

XI.E. Elevator Trim Stalls

About: Occurs when full power is applied to an airplane configured with excessive nose-up trim. Positive control of the airplane is not maintained, resulting in a stall.

These types of stalls usually occur during a go-around procedure from a normal landing approach or a simulated forced landing approach, or immediately after takeoff.

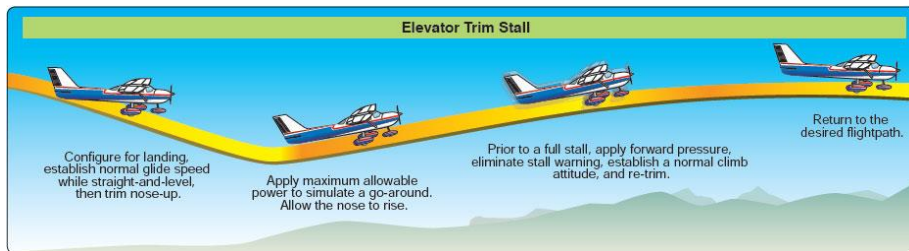
TSW: Understand what can happen when full power is applied for a go-around while not maintaining positive control of the airplane.

Procedure:

1. 1500 AGL for recovery 2x 90 degree clearing turns
2. Power Idle- carb heat on
3. Extend flaps: ½ to full
4. Establish best glide speed and attitude
5. Trim for best glide as would be done during a landing approach (nose up)
6. Advance throttle smoothly to max power- carb heat off
7. Nose will rise and turn left -> Do not correct

Recovery

8. When pitch attitude increases above normal climb attitude and stall is imminent, apply forward pressure to yoke
9. Hold airplane in normal climb attitude and adjust trim to relieve pressure
10. Level wings with coordinated aileron and rudder
11. Retract flaps in increments as airspeed reaches V_y



Situation

12. In the event of a go around, as maximum power is applied, the nose will rise sharply and turn left
 - a. The combined effect of nose high trim, and increased prop wash over the tail and elevator tend to make the nose rise sharply
 - b. Torque and the left turning tendencies make the aircraft turn to the left
 - c. If uncontrolled, the excessive nose-up pitch can result in a stall

Discussion Points:

1. This scenario highlights the importance of maintaining positive control of the aircraft and understanding the effects of nose high trim and high power settings
2. Smooth power applications
3. Anticipate and correct for the excessive pitch with forward pressure, and correct for the left turning tendencies with right rudder
4. Fly the aircraft, don't let the aircraft fly you
 - a. As the nose starts to rise aggressively and abnormally, correct the condition before it becomes an issue
 - b. Power and right rudder should always go together - if the nose starts to yaw left, right rudder should be input to correct the issue

Common errors:

1. Improper or inadequate demonstration of the recognition of and recovery from an elevator trim stall.
 - a. Not allowing the pitch attitude to increase above the normal climbing attitude.
 - b. Reducing power during recovery; not maintaining control of aircraft while retrimming and retracting flaps.

Evaluations/ Standards:

1. Demonstrate and explain elevator trim stalls in selected landing gear and flap configurations.
2. Analyze and correct simulated common errors.