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Informational Report Series

Cessna 172 – Stall Characteristics

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Cessna 172 airplanes have exceedingly benign stall characteristics. Assuming level, coordinated flight, a power-off stall entered gently can be expected to produce a blaring stall horn 5-10 knots in advance of the stall entry. The stall itself is characterized by a slight buffet followed by a quick but small drop of the nose. There are generally minimal tendencies to “drop a wing” during the stall break if adequate rudder is applied during the setup and entry. This is due to the 172’s good stability about the longitudinal axis and effective rudder authority at all attitudes. The price paid for this is an anemic roll rate.

Some 172s, and this seems to vary from one airplane to the next, are so stable that gentle, coordinated entries into power-off stalls lack a noticeable “break.” Full aft yoke and requisite rudder produce a “mushing” flight mode with loss of altitude but without any appreciable change in the nose-high pitch.

Full power stalls may exhibit a higher tendency to roll to the left during and after the stall break due to P-factor and torque. This is easily countered with adequate opposite rudder but should be anticipated

Cessna 150-152 airplanes have a bit more agility in roll when compared with 172s. Because of this, pilots of these smaller airplanes may experience a higher tendency to drop a wing during stalls. Again, this is easily countered with adequate rudder, but good rudder control is a more obvious requirement when stalling these Cessna 2-seaters.

Fully developed stalls can be safely performed in a Cessna 172. These, however, should only be attempted by experienced pilots or pilots receiving training from an experienced instructor. Continuing full aft yoke after the stall break will produce a series of pitch oscillations that increase in magnitude after the second pitch-up. During these oscillations it is possible to maintain coordinated flight, but this does become more difficult and requires quick changes in rudder control. Fully developed stalls under power will exhibit noticeable tendencies to roll (generally to the left) and can result in a spin unless recovery is promptly initiated.

Recovery from stalls is a simple procedure. Release of back pressure on the yoke will almost always return the airplane to flight mode. This is because the reduction in angle of attack allows the airflow to reattach itself to the wing, producing normal lift in the process. Without proper corrections in power and pitch, however, this recovery procedure will not minimize loss of altitude.



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Normal recovery techniques (conventional for single-engine airplanes) work well in Cessna 172s. It is possible with practice to fully recover from power-on and power-off stalls with as little as a 50-foot loss in altitude. Students should be able to easily learn how to recover from a stall and return to level flight with a loss of less than 200 feet.

Surprisingly, Cessna 172s (as stable as they are) seem to be less stable about the longitudinal axis than many low wing trainers.

Remember that a wing produces lift due to smooth, unobstructed airflow over the wings. Excessive angle of attack causes the airflow above the wing to become turbulent and a loss of lift is the result. A stall is simply that – a loss of adequate lift.

For more information about aerodynamics and stalls, please visit the Gold Seal Online Ground School at: www.faa-ground-school.com