

## Tailwheel Endorsement Syllabus

### General

1. Unless you have logged Pilot in Command (PIC) time in a tailwheel aircraft prior to April 15, 1991 you must undergo a training program and receive an endorsement from a Certified Flight Instructor (CFI) in your logbook testifying to your completion of the program.

2. The pilot in the training program for a tailwheel endorsement must demonstrate proficiency in three areas as a minimum: (14 CFR 61.31(i))

- a. Normal and crosswind takeoffs and landings.
- b. Wheel Landings.
- c. Go-around procedures.

3. Our training program at *Olde Thyme Aviation* will include additional training to include basic flight characteristics and procedures of the aircraft to be used in training and emergency procedures and considerations when flying a tailwheel aircraft. Since many tailwheel aircraft do not possess wing flaps, we will train and use the slip method of controlling a decent and landing. Further the Pilot in training should expect that all landing practice will be to a full stop, or stop-and-go on longer runways where and when permitted, since this is required by the Federal Aviation Regulations (14 CFR) for currency. ( 14 CFR 61.57 (ii))

4. All lessons are "To Proficiency". That is to say that each trainee has a different learning curve based on experience, total time, and ability. So, each lesson could take one or multiple flights to complete and is strictly based on the trainee's progression toward the standards.

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### Ground Training

Our primary study materials are: *The Complete Taildragger Pilot* by Harvey S. Plourde Copyright 1991 and is available for sale in our office. Additionally, Damian DelGaizo's *Tailwheel: 101* video is a terrific warm up for training. The video is available for sale in our office.

#### 1. 14 CFR, Aviation Regulations Guidance

§61.31 Type rating requirements, additional training, and authorization requirements.

(i) Additional training required for operating tailwheel airplanes.

(1) Except as provided in paragraph (i)(2) of this section, no person may act as pilot in command of a tailwheel airplane unless that person has received and logged flight training from an authorized instructor in a tailwheel airplane and received an endorsement in the person's logbook from an authorized instructor who found the person proficient in the operation of a tailwheel airplane. The flight training must include at least the following maneuvers and procedures:

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

(2) The training and endorsement required by paragraph (i)(1) of this section is not required if the person logged pilot-in-command time in a tailwheel airplane before April 15, 1991.

§61.57 Recent flight experience: Pilot in command.

(a) General experience.

(1) Except as provided in paragraph (e) of this section, no person may act as a pilot in command of an aircraft carrying passengers or of an aircraft certificated for more than one pilot flight crewmember unless that person has made at least three takeoffs and three landings within the preceding 90 days, and—

(i) The person acted as the sole manipulator of the flight controls; and

(ii) The required takeoffs and landings were performed in an aircraft of the same category, class, and type (if a type rating is required), and, if the aircraft to be flown is an airplane with a tailwheel, the takeoffs and landings must have been made to a full stop in an airplane with a tailwheel.

(2) For the purpose of meeting the requirements of paragraph (a)(1) of this section, a person may act as a pilot in command of an aircraft under day VFR or day IFR, provided no persons or property are carried on board the aircraft, other than those necessary for the conduct of the flight.

## 2. Tailwheel Characteristics

- a. Advantages and Disadvantages of a tailwheel configuration.
- b. Center of Gravity location on Tricycle aircraft versus a Tailwheel aircraft.
- c. Adverse yaw both from P-Factor and from gyroscopic precession.
- d. Peripheral Vision and your sight picture with a tail low aircraft.

(1) The art of the peripheral gaze.

## 3. Taxiing

- a. Wind Correction
- b. Steering and Braking
- c. Visibility and the S Turn
- d. AOA or how the airplane sits

## 4. Takeoff

- a. Techniques
  - (1) Nose Low
  - (2) Tail Low
  - (3) Crosswind
- b. Soft Field
- c. Short Field and Obstructions

## 5. Landing

- a. 3 Point and philosophy of the perfect landing
- b. Wheel Landings when and how
- c. Crosswind techniques
- d. Balloon and Bounce recovery
- e. Tailwheel shimmy how to avoid and what to do if you encounter it.
- f. Go-Arounds
- g. Soft Field and Short Field considerations and techniques.
- h. Emergency considerations

*Suggested student homework assignments:*

Read Chapter 1-4 of the *The Complete Taildragger Pilot*.

View *Tailwheel: 101* video

## Flight Training

Training will be performed in a Citabria or J3 Cub. Prior to flight we will review the characteristics and preflight of the aircraft just as you would when checking out in an unfamiliar aircraft. Once familiar and comfortable with the training aircraft we will begin completing the tailwheel course.

### LESSON 1: INTRODUCTORY FLIGHT

Dual—ground: 1.5, flight 1.0

*Objective:*

Introduce student to preflight inspection, flight in a tailwheel aircraft, and review aircraft control including slow flight and stall characteristics. Introduce traffic pattern, takeoff and landing procedures specific to a tailwheel aircraft.

*Discussion topics:*

- Fitness for flight (IM SAFE)
- Positive exchange of flight controls
- Required certificates and documents for pilot and aircraft
- Airplane logbooks and required inspections
- Aircraft fuel system
- Aircraft electrical system
- Location of emergency equipment
- Use of checklists
- Weather briefing basics
- Fundamentals of slow flight and stalls
- Spin awareness
- Tailwheel specific takeoff and landing characteristics

*Review:*

- Starting procedures
- Radio communications
- Before takeoff check
- Effect and use of primary flight controls and trim
- Collision avoidance procedures
- Flight at various airspeeds from cruise to slow flight
- Maneuvering during slow flight emphasizing correct use of rudder to negate increased adverse yaw at slow airspeeds
- Power-off stalls and recovery
- Power-on stalls and recovery

- Dutch Rolls
- Steep Turns
- Parking and securing aircraft

*Introduce:*

- Normal and/or crosswind takeoff and climb
- Normal 3-point Landing to full stop and taxi back

*Completion standards:*

- Display understanding of aircraft systems, use of checklists, preflight, and post flight procedures
- Demonstrate aircraft control
- Demonstrates understanding of stall and recovery concept
- Demonstrates understanding of slow-flight concept through flight at minimum controllable airspeed
- Altitude, heading, and airspeed at or near PTS standards

*Suggested student homework assignments:*

Read Chapter 5-6 of the [The Complete Taildragger Pilot](#).

**LESSON 2: TAKEOFF AND LANDINGS**

Dual—ground: 0.5, flight: 1.0

*Objective:*

Gain Proficiency in traffic pattern operations, takeoffs and landings.

*Discussion topics:*

- Traffic patterns
- Traffic awareness
- Takeoffs
- Landings
- Crosswinds
- Stop and go procedures
- Go-around procedures

*Review:*

- Normal takeoff and 3-point landings

*Introduce:*

- Stop and go procedures
- Crosswind takeoff and landings
- Go-around procedures

*Completion standards:*

- Demonstrates of understanding of Normal takeoff and 3-point landing techniques.
- Demonstrates understanding of traffic pattern operations
- Demonstrates Stop and Go procedures
- Demonstrates Go-around procedures

*Suggested student homework assignments:*

Read Chapter 7-8 of the [The Complete Taildragger Pilot](#).

**LESSON 3: TAKEOFF AND LANDINGS**

Dual—ground: 0.5, flight: 1.0

*Objective:*

Gain Proficiency in traffic pattern operations, takeoffs and landings.

*Discussion topics:*

- Takeoffs
- Landings
- Crosswinds
- Using slips to control landing approach

*Review:*

- Normal takeoff and 3-point landings

*Introduce:*

- Slips during approach to landing
- Crosswind takeoff and landings

*Completion standards:*

- Demonstrates normal takeoff
- Demonstrates 3-point landing techniques.
- Demonstrates aircraft airspeed control
- Demonstrates an understanding of crosswind takeoff and landings
- Demonstrate use of slips for approach to landing

*Suggested student homework assignments:*

Read Chapter 7-8 of the [The Complete Taildragger Pilot](#).

**LESSON 4: TAKEOFF AND LANDINGS**

Dual—ground: 0.5, flight: 1.0

*Objective:*

Gain Proficiency in traffic pattern operations, takeoffs and landings.

*Discussion topics:*

- Traffic awareness
- Crosswinds
- Wheel landings when to use and why we use this technique

*Review:*

- Normal takeoff and 3-point landings
- Slips during the approach to landing
- Crosswind takeoff and landing

*Introduce:*

- Wheel landings
- Emergency considerations

*Completion standards:*

- Demonstrates normal takeoff
- Demonstrates 3-point landing techniques.
- Demonstrates aircraft airspeed control
- Demonstrates and understanding of crosswind takeoff and landings
- Demonstrates and understanding of wheel landings

*Suggested student homework assignments:*

Review [Tailwheel: 101](#) video

**LESSON 5: TAKEOFF AND LANDINGS**

Dual—ground: 0.5, flight: 1.0

*Objective:*

Show Proficiency in traffic pattern operations, takeoffs and landings.

*Discussion topics:*

- Review areas from previous lessons that are not at proficiency

*Review:*

- Normal takeoff and 3-point landings
- Slips during the approach to landing
- Crosswind takeoff and landing
- Go-Around
- Wheel landings
- Emergency considerations

*Completion standards:*

- Demonstrates normal takeoff
- Demonstrates 3-point landing techniques
- Demonstrates wheel landing
- Demonstrates slips during approach to landing
- Demonstrates aircraft airspeed control
- Demonstrates crosswind takeoff and landings
- Demonstrates safe go-around and traffic pattern operations

*Suggested student homework assignments:*

As directed by the instructor



**LESSON 5: PHASE CHECK**

Dual—ground: 0.5, flight: 1.0

*Objective:*

Complete the requirements for a tailwheel endorsement.

*Discussion topics:*

- Personal minimums as a recently “signed off” tailwheel pilot

*Review:*

- Normal takeoff and 3-point landings
- Slips during the approach to landing
- Crosswind takeoff and landing
- Go-around
- Wheel landings

*Completion standards:*

- Demonstrates safe preflight and operation of the training aircraft
- Demonstrates normal takeoff
- Demonstrates 3-point landing
- Demonstrates Wheel landing
- Demonstrates Slips during approach to landing
- Demonstrates aircraft airspeed control
- Demonstrates crosswind takeoff and landings if appropriate
- Demonstrates safe Go-around and traffic pattern operations

Post flight:

Endorsement in logbook and discussion of future aircraft the trainee may fly.