# Bearhawk Transition Training Program

## Overview

14 CFR 91.326 (b) allows a process to use of experimental aircraft for hire, based on issuance 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, subject to the limitations in the LODA. LODAs do not permit flight training leading to the issuance of a pilot certificate, training for aerobatic flight maneuvers, demonstration flights, discovery flights, experience flights, or other flights not related to the training program.

Flight training considered acceptable under a LODA consists of students who have a specific need for:
- Initial or recurrent transition flight training for the operation of the Bearhawk experimental aircraft.
- Training for a flight review in a specific make and model of experimental aircraft.
- Issuance of endorsements as required by 14 CFR § 61.31 (f) (High Performance) and 14 CFR § 61.31 (i) (Tailwheel) for transition training candidates who do not yet have these endorsements.

Since completed Bearhawks 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 needs to be able to learn the flying characteristics of the type.

## Prerequisites

**Training Candidates** for this program must hold at least a Private Pilot certificate with an Airplane Single Engine Land rating.

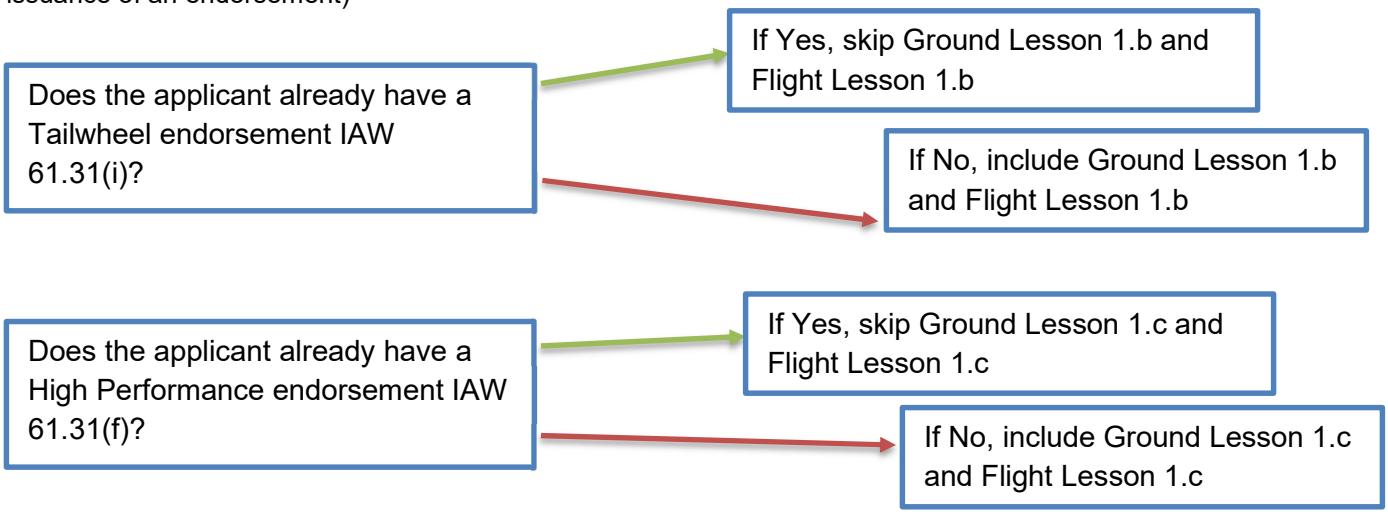
The **Flight Instructor** for this program must:

1. Hold a current Certified Flight Instructor certificate with an Airplane Single Engine rating.
2. Have a minimum of 5 hours flight time in the type of training aircraft being used.
3. Meet all applicable currency requirements of 14 CFR Part 61.
4. Meet medical certification requirements of 14 CFR Part 61 as they pertain to the training given.
5. Possess a Letter of Deviation Authority (LODA) from the FAA Flight Standards District Office (FSDO) listing the specific aircraft being used for the training and the instructor.

The **Training Aircraft** must be listed on the LODA, and comply with the requirements listed in the LODA.

## Candidate Qualification Flow Chart

(This is a description of the process to determine whether a trainee has a specific need for training leading to the issuance of an endorsement)



## Introduction to Bearhawk Characteristics:

Generally speaking, the Bearhawk is a safe and predictable airplane to fly. The stall characteristics are not particularly threatening. The primary concerns for transition training are the low directional stability in the yaw axis, high adverse yaw, and tailwheel ground handling. As far as tailwheel airplanes go, the Bearhawk's ground handling is quite favorable- but even a favorable tailwheel is an unstable aircraft on the ground.

## Description of Lessons:

The program includes a minimum of two ground lessons. There are also two additional optional ground lessons, one for candidates who will also need a Tailwheel Endorsement, and one for candidates who will also need a High-Performance Endorsement. Candidates who already have these endorsements will skip the optional lessons.

The program includes a minimum of three flight lessons. There are also three additional optional flight lessons: one for candidates who will also need a Tailwheel Endorsement, one for candidates who will also need a High-Performance Endorsement, and one for candidates who also need a Flight Review. Candidates who already have these endorsements, or do not need a Flight Review, will skip the optional 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 subsequent lessons. This configuration helps familiarize the student with the Bearhawk'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 FAA-S-ACS, the Private Pilot Airman Certification Standards, and students must meet those standards in order to complete training and receive a completion endorsement. All landings will be to a full stop or a go-around.

## Ground Lesson 1.a – For All Transition Training Candidates

**Objectives:**

The student will receive a briefing about the purpose and limitations of this specialized training, as well as 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 Bearhawk and the other aircraft that the student has recent experience with. 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 1.b – For Candidates Without a Tailwheel Endorsement

**Objectives:**

The student will receive a briefing about the theory of operating a tailwheel airplane, including directional instability, Aeronautical Decision Making about evaluating conditions and the capability of the pilot, and other pertinent factors for:

Normal and crosswind takeoffs and landings;
Wheel landings (unless the manufacturer has recommended against such landings); and
Go-around procedures

**Standards:**

This lesson will be complete when the instructor verifies that the student understands the theoretical aspects of tailwheel airplanes.

**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 student has adequate theoretical knowledge to begin the application of that knowledge in the first flight lesson.

## Ground Lesson 1.c – For Candidates Without a High Performance Endorsement

**Objectives:**

The student will receive a briefing about the theory of operating an airplane with a high-performance engine, including aircraft systems, engine management, fuel management, Aeronautical Decision Making about evaluating the capability of the pilot with regard to high thrust and left-turning tendencies, and other pertinent factors for operating an engine with more than 200 horsepower.

**Standards:**

This lesson will be complete when the instructor verifies that the student understands the theoretical aspects of tailwheel airplanes.

**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 student has adequate theoretical knowledge to begin the application of that knowledge in the first flight lesson.

## 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 come up in the Flight Lessons.

1. Positive aircraft control,
2. Positive exchange of the flight controls procedure,
3. Stall/spin awareness,
4. Collision avoidance,
5. Wake turbulence avoidance,
6. LAHSO,
7. Runway incursion avoidance,
8. CFIT,
9. ADM and risk management,
10. Wire strike avoidance,
11. Checklist usage,
12. Temporary flight restrictions (TFRs),
13. Special use airspace (SUA),
14. Aviation security,

15. Single-Pilot Resource Management (SRM)

**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.a – For All Transition Training Candidates

**Objectives:**

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

**Lesson Components**:

*Preflight Elements*

*Preflight Preparation:*

Briefing of lesson objectives and goals
Review of aircraft documents including Airworthiness Certificate, Registration, Required Inspections, Operating Limitations, Performance, Weight and Balance
Overview of local airport and airspace considerations
Explanation of Bearhawk handling characteristics, including relatively high adverse yaw and relatively low directional stability
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
Adverse yaw and 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 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: 1.5 hours

**Expected Accomplishments and Standards for Completion:**

This lesson will be complete when the student can confidently operate the Bearhawk 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.

# Flight Lesson 1.b - For Candidates Without a Tailwheel Endorsement

**Objectives:**
Introduce tailwheel ground operations including taxi, takeoff, and landing.

**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
- Normal and Crosswind Takeoff and Climb
- Low approach
- Go-arounds
- Normal and Crosswind Approach and Landing (3-Point)
- Normal and Crosswind Approach and Landing (Wheel Landing)

**Standards:**
The standards for this lesson are the same as those in the Private Pilot Airman Certification Standards

**Planned time for completion:**
Preflight Elements: 1 hour
Flight Elements: 5 hours

**Expected Accomplishments and Standards for Completion:**
This lesson will be complete when the student can confidently operate the Bearhawk on the ground and during normal takeoff and landing. This lesson can be repeated as necessary, and completion will be based on performance, rather than on the number of hours completed.

# Flight Lesson 1.c – For Candidates Without a High-Performance Endorsement

**Objectives:**

Introduce High-Performance engine operation considerations including engine start, engine management, fuel management, and turning tendencies created by the engine and propeller.

**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
Normal and Crosswind Takeoff and Climb
Cruise
Descent
Normal and Crosswind Approach and Landing (3-Point)
Normal and Crosswind Approach and Landing (Wheel Landing)

**Standards:**

The standards for this lesson are the same as those in the Private Pilot Airman Certification Standards

**Planned time for completion:**

Preflight Elements: 1 hour
Flight Elements: 1 hours

**Expected Accomplishments and Standards for Completion:**

This lesson will be complete when the student can confidently operate the high-horsepower engine on the ground, during normal takeoff, cruise flight, descent, and landing. This lesson can be repeated as necessary, and completion will be based on performance, rather than on the number of hours completed.

# Flight Lesson 2

**Objectives:**

Familiarize the student with the ground handling characteristics of the Bearhawk, 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

*Preflight Procedures:*

Aircraft exterior inspection and preparation
Engine Starting
Runway incursion avoidance

*Airport Operations:*

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 Bearhawk 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 Bearhawk 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 Bearhawk, 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 (Flaps 2) Takeoff
Short Field Takeoff and Maximum Performance Climb
Calculating and 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 Bearhawk 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 – For Candidates Requiring a Flight Review

**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 be based on guidance from AC61-98 including the checklists included in Appendix D through F.

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

**Planned time for completion:**
Preflight Elements: At least 1 hour of ground instruction
Flight Elements: At least 1 hour of flight instruction

**Expected Accomplishments and Standards for Completion:**
This lesson will be complete when the instructor is confident that the student meets the standards and knowledge requirements of 14 CFR 61.56.

## List of Effective Pages:

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## Document Revision Summary

Revision 0 - Original issue – 4/29/2014
Revision 1 – Update for aircraft swap – 9/10/2022
Revision 2 – Update for issuance of 91.326 and to enable Tailwheel and High Performance endorsements for candidates who are enrolled in transition training.