

SAFETY GRAM 4.0

May 2021



Air Force Aero Clubs,

This month's focus is going to be on bounced landing recognition and recovery. Bounced landings can happen to anyone, from the most experienced pilot to the student just beginning their journey in aviation. There are two main causes to bounced landings; touching down with too much airspeed and landing hard. Both of these usually have a root cause somewhere else as well, whether it be flying a poor visual pattern or approach to landing. When landing with too much airspeed your landing attitude is typically flat so when the main gear does touch down you will skip off the runway and back into the air because the airplane is still at flying airspeed and not ready to land. Hard landing are typically caused by having too much sink rate as you approach the ground. When this happens a pilots tendency is to arrest that sink by quickly pulling back on the yoke or stick which will cause an increase of the airplanes angle of attack. This combination of hard landing and increased angle of attack will cause the airplane to lift back up in the air right after touchdown. You can also have a combination of being fast and having a high sink rate, which can result in a high hard bounced landing. This is one of the most dangerous situations because you will bounce so high up you will lose the benefits of ground effect and with a high angle of attack, from your attempt to arrest the high sink rate, will put you close to stall speed.

There are a few recovery options depending on the severity of the bounced landing. First, if you experience a bounced landing you should always set your pitch picture for the recommended landing attitude of the aircraft you are flying. This will ensure you don't raise your angle of attack too much and stall and also ensure you don't drop the nose and have a secondary touchdown with the nose gear first which can put you in a porpoise and is very dangerous. After setting the landing attitude you need to be able to assess how high and hard you actually bounced and either go-around or maintain your landing attitude and add a small amount of power to arrest your sink rate for a soft touchdown. If you start to porpoise, feel you are landing too long, or just aren't comfortable, the best option is always to go-around rather than attempt to salvage a bad landing.

Fly Safely,

A handwritten signature in black ink, appearing to read 'Jonathan F. Koch', written in a cursive style.

Jonathan "SAS" Koch, Lt Col, USAF
Director of Operations & Safety USAF Aero Clubs

Jonathan.koch@us.af.mil