers, with special emphasis on coordinated use of ailerons and rudder. The planned time for this lesson is for a student with moderate experience in similar airplanes. Students with experience only in modern trainers will likely require more time to become comfortable with using the rudder and limited forward visibility.

Flight Lesson 2

Objectives:

Familiarize the student with the ground handling characteristics of the Skybolt, and master traffic pattern operations including taxi, takeoff, three-point landings, and go-arounds.

Lesson Components:

Preflight Elements

- Preflight Preparation
- Briefing of lesson objectives and goals
- Overview of local airport and airspace considerations
- Weather Briefing and weather information
- Aircraft exterior inspection and preparation
- Engine Starting
- Runway incursion avoidance
- Radio Communications

Flight Elements

- Engine start
- Taxi
- Normal and Crosswind Takeoff and Climb
- Low approach
- Go Arounds
- Normal and Crosswind Approach and Landing (3-Point)
- Traffic pattern visual references from the Skybolt cockpit

Standards:

The standards for this lesson are consistent with the scope of the Private Pilot Airman Certification Standards, with the objective standards such as altitude and airspeed standards increased by 50%.

Planned time for completion

Preflight Elements: 1 hour

Flight Elements: 1 hour

Expected Accomplishments and Standards for Completion:

This lesson will be complete when the student can confidently operate the Skybolt on the ground and during normal takeoff and landing. This lesson can be repeated as necessary, and repeats will likely be necessary for students who do not have extensive tailwheel experience.

Flight Lesson 3

Objectives:

Familiarize the student with the ground handling characteristics of the Skybolt, and master traffic pattern operations including taxi, takeoff, three-point landings, wheel landings, go-arounds, and emergency procedures.

Lesson Components:

Preflight Elements

- Preflight Preparation
- Briefing of lesson objectives and goals
- Overview of local airport and airspace considerations
- Weather Briefing and weather information
- Preflight Procedures
- Aircraft exterior inspection and preparation
- Engine Starting
- Runway incursion avoidance
- Airport Operations
- Radio Communications

Flight Elements

- Engine start
- Taxi
- Soft Field Takeoff
- Short Field Takeoff and Maximum Performance Climb
- Performing Vx and Vy climb
- Emergency Procedures including simulated loss of engine power in the traffic pattern
- Short Field Approach and Landing
- Forward Slip to Landing

Standards:

The standards for this lesson are identical to the Private Pilot Airman Certification Standards for each maneuver.

Planned time for completion

Preflight Elements: 1 hour

Flight Elements: 1 hour

Expected Accomplishments and Standards for Completion:

This lesson will be complete when the student can confidently operate the Skybolt and perform the flight elements to the level of the most recent edition of the Private Pilot Airman Certification Standards. This lesson can be repeated as necessary.

Flight/Ground Lesson 4

Objectives:

This is an optional lesson, required only for transition students who also intend to use the program to complete a Flight Review. This lesson applies the remaining topics from the sample flight review in AC61-98 (most current version) that have not been covered in previous lessons.

Lesson Components:

Lesson components will include items of AC61-98 Appendix F.

Standards:

The standards for this lesson are identical to the Private Pilot Airman Certificate Standards for each maneuver.

Planned time for completion

Preflight Elements: 1 hour

Flight Elements: 1 hour

Expected Accomplishments and Standards for Completion:

This lesson will be complete when the instructor is confident that the student meets the requirements of 14 CFR 61.56 and recommendations of AC61-98D.