

**Secondary Students this one's for you!** To optimize aircraft scheduling many of your XC flights have late afternoon departures and late evening arrivals. **Unlike the accident below OU does mandate some risk mitigation by requiring all solo flights to be on the ground by midnight.** However, it is still important to be well rested prior to departing on a late afternoon long XC. A good night's sleep the previous night and a "power nap" prior to the flight is a good idea. Should OU completely mitigate XC fatigue risks by not allowing solo night XC flights? I suppose we could, but how does that help prepare you for "real world" flying? I don't know of many flying jobs that are consistently daylight only. So, night solo XC flights will remain a reality at OU. However, all of these flights are "write-ins." When you tell your instructor you can make a night flight and he or she writes you in we expect that not only will you be available to make the flight, but that your schedule will allow you ample opportunity for rest prior to the flight.

Dave McClurkin



## Asleep at the yoke

Fatigue is a subtle but insidious condition that can affect pilots in a variety of ways. It can degrade vision and coordination, dull memory and concentration, and alter mood and judgment. In its most pronounced form, fatigue causes an overwhelming desire to sleep—a dangerous condition for someone at the controls of an airplane.

On July 8, 2004, with little sleep the night before, the pilot of a Piper Warrior II ate a heavy meal and **departed around midnight** on the third leg of a long cross-country flight. He closed his eyes at 4,500 feet msl—and opened them to find himself lying in a Waubun, Minn. cornfield, unable to move, about 40 feet from the wreckage of his airplane. The pilot suffered serious injuries, but miraculously survived the crash. The pilot was a commercial/instrument student at a Part 141 school. On the night before the accident, he got about four hours of uninterrupted sleep. His day included aviation classes and an exam. As evening approached, he planned a long cross-country flight that required landings at three airports and one leg of at least 250 nautical miles. Around 5 p.m., he preflighted an airplane, only to discover it wouldn't start. He was assigned a different airplane, filed an amended flight plan, and departed Grand Forks International Airport in Grand Forks, N.D., around 6:15 p.m.

The first two legs of the flight were uneventful. At 8:30 p.m., he landed at Airlake Airport south of Minneapolis, Minn., then flew a short hop to Crystal Airport just north of the city. The airplane was fueled and the pilot met a friend for dinner. After a meal of barbecued ribs, chicken, French fries, and bread, the pilot returned to the airport and took off around midnight, bound for Grand Forks.

**About a half hour into the flight, level at 4,500 feet msl, the pilot identified his first visual checkpoint and contacted flight service to open his VFR flight plan. He missed the second checkpoint but continued on course using VOR and GPS navigation. The last thing the pilot remembered was identifying the lights of Detroit Lakes, Minn., in the distance shortly before 1:30 a.m. Radar data indicated the aircraft then entered descending turns to the left. The Warrior completed six and a half turns before dropping off radar at 1,900 feet msl (about 400 feet above the ground). A farmer near Waubun, Minn., reported that he heard and saw an aircraft circling over his farmstead. He heard the airplane crash but could not locate the accident site. He notified authorities who searched for about three hours before finding the wreckage. The force of impact tore off the left wing and ejected the pilot from the cockpit.**

NTSB investigators found no evidence of mechanical problems, and an inspection of the exhaust system revealed no sign of pre-impact leaks, ruling out carbon monoxide poisoning. The board concluded that the accident was caused by the pilot's failure to get the proper rest prior to the night cross-country flight and his subsequent failure to maintain altitude. Contributing factors were fatigue as a result of inadequate sleep, conditions conducive to fatigue, and night.

Lack of sleep is the most prominent cause of fatigue. Although requirements differ from person to person, most adults need between seven and eight hours of sleep a night—consistently—to function at an optimal level during the day. Stress and a harried schedule also induce fatigue, as does the digestive process—the so-called “food coma” after a large meal.

The accident pilot began his day with roughly half the sleep his body needed, then endured the mental rigors of a full schedule of classes, an exam, and planning a long flight. Having to switch aircraft added more stress and pushed back his departure time. This was followed by three hours of flying and a heavy, starchy meal. Halfway through his trip home, physiology got the upper hand. The pilot's body gave in to the sleep it craved, and he was extremely lucky to survive the flight's unconscious conclusion. As pilots, we need to recognize the causes and signs of fatigue and factor our mental and physical state into the decision-making process. Sometimes that means staying on the ground until we can get a little shut-eye. With the benefit of 20/20 hindsight, the accident pilot told NTSB investigators, “I should not have taken off thinking that I might get tired. I should have requested flight following to keep my attention. Possibly [I] should have recognized symptoms of fatigue...and landed before losing consciousness.”