Area of Operation **XI** - Task **D**

Cross-Controlled Stalls

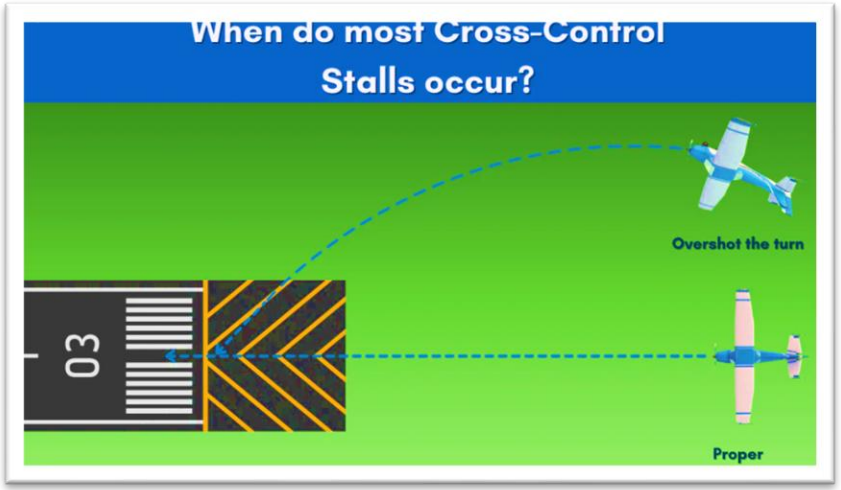
Content

Key References:

- Airplane Flying Handbook

1. Introduction

- **What**: This type of stall occurs with the controls crossed – aileron pressure applied in one direction and rudder in the opposite direction
- **Why**: During traffic pattern operations, any conditions that result in **overshooting the turn from base to final** approach increases the possibility of an unintentional stall while the airplane is in a cross-controlled condition
- **What to Expect**:
  - The cross-control stall is a stall entered with the aircraft in a skidding, uncoordinated condition
  - Common scenario is a low or idle speed, near the ground, during approach to land
  - Little or no warning of a stall
  - Intuitive reactions are dangerous
  - Begin the cross-control stall at an altitude that allows recovery to be completed no lower than 3,000' AGL
  - See “Power-On” or “Power-Off” to understand Stalls



➡ **Standard (ACS):**

  - Demonstration only, not in the Private/Commercial ACS

2. Aerodynamics

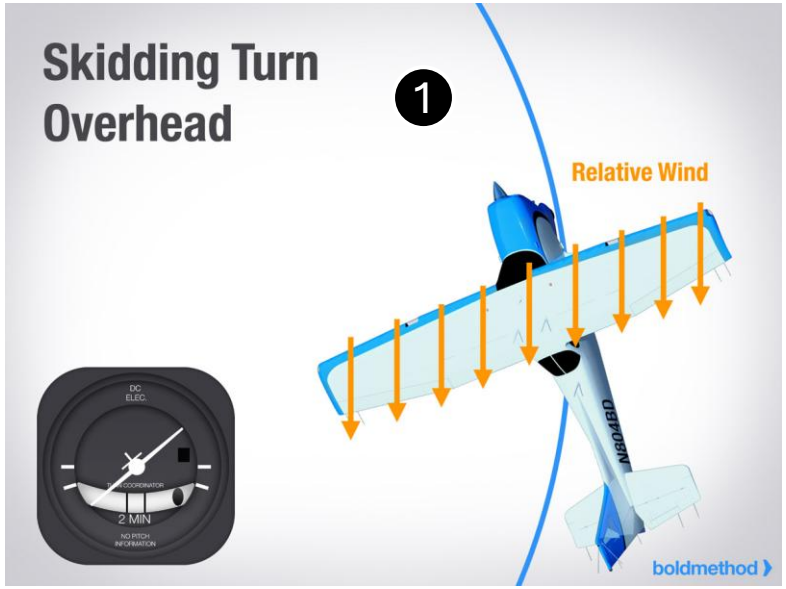
❶ Airplane is banked and then wrongly add too much rudder to increase rate of turn (causing a skidding turn)

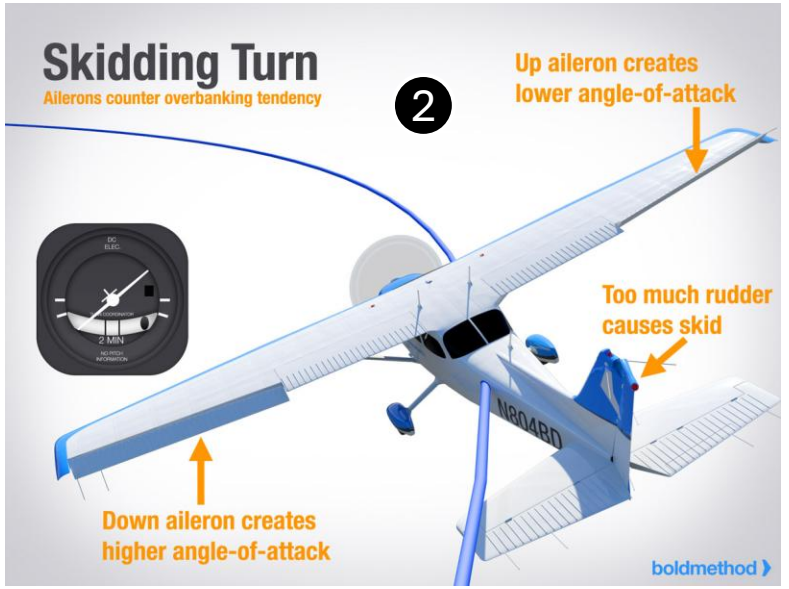
- This reduces the perpendicular wind (to the wing), reducing total lift

❷ Pilot then apply opposite aileron to counter overbanking tendency, increasing AoA on the lower wing

- Pilot sees the airplane pointing downwards and pull back the yoke, increasing AoA even more
- The airflow over the inside wing also face interference with the fuselage, impacting lift

- **Inside wing stalls first**, rolling the plane over the lower wing (often inverted)





3. Execution

Performing the maneuver in a C172S

> **CAUTION:** Cross-control stalls can lead to loss of control or spins. Recover at the first indication of the stall, and review spin recovery procedures.

1. Perform two 90° clearing turns
2. Select an altitude where recovery can be made above 3000ft AGL
3. Set power to 1500 RPM (maintain altitude)
4. **Clean** configuration
5. At **65 kts**, initiate a normal stabilize descent with **throttle idle**
6. Establish a 30^0 bank turn
7. Smoothly apply excessive rudder in the direction of the turn
8. As rudder pressure increases, apply opposite aileron to maintain constant bank angle
9. Increase aft elevator pressure
10. At first indication of stall, recover: reduce AoA, remove excessive rudder, level wings, apply max power
11. Cruise Checklist

4. Common Errors

1. Failure to establish the selected configuration prior to entry
2. Failure to establish cross-controlled turn and stall conditions that will adequately demonstrate the hazards of cross-controlled stalls
3. Improper or inadequate demonstration of the recognition and recovery from a cross-controlled stall
4. Failure to present simulated student instruction that emphasizes the hazard of a cross controlled condition during gliding or reduced airspeed

Questions?