

# Lesson 1. Familiarization and basic flight

Ground 1.5 hr | Dual 1.5 hr | 14 CFR 61.31(i) | Est. \$582 member, \$742.50 non-member  
 Aircraft: Luscombe 8E, N1302B, Salinas (KSNS)

| STUDENT  |                 | DATE        | INSTRUCTOR  |             |
|----------|-----------------|-------------|-------------|-------------|
| AIRCRAFT | N1302B Luscombe | Ground only | FLIGHT TIME | GROUND TIME |

## ON THE GROUND

Why a taildragger wants to swap ends. The centre of gravity sits behind the main wheels. In a tricycle-gear airplane it sits ahead of them. Every other thing in this course follows from that one fact.

Ground loop dynamics. How a small yaw becomes a large one, why it accelerates rather than settles, and the point past which rudder alone will not stop it.

Yaw on takeoff, from four causes. Torque, P-factor, spiraling slipstream, and gyroscopic precession as the tail comes up. Which one dominates, and when.

The airplane. Preflight, with particular attention to the landing gear and tailwheel assembly. Fuel system. V-speeds. Engine limitations and fuel consumption. Operating restrictions.

Weight and balance, worked for today's flight, with your actual weight and mine, and the fuel load that follows from it.

Emergency procedures. The whole of ../standards/EMERGENCY-PROCEDURES.md, briefed. Engine failure after takeoff and the straight-ahead rule, engine failure in flight and the restart flow, carburetor ice, engine fire on start, electrical failure, and ground loop recovery. Three memory items and no more. North Aero does not permit hand-propping. N1302B is started on the starter, and you are told so in this briefing rather than left to ask.

Transfer of control. Three-way, spoken, every time. We agree the words before we walk out.

## IN THE AIRPLANE

Ground work first, and more of it than you are expecting.

Preflight N1302B yourself, with the landing gear and tailwheel inspection called out aloud.

Taxi, at length. Slow taxi and higher-speed taxi. Minimal braking. You steer with rudder and the tailwheel, not with the brakes.

Flight control positioning for the wind, changing as you turn, on every turn, until it stops requiring thought.

S-turns while taxiing. You cannot see over the nose. Clearing the path ahead is now something you do rather than something you assume.

Turns made wide enough to spare the tires.

Takeoff, demonstrated by me, with your hands and feet following on the controls.

Airwork: climbs, turns, descents, steep turns, slow flight, normal glides, slips and skids, approach and departure stalls, ground reference maneuvers.

Landing, demonstrated by me, with your hands and feet following on the controls.

## COMPLETION STANDARDS

You have completed this lesson when you can do all of the following. These are the words your instructor is grading against.

1. You preflight N1302B unprompted, and you name what you are looking for at the tailwheel and main gear rather than only looking at them.
2. You compute a weight and balance for the flight using your actual weight, and you state the fuel load it allows and why.
3. You taxi the length of the ramp and back holding the centreline, using rudder for direction and brakes only where a brake is the correct tool.
4. You position the flight controls correctly for the wind and change them as you turn, unprompted, on at least three consecutive turns.
5. You S-turn to clear the path ahead without being reminded.
6. You state, in your own words, why the airplane wants to swap ends, referring to the centre of gravity and the main wheels.
7. You name the four causes of yaw on takeoff and say which one you felt as the tail came up.
8. You execute the transfer of control procedure correctly, in both directions, every time it happens.

Standard 3 carries the lesson. Everything in Phase 2 is built on your feet already working. A pilot who can recite ground loop dynamics perfectly and still taxis with the brakes has not completed this lesson.

## **DEBRIEF AND SIGN-OFF**

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What went well, what to work on next lesson.

Sign once for the whole lesson. Steps left unchecked above were not completed this session.

INSTRUCTOR SIGNATURE / INITIALS

DATE