

## Safety is relative to© ...

Learning to fly well requires that you make some conceptual changes in what you perceive as safety. The safety parameters of every day activities, including driving an automobile, lose validity when the third dimension of flying is added. It is this adjustment, or rather, lack of adjustment by student pilots that creates confusing conflicts in the perception and the reality of safe flying. Some of this is because of the physical differences between airplane models but most of it is the mind-set the individual has toward where the hazards of flying reside.

Nearly 50% of all aircraft accidents occur while taxiing. You are far more likely to damage an aircraft by running into another aircraft than by any other means. Thankfully, you are not likely to suffer personal injury. Why should this be so? Taxiing or parking an airplane is not like driving an automobile. The binocular perception of clearance fails very near wing-tip distance. The combination of braking and power use is quite different from that of an automobile. The control of turning radius and speed requires considerable practice before an airplane can be positioned smoothly where you want it. Safety is compromised every time an airplane fails to conserve space for the other guy in the run-up area. In terms of safety, skill, and conservation of space, taxiing is the last 'flying' skill mastered. A very small proportion of taxiing accidents are directly related to yoke position but these accidents do tend to do significant damage. Any time delay in establishing the proper yoke position can have serious consequences. Safety suggestion: Always taxi as though you had 30 knot winds.

The way an aircraft moves on to the runway is a safety consideration. You often see low-wing aircraft just dart right out at an angle and depart. Good visibility except for the short approach plane on a base behind you. What is the harm for the low-wing pilots making the base clearing turns commonly practiced by the high-wingers? Being cleared to cross a runway or takeoff by ATC in the face of oncoming traffic makes you rely on your reality over ATC's perception. Make That big S-turn to clear both close in base and final before taking the runway. the life you save may be your own.

Safety in flying, includes the care you take of the airplane, it is a safety measure to get into the air as slow as is normal and then to climb at  $V_y$  until at least pattern altitude. I have flown recently with two different pilots from two different instructors who perceive safety as being more related to being able to see over the nose at all times, rather than getting the safety insurance that comes with altitude. Perception vs. reality. These same two pilots had relatively weak rudder skills and are unlikely to acquire them unless some remedial exercises are programmed. Safety suggestion: Dutch rolls.

The next area of safety is the making of turns. ATC would like to know for certain if an aircraft is turning or just flying wing low. The pilot who favors shallow turns for comforts sake is prolonging the blind exposure time for any significant turn. The 30 degree bank is an ideal compromise for pattern turns and most other airwork. It only increases the G-force by 15/100s and greatly reduces the blind time. High-wing or low-wing you have a blind area in the turn. By making your initial clearing turns to the left you reduce the probability of being hit from behind. Why? A following aircraft is supposed to be passing to your right, but you already knew that.

When in level cruise within 3000' above mean sea level (MSL) how do you decide on your altitude. Wantabet that the vast majority of you fly at even thousands or 500s. Wantabet, that if you make a practice of flying westbound at 2800 and eastbound at 2700 you will be amazed at the number of planes that whiz by just above and below you. What about level cruise above 2000' hills? You will be legal all the way up to 5000' MSL flying in any direction at any altitude. Wantabet, a very high proportion of the planes will be at 3500' and 4500'. Wantabet, your safest altitude west bound will be one of the even 100s over 3000 such as 3200, 3800, 4200. 4800. Eastbound use odd hundreds like 3300 or 4700. No altitude will be perfect but some are somewhat safer than others.

I have had pilots tell me how 'careful' they are when flying. Being careful is again a variation between perception and reality. We see similar thinking on the freeways. Slow is safer??? In flying you much be aware of where you are, where other planes are likely to be, and whether they are where they say they are. It's called situational awareness. A pilot in a strange situation does not know what he doesn't know. Prior planning might have helped the awareness and orientation. Use the radio. Stay high. Use lights. Get help. Use standard procedures. The standard procedures are designed to maintain separation and order in the airspace.

A relatively high number of accidents are caused by weather. Every student pilot is made overly aware of the hazards associated with weather flying. The net result is that students usually wait for the weather parts of the year before learning to fly. Fact is, it is better to learn to fly during the bad weather parts of the year. The student learns to have weather experiences and make weather decisions under qualified guidance. The student should be exposed to rain, clouds, fog, and winds under controlled conditions that expose both the hazards and the options. A pilot should not have his first SVFR experience without knowledgeable assistance. You can never fully predict the timing of weather. You must be exposed, in training, to the making of weather making decisions both on the ground and in the air. The relative safety of such training is beyond doubt. Ever wonder why so many students quit flying after one year? They're smart enough to realize that their training was not complete. You don't know what you don't know and it is relatively unsafe to be your own instructor.

Being 'careful' is a very poor substitute for knowledge. Again perception vs. reality. Safety is a knowledge factor. Some procedures are safer than others. Flying without knowledge is unsafe. Most pilots intuitively recognize when they are under stress in a flight situation. If you find certain conditions causing you stress, you are relatively unsafe. This is not something where you want to experiment, fumble, and bumble until you work your way out. Certain deficiencies in knowledge are due to careless disregard for procedures and rules. Other deficiencies in knowledge are due to a pilot's inability to accept the reality of certain safety measures when in conflict with personal perceptions. Finally, safety deficiencies can be due to negligence. Not having a chart or flashlight available are examples. ATC and other pilots may cover for your ignorance this time. As in other aspects of flying, the worst thing that can happen to an ignorant pilot is to 'get away' with it. Flying is..."terribly unforgiving of any carelessness, incapacity or neglect."