

Afraid of stalls?©

Perhaps more correctly you are afraid to do your own stalls, alone. The good news is that you are not required to practice stalls alone. You will need to practice doing them with your instructor. You will need to demonstrate the PTS required level of stalls to an examiner. That's as bad as it gets.

Stalls can become 'fun' when you get some aerobatic training that carries the stall into a spin and into a recovery. You are not required to do this but most of you fears are emotionally based on hearsay. Spins, when performed at altitude, are no more dangerous than a roller coaster.

Given sufficient motivation any airplane will stop flying. An airplane stops flying when it stalls. This is not at all related to the stalling of an automobile engine. Over the years a disproportionate number of potential pilots have been dissuaded from becoming pilots by macho stall demonstrations. The roller coaster 'fun' of an abrupt full stall is not 'fun' at all to the unfamiliar passenger.

I have never, in all my thousands of stalls deliberately scared a passenger or student. On the other hand, I have been both surprised and scared by students. Most often students scare themselves by responding to a mild and gentle stall as though it would require a full yoke forward, nose down recovery. I do let students scare themselves. A stall is a prelude. It is the beginning of a potentially hazardous sequence of events. Avoidance and recognition precedes recovery. Stall recovery, commenced in a timely and correct manner breaks the sequence leading to a spin.

There is no FAA prescribed point in the flight training program where a stall must be introduced and performed. Each instructor/student combination can vary doing stalls as they desire. However the end result must allow the student to demonstrate both knowledge and performance of likely entries, recognition, and recovery as may be required by the examiner's testing of the PTS requirements.

Stalls may be introduced in a series of small increments. Each increment is preceded by a mention the flight before by suggesting that we 'might' try a stall of a certain type. The stall lesson flight is preceded by a ground discussion of clearing turns, the 10 knot lead in warning of the warner (ignore), the significance of the elevator burble, the stall break and the recovery to or slightly below the horizon.

The use of rudder to hold a heading is always in anticipation of the nose moving to the left and not in reaction. The yoke movement is in anticipation of a loss of altitude, related to the full stall landing, we are tipping the aircraft nose up while maintaining a constant altitude. This yoke movement is demonstrated on the ground as both back and up with a minimum of fingers used. Two fingers should be sufficient for most trainers. In the air, natural tension in the student will make even the clearing turns ragged.

Since I do all my instruction using a tape recorder, I seldom initiate the flight instruction with a demonstration, instead, I talk the student through the process and allow it to proceed with some instructor control (rudder usually) input. For the power off stall, we make clearing turns. Stop on a heading or visual reference, pull carburetor

heat, pull the power off and allow the speed to decrease while holding heading and altitude. As discussed we are attempting to rock the nose of the aircraft up while maintaining altitude. The first time onset of the stall warner often causes the student to jerk and release pressure. Fine. We recover and start the process again. This time we proceed only until the first burble. As planned we (the student) relaxes pressure to allow the nose to fall slightly below the horizon, speed to increase slightly and once again we stop the altitude loss. This time we get to an incipient stall or possibly beyond. This time recovery is made through the use of power and rudder.

Enough? Probably, but not necessarily. Let the student set the stall lesson limits. With the student's approval, but at the instructors suggestion the next stall lesson will include a ground review of the prior lesson and an introductory walk talk through the 2000 rpm straight ahead power-on stall. This is the stall that might be accidentally entered from slow flight. As before the talk/walk through begins with clearing turns and slow flight at 2000 rpm without the trim. Prior to entering the stall but while in slow flight the use of the rudder should be demonstrated. Alternately both the left and right rudder should be applied while the student is looking at the opposite wing. The rudder will move the wing forward, effectively increasing its speed and raising it. Do not do the stall until the student sees that the way to raise a dropped wing in the stall is by using the rudder and not the aileron.

The reduced power-on stall will result in an increase in altitude but the increase in pitch should be done as gently as possible while an ever increasing amount of right rudder is applied. The ideal stall break is straight ahead, if one wing or the other drops it is because of rudder use. Most often the left wing breaks because of insufficient right rudder. Attempts to raise the wing with aileron will only exacerbate the stall in that wing. The nose of the aircraft should be lowered to or slightly below the horizon in any event. This particular stall can be smoothly repeated over and over within a 100 foot altitude range just by leaving the power alone. This is a good exercise in a subsequent lesson.

The additional phases of stalls such as the full power stall, the approach to landing stall, stalls in turns, and conditions leading to stalls are progressions of these basics. All of them should be introduced and flown with as much frequency and emphasis as the student is willing to accept. The instructor should never expect to teach the student to 'enjoy' to stalls except in so far as the entry, stall, and recovery are smoothly performed. Increasingly, the PTS is reducing the extent to which various stalls are to be performed prior to recovery. My personal opinions aside, the PTS seems to be emphasizing recognition as being the essential ingredient to be followed by immediate recovery.