



Myths and Facts about Aircraft Icing



By Cade Preston,
ITD Division of
Aeronautics

Soon after becoming a private pilot, I began training for my instrument

rating. One winter night, while under the hood, my instructor said, "Wow! That snow looks cool!" I lifted the hood and could see the white streaks of snow being illuminated by the wing-tip strobe lights. "Yea, that is cool!" I replied. I put the hood back on and we just kept on training as if everything was normal. I think back on that experience and wonder, **WHAT WAS I THINKING!!!** Well, I am embarrassed to admit, I was uneducated (and inexperienced) in regard to flight in icing conditions and my instructor obviously was too. This was long enough ago, that I have a hard time remembering my mindset and what my education on this subject was. Lucky for us we did not accumulate any ice on the light, single-engine aircraft. Many who encounter ice, in aircraft not certified for icing conditions, are not so lucky. And they pay for their mistake with their lives and the lives of others.

My instructor and I remained in VFR conditions that night, and no snow (ice) accumulated on the aircraft. But so what! We were flying in ice. The ice happened to be dry enough to bounce off the aircraft. But what if it wasn't? When I hear a story about a pilot who has paid the ultimate price by flying

into known icing conditions, I many times shake my head and wonder, **Why?** Then, I remember my own experience and it's easier to put myself in their shoes. It would seem that some pilots are not being fully educated on the hazards of flight in icing conditions. All pilots should understand the conditions conducive to structural aircraft icing and the hazards associated with it. I also have encountered many myths associated with aircraft icing. Let's address the three I have heard most often.

Myth-Aircraft structural icing only occurs in freezing temperatures.

Fact-Aircraft structural icing can occur in outside air temperatures (OAT) up to +5°C, most commonly occurring in temperatures between +2°C and -20°C. A common cause for this is that the aircraft is descending from subfreezing temperatures into warmer air. The airframe may remain colder than freezing for a period of time after exiting the colder temperatures.

Another common cause for icing, in temperatures above freezing, is Bernoulli's Principle. Remember, airplanes fly because of the drop in air pressure that occurs when air accelerates over the top of the wing, creating high pressure underneath the wing. The drop in air pressure over the top of the wing is accompanied by a drop in temperature. If the drop in temperature is enough, the precipitation that impacts the leading edge of the wing may flow aft and later freeze.

For these reasons, icing conditions are defined as OAT of less than +5°C and visible moisture. Visible moisture is clouds, fog, rain, snow or any other precipitation. These conditions are conducive to structural ice on aircraft. If you encounter these conditions, in an aircraft not certified for icing, you should exit the situation immediately!

Myth-A little bit of ice on my aircraft will be OK. My aircraft is not certified for ice, but I have flown it in ice before. My aircraft can handle a short exposure time to ice. Then I will exit icing conditions and the ice will sublimate or melt off.

Fact-It is illegal to fly an aircraft, not certified for flight in icing conditions, into known or forecast icing conditions (FAR 91.527). But legality should be the least of your concern. Ice can build up on aircraft in a very short period of time. Remember, the four forces of flight are thrust, drag, lift, and weight. Think of it as thrust vs. drag, and lift vs. weight. Ice changes the shape of the airfoils which decreases lift. Ice also adds weight to the aircraft, which the decreased lift has to overcome. Thrust is reduced by ice changing the shape of the propeller and/or choking air out of the engine induction system (alternate air should be selected any time ice is encountered). This reduced thrust must now overcome the drag

See Icing

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From the Administrator:



A New Year, A Fresh Perspective

I'm certainly looking forward to another exciting year of flying. One of the tradeoffs of a low-snow skiing year is the thought that our flying season may come sooner. In preparation for the upcoming season, the Division of Aeronautics is hard at work planning for the year. Here are some of the exciting changes you'll see in 2014.

Effective July 1, 2013, new aircraft registration rates went into effect. At the same time, the requirement for pilots to register was deleted. The goal of this legislation was to delete a small, ineffective revenue source and replace it with a more consistent one. The estimated \$150,000 in increased revenue will be invested into programs benefiting Idaho pilots:

- Backcountry airport maintenance and equipment,
- New Johnson Creek airport facilities,
- Community airport grants,
- Pilot safety programs, and
- Search and rescue.

Our thirty-one state airports should open in good shape this spring. Maintenance projects in 2014 will include removing beaver dams at Big Creek, building a new facility at Johnson Creek, and making significant repairs at Smith Prairie caused by last summer's fire. With the exception of Smiley Creek, all of our caretakers at Garden Valley, Johnson Creek and Cavanaugh Bay will return. A week doesn't go by that I don't get a note of kudos about our caretakers. We're proud of their dedication to maintaining the airstrips for so many pilots.

We have seen a substantial increase in attendees at the Johnson Creek fly-ins; therefore we plan to get a stronger handle on these events. With input from

NTSB, FAA and local flight instructors, we have recommended operating procedures that will be available on the Division of Aeronautics website as well as in the airport facility directory. Our goal is to encourage backcountry flight training and proper operating procedures at this popular airstrip. We encourage more preparation for flights into the Idaho backcountry to ensure a safer and more enjoyable experience for our visiting pilots. You'll also see our personnel in attendance during the more popular weekends, assisting pilots and offering safety seminars.

Idaho GA safety statistics show 2013 to be an average year with a total of 33 accidents and 12 fatalities. The most common causes of accidents were pretty familiar: VFR flight into IMC, fuel mismanagement and bad landings and go-arounds. I've asked our Safety/Education Manager Dan Etter to emphasize these items when he visits with pilots this year.

The Division of Aeronautics coordinated a number of searches for missing aircraft last year. The two major searches were a C-206 near McCall and a Bonanza near Johnson Creek. Our office resources were stretched and I especially appreciated the dozens of volunteers who assisted us in both searches. These two accidents are a good reminder for all: Know and respect your limitations as a pilot and those of your aircraft, and invest in a 406 MHz ELT. Having the 406 signal required only hours whereas reliance on the 121.5 ELT took more than six weeks to locate the missing aircraft.

Division of Aeronautics staff is spreading their wings by attending functions outside of the office this year. You will see us at more fly-ins, trade shows, and training events. I want our employees to work closer with the larger GA population, as fostering a strong aviation system in Idaho is a team effort. We plan to enhance our annual ACE Academy, host a pinch-hitter course, continue the statewide aviation art contest and expand pilot-safety

programs this year. I hope you'll consider participating in these activities.

My goal as Aeronautics administrator is to continue to maximize the relationship with our many aviation stakeholders so Idaho will remain a model GA state. I'm looking forward to a safe and productive flying year for all of us.

Tailwinds-

Mike Pape

IDT Aeronautics Administrator

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Icing

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the ice is causing. In addition, because the aircraft is producing less lift, a higher angle of attack is required, producing more induced drag, requiring more thrust to overcome it. The higher angle of attack also exposes the bottom of the wing to ice, which then makes for more drag, more weight and less lift. And round and round we go, until the aircraft can no longer fly and a stall occurs.

There is also a possibility of a tailplane stall, which has very different characteristics and recovery technique than a wing stall. NASA has a very educational video on this phenomenon which can be viewed at http://www.youtube.com/watch?v=_ifKduc1hE8.

Myth-A little bit of frost on my aircraft wing is OK for takeoff.

Fact-It is illegal to, "takeoff [ANY] aircraft (including aircraft certified for flight in icing) that has frost, snow, or ice adhering to any propeller, windshield, stabilizing or control surface; to a powerplant installation; or to an airspeed, altimeter, rate of climb, or flight attitude instrument system or wing..." (FAR 91.527)

Test data indicates that frost (ice) with the *roughness similar to medium sandpaper on the wing's leading edge and upper surface can reduce maximum lift by as much as 30 percent and increase drag by 40 percent.** Slow airspeeds and high angles of attack, combined with the close ground proximity associated with takeoff, make operations with ice especially hazardous.



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Radio Chatter

By: Tammy Schoen, Editor

Aircraft Registration Changes

Effective July 1, 2013, new aircraft registration rates were incorporated and the requirement for pilots to register was deleted. The new rate of 3 cents per pound was implemented and a \$20 minimum and \$600 maximum were included (Idaho Code 21-114). Other adjustments to the code include the requirement to register aircraft based in Idaho or non-residents that base aircraft in the state for a period greater than 90 days.

The additional revenue will be invested into backcountry airport maintenance, Idaho community airports, pilot safety programs and search and rescue.

Pilots should note that aircraft that are un-airworthy, (out of annual, restoration projects, etc.) are not required to register with the Division of Aeronautics. However, aircraft that do not register are subject to county personal property tax. The \$100,000 tax exemption does not apply to personal aircraft.

Additional information concerning aircraft registration can be obtained by contacting the Division of Aeronautics office.

I hope all pilots realize that ice must be respected. Flying in icing conditions, in an aircraft not certified for it, is tempting fate. Most light, single-engine aircraft are simply NOT designed for this type of operation. When a pilot chooses to operate

Name that Airfield

The winner of the last contest was Larry Reeder. The photo was of the Nampa Airport. At this time, we are going to discontinue this contest as it has received very minimal response. If you have an idea for another fun contest we could run, please let me know!

Aviation Hall of Fame

The Idaho Aviation Hall of Fame will induct two nominees on April 5th, 2014, in Lewiston, ID. The banquet and ceremonies will be held at the Red Lion Hotel in downtown Lewiston. This year the inductees are Dean Wilson and Bill Dorris. Please save the date and plan on attending this great event. The Red Lion is holding a block of rooms at \$89.00 per night, which is a very competitive rate. Call 208-799-1000 for reservations. For more information on the ceremony and banquet, contact Joe Corlett, 208-890-1819.

Typhoon Relief

Mission Aviation Fellowship (MAF) of Nampa teamed up with New Tribes Mission to deliver food, clean water and other aid needed in remote island communities of the Philippines after Typhoon Haiyan ripped through the region in November. Efforts were focused on small, isolated islands that had no other assistance available to them.

in this manner, he or she becomes a test pilot. Stay safe, and stay clear of the ice!

*FAA Aviation News Nov/Dec 2009 includes much more information than can be presented here. You can find that edition at: http://www.faa.gov/news/safety_briefing/2009/media/novdec2009.pdf

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Maintaining a Survival Kit



Make your survival kit a preflight-checklist item, inspect your kit often and be familiar with how to use the gear. The kit should contain enough survival gear for the entire crew. Remember, your crew members mean just as much to their family as you do to yours. Also, it's more cost efficient to put your own survival kit together than to buy a pre-made kit.

This brings up something else I'd like to mention. Anything that's not **properly secured** in the aircraft during

Another good point: always wear eye protection. I've had a turkey vulture come through the greenhouse and bounce across my face as it disintegrated into little giblets, landing in the lap of the Major who was riding jump seat. That day, I was wearing eye protection. Thank God! To this day, it's a checklist item for me. I also recommend wearing cotton underwear, socks, long pants and long-sleeved shirts. Why? Silk, nylon and most synthetics will melt to the skin when introduced to flame.

Brief your passengers on the location of the survival kit and emergency equipment and how to manually turn the ELT on if



Here's a statistic that I found to be interesting. There are about 1,500 general-aviation accidents every year. Many situations require the use of a survival kit without involving an accident, such as a forced landing with no aircraft damage. A study by the



AFRCC found that even pilots who are not injured have only a 50 percent chance of surviving 72 hours.

See Survival Kit

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Circuit Breakers

By Jim Wolper, CFI
Avcenter (Pocatello)

I was recently checking someone out in a retractable-gear airplane. We had just practiced the abnormal landing-gear extension procedure, which meant that we had pulled and reset the landing-gear motor circuit breaker (CB) several times.

He did a good job with this and we headed back to the airport for some landings. Climbing out after the first stop-and-go, he raised the landing gear, or so he thought. There was a distinct popping noise, and the three green lights stayed on. The landing gear motor CB had tripped.

What would you do?

He reached over to reset it but I stopped him and suggested that we get away from the airport and think about it. Plenty of airplanes have had problems when CBs were reset, and we were, after all, in a safe condition with the landing gear down. He agreed.

Once we were away from the airport, we had a conversation. The most likely cause of the problem was the fact that we had been messing around with the circuit, but that could be a coincidence (just like the time I was training a student for a high-altitude endorsement and the cabin actually depressurized). If there was a real problem, resetting the circuit breaker

could damage the landing gear (which was still safely down) or even cause a fire. I asked him, "If we were on fire would you rather be on the ground, where we can run away, or in the air?" He liked the ground idea, so we landed. On the ramp, we reset the CB and it was fine. We continued the flight.

Some people say that CBs are for pulling, not for pushing, and I tend to agree.

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Flying Companion Seminar

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beth_terry@msn.com or 208-880-5084.

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Survival Kit

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The average time from when an airplane is reported missing to the time it is found is 32.5 hours, if it is not on a flight plan. The majority of our search and rescue missions have involved aircraft that were not on a flight plan. Please file one before your next flight. These numbers have dropped slightly as radar data and cell phone forensic technologies have become extremely accurate and have helped guide search crews to the location of downed aircraft. In 2012, the AFRCC cited cellphone forensics as contributing to the saving of 33 lives. Consider leaving your cell phones on during backcountry flights. With better survival equipment, you will be rescued more quickly and your chances of survival improve dramatically.

With this article are a couple of pictures of what I put together for our two Cessnas, which would allow us to get by for a night or two. We also have one survival vest per aircraft, and it's highly encouraged that it's worn on every flight. Please consider adding a survival kit and survival vest to your aircraft. Enjoy your flight in Idaho... safely!



Downey Airport: The story behind the name



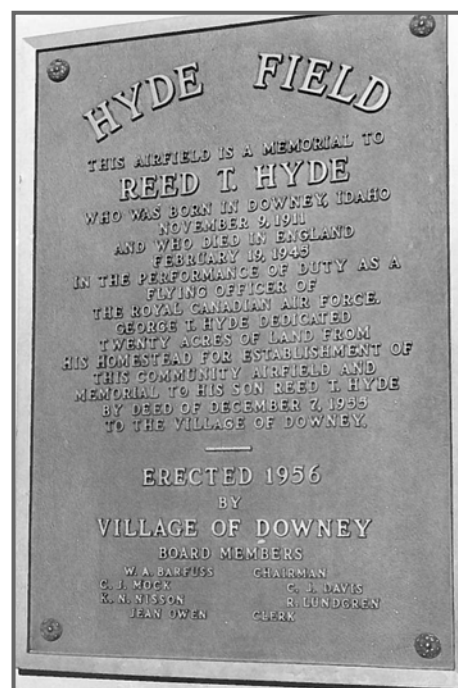
**By Mark Lessor,
ITD Division of
Aeronautics**

Have you ever visited Downey Airport in southeast Idaho, also known as Hyde Memorial Airport? On each visit, I've taken a few moments from my airport inspection to read the brass plaque mounted on a concrete monument near the hangars. It briefly explains that in 1955, a family donated land to the city of Downey to be used as an airport. They did so to honor the memory of son Reed T. Hyde, who was killed Feb. 19, 1945, in England while "in the performance of duty as a Flying Officer in the Royal Canadian Air Force."

That short explanation left me wondering what happened to Reed

during World War II. Was he returning to England from a mission over Germany? I thought it was too late in the war for aerial combat over England. Was he in a training accident perhaps? Why was he serving in the Canadian Air Force? I wanted to ask a local pilot if he or she knew the "rest of the story," but I never happened upon anyone there. The flight back to Boise has always given me time to ponder those questions. After my last inspection, I was determined to solve this mystery. Using the Internet, the key was making the term "Royal Canadian Air Force" and the date of "February 19, 1945," part of the search.

Although he was not the pilot in command, Reed T. Hyde did perish in an aircraft accident. He had just completed the first portion of glider "snatch take-off" training flying a C-47 Dakota, the militarized version of the DC-3 at RAF Zeals. British websites



Downey

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Eagle project benefits Garden Valley Airstrip

Andrew Smart, Eagle Scout candidate, and eight scouts from Meridian Boy Scout Troop 30 performed airport maintenance recently at Garden Valley Airstrip. Smart planned and completed two projects.

In July, the group painted more than 100 green sprinkler covers white and also painted 10 tie-downs. The scouts returned in October to build a firewood shelter.

Smart spent 30 hours constructing and installing the shelter using materials donated by Lowe's of Meridian. The project wasn't as easy as one would think. Using power tools of any kind by scouts is prohibited by the Boy Scouts of America.

Completing the projects was far more rewarding for Smart than he had anticipated. The airport maintenance project is a culmination of Smart's devotion to the scouting way, which will follow him throughout the rest of his life. Assisting Smart were his grandfather, Cliff Smart, and his father, who also were his advisors.

Airport Manager Gary McElheney said, "Aeronautics is very appreciative of Andrew's projects.



Andrew Smart stands in front of the firewood shelter. Over his shoulder is the plaque that identifies this project and the contributors.

The improvements will be enjoyed by many pilots for years to come."



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To Sleep, Perchance to Dream

**By: Paul Collins, MD, AME and
Mike Weiss, MD, MPH, AME, CFII**



With all the controversy around whether or not the FAA should require screening for sleep apnea as part of medical certification, it seems we have lost sight of the significant health and performance issues that are involved with not sleeping. This article will provide some information on the medical aspects of sleep, but will not address the proposed medical certification rule changes, except to say that the Civil Aviation Medical Association (the main AME professional organization) has come out against the proposed requirement for sleep apnea screening.

It is not clearly understood exactly why we need to sleep, but sleep is a thing that almost all animals do, including mammals, birds, reptiles, fish and even some insects. We do know what happens when a person suffers from difficulty falling or staying asleep or has poor quality sleep. This is called insomnia and is associated with fatigue, daytime sleepiness, reduced motivation, irritability, impaired memory, lack of concentration, poor performance, proneness to errors and accidents, headaches and gastrointestinal symptoms. It is not surprising that the Department of Transportation is concerned about safety aspects of sleep disorders as they have been associated with accidents in cars, trucks, busses, trains, ships and, of course, planes.

Insomnia is not a symptom to be dismissed with a couple extra cups of high-octane java. There are a number of conditions that tend to coexist with difficulty sleeping. Such diagnoses are called "comorbidities of insomnia." It is not always clear how they are related to insomnia, but they frequently appear

together. About two to four percent of the adult population has difficulty sleeping without any comorbidity. This is called "primary insomnia."

There are many habits and behaviors that tend to aggravate insomnia. These include: drinking coffee or alcohol before bedtime; smoking or quitting smoking; large meal or fluid intake within three hours of bedtime; exercising within three hours of bedtime; using the bed for non-sleep activities like work, telephone or internet; excessive worrying; clock watching before sleep or upon waking at night; exposure to bright light before bedtime or on night time waking; keeping the bedroom too hot or too cold; noise; a bed partner's snoring or leg movements; excessive napping or inactivity during the day; insufficient daytime light exposure; and frequent travel and shift work.

Medications such as stimulants, blood pressure medicines, allergy medicines, cancer medications, hormones, antidepressants, antipsychotics and withdrawal from sedative medications can also cause insomnia.

Major depression and bipolar disorder are common comorbid psychiatric diagnoses occurring in 14-20 percent of insomniacs. This is not a case of "the blues," but depression bad enough to interfere with the ability to function normally, let alone safely fly an airplane. Effective treatments are available, but do not always eliminate the sleep problem with around 20-50 percent reporting persistent sleep disturbances. Other psychiatric diagnoses related to sleep problems are panic attacks at night with sudden anxiety, fast heartbeat, sweating, choking and hoarseness and Post Traumatic Stress Disorder with recurring vivid dreams and nightmares, anxiety and hyper vigilance with increased sensitivity to noise, light or odors.

Physical disorders associated with insomnia include the notorious sleep apnea, with snoring, breathing pauses during sleep (apnea), choking, gasping and morning dry mouth. Others are: restless leg syndrome with limb pain and

abnormal sensations, involuntary movements with symptoms in the evening or at bedtime; chronic obstructive pulmonary disease which causes difficulty breathing at all times; gastro esophageal reflux with pain above the stomach, spasm of the larynx with intermittent hoarseness, acid taste in the mouth and sudden awakening at night; prostate hypertrophy with frequent awakening to urinate; and seizures at night with thrashing and loss of bowel or bladder control.

Treatment of insomnia begins with the diagnosis and treatment of any comorbid conditions. Along with that, improving "sleep hygiene," that is habitually doing things that promote restful sleep. These include awakening at the same time every morning, increasing exposure to bright light during the day, establishing a daily activity routine, exercising regularly in the morning or afternoon, making sure the sleep environment is comfortable, doing something relaxing before bedtime, setting aside a specific time to worry and a warm bath or relaxation routine before bed.

Medications are a problem with the FAA, especially some of the prescription antidepressant medications that might be used for sleep (such as Trazedone) independent of any diagnosis of depression. Many doctors will try this because of the frequency of comorbid depression and are unaware of the problems this creates for obtaining medical certification. Most other medications are in the sedative/hypnotic classification (same as alcohol) but have varying degrees of latency (time of onset of sedation after taking the pill) and duration, sometimes causing daytime sleepiness as a side effect. Melatonin can be purchased at health food stores and is considered a supplement. Its efficacy is controversial.

Like so much health advice, what seems to be best is moderation in food and alcohol, abstinence from tobacco and regular exercise. Where have we heard all this before? Who needs a doctor when you have a mother?



Stay out of the Middle

The Fundamentals of Mountain and Canyon Flying - Part 2

By Lori MacNichol – McCall Mountain and Canyon Flying Seminars LLC

If you want to reduce your turn radius, the simple solution is to just slow down!

A common solution to many aviation perils is the decision and ability to turn around. Turning the airplane is one of the first lessons in flight. Steep turns with little or no loss of altitude are taught from the beginning. If we can prevent pilots from flying into worsening visibilities and weather we could reduce accidents by approximately half. Practically speaking, this means two things: 1) making the decision to turn around and, 2) doing it while you maintain control of the flight situation. In the mountains, a one hundred eighty degree turn is not so much a maneuver as it is strategy. Probably the most important rule in mountain flying is being in a position to turn around at all times. The importance of staying out of the middle of a canyon should be

valuable space for your turn strategy. The golden rule is “*stay out of the middle.*” If you break the golden rule when you’re in so tight a spot that you can’t turn around with complete safety, you’re in deep trouble. Congratulations, you have just made the worst mistake you can make in the backcountry.

How much space do you need to turn your airplane around? The term radius is commonly used when referring to the actual distance that you will require to get around. Radius is a function of speed. The faster you are traveling over the ground the more space you will need to turn around. So slow down! A lot of your safety and comfort in the mountains will be a result of your knowledge of exactly how much space you need to turn around. This is an experiment in every airplane you fly. The value of an occasional turn in a questionable but safe space is the best personal instructional time you can spend. Knowledge of your needed radius is a comfort that will simplify the more difficult decisions that await you.



Lori MacNichol

obvious. You must accept the simple fact that flying on one side or the other will give all the available space for you to use in your turn strategy. I know it may feel more comfortable in the middle. You may think it’s safer too, but it’s a trick! Remember the trees and rocks won’t jump out and bite you. By flying in the middle, you have given up

you “*turnaround strategy.*” Once you drop below the canyon rim and begin to operate in confined areas you must always be thinking ahead to the possibility of a turn.

The “Canyon Speed” is a configuration that is primarily used in the airport environment. This could be defined as

2-5 miles away from your destination airstrip or entering the pattern. It is a configuration in which the aircraft is very stable. I find myself using this configuration in other phases of flight operations while operating below the rim and in confined areas.

To obtain “Canyon Speed” we recommend that you slow down to a safe flap operation speed and use one or two notches of flaps, adjust the power to maintain level flight attitude, and trim for level flight attitude. For example the Cessna 182: slow down put on two notches of flaps (20 degrees) set power to about 15 inches of manifold pressure and trim for level flight attitude and check speed. Speed should be about 70-80kts. WOW you just greatly reduced your turn radius. The beauty of the configuration is this will reduce your workload as you complete your pre-landing checklist, enter the pattern and begin your tasks of overhead observation. The aircraft is slowed and trimmed for nearly hands off flying while you are below the rim in a confined area. You now have time and room to look at the windsock, other aircraft, to see if the runway is clear for landing, locate your abort-point and your aim-point. Once you complete your tasks of overhead observation the next configuration change is a power reduction abeam your aim-point, and begin a decent of approximately 500fpm. The next key position would be looking for the 45 degrees and starting the turn to base and possibly adding an additional notch of flaps. Next would be the turn to final with considering full flaps while on speed and trimming for that steep stabilized approach descending to your aim-point. Even in confined areas and below the rim you can make a standard pattern if you slow down early and configure your aircraft.

Remember there is always risk. Your job is to minimize that risk as much as possible and manage the situation so it

See Middle

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The Color of Aviation:

Celebrating Colonel Earl W. Pitts

By Laura Adams,
ITD Division of Aeronautics

A few months ago, I had the pleasure of meeting an Idaho aviation icon. Col. Earl W. "Snake" Pitts, 88, is hands-down one of the most accomplished men that I've interviewed. A dedicated life of service to our country and extensive travel abroad is an understatement. The Pitts' house in Mountain Home contains a unique collection of interesting artwork, artifacts, memorabilia and plaques from military assignments in the U.S., Thailand, Germany, England and Iran.

What impressed me most about Col. Pitts is that throughout his life, he encountered one setback after another, but nothing deterred him from flying. Determined, self-disciplined and persevering, Pitts is the epitome of the saying, "Where there's a will, there's a way." With this mindset, he not only completed 17 military deployments, 646 hours of combat time and 10,000 hours of flight time, but is still flying his LSA Thorpedo at least once a week. "It ain't flying a fighter," he confided to his wife Sandy, "but it's aviating." Fit as can be, Pitts stays in shape by exercising every other day, fishing, golfing and hunting on occasion.

When I asked what he considered his greatest achievements, Pitts answered that his children rank first. He also talked about his role as commander of a fighter squadron. "This was not something that I was initially interested in," Pitts said. "I just kept realizing that I had as much experience and expertise as the guy in the position just above me, so I continued trying to achieve those positions. What I valued most was operational flying assignments, and that was the carrot that kept me in the military for 34 years."

Pitts' first recollection of being intrigued with flying occurred when he was about four years old while watching a barnstorming show with his parents. "I remember reaching up

for the planes as they took off over us. They looked like toy planes from a child's perspective," he said. Then, he recalled trying to get his first airplane ride in the seventh grade. In a Colorado ranching and farming community, he worked part time to save enough money to fulfill this wish. Finally, the big day arrived. After hiking nearly a mile up a gravel country road to the pasture airfield for the flight, he saw a stake bed truck carrying remnants of colored fabric and jumbled parts headed back down the hill. Sure enough, it was the wreckage of the advertised plane. Discouraged, yet determined, Pitts did not give up on this dream.

World War II was well underway when Pitts graduated from Sandpoint, Idaho High School. After passing both a written and physical test, he was accepted into the Navy flight-training program. After graduating from high school, he reported for active duty at a naval-training detachment in Butte, Mont. From there, he transferred to the Sandpoint Naval Air Station near Seattle and finally to Navy Flight Preparatory School at Northfield, Minn. His next destination was Navy Preflight School at the University of Iowa. Here, a selection program based upon a combination of academic grade average and physical training (PT) scores determined who would continue to flight school. Making the varsity wrestling team guaranteed a 4.0 in PT, which kept him from being de-selected.

Wrestling came with a price. Pitts ended up with cauliflower ears after a couple matches. Luckily, his roommate, "Bomber" Neal, had a severe dust allergy that required taking shots of medicine mailed by his parents. To prevent the navy corpsmen from discovering the allergy and



Colonel Earl W. Pitts

risking Neal's disqualification, Pitts administered the shots in exchange for Neal draining the bloody fluid from Pitts' ears. Pitts had to continue wrestling to maintain his 4.0. When the wrestling season ended, a corpsman reluctantly agreed to re-shape his ears for the last time with plaster-of-paris casts.

At last, Pitts proceeded to Navy Primary Flying School in Oklahoma and trained in the Stearman N-2S "Yellow Peril," where he logged his 105 hours of flight time. Before his first flight, he witnessed another student pilot who crashed and was killed. This influenced his safety outlook, although he was not overly cautious. "You probably couldn't have graduated if you were too cautious," he mused.

Pressing on, Pitts was posted to Corpus Christi Naval Air Station in Texas for intermediate training in the North

See Pitts

Continued on page 11



American SNJ-5. There had been a promise that if one placed in the top 10 percent of the class, by request to a Marine Board, the cadet could graduate as a second lieutenant in the Marine Air Corps as opposed to an ensign in the Navy Air Corps. Tirelessly working toward this goal, he finally made the cut to become a Marine pilot, but it was not meant to be. The war ended and most of the ground and flight instructors went home. He received an honorable discharge in the mail. Pitts described this moment as the greatest disappointment of his life; however, he would not give up on flying.

Strategically, Pitts accepted a job as a city fireman with the Coeur d'Alene Fire Department, conveniently close to Weeks Field where he took flying lessons at Aviation Industries Incorporated during the days he was off duty. Eventually, he obtained his private, commercial and flight instructor ratings, and was hired as a flight instructor for Herb and Gladys Buroker and Clay Henley who was the chief flight instructor. After several years of long hours and feeling burned-out, Pitts joined the U.S. Air Force in 1949 and, once again, became an aviation cadet. After graduating in 1950, Pitts was assigned to the 92nd Fighter Interceptor Squadron in the 81st Fighter Interceptor Wing at Moses Lake, Wash. The wing was preparing to go to Korea, but was unexplainably sent to England instead.

In 1958, Pitts, now in the 56th Fighter Interceptor Squadron stationed at Wright-Patterson AFB, checked out in the F-104 A as the squadron was being so equipped. It was his favorite aircraft, after the F-86, because it pushed state-of-the-art in design and was capable of reaching Mach 2. Pitts piloted almost everything with wings, except transports and bombers, during his 34-year military career including, T-33, F-80, F-86A, F-86D&E, F-104A&C, F-100C, F-4D&E, F-5C, and RF-5.

Boars, Bazaars, and Bugging Out ***A Memoir of American Families in Iran: 1975-1979***

By Sandra Kelton Pitts, Ph.D.
Reviewed by Laura Adams,
ITD Division of Aeronautics

"Boars, Bazaars, and Bugging Out" is an incredible account of 12 American families in Iran the years prior to the overthrow of the Shah in 1978, including an explanation of the political and religious revolution that led up to it. From the perspective of a historian, Sandra Pitts articulately walks the reader through every detail of life in Iran as an American military family, documenting their journey from arrival to departure.

If you have not lived abroad or are not familiar with military living, you will understand the logistical challenges experienced by these expatriates. My perception of the Iranian culture was enlarged and unfounded beliefs were challenged. I have a greater appreciation for the sacrifice made by military families and applaud their courageous hearts.

Another reader succinctly described this as a "story of clashing cultures, improbable friendships, and ultimately,

the fear and uncertainty that comes in the midst of social upheaval." I would also caution that this book will be difficult to set down.

In addition, Sandra included an account of her husband's role and responsibilities as chief of Technical Assistance Field Teams (TAFT) and deputy to the chief of the Air Force section of ARMISH-MAAG, as well as his evaluation of the U.S. government's decision to replace the Shah with a Moslem cleric. Col. Earl W. Pitts postulates about the outcomes that may have resulted from an alternate strategy, one based upon "real knowledge of the Iranian people... and its military facilities," if we had maintained our commanding position and military installations.

Sandra "Sandy" Kelton Pitts holds three degrees (B.A., M.A. and Ph.D.) in language arts and history. She retired as associate professor and head of the master's program at Embry-Riddle Aeronautical University. More information about this book is available at www.hellgatepress.com

It was at Yuma Marine Air Base in Arizona, where he was a second lieutenant flying F-86s, that he was dubbed with the nickname "Snake" Pitts, after he cut off the head of a rattler coiled up near the gear of his assigned aircraft. "I tried to lose the nickname, to no avail," he chuckled.

When I inquired about any close calls, he cited the night lead collision training sorties against B-52 bombers flying at 40,000 feet as being among his most harrowing experiences, as well as solo flying at night on instruments in foul weather, when limited fuel reserve dictated diverting to unfamiliar airports. Some others occurred in combat during his two tours in the Vietnam War: the first as an OIE Bird Dog flying the Ho Chi Minh Trail and the second as the

commander of the 555th Fighter Squadron flying the F-4D.

Later, at Williams Air Force Base following his second combat tour in Southeast Asia, he was ordered to assume the position of Deputy Commander for Operations, but upon arrival, he learned that the job was assigned to a colonel in War College instead. Discouraging? Yes, but this did not keep Pitts from flying. Assigned to a logistics position, he petitioned for and received a change of AFSC (Air Force Specialty Code), which enabled him to fly functional check flights of T-38 jet trainers, the

See Pitts

Continued on page 16



Calendar of Events

For the most recent list of aviation events, please visit our website at www.itd.idaho.gov/aero. Email your calendar event information to tammy.schoen@itd.idaho.gov for inclusion in the **RudderFlutter** and the Aeronautics website.

ONGOING EVENTS

First Tuesday of every month: 10 am - Warhawk Air Museum hosts WWII conversation and friendship. All veterans welcome, 208-465-6446

MARCH

- 6-7 **Annual Safety Event** hosted by Mission Safety International & Moody Aviation. Felts Field (KSFF), Spokane. Go to www.faasafety.gov to register. Wings credits available. Allison Pfening, 509-535-4051
- 8 **Moody Aviation IA Renewal** - Go to www.faasafety.gov to register. FAA AMT credits available, Wings credits may be available. Allison Pfening, Moody Aviation, 509-535-4051
- 15 **Flying Companion Seminar**-Making flying more fun for non-pilots. Presented by the Idaho chapter of the Ninety-Nines. www.idaho99s.org
- 19 **IBAA Networking Lunch**, 11:30 - 1:00 pm, Western Aircraft Hangar #5, Boise. Insights into Idaho's Air Traffic Control operations and integration into the national structure. www.idbusinessaviation.com
- 29 **Pelican Point work party**, IAA. (Rain Date will be April 5), Jerry Terlisner, 208-859-7959

APRIL

- 5 **Idaho Aviation Hall of Fame Ceremony**, Lewiston. Inductees: Dean Wilson and Bill Dorris. Banquet & ceremonies, Red Lion Hotel. Call 208-799-1000 for \$89 room rate. Joe Corlett, 208-890-1819
- 11-13 **Prairie work party** (2U0), IAA. Fence replacement and shelter repair due to the fire last summer. Gary McElheney, 208-334-8893
- 19 **Wings and Wheels Fly-in and Breakfast**, Emmett (S78), Steve Burak, 208-861-9055
- 26 **Pine work party** (1U9), IAA. Jerry Terlisner, 208-859-7959

MAY

- 3 **Weiser work party** (S87), IAA. Jerry Terlisner, 208-859-7959
- 10 **Ontario Fly-in Breakfast** (ONO), IAA, Roger Smith, 208-739-3979
- 16-17 **Idaho Aviation Expo**, Idaho Falls (IDA), Booths, seminars, IAA General Member's meeting & luncheon. \$10 at the door for both days. Thomas Hoff, 208-524-1202, thomas@aeromark.com or www.aeromark.com
- 24 **Warren (3U1) pancake feed and F.O.D. walk**, IAA, Jerry Terlisner, 208-859-7959
- 31 **Carey** (OU7) "Carey-er Landings" - Phil Olsen, 208-309-2181

JUNE

- 1 **Reed Ranch Airport opens**. Gary McElheney, 208-334-8893

JUNE (continued)

- 14 **10th Annual Fly-in** - Lewistown, MT, 7 a.m. to noon. Pancake breakfast, airplane display. Held in conjunction with Central Montana Flywheelers Exhibition. Jerry Moline, 406-350-3264
- 14-16 **Dad's Day Breakfast Fly-in**, Garden Valley (U88), IAA. 30 aircraft/60 people, Jerry Terlisner, 208-859-7959
- 19-22 **Super Cub Fly-in**, Johnson Creek (3U2), 100 aircraft/150 people, Dave Kirsten, 209-333-1100
- 28 **Cayuse Creek** (2ID7) work party, IAA, Johnny Stewart, 208-476-4647
- 24-26 **Wilderness Within Reach**, helping the physically & economically challenged enjoy the wilderness. Sulphur Creek airport. Room for 14 program and staff. Joe Corlett, 208-890-1819
- 26-29 **7th Annual Smiley Creek** (U87) Glastar/Sportsman Fly-in, Dave Hulse, 646dg@sbcglobal.net
- 27-29 **Backcountry.org Fly-in**, Garden Valley (U88). 60 aircraft/120 people, Byron Painter, 916-622-2593

JULY

- 5 **Cabin Creek** (I08) work party, IAA, Jerry Terlisner, 208-859-7959
- 11-13 **QB's of California Fly-in**, Johnson Creek (3U2), 25 aircraft/35 people, Lonnie Autry, 408-835-9052
- 11-13 **I80/I85 Club Fly-in**, Garden Valley (U88). 40 aircraft/70 people, Jim Davies, 208-859-5537
- 19 **St. Maries (S72) Annual Fly-in Breakfast**, 8-11 a.m. \$8 suggested donation for breakfast. Displays, educational videos, car show, dance, & "Summer Sucks" snowmobile grass drags. Tina-Marie Schultz, 208-773-8522, tinamarieschultz@roadrunner.com or Carol Koelble, 208-245-2914, asiauctions@earthlink.net

AUGUST

- 9 **Airplanes and Vintage Cars Fly-in**, Drive-in, Rigby (U56). Pancake Breakfast. 8-10 a.m., lunch all day. Dennis Adams, 208-521-7912
- 14 **VJ Day**: On August 14, 1945, Japan surrendered ending World War II. Warhawk Air Museum, 208-465-6446, See website for event information.
- 19-23 **Women's World Balloon Championship** in the skies over Ada and Canyon counties. 25 teams will compete in the initial event this year. Scott Spencer, tigerpilot@earthlink.net or go to www.scottspencer.net
- 22-24 **Cavanaugh Bay Fly-in** (66S), IAA. 20 aircraft/35 people
- 28 **Gold Star Mother's Day** - Warhawk Air Museum acknowledges & honors Gold Star & Blue Star Mothers with free admission, 208-465-6446



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Downey

Continued from page 6

describing the history of RAF Zeals mention the accident and describe the glider snatch procedure.

"In February 1945 an RAF Glider Pick-up Unit moved into RAF Zeals and commenced training in preparation for duties with 'Tiger Force' against the Japanese. Aircraft fitted with a hook and winch would fly low and snatch up the glider's tow rope allowing it to be retrieved from the landing ground. At the completion of the first training course on February 19, 1945, the air and ground crew took off in Dakota TS436 to return to their home

It is a sad irony to partake in such hazardous flying only to perish in the routine commute back to home base. Google Earth and a bicycling guide of the area allowed me to locate the site of the memorial in England.

As the accompanying photos and explanation illustrate, the training itself had to be perilous.

"The Americans perfected the aerial snatch technique, the original idea being to speed up collection of mail. In 1942 military authorities were shown that light gliders could be retrieved in the same manner, and this was further adapted for heavier aircraft in 1943."

"The glider was fitted with a thick elasticated nylon towrope. Cradles

- 270 yards. At the moment of pick-up the Dakota would only be 20 feet off the deck and doing 130 mph. Immediately before contact the throttles were opened and a climb initiated, the speed would fall off immediately to just over 100 mph. The glider and its occupants were subjected to 7G for five seconds. RAF crews were trained at Zeals, Wiltshire."

During a conversation with family members in the Downey area, I also learned that Reed had been an accomplished musician and a high school band instructor in Burley. He had a passion for flying, but because he wore glasses, the United States military would not accept him as a pilot. His determination to fly is what led him to Canada.



base at RAF Leicester East. The aircraft struck cloud-covered trees atop Beech Knoll, within sight of the airfield, killing all on board, except the pilot who died later of severe injuries."

on top of two 15 foot high poles held the rope in place, both ends of which were attached to the glider's nose to form a closed loop. A bronze hook at the end of a cable would snare the line. The

immense strain was absorbed by the elasticity of the rope and an automatic friction brake on the steel cable. When the Dakota and glider were traveling at the same airspeed, the cable would be drawn in by electric motor."

"Depending on the load and conditions, the glider would become airborne in 50 to 80 yards, reaching full acceleration in 140

Now I know the story behind the sacrifice Reed made for his country, and through this research his contributions will not be forgotten by others.

Middle

Continued from page 9

is comfortable for you and your passengers. The narrow canyons you will face are amplifications of the ground reference maneuvers you practiced as a student pilot. But here we have some real life distractions. Your best defense is **Stay out of the Middle**, slow down to that configuration of **Canyon Speed** and know the speeds and power setting for the different configurations of your aircraft.

Lori MacNichol owns and operates McCall Mountain/Canyon Flying Seminars, a flight school located in McCall, Idaho. The school provides flight and ground training for both primary and advanced pilots to improve the safety of aviation in the Idaho and Utah backcountry. Check out her website at: <http://www.mountaincanyonflying.com>



Downey Airport Construction ... from the *Rudder Flutter*, 1956

RUDDER FLUTTER



Upper Left: Two Army National Guard pilots and local citizen of Downey install windsock on newly erected standard.

Top Right, left to right: W. A. Barfus, mayor; Dee Savage, Downey schools; George T. Hyde, local land owner who donated 20 acres of ground for airport; and Dr. George Bjorkman, just before Hyde took flight in Director's 140.



Willing volunteers of Downey built their airport in a day last April 14th and will dedicate it to public use on May 12, 10:30 a.m. The public is

invited with a special welcome and plea to private aircraft owners to fly in, get acquainted with the new facility, and help the local dedication—those who are willing to help take the many school children for plane rides who helped work on the port are requested to advise Director Moulton. A special mail cachet is being prepared for the dedication and a bronze plaque engraved in the memory of Flight Lieutenant Reed T. Hyde who lost his life while flying with the RAF in England, son of George T. Hyde who contributed 20 acres of ground for the new airport.



Pitts

Continued from page 11

responsibility of the quality control section which he already supervised.

At age 51, Pitts was assigned chief of Technical Assistance Field Teams (TAFT) and deputy to the chief of the Air Force section of ARMISH-MAAG in Iran. There he flew the F-5 almost exclusively as the safest and fastest way to travel between the eight bases where his teams were located. Each team was charged with training Iranian military personnel to correctly maintain the Imperial Iranian Air Force F-4E and F-5C aircraft that the Shah had purchased from the United States. His wife, Sandra Pitts Ph.D., recently published a book titled "Boars, Bazaars, and Bugging Out - A Memoir of American Families in Iran: 1975-1979," recounting their fascinating experiences there.



In Albuquerque, after retiring from the Air Force in 1982, Pitts attended Embry-Riddle Aeronautical University and graduated summa cum laude with a Bachelor of Science degree in Aviation Administration. Renewing his civilian, commercial and flight instructor licenses, in addition to flight instructing for the Kirtland AFB

Aero Club, he spent two years teaching aviation science courses at an Albuquerque magnet high school. While there, he voluntarily gave most of his students flying lessons on

See Pitts

Continued on page 17

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Continued from page 16

weekends with the cooperation of the Kirtland Aero Club.

Continuing to instruct part time for the Aero club, Pitts also was a Civil Air Patrol pilot, flying search-and-rescue and border-patrol missions. After receiving his commercial and flight instructor ratings in gliders, he was asked to instruct CAP cadets at the Lloyd Sallee Glider Academy I and II encampments at Hobbs, N.M. Over a two-week period, he and his fellow flight instructors were able to solo every cadet in the encampments.

In 1997, the Idaho CAP Commander decided to start a glider program in Idaho. Pitts became Idaho's first CAP glider instructor and glider-check pilot, in addition to piloting search-and-rescue missions. "Flying these missions

in mountainous terrain as low as 500 feet is one of the most risky civilian jobs," said Pitts. "People never seem to crash in flat terrain, and surprisingly, there is little public recognition for this service."

As he is one of the most experienced pilots in Idaho, I asked him what advice he has for Idaho general aviation pilots. He said, "Plan before you fly. Don't take safety for granted. If you question your skills at all, don't fly. And remember, being legally current does not mean that you are fully capable. Know your limitations and respect them."

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Earl Pitts is still a member of the CAP. He is also a member of the Gunfighter Order of Daedalians, the Air Force Association, American Legion Post 101 and the Military Officers of America Association. If you visit the Mountain Home Municipal Airport, there's a good chance you will see him flying that red LSA.

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Aviation Art Contest 2013 WINNERS!

Category 1: Kindergarten to 4th Grade

- 1st - Sierra Lafrenz, 4th grade, Rose Hill Montessori, Boise
 2nd - Grace Skylar, 3rd grade, Middleton Heights Elementary, Middleton
 3rd - Alina Daoust, 3rd grade, Home Schooled, Grangeville

Category 2: 5th to 8th Grade

- 1st - Gage Thornton, 8th grade, Idaho Arts Charter School, Caldwell
 2nd - Ariana Hall, 5th grade, Galileo STEM Academy, Eagle
 3rd - Oskar Grobey, 6th grade, Home Schooled, Nezperce

Photos of artwork and awards ceremony will be included in the Spring issue of the **Rudder Fludder!**

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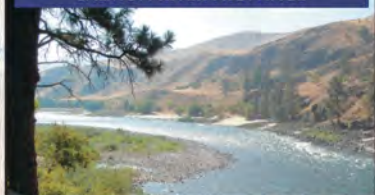


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...don't let him in. Ok, so that might not *catch* a thief, but it just might prevent the theft in the first place.

Here's a few good, common sense reminders that may not only keep you and your prized aviation possessions from being stolen, they might help your neighbor, too.

1. Anyone who has access to the airfield is required to have an airport access/identification card.

That's TSA regulation. If you see someone inside the fence and they don't have an ID card, report them.

2. Do a little homework before you rent a hangar to someone. Be just as confident about their character as you would were you renting them a room in your home.

3. If one of your hangar walls runs concurrently with the airfield perimeter fence and it has an access door that by-passes the airfield

gate system, *you* are responsible for making sure that door is always secure, even if you have rented that hangar.

4. If you escort someone inside the airfield fence because they do not have an access card, *you* must maintain control of that person at all times. *You* are responsible.

**IF YOU SEE
SOMETHING,
SAY
SOMETHING.**

Reprinted with permission, Robin Turner, The LWS Airport Report

