

Area of Operation **XI** - Task **F**

# Secondary Stalls

## Content

1. Introduction
2. Aerodynamics
3. Execution
4. Common Errors



### Key References:

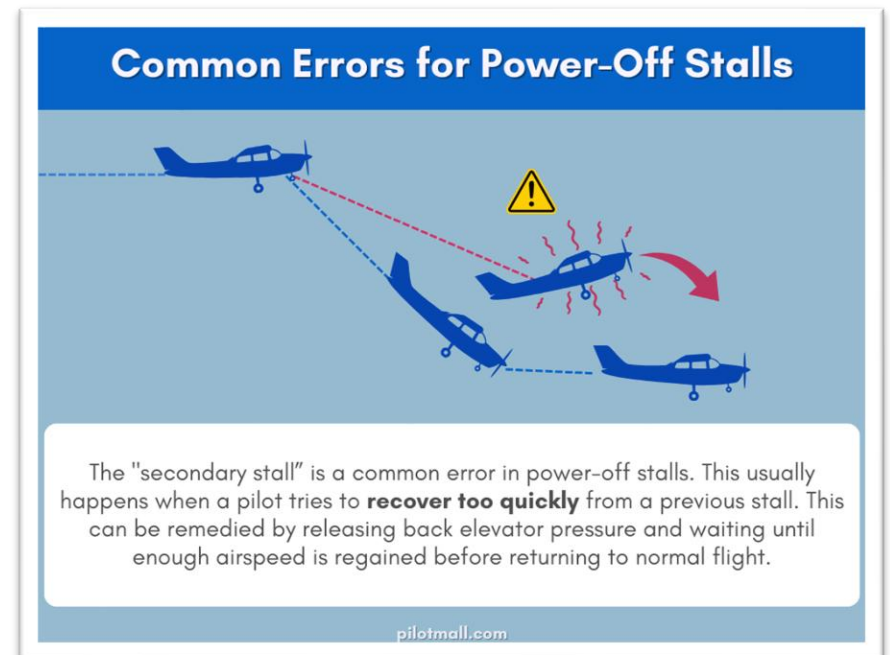
- Airplane Flying Handbook
- Pilot's Handbook of Aeronautical Knowledge
- Stall and Spin Awareness Training (AC 61-67)

# 1. Introduction

- **What:** A stall that occurs after recovery from a preceding stall
- **Why:** The loss of altitude associated with a single stall can be hazardous. A second stall amplifies the altitude loss and is often more aggressive. This lesson helps the student understand the actions that leads to a 2<sup>nd</sup> stall
- **Common Scenarios:**
  - Stall recovery close to the ground → to avoid the ground, the pilot may attempt to raise the nose too early
  - An unexpected stall that scares the pilot → can lead to abrupt, overaggressive control movements
  - Attempting to recover using power only or pitch only (if no power or idle)

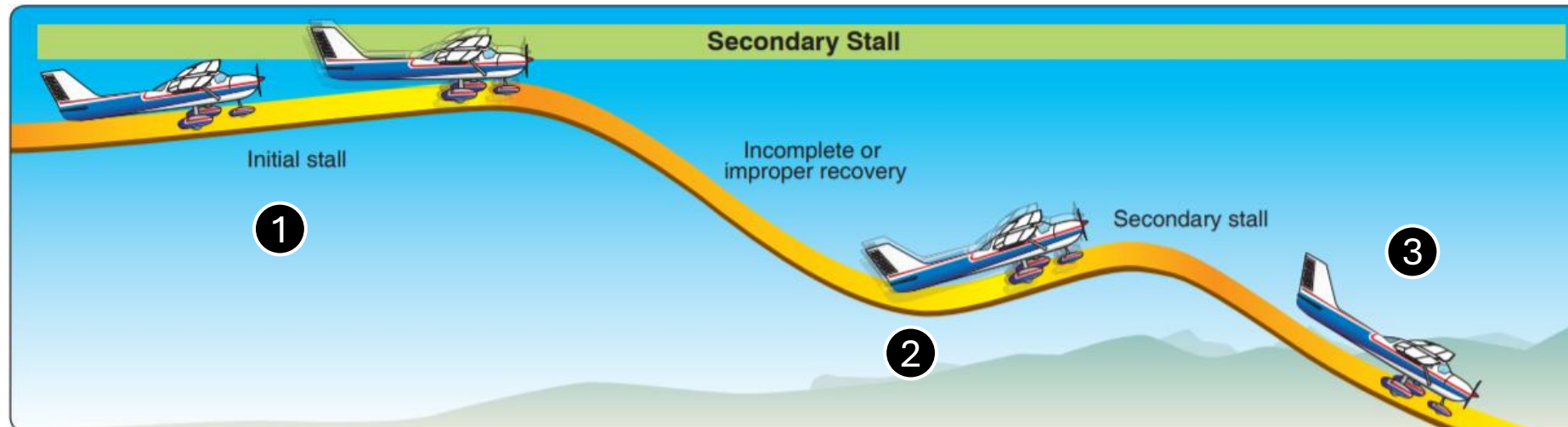
## ➡ Standard (ACS):

- Demonstration only, not in the Private/Commercial ACS



## 2. Aerodynamics

- 1 Airplane gets into a stall (see “Power On” or “Power Off” stalls to understand stalls)
- 2 Recovery is made improperly:
  - After reducing AoA, pilot pulls back the yoke again **too much** or **too quickly**, or...
  - After reducing AoA, pilot pulls back the yoke again to level flight **but fail to add power**, or...
  - Pilot adds power immediately **but fail to reduce AoA**
- 3 Airplane gets in a 2<sup>nd</sup> stall, this time closer to the ground, potentially more uncoordinated (risk of spin), prolonged recovery and additional loads on the airframe due to aggressive inputs



## 3. Execution

### Performing the maneuver in a C172S

1. Perform two 90° clearing turns
2. Select an altitude where recovery can be made above 3000ft AGL
3. **Perform the proper Power-On or Power-Off Stall** (see steps in previous slides)
4. **If Power-On**
  - After recovery from the stall (horn silent) → Increase pitch to induce a secondary stall
5. **If Power-Off**
  - During recovery, reduce AoA but do not add power
  - When horn is silent → increase pitch to induce a secondary stall
6. Recover from the secondary stall by reducing AoA, adding power (if Power-Off), and retracting flaps
7. Cruise checklist

## 4. Common Errors

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1. Failure to establish selected configuration prior to entry
2. Improper or inadequate demonstration of the recognition of, and recovery from a secondary stall
3. Failure to present simulated student instruction that adequately emphasizes the hazards of the poor procedure in recovering from a primary stall

# Questions?

