

XI.H. Accelerated Stalls

About: Demonstrated to determine the stall characteristics of the airplane, experience stalls and greater than +1G stall speed, and develop the ability to instinctively recover at the onset of such stalls.

TSW: Learn to recognize and recover from stalls and increased loads.

How: This is shown by slowing the plane to below V_a , entering a moderately banked turn and applying substantial back elevator pressure to increase the load and induce a stall.

Procedure:

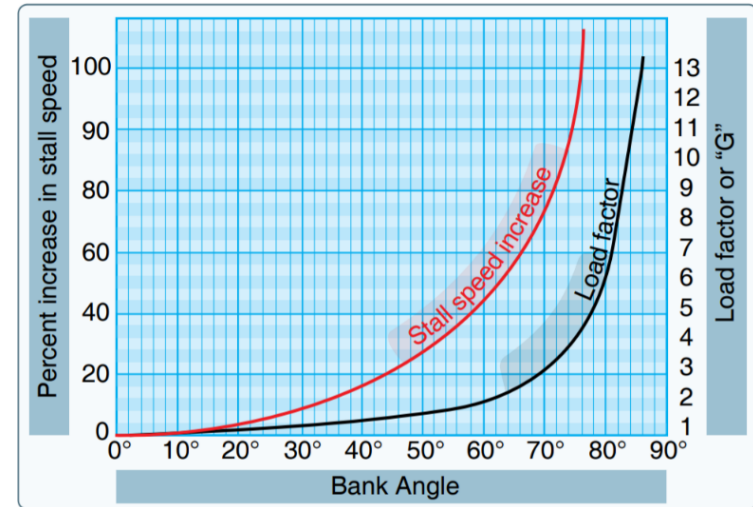
1. No lower than 3000 AGL
2. Two 90 degree clearing turns
3. Carb heat on, Power to 1500 rpm
4. Maintain altitude while slowing to below V_a
5. Roll into level 45° bank turn.
6. Maintain level flight while decelerating
7. At approximately 70 KIAS firmly increase back-pressure to induce stall

Recovery

8. Release back pressure
9. Full Power, carb heat off
10. Level wings with coordinated rudder & aileron
11. Resume normal flight attitude, power, & airspeed. Minimal Alt loss

Discussion Points:

1. At the same gross weight, airplane configuration, and power setting, an airplane will consistently stall at the same indicated airspeed if no acceleration is involved. However, it's important to remember that a stall doesn't occur at a specific airspeed.
2. A stall can occur at any airspeed and will stall at a higher indicated airspeed when excessive maneuvering loads are imposed by steep turns, pull-ups, or other abrupt changes in its flightpath. Stalls entered from these flight situations are called "**accelerated maneuver stalls**"
3. It is important that recoveries are made at the first indication of a stall, or immediately after the stall has fully developed.
4. A prolonged stall condition should never be allowed. Failure to take immediate steps toward recovery when an accelerated stall occurs may result in complete loss of flight controls (notable power-on spins).



Common errors:

5. Failure to establish selected configuration prior to entry
6. Failure to remain in coordinated turn.

Evaluations/ Standards (Commercial ACS):

1. Clear the area.
2. Select an entry altitude that will allow the task to be completed no lower than 3,000 feet AGL.
3. Establish the configuration as specified by the evaluator.
4. Set power appropriate for the configuration, such that the airspeed does not exceed the maneuvering speed V_a
5. Establish and maintain a coordinated turn in a 45° bank, increasing back pressure smoothly until an impending stall is reached.
6. Acknowledge the cue(s) and recover promptly at the first indication of an impending stall (e.g., aircraft buffet, stall horn, etc.).
7. Execute a stall recovery in accordance with procedures set forth in the POH/AFM.
8. Configure the airplane as recommended by the manufacturer and accelerate to V_X or V_Y .
9. Return to the altitude, heading, and airspeed specified by the evaluator.