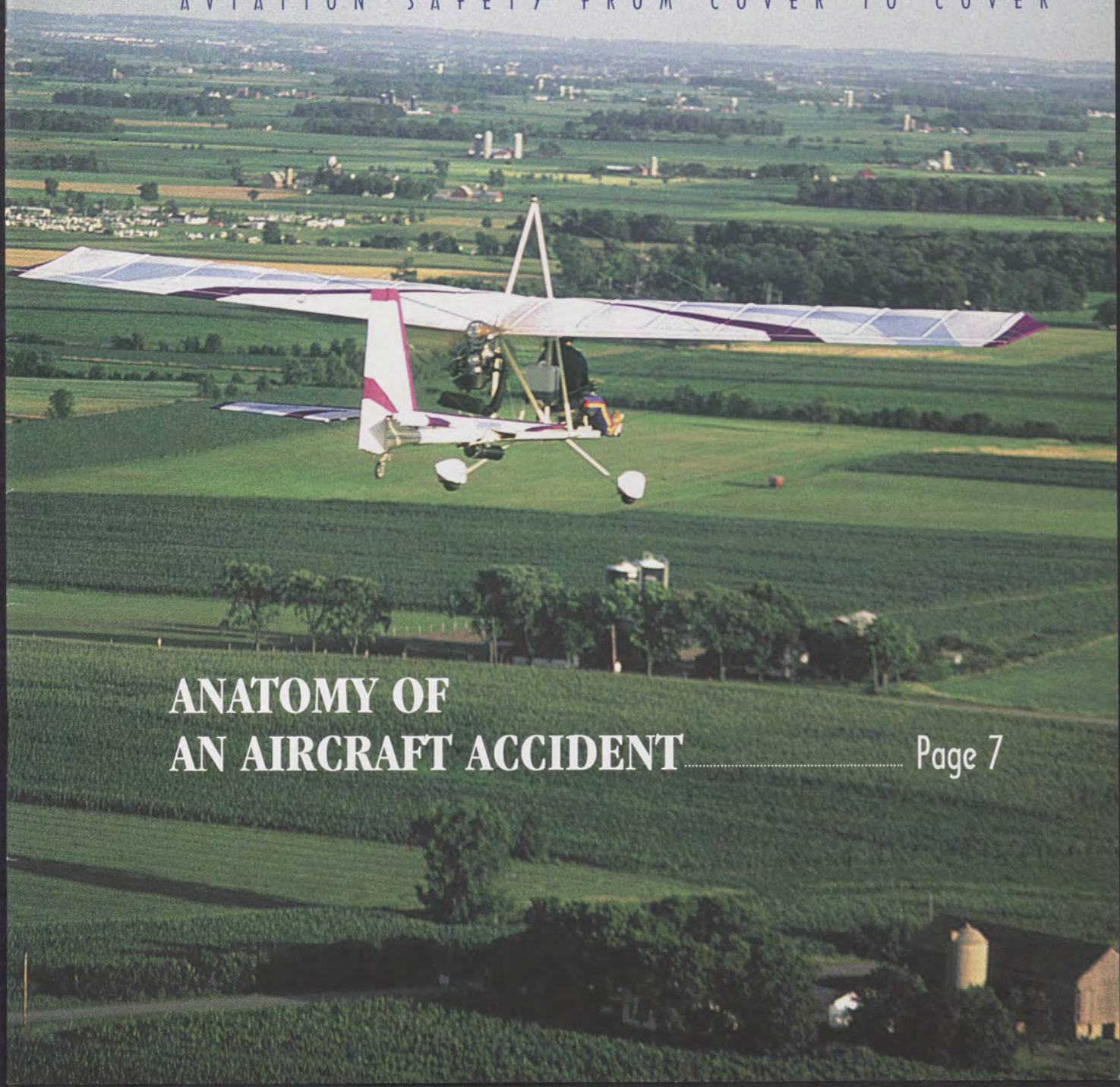
APRIL 2000

FAA Aviation news

AVIATION SAFETY FROM COVER TO COVER



ANATOMY OF AN AIRCRAFT ACCIDENT

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U.S. Department
of Transportation

**Federal Aviation
Administration**

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FAA Aviation news

APRIL 2000

VOLUME 39 - NUMBER 3

FEATURES

DEPARTMENTS

FRONT COVER: An ultralight flight over rural America. BACK COVER: Happy 10th anniversary to the Aviation Safety Center at Lakeland's Linder Regional Airport, home the Sun 'n Fun Flyin. (Photo by H. Dean Chamberlain)

SAFETY ASAP

by Phyllis Anne Duncan

Right to left, DOT Deputy Secretary Morton Downey, FAA Administrator Jane Garvey, and Transport Workers Union's Mark DeAngelis listen to President Clinton emphasize the public-private partnership that forged ASAP and will make it a success.

When FAA Administrator Jane F. Garvey announced her Safer Skies Safety Agenda some two years ago, she emphasized that the effort to reduce accidents by 80% by 2007 would be "data-driven" in order to validate findings and to design and implement programs that would make a difference in aviation safety. One gap in information that was quickly observed was raw data from aviation employees. Often, the FAA received information on safety-related incidents but only weeks or months after an incident as part of an investigative process or through analysis. What was needed was a methodology where certain aviation employees could approach the FAA expeditiously and provide information as soon as possible after a safety problem but not be hampered by fear of enforcement action.

On January 14 President Clinton and FAA Administrator Garvey announced the nationwide implementation of the Aviation Safety Action Program (ASAP) during a press conference in the Roosevelt Room at the White House. Developed in partnership between the FAA and various aviation industry groups, ASAP encourages better reporting of safety concerns by pilots, mechanics, flight attendants, and dispatchers to an executive review committee consisting of the airline's union and airline and FAA officials. This is provided that the particular airline or repair station has established an ASAP agreement. The information from this new source of data will be stored, tracked, and analyzed for trends and will allow the FAA and the industry to take action quicker on potential problems.

The key is prompt notification, and a time limit of 24 hours has been established. FAA will continue to enforce substance and alcohol abuse regulations and will continue to refer criminal activity to the Justice Department for prosecution, and if an FAA inspector becomes aware of a possible noncompliance independently and if it has not been reported through ASAP, much like the popular, FAA/NASA Aviation Safety Reporting System, enforcement could still be initiated.

The value of the information that can be mined from this program is incalculable. It is information from a previously unavailable source, it is nearly real-time, and it can be used to develop safer systems and correct problems before they cause an accident. Probably the most untapped data

source is that involving human factors errors, analysis of which could revolutionize the FAA's approach to safety, training, and technology design. The possibilities, as they say, are endless.

To demonstrate the industry's commitment to ASAP, joining the President, Administrator Garvey, and DOT Deputy Secretary Morton Downey in announcing the new program were Donald Cary, President, American Airlines (where ASAP was first tested); Leo Mullen, President, Delta Airlines; Captain Dennis Dolan, Airline Pilots Association International; Richard LaVoy, Allied Pilots Association; and Mark DeAngelis, Transport Workers Union.

As the real new millennium approaches, ASAP could move aviation safety into a "brave, new world" that some could not have imagined only a few years ago.

For further information on ASAP, contact Mr. Ross Cusimano at (202) 267-8166 or <ross.cusimano@faa.gov>. Another source of information is FAA Advisory Circular (AC) 120-66, Aviation Safety Action Program; however, this free AC is in the process of being updated. AC 120-66A will be available soon. Free AC's may be ordered from US DOT, Subsequent Distribution Office, Ardmore East Business Center, 3341 Q 75th Avenue, Landover, MD 20785.

↑ *George Townson, a helicopter pioneer and a highly regarded helicopter pilot, displays the plaque FAA Safety Program Manager Eileen Iandola presented him for his contributions to aviation safety.*

→ *The American Helicopter Museum at the Brandywine Airport, West Chester, PA, hosted the meeting. The museum provides a historic backdrop for the Corporate Helicopter Safety Seminar.*

SAFETY IN THE AIR STARTS ON THE GROUND

Story and photos
by H. Dean Chamberlain

There is always a certain amount of truth in every statement or cliché. The title's play on words is one of those statements. Flight safety does start on the ground. That lesson was recently pointed out during the third annual Corporate Helicopter Safety Seminar. Held last November at the Helicopter Museum located on the Brandywine Airport in West Chester, Pennsylvania, the two-day safety seminar was sponsored by Keystone Helicopter Inc. and its safety manager, Harry Urwiler, and the FAA's Philadelphia Flight Standards District Office and its Aviation Safety Program Manager, Eileen J. Iandola.

Designed primarily for rotor-wing operators and their designated safety managers, the seminar also provided information of value for any type of corporate flight department, rotary-wing or fix-wing. Topics such as crew fatigue; first responders at a crash site and how to deal with crew family members and the media after an accident; situational awareness; and weather services available from your local FAA Flight Service Station were applicable to all operators and pilots. One topic, a presentation on the latest version of night vision goggles (NVG) was of special interest to emergency medical service (EMS) helicopter crews since the recent FAA change allowing the use of NVG in select FAA-approved operations.

Much of the training focused on the critical role flight crews play in safety. Since many EMS operations are single pilot, special emphasis was placed on the importance of flight crew resource management, good crew decision making, fatigue, proper sleep requirements for flight crews during shift work, and similar safety-related topics.

Presented in a train the trainers format, the seminar was attended by many of Keystone Helicopter's site safety crewmembers from various Keystone off-site EMS operations. These flight safety officers are expected to carry the lessons learned at the seminar back to their respective crew locations to teach the other flight crews based at their respective sites. Other company crew members both rotary- and fixed wing also attended the meeting.

DON'T BE SHOCKED BY THE COAST GUARD

The U.S. Coast Guard contingent from Coast Guard Air Station Atlantic City, New Jersey, not only provided some important comments during the two-day seminar, but the flight crew demonstrated a typical basket rescue operation using its HH-65 *Dauphin* helicopter. The key message from the demonstration was that anytime someone is being rescued by a helicopter using its hoist and cable to lower any type of rescue device, be it a basket or some type of sling device, to the victim on the ground or in the water or to a rescuer helping the victim, is to let the device or cable touch the ground before any person should touch the device or cable. The reason is the helicopter's rotating blades can build up a large static electrical charge on the helicopter that you don't want to discharge through your body by grabbing hold of the cable before the helicopter can discharge itself through the cable to the ground or water. Depending upon the type and size of helicopter, the static discharge could be deadly. To be safe, you should always let the cable touch the ground or water before you touch the cable. You don't want to be shocked by the Coast Guard.

HOW TO WORK WITH ATC

Runway incursions and land and hold short operations were two hot topics of interest to every pilot. Presented by Dean Dungan, Wilmington (Delaware) Tower Operational Supervisor, he talked about how helicopter crews can help reduce both their own and possible air traffic control (ATC) problems while taking off or landing at tower controlled airports such as Wilmington's. He said the key to successful helo operations at busy airports is good communications between the helicopter pilot or crew and the air traffic controllers working the helicopter. One way is for the helo crew to tell ATC exactly what the helicopter needs in terms of its takeoff departure route or entry route. For example, does the helo need to turn into the wind on lift off? Or is it going to a specific location on the airport such as a specific fixed-based operator (FBO)?

Often, he said, while trying to help helo pilots get in or out of an airport, ATC may create some unexpected problems for the helo crew. Part of this is because of the helicopter's unique ability to fly slowly or to hover and land say on a taxiway rather than on the main runway. Part of this is because of the helo crew not telling ATC what the helo wants to do or needs to do. He emphasized that single-pilot helicopter instrument flights need to tell ATC that it is a single-pilot flight. ATC will then try to reduce the number of radio frequency changes the pilot must make as well as other operational changes to try and reduce the single-pilot's work load during an actual IFR approach.

He emphasized the need for both controllers and pilots to use standard phraseology to reduce the possibility of any misunderstanding between ATC and a flight crew.

One magic word all pilots can use is "unable" when ATC wants a crew to do something that could conceivably jeopardize flight safety. This is why it is important for all crews to know their own flight limitations and to not exceed those operating limitations while trying to expedite their own flight operation or while trying to help ATC conduct operations. The best advice is to follow established operating procedures. They were established for a good reason--safety.

ACCIDENT TAPES AND YOU

Dungan reminded everyone present about an important fact that many pilots, operators, and flight crews tend to forget. In the event of an accident, the National Transportation Safety Board, the FAA, and the courts will only be hearing what was recorded on the ATC tapes and on the voice recorder of the aircraft, if so equipped. The tapes cannot record what the controller or pilot saw out of their respective tower or cockpit. Nor can the tapes record what everyone's good intentions were in trying to expedite the flow of traffic, especially if a standard operating procedure was being circumvented and that deviation resulted in an accident. Remember, the tapes may contain your last words. How do you want to be remembered?

ACCIDENT AFTERMATH: WILL YOU BE A SURVIVOR?

Doctor Merrill Mirman, a physician and an FAA Aviation Safety Counselor, told of ways to survive a survivable accident. As this article's title says, safety starts on the ground before the flight--so does accident survival. As he pointed out, someone on the flight has to assume a leadership role after an accident. Whether it is the pilot in command or an assertive passenger, someone will assume the role. The question then is, will the survival outcome be successful? As he pointed out, not only must there be a leader to direct the activities of the crew and passengers or in the case of a single pilot, the pilot him- or herself, but there must also be good followers even if the only follower is the single pilot following his or her own directions. Followers have an important role to do besides the obvious role of surviving. Good followers must provide feedback to the leader and challenge leadership decisions to ensure that those leadership decisions are the best possible under the circumstances.

Citing a famous World War II survival story about a man lost at sea alone for more than 130 days who survived the ordeal, Mirman discussed six important survival factors. He said a person needs the will to survive; the person must be able to learn to adapt to the situation; the person must adopt whatever is necessary to survive; the person must have hope; the person must have some type of belief system to convert hope to belief; and the person must have the faith to believe in the person's hope of survival. Finally, the person must have a positive "can do" survival attitude. As, Mirman said, a person cannot just try to survive. The person must do it.

SURVIVAL PREPARATIONS

Pilots and operators need to provide some type of survival training to themselves and their flight crews on the ground before they go venturing off into the wild blue yonder. Although the will to survive is critical to any survival situation, having a basic survival kit and knowing how to use it adds a lot of "will power" to any survival situation. Again the key term is preflight preparation. At a minimum, all flight crewmembers should have completed a safety review of survival equipment onboard and how to use it. Passengers onboard should receive a basic safety briefing on what equipment is onboard in case they may be the only survivors. Some type of manual should be included in the equipment to show someone how to use the equipment to save their own lives. For operations over water, that minimum passenger briefing should include what type of flotation gear is onboard and how to use it.

PRE- AND POST-ACCIDENT RESPONDERS

In the event of an accident,

KEYSTONE FLIGHT SAFETY EFFORTS RECOGNIZED

During the seminar, the FAA's Eastern Regional Administrator, Arlene B. Feldman, recognized Keystone Helicopter's safety record and safety program by presenting two Philadelphia FSDO awards to Keystone. She presented one award to Rick Hinkle in recognition of Keystone's 29,000 plus accident free flight hours. Then she recognized Keystone's Safety Manager, Harry Urwiler, for his efforts in promoting flight safety and for working with the Philadelphia FSDO's Safety Program.

Clockwise from top. FAA Safety Program Manager Eileen Iandola with "Shark Baby" and Keystone's Safety Manager Harry Urwiler welcome everyone to the safety seminar. Iandola presents a certificate to Urwiler and Keystone's Rick Hinkle. Mike Atwood discusses night vision devices as Dr. Michelle North looks on. Dr. David Hunter, FAA, uses one of his sophisticated training aids to explain risk comfort levels and their impact on flight safety.

it is easy to only think of the actual accident and its causes. One item that all aircraft operators need to think about is what must be done before, during, and after an accident. Often what is done before an accident may significantly reduce or minimize what must be done following an accident. Joe Ruck, AIG Insurance, discussed the need for operators to not only conduct periodic safety reviews of their operations, but to also have a developed accident response plan that is kept current.

From plans on how to notify the next of kin in the event of an accident to how to notify family members of the death of their loved one to being prepared to help transport next of kin to the accident site are only a few of the items that need plans developed for before they are needed. For example, a list of telephone numbers of people that need notification in the event of an accident should be included in the accident plan. The plan should be written out, reviewed and updated periodically, and available for everyone's access. The reason is no one can predict when an accident will occur, who will be involved, and who will be contacted about the accident.

Since any accident will generate media attention both at the crash site and at the home base, plans on dealing with the media must be developed. As Ruck pointed out, in many cases, in the event of an accident and with the media at your door or on the phone, sometimes the best thing you can do is to shut the door, take the phone off the hook, sit down, and then figure out what is going on.

An important part of any accident plan is to outline how the crewmember's next of kin are treated. Based upon his experience, he said family members normally will want to go to the crash site. The challenge is how can the company help get them there and help take care of them. He said how well a company takes care of the next of kin and treats them following the accident, especially in the case of a fatality, determines to a large degree how the family reacts to the company after the accident. For example, he said unhappy family members are more prone to sue the company after an accident. Of course, all employees wants their family members treated with respect and dignity. The challenge is for a company to prepare a plan and have it ready to do just that.

CAN YOU HAVE "TWO" MANY SHRINKS AT A MEETING?

What do you get when you have two doctors of psychology at the same meeting? Laughs for one thing. Rules and ideas to keep you alive for another. Such was the case at the helicopter seminar. Drs. Michelle North, Director of Safety, Rocky Mountain Helicopters, and David Hunter of the FAA both made important presentations. North discussed fatigue and sleep deprivation on flight crews. As she pointed out, especially for crews who work shifts, a pilot can develop a sleep deficit that can lead to chronic fatigue. Such a condition can increase the risk of the pilot having an accident. While explaining the stages of sleep, North pointed out that waking at the wrong stage of sleep can leave a pilot feeling more tired than when the pilot went to sleep. According to her, if it takes a person 45 minutes to fully become awake and alert from a certain stage of sleep and an EMS mission is only 45 minutes long, how alert is the pilot awakened for the mission during the mission?

In addition to talking about the role sleep plays in flight safety, North also discussed the importance of diet and good nutrition on flight safety.

She concluded her discussion on pilot decision making and discussed why some pilots manage to crash perfectly good aircraft into mountains in conditions no one in their right mind would fly in. Was it poor decision making, get homeitis, a feeling of invincibility, or just bad luck? Because there is, and may never be, no good answer, the question remains—why do well-qualified pilots continue to kill themselves and their passengers through bad or poor decision making while trying to fly in conditions that birds won't fly in?

Dr. Hunter may have answered part of the question by explaining about how individuals have a certain level or tolerance of risk that they are comfortable with. Then using his example of the caveman and the dinosaur, he explained that as the caveman develops more effective means of detecting the approaching dinosaur, the caveman keeps venturing further from the safety of his cave. The result is just as many cavemen are being killed by the dinosaur, but now they are being killed further from their caves. Such is how some people tend to use safety devices. Rather than improving their safety by continuing to do the same old thing but now doing it safer, people tend to push the safety envelope by using the safety advantage the new safety device gives them. Is safety improved? "No!" he said. The new device just raised their accident risk while maintaining the same relative level of comfort.

An example he used was the use of anti-lock brakes on modern vehicles. Rather than taking advantage of the safety margin the new brakes provide, research shows that now people are driving faster and having to depend upon the brakes to handle the increased risk. The result is not an increase in safety, but an actual increase in accidents because people are putting themselves at more risk. The same can be said of the new technology in aircraft. For example, will the use of NVG increase the safety of EMS pilots at night or will the pilots use NVG to go into more dangerous landing areas that they would have avoided without NVG, thereby increasing their risk of an accident?

To find the answer to that question, you need to attend the 2000 Corporate Helicopter Safety Seminar. For details you can call the Philadelphia FSDO Safety Program Manager at 610-595-1500 x240, the FAA Safety Seminar Hotline at 610-595-1500 x300, or Harry Urwiler, Keystone Helicopter, at 609-786-1974.

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ANATOMY OF AN AIRCRAFT ACCIDENT:

OR "HOW MY DOG ATE MY HOMEWORK"

by H. Dean Chamberlain

It takes a special person to stand in front of an audience, admit his responsibility in an accident, and then discuss the accident so that others may learn from his mistakes. Captain Dennis Kochan is that kind of person. Yes, Captain Dennis Kochan. He is an airline transport rated air carrier pilot with more than 15,000 total hours. He is also a check airman for a major airline. In addition to his various pilot's ratings, he holds an aircraft mechanic's certificate.

Kochan told his story as part of the 1999 Seaplane Safety Seminar held at the FAA's Safety Center at the Lakeland Linder Regional Airport, Lakeland, Florida. The annual seaplane safety seminar held each September is cosponsored by Jack Brown Seaplane Base in nearby Winter Haven and the FAA's Orlando Flight Standards District Office (FSDO) Aviation Safety Program. Typical topics include accident data reviews, safe operating procedures, and other seaplane related operational and maintenance information.

THE SCENE

At the time of the accident, Kochan was not flying the line, he was checking out another airline transport rated pilot and a personal friend in a small amphibious seaplane. The other pilot—his friend, John—was flying the aircraft at the time of the accident.

Kochan is no stranger to seaplanes. He has about 2,000 hours in seaplanes. Most of that time was logged giving seaplane flight instruction.

Fortunately, there were no physical injuries in the accident. Although the Lake (LA-4 200) amphibian was substantially damaged, the only personal injuries were to the pride and professionalism of the two pilots onboard.

First, I want to make a personal comment regarding seaplanes to put this safety discussion in perspective. For those pilots who are not seaplane rated, I think it is a fair statement to say that most small land airplanes and seaplanes fly pretty much the same in flight. This is especially true for float-equipped seaplanes that are simply land planes mounted on floats.

There are some unique differences between land planes and their float-equipped seaplane cousins and especially the true hull-type seaplanes. For example, some hull-type seaplanes have "pusher" engine and propeller configurations rather than the more common "tractor" engine and propeller installations found on most small, pro-

Captain Dennis Kochan surveys the area where he brought the Lake to after the accident to survey the damage.

peller-equipped aircraft. In most single engine seaplanes with pusher-type engine installations, the engine is normally mounted above and behind the cockpit with the propeller being the last element in the installation. As a result, "pusher" aircraft may have a different pitch response to power changes than some other types of aircraft.

And depending upon the type of seaplane, hull-type seaplanes generally float lower in the water than float-equipped airplanes which may affect the aircraft's center of gravity and center of buoyancy as well as its reaction to the wind. The hull-type seaplane may also have different operating characteristics in the water than a comparable float-type seaplane.

But the real difference between land planes and seaplanes is what happens when any type aircraft is operated on the water. As was pointed out during the day-long safety seminar, a seaplane floating free on the water has no brakes. Once the tie-down ropes—excuse me, "lines," since we are being nautical now that we are on the water—are detached, a seaplane is free to drift with the wind and any current present. Add power and the pilot has to consider all of the effects of being free floating on the water. Water that itself can be moving in the case of flowing water such as a river or stream or in tidal areas where the tide flows in and out.

Water can also contain a few hidden surprises in addition to the possibility of hidden sand bars, floating debris, and underwater obstructions. Items not normally found on your typical hard surface airport runway. The effects and dangers of operating on the water are why when land-rated airplane pilots want to add a seaplane rating to their pilot certificate, most of that training is spent learning how to safely operate a seaplane on the water. Water not only can create a lot of resistance or drag for an aircraft operating on it, but it can also be very "hard" at rotation or landing speeds. Add in some waves, and water flying opens up a whole new type of fun flying.

New seaplane pilots not only have to know how to land and takeoff from water, they also have to learn the dangers of operating on the water. Many of these dangers are hidden. Like those other famous Florida land and sea amphibians, the alligators, sometimes hidden seaplane dangers just lie and wait for the unwary.

Such was the lesson learned by Captain Kochan and his friend. As Kochan pointed out, he thought they had done everything right. Since both are professional pilots, they had planned and briefed their two training flights in detail. This was to be the second training flight in the Lake amphibian. They had already gone through the aircraft's operating procedures and basic checkout. Both were also comfortable flying together.

But as he told his audience, because of his familiarity with his friend's flying skills, he might have become a little complacent in how he regarded his friend's checkout. Both were airline transport rated pilots and were also rated single- and multi-engine seaplane pilots. Both were also certificated flight instructors with land and sea single- and multi-engine ratings. This all adds up to a potentially dangerous combination of experience and ratings.

John was no novice to seaplane flying. He had owned a Piper J3 *Cub* on floats for about two years. He was interested in getting another seaplane and wanted to see what a Lake was like. So John was familiar with seaplanes but not with the Lake.

This combination of experience, qualifications, and professional trust has caused more than one instructor pilot embarrassment when flying with another well-qualified pilot.

"To recap what we did in the checkout in this aircraft up to the time of the accident, on the first day we reviewed all of the paperwork and the weight and balance of the aircraft. Since weight and balance in a Lake can be critical, we covered that in detail. We went through a complete preflight inspection on the aircraft. We covered the flight characteristics of the Lake aircraft which are significantly different since it is a hull-type aircraft. We talked about all of that stuff," Kochan said.

"Day two had been normal up to the time of the accident. We had done about seven takeoffs and landings, and at the time of the accident we were doing a touch and go landing. On the last landing, the aircraft was put back up on the step and the power came back up."

He said they were doing a circling turn to the left. "The airspeed was about 45 knots at that point. At about 45 degrees off the wind, I noticed the airspeed was about 40 knots. I could feel the aircraft getting a little sluggish. I asked John to pull back a little on the yoke to pull the nose up a little bit. What was happening was as the aircraft planed over, it started developing more drag on the front of the hull. I immediately asked John to pull back a little bit on the yoke to raise the nose. As I said it for the second time, I grabbed for the yoke, but the bow dug in and the aircraft spun about 180 degrees."

"All of a sudden the aircraft started a rapid 180 degree turn while continuing in the original takeoff direction. It happened so fast, there was not much we could do. During the water loop, the right wing tip and the right and left sponsons were damaged. The flap was almost ripped off the airplane. The aileron was damaged, and a section of the hull behind the step was damaged. I think the flap and hull were damaged while the aircraft was moving backwards through the water," Kochan said.

"Once we stopped turning, we checked the damage and taxied to shallow water so we could get out of the aircraft and assessed the damage," Kochan said.

They then notified the appropriate authorities. "Since this was my first accident, and it was Sunday, I called Obie Young of the FAA. He told me to call the local Flight Service Station (FSS). The FSS notified the National Transportation Safety Board (NTSB). Finally I was contacted by someone on Monday. The NTSB contacted me several days later. I had to fill out some forms for them. The FAA came out to inspect the aircraft."

According to Kochan, he felt that looking back at the accident, the airplane apparently reduced its pitch attitude off the step. (The step position is the optimum attitude/position on any seaplane where the water drag is minimized.) He thought when that happened the increased wetted surface area of the forward section of the hull-type aircraft increased the drag on the front of the aircraft and the motion of the aircraft caused the seaplane to rotate rapidly around its center of buoyancy. At this point, Kochan and John were just passengers along for the ride until the aircraft stopped turning and moving. (Note: This may be thought of as the water equivalent of a land-plane ground looping.)

LESSONS LEARNED

"I think the primary reason for this accident was my complacency. We had flown about 2.4 hours together and made about 16 or 17 takeoffs and landings. John was doing well. I was a little too complacent with his flying," Kochan said in retrospect.

Situational awareness was also a factor, Kochan said. He said he thought he was a little slow in reacting. He thinks instructors can become a little too relaxed when flying with another experienced pilot. He said he tried to give verbal instructions to John to raise the nose of the aircraft, when as the flight instructor, Kochan said, he should have taken control of the aircraft when he realized the aircraft was slowing and the bow was dropping. He said instructors may tend to treat rated pilots differently than they would a new student. He said he would have handled the situation differently if a new student was at the controls by being ready to react faster and being ready to take control of the aircraft sooner.

He also said the voice-activated headsets they were using might have caused a fraction of a second delay in conveying his instructions to John to raise the nose. Although Kochan is not blaming the headsets for the accident, he did note such a delay could be critical when reaction time must be fast and accurate. As he noted, he said he should have taken control of the airplane when he recognized the problem rather than trying to give two voice instructions to John to raise the nose of the aircraft. He thought his voice instructions may have lacked assertiveness. His voice did not lack assertiveness when he told the audience, " Although I was too slow in reacting when I saw it coming,

I was the pilot in command and therefore I was responsible for the accident."

A CHAIN OF EVENTS

Captain Kochan noted several important chain of events that should alert all pilots to potentially dangerous situations:

- They were flying a seaplane, and seaplanes have a high accident rate and are also easily damaged.
- They should have had a higher situational awareness because it was a training flight.
- There were two rated pilots onboard which may have increase the accident risk.
- Complacency may have been a factor after they had flown more than two hours together.
- Poor communications from using the headsets. As he said, he loves headsets and will continue to use them, but the next time he is not going to try to talk someone through how to fix a problem when time is critical.
- Although he thought they had done a good job of planning and briefing the flight, he thought this is an area that always needs careful attention.
- Finally, he pointed out the fact the flight was operating within the terminal area of the airport. He said they were working on three lakes within five miles of the airport. He then showed a chart of some accident statistics that said most aircraft accidents occur within terminal areas. Using the chart, he pointed out that about 75 percent of all aircraft accidents occur within the terminal area while only about 20 percent of a typical 1.5 hour flight occurs within the terminal area. Based upon the accident data, he told his audience that all pilots need to be especially alert when operating in a terminal area because of the higher accident risk exposure within that area.

EDITOR'S NOTE: Our thanks to Captain Kochan for sharing his story with our readers and for his help in reviewing the article. We also want to thank the Orlando FSDO Safety Program Manager, Obie Young, for providing the magazine with a video tape of Captain Kochan's presentation.

ADDING INSULT TO INJURY OR HOW SOMETIMES YOU GET LUCKY

It seems some days you just can't win, but sometimes you can win one once in a while. Such was the case of Captain Kochan's accident. It was bad enough to be involved in the first aircraft accident of your career. But when you are asked by the FAA inspector investigating the accident for the aircraft's documents, and you can't find the aircraft's airworthiness certificate, it becomes really embarrassing. Add in the fact the regulations require the certificate to be in the aircraft for the aircraft to be airworthy, and you can begin to understand the problem. The FAA rule is simple--no certificate--no flight. To paraphrase the comment of an old television commercial featuring a southern sheriff stopping a driver, "You are in a heap of trouble, boy."

Such was the dilemma Kochan found himself in. The missing airworthiness certificate was becoming a problem. Fortunately, his wife, who is also an air carrier pilot, came to his rescue. As he explained on the telephone to the FAA inspector who came to his house looking for the aircraft paperwork, Kochan was away from home at the time doing some company training when the inspector stopped by, he remembered some paper flying out of a pouch in the seaplane's cockpit while back taxiing down the runway during the checkout flight and maybe the paper that blew out of the aircraft was the certificate.

Yes, they had briefed the aircraft documents during the checkout, but "No," he could not remember if the missing certificate was back in the aircraft the day of the accident. When the paper flew out of the aircraft, John and he thought it was only some paper towels left in the aircraft. But as he tried to explain to the FAA inspector, maybe, the paper might have been the missing certificate.

Now call it a wife's dedication or her feminine intuition, but several days later while Kochan and his wife were again discussing the missing certificate over the telephone, she told him she was going to go to the airport and look for the missing certificate.

"I had told her the only thing I can assume is it blew out of the cockpit," he said. But when she said she was going to go look for it at the airport, I told her, "You are wasting your time. It is not going to be there. It probably has been rained on or blown away. It is not going to be around."

Call it what you will, but she gets in her "jeep" and drives to the airport to check the runway for the missing certificate. Call it luck, dedication, or whatever you want to call it, but he said she drove down the runway and found something that looked like a paper towel and picked it up. It was the missing airworthiness certificate!

"We made copies of it and sent it to the FAA and everybody was happy," he said.

Now what are the odds of ever finding a missing piece of paper along a runway; especially if the piece of paper is important? Not good at best. Or about as good as having an investigator believe your story about a missing certificate that just happened to fly out of your aircraft before your accident, which is currently under investigation. Or like my editor said when told the story, "The odds are about as good as the teacher believing your dog ate your homework."

But his wife was not deterred in her quest by such odds. Picture this scene in your mind. Here is this lady driving her Willys up and down a runway searching for a piece of paper about the size of a large index card.

Call it luck or fate, but she beat the odds by finding the missing certificate.

Sometimes you can get lucky.

Now how many of you had dogs that ate your homework?

ACCIDENT OR INCIDENT? DO YOU KNOW THE DIFFERENCE

Do you know what must be reported, how soon, and how it must be reported if you are involved in an accident? If not--read on. The following information was extracted from the NTSB website.

Federal regulations require operators to notify the NTSB immediately of aviation accidents and certain incidents. An accident is defined as an occurrence associated with the operation of an aircraft that takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage. An incident is an occurrence other than an accident that affects or could affect the safety of operations (49 CFR 830). The report should be filed with the nearest NTSB regional or field office. A phone call is sufficient initially, but a written follow-up will be required.

If you are requested to complete a Form 6120.1/2 "Pilot/Operator Aircraft Accident Report," you may obtain the form from the requesting NTSB office or from the NTSB web page at <http://www.ntsb.gov/aviation/report.htm>.

TITLE 49-TRANSPORTATION CHAPTER VIII-NATIONAL TRANSPORTATION SAFETY BOARD

PART 830--NOTIFICATION AND REPORTING OF AIRCRAFT ACCIDENTS OR INCIDENTS AND OVERDUE AIRCRAFT, AND PRESERVATION OF AIRCRAFT WRECKAGE, MAIL, CARGO, AND RECORDS

SUBPART A -- GENERAL

Sec. 830.1 Applicability.

This part contains rules pertaining to:

(a) Initial notification and later reporting of aircraft incidents and accidents and certain other occurrences in the operation of aircraft, wherever they occur, when they involve civil aircraft of the United States; when they involve certain public aircraft, as specified in this part, wherever they occur; and when they involve foreign civil aircraft where the events occur in the United States, its territories, or its possessions.

(b) Preservation of aircraft wreckage, mail, cargo, and records involving all civil and certain public aircraft accidents, as specified in this part, in the United States and its territories or possessions.

[60 FR 40112, Aug. 7, 1995]

Sec. 830.2 Definitions.

As used in this part the following words or phrases are defined as follows:

"Aircraft accident" means an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

"Civil aircraft" means any aircraft other than a public aircraft.

"Fatal injury" means any injury which results in death within 30 days of the accident.

"Incident" means an occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.

"Operator" means any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or bailee of an aircraft.

"Public aircraft" means an aircraft used only for the United States Government, or an aircraft owned and operated (except for commercial purposes) or exclusively leased for at least 90 continuous days by a government other than the United States Government, including a State, the District of Columbia, a territory or possession of the United States, or a political subdivision of that government. "Public aircraft" does not include a government-owned aircraft transporting property for commercial purposes and does not include a government-owned aircraft transporting passengers other than: transporting (for other than commercial purposes) crewmembers or other persons aboard the aircraft whose presence is required to perform, or is associated with the performance of a governmental function such as firefighting, search and rescue, law enforcement, aeronautical research, or biological or geological resource management; or transporting (for other than commercial purposes) persons aboard the aircraft if the aircraft is operated by the Armed Forces or an intelligence agency of the United States. Notwithstanding any limitation relating to use of the aircraft for commercial purposes, an aircraft shall be considered to be a public aircraft without regard to whether it is operated by a unit of government on behalf of another unit of government pursuant to a cost reimbursement agreement, if the unit of government on whose behalf the operation is conducted certifies to the Administrator of the Federal Aviation Administration that the operation was necessary to respond to a significant and imminent threat to life or property (including natural resources) and that no service by a private operator was reasonably available to meet the threat.

"Serious injury" means any injury which: (1) Requires hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

"Substantial damage" means damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered "substantial damage" for the purpose of this part.

[53 FR 36982, Sept. 23, 1988, as amended at 60 FR 40112, Aug. 7, 1995]

SUBPART B--INITIAL NOTIFICATION OF AIRCRAFT ACCIDENTS, INCIDENTS, AND OVERDUE AIRCRAFT

Sec. 830.5 Immediate notification.

The operator of any civil aircraft, or any public aircraft not operated by the Armed Forces or an intelligence agency of the United States, or any foreign aircraft shall immediately, and by the most expeditious means available, notify the nearest National Transportation Safety Board (Board) field office when:

[The Board field offices are listed under U.S. Government in the telephone directories of the following cities: Anchorage, AK; Atlanta, GA; West Chicago, IL; Denver, CO; Arlington, TX; Gardena (Los Angeles), CA; Miami, FL; Parsippany, NJ (metropolitan New York, NY); Seattle, WA; and Washington, DC.]

(a) An aircraft accident or any of the following listed incidents occur:

(1) Flight control system malfunction or failure;

(2) Inability of any required flight crewmember to perform normal flight duties as a result of injury or illness;

(3) Failure of structural components of a turbine engine excluding compressor and turbine blades and vanes;

(4) In-flight fire; or

(5) Aircraft collide in flight.

(6) Damage to property, other than the aircraft, estimated to exceed $25,000 for repair (including materials and labor) or fair market value in the event of total loss, whichever is less.

(7) For large multiengine aircraft (more than 12,500 pounds maximum certificated takeoff weight):

(i) In-flight failure of electrical systems which requires the sustained use of an emergency bus powered by a back-up source such as a battery, auxiliary power unit, or air-driven generator to retain flight control or essential instruments;

(ii) In-flight failure of hydraulic systems that results in sustained reliance on the sole remaining hydraulic or mechanical system for movement of flight control surfaces;

(iii) Sustained loss of the power or thrust produced by two or more engines; and

(iv) An evacuation of an aircraft in which an emergency egress system is utilized.

(b) An aircraft is overdue and is believed to have been involved in an accident.

[53 FR 36982, Sept. 23, 1988, as amended at 60 FR 40113, Aug. 7, 1995]

Sec. 830.6 Information to be given in notification.

The notification required in Sec. 830.5 shall contain the following information, if available:

(a) Type, nationality, and registration marks of the aircraft;

(b) Name of owner, and operator of the aircraft;

(c) Name of the pilot-in-command;

(d) Date and time of the accident;

(e) Last point of departure and point of intended landing of the aircraft;

(f) Position of the aircraft with reference to some easily defined geographical point;

(g) Number of persons aboard, number killed, and number seriously injured;

(h) Nature of the accident, the weather and the extent of damage to the aircraft, so far as is known; and

(i) A description of any explosives, radioactive materials, or other dangerous articles carried.

SUBPART C--PRESERVATION OF AIRCRAFT WRECKAGE, MAIL, CARGO, AND RECORDS

Sec. 830.10 Preservation of aircraft wreckage, mail, cargo, and records.

(a) The operator of an aircraft involved in an accident or incident for which notification must be given is responsible for preserving to the extent possible any aircraft wreckage, cargo, and mail aboard the aircraft, and all records, including all recording mediums of flight, maintenance, and voice recorders, pertaining to the operation and maintenance of the aircraft and tothe airmen until the Board takes custody thereof or a release is granted pursuant to Sec. 831.12(b) of this chapter.

(b) Prior to the time the Board or its authorized representative takes custody of aircraft wreckage, mail, or cargo, such wreckage, mail, or cargo may not be disturbed or moved except to the extent necessary:

(1) To remove persons injured or trapped;

(2) To protect the wreckage from further damage; or

(3) To protect the public from injury.

(c) Where it is necessary to move aircraft wreckage, mail or cargo, sketches, descriptive notes, and photographs shall be made, if possible, of the original positions and condition of the wreckage and any significant impact marks.

(d) The operator of an aircraft involved in an accident or incident shall retain all records, reports, internal documents, and memoranda dealing with the accident or incident, until authorized by the Board to the contrary.

SUBPART D--REPORTING OF AIRCRAFT ACCIDENTS, INCIDENTS, AND OVERDUE AIRCRAFT

Sec. 830.15 Reports and statements to be filed.

(a) Reports. The operator of a civil, public (as specified in Sec. 830.5), or foreign aircraft shall file a report on Board Form 6120.1/2 (OMB No. 3147-0001) within 10 days after an accident, or after 7 days if an overdue aircraft is still missing. A report on an incident for which immediate notification is required by Sec. 830.5(a) shall be filed only as requested by an authorized representative of the Board.

[Forms are available from the Board field offices, from Board headquarters in Washington, DC, and from the Federal Aviation Administration Flight Standards District Offices.]

(b) Crewmember statement. Each crewmember, if physically able at the time the report is submitted, shall attach a statement setting forth the facts, conditions, and circumstances relating to the accident or incident as they appear to him. If the crewmember is incapacitated, he shall submit the statement as soon as he is physically able.

(c) Where to file the reports. The operator of an aircraft shall file any report with the field office of the Board nearest the accident or incident.

[53 FR 36982, Sept. 23, 1988, as amended at 60 FR 40113, Aug. 7, 1995]

MEDICALstuff

Is the Public Being Duped by 'Alternatives?'

'There is a lot of quackery in this business...'

Commentary by Stephen H. Goodman, MD

The history of American medicine is replete with the stories of unprofessional remedies and unscientific methods utilized to treat medical maladies. As we push forward into the 21st Century, it is unnerving that folklore and unproven treatments are once again finding their way into mainstream medicine. There is a lot of quackery in this business of alternative medicine, not to mention the enormous business that has surfaced as a result of this burgeoning industry. Depending on whom you want to believe and what journals you read, this industry generates between 9 and 130 billion dollars a year in gross revenues. This bricolage of traditional medical care lacks factual and objective study. The fundamental question that must be addressed regarding this phenomenon is "Why is it so popular in the United States?"

Of course, there is no simple answer; however, several plausible explanations come to mind. The first is that the use of alternative medicine is resurging because traditional medicine has become less accessible and more costly. In addition, this "herbal renaissance" may be a carry-over from the last two decades in the United States, and those that ascribed to its utility fit very nicely into this "do-it-yourself" society. The Internet plays into this as well by allowing a giant shopping mall of these products to exist with eye-catching Web sites. This truly is the epitome of virtual medicine being practiced in cyberspace. More profoundly, as the fabric of American culture changes with more people coming in from other countries to live in the United States, they bring with them their own orientation toward medical care and treatments that rely upon herbal remedies.

These new medical therapies that are advertised in the media of the United States were once considered medical fraud. They now are being seriously considered as new accepted modalities. What is curious is that most of these therapies are not supported nor have they been proven by the rigors of science to be efficacious.

Currently, there is a study underway at Duke University Medical Center addressing Saint John's Wort (Hypericum) in a double blind trial with Zoloft (Sertraline) and placebo. But as yet the results of this study are still pending.

The German medical community, which has had the most experience with these remedies, suggests that they are effective. However, there are some variations with the definitions of medical conditions and the length of treatment required to manage the maladies when these agents are used. So what is really going on here is Americans are self-medicating and adopting "natural" treatments that make them feel they are in control of their illnesses. One such illustration validates this concept.

The American Cancer Society (ACS) has approved nontraditional therapies as adjunct treatments for individuals carrying certain diagnoses. The ACS views these treatments as "complementary medicine" and endorses their utilization. Additionally, the National Institutes of Health (NIH) has accepted alternative medicine as a legitimate form of therapy and has given credence to this entire concept of treatment. It was Congress that compelled the NIH to create the Office of Alternative Medicine.

So what does this mean to those of us who are in the practice of Aerospace Medicine?

In Aerospace Medicine, there is the "mantra" that safe to fly means there is no forgiving or excuses or room for medicinal experimentation with one's mental status or justification for the use of herbal teas to cure digestive disease. The use of unproven remedies threatens the safety of any mission if the substances being used are untested or effects are unknown.

As practitioners entering the new millennium, we must be wary of these "cures" and be ever so cautious to inquire about recent and remote use of these substances when examining our patient population. To do otherwise is to not only court danger, but also passively buy into treatments that could have untoward and deadly consequences.

+

Dr. Goodman is the FAA Regional Flight Surgeon, Western Pacific Region, Los Angeles, Calif.

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Herbal Medication and Flying

When having an alternate is not a good thing.

Commentary by Donato J. Borrillo, MD

In aviation, it is usually good practice for a pilot to have an alternate, such as an alternate airfield, routing, or aircraft. The use of so-called alternative remedies may not, however, be similarly "a good thing."

The aviation medical examiner (AME) should remember, "it is the medical condition, not necessarily the treatment (herbal or otherwise), that may influence the safety of flight."

The Food and Drug Administration (FDA) has little or no authority over the estimated 15 million Americans that take herbal medication, nor does the AME.

The AME should simply regard all purported benefits of an herbal medication as being "true" and disqualify based on the underlying disease or side effects. The AME should not debate the "medical legitimacy" of an herbal medication, but should consider the possible underlying disease.

Addressing the disease, not the treatment modality, fosters a more informative relationship with the applicant airman.

First, there are herbal medications that treat a specific underlying condition. These include ginseng, saw palmetto, ginko, St. John's Wort, and echinacea. Asian ginseng (Panax Ginseng) is used to increase stamina. The AME should inquire, "Why is the pilot tired?" A flier that is tired may have a chronic illness or depression. In addition, ginseng should be avoided by hypertensives and can cause anxiety, irritability, nervousness, and insomnia.

Saw palmetto (Serenoa Repens) is a berry product used to treat benign prostatic hyperplasia; its use should spark queries about urinary tract problems.

Ginko biloba is an antioxidant, used to increase blood circulation and oxygenation. It is commonly used to improve memory; however, it may also be used to treat the disqualifying conditions of tinnitus, asthma, and depression. Furthermore, ginko has a profound effect upon platelet function and should not be used with blood thinners.

St. John's Wort (Hypericum Perforate) promotes a healthy mood and helps to relieve mild to moderate depression. Both of these conditions require an evaluation prior to medical certificate issuance. Similarly, echinacea (Echinacea Purpurea) stimulates the immune system to fight colds and flu; a pilot should not be flying with these symptoms.

Second, the AME should be aware of herbal medications that prevent illness. These include cranberry, goldenseal, and garlic. Cranberry (Vaccinium Macrocarpon) is marketed to prevent urinary tract infections and should not be considered disqualifying; however, one caveat: Is the use of cranberry to prevent kidney stones (which may be disqualifying)? Similarly, goldenseal (Hydrastis Canadensis) is marketed as an antiseptic for the bowel. As a preventive measure, it is not disqualifying; however, if used for acute gastroenteritis, it may be disqualifying. Garlic cloves (Allium Sativum) have been used to lower cholesterol and should alert the AME to possible cardiac disease.

In sum, the AME should be ever vigilant for the airman using alternative medicinal therapies, whether folk, herbal, diet, homeopathy, faith, new age, chiropractic, acupuncture, naturopathy, massage, or music therapy. The AME can make up for the lack of FDA authority, and once again make an alternative "a good thing," by simply considering the underlying disease.

Dr. Borrillo is a flight surgeon with the US Air Force's 48th Aerospace Medicine Squadron at Lakenheath Royal Air Force Base, England. He is also an AME and is Board certified in aerospace medicine.

The opinions expressed in these commentaries do not necessarily reflect the official position of the FAA or the Office of Aviation Medicine. Both articles originally appeared in the Spring 1999 issue of the Federal Air Surgeon's Medical Bulletin.

TFR: What's a TFR?

by H. Dean Chamberlain

"...flight restriction near Brookings OR. Effective immediately until further notice. Pursuant to 14 CFR Section 91.137A(2) temporary flight restriction are in effect within a 5 nautical mile radius of (42(06.3(N/124(07.4(W) and the Crescent City/CEC/ VORTAC 356 degree radial at 20 nautical miles at and below 6,000 feet MSL to provide a safe environment for fire fighting aircraft operations...."

This is an example of one type of temporary flight restriction (TFR). But why are we discussing TFR's?

While at the Experimental Aircraft Association's AirVenture '99 in Oshkosh Wisconsin this past summer, this writer met Julie J. Stewart, the National Airspace Coordinator for the U.S. Forest Service. What had caught my attention were the colorful aviation posters on display at the Forest Service's exhibit.

The posters were designed to alert pilots to one of the MAJOR problem areas her agency has with pilots (civilian, general aviation, and military) each year flying into designated temporary flight restriction areas set up over forest fire sites. As a result, the U.S. Forest Service is part of an interagency group that has been working closely with the Pentagon on educating military pilots about the need to stay out of TFR areas. In fact, one of the special TFR posters on display was developed for the military to remind pilots to avoid wildfire areas. *FAA Aviation News* wants to remind all pilots, civilian and military, of the need to avoid flying into a TFR without appropriate authorization.

As noted in the accompanying side bar, a TFR may be imposed for many situations. But a few of the more common reasons a TFR may be invoked are for such natural disasters as forest fires, floods, volcanic eruptions, earthquakes, and to protect rescue efforts over such areas. We want to remind all pilots of the need to protect themselves and their aircraft from a possible mid-air collision by not flying into or through a TFR when one is in effect such as for a natural disaster. If there is such a disaster, you can bet there will probably be a TFR issued.

A TFR may also be established for other events such as a major accident site, space agency operations, or to protect the President, Vice President, or other public figure.

According to Stewart there is a natural tendency for pilots to fly over a forest fire to see what is going on. The problem is there may be fire fighting aircraft and helicopters working the fire as well as other aircraft supporting the fire fighting efforts. Since these aircraft are working in a TFR area, they are focusing on their fire-fighting mission, and not your aircraft flying through the area. Add in authorized media aircraft and smoke and you can start to see the dangers involved in flying through the protected TFR area over a forest fire. The same is true over the damage areas of a hurricane or earthquake. Pilots not involved in the disaster relief operations, should always follow the procedures and guidance provided in the NOTAM establishing the TFR while one is in effect.

Stewart provided *FAA Aviation News* some important differences between the *Aeronautical Information Manual*'s (AIM) generic definitions of a TFR and current U.S. Forest Service practices and procedures. According to her, the U.S. Forest Service (USFS) and the Department of the Interior no longer use the term "wildfire." She said, their preferred term is "wild land fire." In addition, she said the agencies prefer a TFR for a wild land fire be a suggested five nautical mile radius and 2,000 feet above the highest operating aircraft working on the fire or 2,000 feet above the highest elevation geographical point within the TFR. She pointed out that each fire is different and TFR's can and often do exceed the USFS suggested standard five mile radius. Factors that determine the size and shape of a fire TFR she said includes, "Size and shape of the fire, rate of spread of the fire, entrance and egress points for operations aircraft, water sources, special use airspace and military training route locations, and the type and number of aircraft working the fire and their operational requirements."

In addition, Stewart said wild land fire NOTAM's will normally be described based upon a bearing and distance from a given VOR/DME or based upon latitude/longitude coordinates.

The danger of aircraft flying over and near disaster areas is real for another reason other than a possible mid-air collision. The FAA has published a document that outlines the dangers aircraft, particularly helicopters, can pose to damaged buildings and other damaged structures in disaster areas. For example, it is possible for a large helicopter's rotor wash to cause a severely damaged building to collapse further compounding the problems and risks to those on the ground.

So, avoiding TFR's is another good reason pilots should always review current NOTAM's for any airspace changes as part of their normal preflight activities. Not only will you help protect those on the ground and flying within a TFR, you will also keep the FAA happy by avoiding an enforcement action. As you can see, we all win when TFR's are complied with. Thanks for your support. Smokey the Bear will be happy you did.

TFR Definition

For those who may not have looked up the definition for TFR in years, the *Aeronautical Information Manual* (AIM) contains the following definition for Temporary Flight Restrictions.

For even more information on TFR's, readers can review FAA Advisory Circular 91-63B.

3-5-3. TEMPORARY FLIGHT RESTRICTIONS

a. General: This paragraph describes the types of conditions under which the FAA may impose temporary flight restrictions. It also explains which FAA elements have been delegated authority to issue a temporary flight restrictions NOTAM and lists the types of responsible agencies/offices from which the FAA will accept requests to establish temporary flight restrictions. The 14 CFR is explicit as to what operations are prohibited, restricted, or allowed in a temporary flight restrictions area. Pilots are responsible to comply with 14 CFR Sections 91.137, 91.138, 91.141 and 91.143 when conducting flight in an area where a temporary flight restrictions area is in effect, and should check appropriate NOTAM's during flight planning.

b. The purpose for establishing a temporary flight restrictions area is to:

1. Protect persons and property in the air or on the surface from an existing or imminent hazard associated with an incident on the surface when the presence of low flying aircraft would magnify, alter, spread, or compound that hazard (14 CFR Section 91.137(a)(1));
2. Provide a safe environment for the operation of disaster relief aircraft (14 CFR Section 91.137(a)(2)); or
3. Prevent an unsafe congestion of sightseeing aircraft above an incident or event which may generate a high degree of public interest (14 CFR Section 91.137(a)(3)).
4. Protect declared national disasters for humanitarian reasons in the State of Hawaii (14 CFR Section 91.138).
5. Protect the President, Vice President, or other public figures (14 CFR Section 91.141).
6. Provide a safe environment for space flight operations (14 CFR Section 91.143).

c. Except for hijacking situations, when the provisions of 14 CFR Section 91.137(a)(1) or (a)(2) are necessary, a temporary flight restrictions area will only be established by or through the area manager at the Air Route Traffic Control Center (ARTCC) having jurisdiction over the area concerned. NOTAM's issued pursuant to 14 CFR Section 91.137(a)(3) will be issued at the direction of the regional air traffic division manager having oversight of the airspace concerned. When hijacking situations are involved, a temporary flight restrictions area will be implemented through the FAA Washington Headquarters Office of Civil Aviation Security. The appropriate FAA air traffic element, upon receipt of such a request, will establish a temporary flight restrictions area under 14 CFR Section 91.137(a)(1).

d. The FAA accepts recommendations for the establishment of a temporary flight restrictions area under 14 CFR Section 91.137(a)(1) from military major command headquarters, regional directors of the Office of Emergency Planning, Civil Defense State Directors, State Governors, or other similar authority. For the situations involving 14 CFR Section 91.137(a)(2), the FAA accepts recommendations from military commanders serving as regional, subregional, or Search and Rescue (SAR) coordinators; by military commanders directing or coordinating air operations associated with disaster relief; or by civil authorities directing or coordinating organized relief air operations (includes representatives of the Office of Emergency Planning, U.S. Forest Service, and State aeronautical agencies). Appropriate authorities for a temporary flight restrictions establishment under 14 CFR Section 91.137(a)(3) are any of those listed above or by State, county, or city government entities.

e. The type of restrictions issued will be kept to a minimum by the FAA consistent with achievement of the necessary objective. Situations which warrant the extreme restrictions of 14 CFR Section 91.137(a)(1) include, but are not limited to: toxic gas leaks or spills, flammable agents, or fumes which if fanned by rotor or propeller wash could endanger persons or property on the surface, or if entered by an aircraft could endanger persons or property in the air; imminent volcano eruptions which could endanger airborne aircraft and occupants; nuclear accident or incident; and hijackings. Situations which warrant the restrictions associated with 14 CFR Section 91.137(a)(2) include: forest fires which are being fought by releasing fire retardants from aircraft; and aircraft relief activities following a disaster (earthquake, tidal wave, flood, etc.). 14 CFR Section 91.137(a)(3) restrictions are established for events and incidents that would attract an unsafe congestion of sightseeing aircraft.

f. The amount of airspace needed to protect persons and property or provide a safe environment for rescue/relief aircraft operations is normally limited to within 2,000 feet above the surface and within a three-nautical-mile radius. Incidents occurring within the surface areas will normally be handled through existing procedures and should not require the issuance of a temporary flight restrictions NOTAM. Temporary flight restrictions affecting airspace outside of the United States and its territories and possessions are issued with verbiage excluding that airspace outside of the 12-mile coastal limits.

g. The FSS nearest the incident site is normally the "coordination facility." When FAA communications assistance is required, the designated FSS will function as the primary communications facility for coordination between emergency control authorities and affected aircraft. The ARTCC may act as liaison for the emergency control authorities if adequate communications cannot be established between the designated FSS and the relief organization. For example, the coordination facility may relay authorizations from the on-scene emergency response official in cases where news media aircraft operations are approved at the altitudes used by relief aircraft.

h. ATC may authorize operations in a temporary flight restrictions area under its own authority only when flight restrictions are established under 14 CFR Section 91.137(a)(2) and (a)(3). The appropriate ARTCC/airport traffic control tower manager will, however, ensure that such authorized flights do not hamper activities or interfere with the event for which restrictions were implemented. However, ATC will not authorize local IFR flights into the temporary flight restrictions area.

i. To preclude misunderstanding, the implementing NOTAM will contain specific and formatted information. The facility establishing a temporary flight restrictions area will format a NOTAM beginning with the phrase "FLIGHT RESTRICTIONS" followed by: the location of the temporary flight restrictions area; the effective period; the area defined in nautical miles; the altitudes affected; the FAA coordination facility and commercial telephone number; the reason for the temporary flight restrictions; the agency directing any relief activities and its commercial telephone number; and other information considered appropriate by the issuing authority.

To obtain information on the posters please contact: Aviation Airspace Coordinator, Office of Aircraft Services, P.O. Box 15428, Boise ID 83715-5428, or Julie Stewart at (503)808-6728, e-mail: <julie_stewart@or.blm.gov>

WHEN IS A HIJACKING NOT A HIJACKING?

by H. Dean Chamberlain

At best it was embarrassing. But it is one thing to be embarrassed; it is something else to contribute to an international incident. Fortunately, the incident had a happy ending. Many such incidents do not. No, we are not talking about a war being averted at the last moment. We are talking about something more important in aviation, a possible hijacking, a hot topic that has been in the news several times in recent months.

If you are wondering how a possible hijacking can have a happy ending, this one did. It was a mistake. Without going into the details of the incident, it was a mistake that involved many people and several countries. The cause of the mistake was an apparent misunderstanding of published international procedures that all pilots and controllers are expected to know and follow. When all was said and done, the misunderstanding resulted in a Federal investigation and an embarrassed flight crew, but, fortunately, no lives were at risk as in a real hijacking.

Although we have used the common term, hijacking, the *Aeronautical Information Manual* (AIM), paragraph 6-3-4, uses the term, "Special Emergency (Air Piracy)." The AIM defines a special emergency as "... a condition of air piracy, or other hostile act by a person(s) aboard an aircraft, which threatens the safety of the aircraft or its passengers."

Although we normally think of air carrier aircraft as the targets of suspected international hijackers, by definition, a special emergency can apply to any size aircraft. Therefore it is important that all pilots and flight crews understand the published public procedures for declaring a special emergency. The simplest way is by telling air traffic of the situation and following the published procedures. The next simplest way is by squawking the proscribed transponder code.

CODE 7500

That code means, "I am being hijacked/forced to a new destination." And as the *Aeronautical Information Manual* (AIM) states in paragraph 6-3-4, Special Emergency (Air Piracy), "Code 7500 will trigger the special emergency indicator in all radar ATC facilities."

Needless to say, all nearby radar ATC facilities will light up like the proverbial Christmas tree.

Fortunately, as stated, the incident that generated this article had a happy ending. There was no hijacking. The code was set in error. The incident was investigated. The crew was embarrassed. And the airline is doing a major crew training exercise. *FAA Aviation News* is doing its part by reminding pilots of the correct procedure to followi in future such incidents: both real and false alerts.

The sidebar on page 22 is the text from the AIM that outlines the correct procedure to follow both in the case of a real hijacking as well as when a mistake has been made.

THE PROBLEM

The problem is in today's world, the risk of a hijacking or an "unlawful interference" is real whether you fly a 400-passenger global super air carrier or a four-passenger helicopter (a favorite vehicle for persons wanting to help friends and loved ones "escape" from various government penal "institutions"). A real or apparent hijacking poses certain risks to the people responding to the incident on the ground as well as the overall air traffic system as authorities respond to a "hijacking" because until proven otherwise, each 7500 code must be handled as a real emergency. A false 7500 code may endanger the flight and other aircraft, as well as those on the ground the same as a real code.

The lesson is clear, all flight crews and air traffic personnel need to review and follow the rules for Code 7500.

CODE 7600

Although it does not generate as much excitement as Code 7500, Code 7600 does get air traffic's attention. Code 7600 is the transponder code for loss of two-way communications. If an aircraft loses two-way communications in instrument meteorological conditions, its pilot is expected to comply with FAR §91.185, *IFR operations: Two-way radio communications failure.*

With many aircraft equipped with multiple radios and pilots carrying handheld transceivers in their flight bags, lost communications may eventually become as extinct as the dodo bird.

But until that happens, pilots need to remember that when squawking Code 7600 that the aircraft may or may not be within range of an air traffic radar site. Because air traffic may not always be able to receive a transponder code, pilots, even if they think they have a radio failure, should always try to radio their intentions. There is always the possibility the communications failure may be in the receiver portion of the radio and that the transmitter works fine. The opposite is also true. If your transmitter is broken, but you can hear air traffic (ATC) talking to you on your single radio, you may be able to communicate to air traffic by using your transponder to reply to specific ATC questions by setting in specific transponder codes told to you by ATC.

Pilots may want to double check their radio settings, volume control, and squelch control before setting Code 7600 in their transponder. Many apparent "radio failures" have been the result of the wrong frequency dialed in, the controls set wrong, or the wrong selector switch selected.

CODE 7700

When all else fails and the sky is falling in on a pilot in an aircraft with a transponder, the pilot can set Code 7700. Code 7700 is the code of last resort. It declares to every radar site that can receive the signal that the aircraft has an emergency. Many air traffic systems are designed to alert the controller when a Code 7700 is received. But, as we said about Code 7600, pilots must remember that unless transponder Code 7700 is received by air traffic, no one will know of the emergency. This is why pilots should always try to radio their emergency alerts whenever possible in addition to setting Code 7700. Because Code 7700 is programmed to alert ATC, pilots need to be careful when changing transponder codes not to inadvertently "pass through" the code when changing transponder codes.

The safest way to avoid inadvertent alerting on Code 7700 is to turn the transponder to standby while changing codes that pass through those numbers.

Although we have said Code 7700 is the code of last resort, pilots should always declare an emergency, either verbally or by using the transponder Code 7700, before a situation becomes critical rather than waiting until it is too late for ATC to help. As pointed out in crew resource management training programs, air traffic and other skilled professionals are available to help any pilot in distress. The problem is many pilots wait until their fates are sealed before declaring an emergency.

Pilots should periodically review FAR §91.3, *Responsibility and authority of the pilot in command.* A key section of that rule states, "(b) In an in-flight emergency requiring immediate action, the pilot in command may deviate from any rule of this part to the extent required to meet that emergency." Yes, the following paragraph of the rule does state that a pilot who deviates from a rule under the authority is this rule, "...shall, upon the request of the Administrator, send a written report of that deviation to the Administrator." The rule gives a pilot who declares an emergency and uses that authority to deviate from a rule of that part a tremendous amount of power. The following paragraph then puts some accountability back into the rule.

On a personal note based upon my own review of accident reports over the years, it seems that some pilots--if they had declared an emergency and used the authority provided by this rule--might have prevented or possibly minimized the accident, incident, or situation. Whether the pilot didn't want to admit he or she had a problem, or the pilot was afraid have being asked to submit a report, we may never know. But when safety is involved, it is better to declare an emergency and get help rather than waiting for the situation to resolve itself. Some situations can be deadly.

CODE 1200

No discussion of transponder codes would be complete without mentioning Code 1200. Code 1200 is the normal squawk for an operation under visual flight rules (VFR). This is the code pilots will normally set themselves while flying VFR. Occasionally, air traffic (ATC) will issue a VFR pilot an assigned transponder code while providing special services such as flight following or while the pilot is operating in certain air space. ATC will also assign Code 1200 to IFR flights when IFR services are terminated to the flight.

THE CODE MAKERS

Our review of the primary transponder codes should end with a reminder that FAR §91.215, *ATC transponder and altitude reporting equipment and use*, and FAR §91.413, *ATC transponder tests and inspections*, outline the rules for the requirement for transponders; airspace requirements; what type of aircraft are required to have transponders onboard; when a transponder must be turned on; and how it is to be maintained and inspected.

VOICE COMMUNICATIONS

Although we have been discussing some of the procedures and rules relating to transponder coding and operation, no discusssion about emergency procedures would be complete without a brief review of voice communication procedures. A good reference is AIM Section 3, *Distress and Urgency Procedures*, paragraph 6-3-1. As stated in the section, a pilot with an emergency or urgency condition can ask for help by contacting the air traffic facility responsible for the area in which the pilot is operating. For a distress condition, the pilot should use the term MAYDAY, preferably repeated three times. The term PAN-PAN denotes an urgency condition. A MAYDAY signal takes radio precedence over all other communications on that frequency. PAN-PAN takes precedence over all other communications, except a MAYDAY.

A pilot using either of these alerts should use the ATC frequency currently in use, or if not communicating with ATC, a published frequency for the area or nearest ATC facility, or when all else fails, the recognized "emergency" frequencies of either 121.5 MHz or 243 MHz.

The AIM gives detailed examples of how other aircraft and ground stations should monitor emergency broadcasts in case a ground station does not respond. The AIM makes the following suggestions to aid aircraft in distress:

1. "Climb, if possible, for improved communications and better radar and direction finding detection. However, it must be understood that unauthorized climb or descent under IFR conditions within controlled airspace is prohibited, except as permitted by FAR §91.3(b)."
2. If transponder is onboard, continue squawking ATC assigned code or the VFR code while in radio contact with ATC unless instructed to do otherwise.
3. If you are unable to establish voice contact with ATC, then squawk Code 7700 and Mode C.
4. Pilots should provide as much of the following information as possible.

   a) If distress, MAYDAY-MAYDAY-MAYDAY. If urgency, PAN-PAN, PAN-PAN, PAN-PAN.

b) Name of station addressed.
c) Aircraft identification and type.
d) Nature of distress or urgency.
e) Weather.
f) Pilot's intention and request.
g) Present position and heading; or if lost, last known position, time, and heading since that position.
h) Altitude or flight level.
i) Fuel remaining in minutes.
j) Number of people on board.
k) Any other useful information.

If you are in a bailout situation, crash landing situation, or ditching is imminent, the AIM requests that, time permitting, the following additional information be transmitted:

(a) ELT status;
(b) Visible landmarks;
(c) Aircraft color; and
(d) Emergency equipment on board.

If you can, you should activate your ELT to help search and rescue forces find you. If you have to ditch, try to ditch near a surface vehicle. If time permits, ATC may be able to provide you with data about the nearest commercial or Coast Guard vessel that might be able to help rescue you. The AIM's final suggestion is for pilots and passengers to stay with the aircraft after a crash landing or ditching if at all possible. An aircraft makes a better target for search and rescue (SAR) aircraft crews to find you. Only after you have made a careful evaluation of your chances of being found by SAR forces, should you consider leaving your aircraft to seek help. If you do decide to leave your aircraft, you should leave some kind of message telling your intentions, direction of moment, and date and time of departure to help SAR forces find you.

THE ENDING

Now let me see, if I don't want my editor to find me and make me end this article, should I set transponder code 7700, shout MAYDAY-MAYDAY-MAYDAY, or just call the Coast Guard for the location of the nearest commercial cruise ship going to an exotic tropical island? What would you do? ±

6-3-4. SPECIAL EMERGENCY (AIR PIRACY)

a. A special emergency is a condition of air piracy, or other hostile act by a person(s) aboard an aircraft, which threatens the safety of the aircraft or its passengers.

b. The pilot of an aircraft reporting a special emergency condition should:
1. If circumstances permit, apply distress or urgency radio-telephony procedures. Include the details of the special emergency.

REFERENCE-
AIM, DISTRESS AND URGENCY COMMUNICATIONS.
2. If circumstances do not permit the use of prescribed distress or urgency procedures, transmit:
(a) On the air/ground frequency in use at the time.
(b) As many as possible of the following elements spoken distinctly and in the following order:
(1) Name of station addressed (time and circumstances permitting).
(2) The identification of the aircraft and present position.
(3) The nature of the special emergency condition and pilot intentions (circumstances permitting).
(4) If unable to provide this information, use code words and/or transponder as follows: state "TRANSPONDER SEVEN FIVE ZERO ZERO." Meaning: "I am being hijacked/forced to a new destination;" and/or use Transponder Setting MODE 3/A, Code 7500.

NOTE-
Code 7500 will never be assigned by ATC without prior notification from the pilot that the aircraft is being subjected to unlawful interference. The pilot should refuse the assignment of Code 7500 in any other situation and inform the controller accordingly. Code 7500 will trigger the special emergency indicator in all radar ATC facilities.

c. Air traffic controllers will acknowledge and confirm receipt of transponder Code 7500 by asking the pilot to verify it. If the aircraft is not being subjected to unlawful interference, the pilot should respond to the query by broadcasting in the clear that the aircraft is not being subjected to unlawful interference. Upon receipt of this information, the controller will request the pilot to verify the code selection depicted in the code selector windows in the transponder control panel and change the code to the appropriate setting. If the pilot replies in the affirmative or does not reply, the controller will not ask further questions but will flight follow, respond to pilot requests and notify appropriate authorities.

d. If it is possible to do so without jeopardizing the safety of the flight, the pilot of a hijacked passenger aircraft, after departing from the cleared routing over which the aircraft was operating, will attempt to do one or more of the following things, insofar as circumstances may permit:
1. Maintain a true airspeed of no more than 400 knots, and preferably an altitude of between 10,000 and 25,000 feet.
2. Fly a course toward the destination which the hijacker has announced.

e. If these procedures result in either radio contact or air intercept, the pilot will attempt to comply with any instructions received which may direct the aircraft to an appropriate landing field."

OPERATION SKYHOOK

The Black Pilots of America is a national aviation organization with several chapters throughout the United States. Each year the Black Pilots of America has a National Memorial Day Fly-In referred to as "Operation Skyhook" in Pine Bluff, Arkansas. This event attracts members from across the country who flying their private aircraft into Pine Bluff's historic Grider Field.

During the annual Operation Skyhook, the pilots will participate in various pilot proficiency events. These events include the power-on spot landing, cross-country competition, pylons, and the all-time favorite, balloon bursting.

During last year's event, the Federal Aviation Administration (FAA) was an active partner and got an opportunity to observe the pilots in action. At the beginning of the Fly-In, the FAA provided an evening seminar with many local and visiting pilots participating. The thrill of aviation and the enjoyment of seeing Grider Field come alive with airplanes and pilots makes for a fun filled Memorial Day weekend. In addition to the competitive events, last year's event included a distinguished guest, NASA Astronaut Winston Scott, a Naval Aviator and an active pilot. Scott was part of a 1996 shuttle mission in which he served as a mission specialist. He was able to share his experiences with the vast number of young men and women present and encouraged them to live their dreams.

Besides the fun side of aviation, the Black Pilots of America's main aim and focus is attracting youth while recognizing the existing and historical contributions made by African-Americans in aviation, according to the Black Pilots Operation Officer Ken Johnson.

Johnson got his first exposure to aviation while attending college in the early 80's, when he became acquainted with a flight instructor and past member of the organization and got his wings in 1982. Johnson feels the support offered by the Black Pilots helped him in achieving his goal of becoming an aviator. Since then, Johnson has earned his commercial pilot license and his instructor rating. He is an active instructor and recently took part in the Annual Summer Aviation Camp for kids conducted by the organization in Miami, FL. Johnson adds, hopefully this will serve in giving something back to the community by providing many of these kids their first exposure to aviation .

Each summer, several of the organization's members volunteer their time to take part in a two-week program in teaching and training kids to fly an airplane. Many of the camp instructors fly for major airlines and are involved in other aviation careers. Some of the kids can better relate when they can actually see African-Americans serving in these professional roles. Some of the students who participated in the past summer camp are well on their way to becoming professional pilots.

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A special thanks of Jarrett MacFarlin, Byron Glass and Wanda Jones from the Little Rock FSDO for their involvement and support of the 1999 Operation Skyhook. For more information on the Black Pilots of America, please contact Ken Johnson, National Headquarters of BPA, P.O. Box 7463, Pine Bluff, AR 71611.

2000 Guest Speaker

The guest speaker at the Fly-In's Sunday night banquet is Major General (Dr.) Irene Trowell-Harris. She is a registered nurse with a diploma in nursing from Columbia Hospital's School of Nursing, a masters degree from Yale University, a doctorate from Columbia University, and Flight Nurse Wings from the Aerospace School of Medicine. In 1963 this South Carolina youth took an unchartered flight from the cotton fields of South Carolina to the pinnacle of success as a nurse, educator, military officer, mentor, and role model. Her flight made unscheduled stops, ran into turbulence, reached unexpected heights, and traveled internationally.

Major General Trowell-Harris is the highest ranking (two star) African American woman in the National Guard and is assigned as the Air National Guard Assistant to the Director for Human Resources Readiness and Chairperson for the Human Resources Quality Board. In her civilian life, she is Director, Patient Care Inspections and Program Evaluation, Office of the Inspector General, Department of Veterans Affairs, Washington, DC.

Although she has been honored by many awards in her distinguished career, her greatest treasure in life is mentoring and helping others to reach their potential and goals.

A. Mario Tucker © MMXI

It Could Happen to You

by Kelly R. Neil

As aerobatic pilots, we accept that we represent the pinnacle of general aviation. We operate our aircraft in a manner that dictates utter professionalism. Planning one's flight setting bailout altitudes, wearing safety equipment, and performing a proper preflight are just a few examples of that professionalism. But more so is having a mind set that one will execute a much rehearsed emergency egress plan at the exact moment it is needed. The following is a great example of a professional private pilot and an account of a "successful" flight. No, they don't always end in a landing. -Bruce Johnson, IAC Safety Chairman

When I arrived at the airport on the afternoon of April 10, 1999, I was ready to fly. I had just finished a shift as a Crime Scene Analyst for the Las Vegas Metropolitan Police Department. It was a beautiful Saturday, and work had been reasonably slow all day, giving me time to ponder the flight I had scheduled for 1500 hours. I drove to the hanger and picked up my helmet and parachute and then proceeded to the opposite end of the airfield to the shade hangar where a *Citabria* 7KCAB was awaiting my arrival. I had logged about 40 hours in this plane in the last two years and felt like I knew the aircraft like a good buddy. I felt some sadness because the overhaul on my *Acrosport* was nearing completion and I would probably not fly the *Citabria* much once my baby was finished.

The preflight was as uneventful as it had been the previous 40 or so times before. One of the last items on the list was to remove the seat cushions (They have a tendency to float off in negative maneuvers, in case you are wondering.) and tie up the rear seat belts to eliminate the possibility of control interference. After donning my parachute and helmet, I cinched into the front seat and fired the engine. I was cleared to taxi and after an uneventful run-up, cleared for departure on Runway 07. I still get a little bit excited at this point because I am actually flying now and nothing else really matters for the next hour or so, usually.

As I approached the area where I practice, I did the usual roll-to-inverted, back to straight-and-level, and re-tightened my belts. I practice at about 6,000 feet MSL (3,300' AGL) and have always felt that was a sufficient cushion for any situation I might find myself in. (Please note my revised opinion later in this article.) The first 30 minutes of the flight consisted of the usual combination of loops, rolls, hammerheads, etc., and I felt like I was ready to head out and practice in the box. Well, maybe one last spin to burn some altitude so I could stay under Class B airspace on the way to the box.

Throttle back to the stop, nose slightly above our uneven Las Vegas horizon, airspeed dwindling, stick full back/left rudder, shot of power for a clean break..."one-half, one, one-and-a-half, (right rudder), two, forward stick ... uh hum, guess you didn't hear me, I said forward stick, *@! *#!!!." In retrospect, I am reminded of a dream where you are trying to escape some evil villain only to find that your legs won't work. That is my best explanation of how I felt at that moment. Now, the reality is obvious--do something quickly or die.

The next few seconds were busy as I remember. Trying to look into the back seat to check the rear stick is a difficult task when you are securely fastened to the front seat, facing the wrong way. However, my flexibility surprised me, and I saw that the rear seat back was in a really crummy configuration, looped over the rear stick below the second rung of the seat back. Again *@!*#!!!. I tried in vain to knock the seat loose and in approximately the same time frame applied full forward trim. No luck on either effort. Time to bail!

I always had visions of what would happen if I ever had to jettison the door, but apparently someone changed the script and failed to notify me because the scene was not at all what I had rehearsed. Pull the pin, rotate the red handle, door is gone, oops, no, door is still here, improvisation time, whack door with elbow, nope, whack door with shoulder, nope, unfasten seat belt and lunge at door like a linebacker, much better. I should mention that somewhere during this last segment, the plane broke into a right spin and I had also cut my fingers and was bleeding on everything in sight. Anyway, my helmet unplugged itself during the lunge (I recommend this feature if you are planning to buy a helmet, which you should.), and I was out the door. Considering the spin and the fact that my only actual parachute experience was a tandem jump with my girlfriend about six months previous, I was pretty stable. I looked for my D-ring, grabbed it firmly and pulled ... I would like to thank God, Allen Silver, Para-Phenialia Inc., Free Flight, and Jim Abraham. I think they know why without explanation, and you will just have to figure it out.

@!#!!!, that hurt, but it really felt good! That is the only way I can describe the chute opening. I dropped my D-ring, grabbed the steering handles and looked down just in time to see the airplane that had taken care of me so well for so many flights hit the ground in a right spin and bounce laterally about 50 feet. I landed about 15 seconds later. Surveying the damage, I determined that my only obvious injuries were lacerations on two fingers and a scrape on my right elbow and chin. Later that night and next day, many bruises popped up in areas beneath the parachute straps. I will leave it up to you to imagine where exactly these might be.

So, why did I feel compelled to tell you about all of this? Well, two reasons I guess. First, I have to admit that as it turned out, the bailout was somewhat exciting and everyone likes to tell a good war story. More importantly though, as corny as it may sound, this could happen to you, and you need to be ready. I never expected to have to use my parachute in this way. I never thought I would use my helmet as a battering ram to knock loose a jammed door, but in those seconds everything that I had heard from Allen Silver, all the safety tips that Jim Abraham and other aerobatic pilots have drilled into my head, and having a good chute and helmet gave me a level of confidence and preparedness that I needed to do what I had to do to save my life. If I had been wearing my Nomex gloves as I usually do, I probably wouldn't have even cut my fingers.

I know we all think about safety and may even get a little tired of all of the harping about it, but I can tell you that being in a jam is no time to try to figure out what you should do. Avail yourself of every bit of information you can get your hands on. Go to seminars, preach to your friends, get and maintain good equipment ... Oh, and my revised "practice altitude" opinion is now practice at least 1,000 feet higher than I think I will ever need. Have fun and fly safe!

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CALENDAR OF EVENTS

May 13 - SAFETY FEST/MAINTENANCE FEST 2000, East Hartford, CT

FAA, the Professional Aviation Maintenance Association (PAMA), and United Technologies/Pratt & Whitney are sponsoring this year's event at Pratt & Whitney's Customer Training Center and Hangars and will feature speakers, workshops, aviation vendors, and maintenance training good for IA renewal. For more information contact Bob Martens (860) 654-1002 or Pet Lindberg at (860) 654-1033.

June 3 - 10TH ANNUAL AOPA FLY-IN AND OPEN HOUSE, Frederick, MD

At AOPA Headquarters, Frederick Municipal Airport, MD. For more information, see their web site at <www.aopa.org> or call (301) 695-2000.

June 25-30 - INTERNATIONAL SHORT WING PIPER MEETING, Lakeland, FL

Meeting will be held at the FAA Safety and Production Studios at Lakeland's Linder Regional Airport. Call the Orlando FSDO for more information, (407) 816-0000, x129.

June 28 - SAFETY SEMINAR, Lakeland, FL

During the Short Wing Piper meeting a safety seminar will be held 0900 to 1400 at the FAA Safety and Production Studios. Call the Orlando FSDO for more information, (407) 816-0000, x129.

July 26 - August 1 - EAA AIRVENTURE OSHKOSH 2000

Aircraft that are fast in flight will be in the spotlight this summer as "Speed" is the theme of the 48th Annual EAA AirVenture Oshkosh gathering at Wittman Regional Airport at Oshkosh, WI.

August 11-13 - 14TH ANNUAL NORTHWEST MOUNTAIN FAMILY FLY-IN AND AVIATION SAFETY CONFERENCE, McCall, ID

Keynote speaker is aerobatic performer Wayne Handley and Sparkey will be doing his "mountain flying" ground school again. For more information contact John Goostrey (SPM, Boise FSDO) at 1-800-453-0001 or Jim Cooney (Helena FSDO) at 1-800-457-9917 or visit the website at <www.faa.gov/fsdo/hln/myl.htm>.

Flight FORUM

• Case of the Missing Words

That "Into the Night" (both parts) was one great article!

I enjoy the work, but I have a piddly question on a letter in the October issue. A reader was writing back, and I was REALLY into his reply, and it just sort of cut off into the bit bucket. I looked everywhere for the continuation, but it actually wasn't there. What happened?

Jeff Pardo
Via the Internet

If you are talking about the "Retracted Gear" article in the FlightFORUM section, the final line was dropped off. We apologize for the missing words and have reprinted the letter for others who want to know what the answer really said.

FAA AVIATION NEWS welcomes comments. We may edit letters for style and/or length. If we have more than one letter on the same topic, we will select one representative letter to publish. Because of our publishing schedules, responses may not appear for several issues. We do not print anonymous letters, but we do withhold names or send personal replies upon request. Readers are reminded that questions dealing with immediate FAA operational issues should be referred to their local Flight Standards District Office or Air Traffic facility. Send letters to H. Dean Chamberlain, FORUM Editor, FAA AVIATION NEWS, AFS-805, 800 Independence Ave., SW, Washington, DC 20591, or FAX them to (202) 267-9463; e-mail address:

Dean.Chamberlain@faa.gov

• Retracted Gear (Revisited)

The May/June 1999 issue's back cover shows a *Baron* several feet off the runway with the gear retracted. Is this good operating procedure?

Craig Hollander
Elizabethton, TN

The best answer to your question is it all depends upon the situation, type of aircraft, and runway length. When asked, the photographer and FAA pilot said, "Most light twins retract the gear right after take off. In the Baron, *minimum control airspeed (VMC) is 84 knots and rotation is generally five knots higher. Best rate single engine airspeed (VYSE) or blue line is 101 knots so when adequate runway is not available to stop from 89 knots, prudence dictates that a timely gear retraction will reduce the time for acceleration to blue line and give a better chance of maintaining a positive rate of climb should power be lost on one of the engines.*

Now for the photographic technique, I used a very slow shutter speed of 1/30 second, and I panned with the camera. This technique blurs the back round, yet gives you a sharp image of the airplane. This also gives the illusion of a much greater speed than is really present.

• Time and More Time

I am writing looking for input on FAR §1.1 that defines "pilot flight time." Some of our pilots in our flying club claim "flight time" includes start, warm-up, taxi, runup, and further taxi (all under the assumption that this time is "for the purpose of flight") while that purist in the group claim that flight time doesn't even start until power is applied at the end of the runway. The purists claim their position is proper because of the way the "time in service for maintenance" is worded.

Can you research this question?

Fred C. Smyth
Flying club manager
Via the Internet

The purists are wrong. Flight time is as defined in FAR §1.1. FAR §1.1 states in part, "Flight time means pilot time that commences when an aircraft moves under its own power for the purpose of flight and ends when the aircraft comes to rest after landing; or..."

Please don't confuse aircraft maintenance requirements with the logging of pilot time.

• Dog-Eared Cert

I own a very clean 1956 Cessna 182 and the original Airworthiness Certificate is rather dog-eared and worn. Is it allowed to laminate the certificate in clear plastic if I am careful not to fold any corners or wrinkle it? Will it be acceptable to Mexican and/or Canadian boarder crossing officials should I ever decide to fly into another country. I have heard many horror stories of people violating some obscure regulation by photocopying the registration certificate and getting fined by our customs people.

Mike Donnelly
via the Internet

Although we know of no regulation which would restrict you from laminating your certificate, a better option would be to contact your local Flight Standards District Office and request a replacement airworthiness certificate. (In accordance with FAA Order 8130-2D, page 13, paragraph 26.) There should be no charge for replacing the certificate.

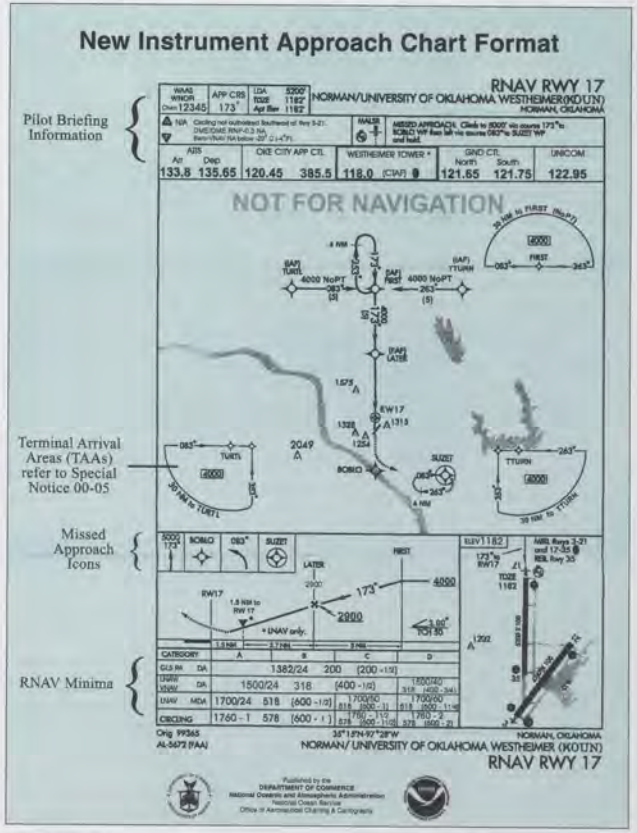
AVNEWS

NEW GOVERNMENT INSTRUMENT CHART FORMAT

Effective February 24, the National Oceanic and Atmospheric Administration (NOAA) started publishing Instrument Approach Procedure (IAP) charts with a new look. Designed to be phased in over a period of time, airport by airport, with all of the charts for a given airport in the same format, old or new, the new format makes it easier for pilots to read and understand the data on the new charts as well as incorporating information for all area navigation systems both satellite and ground based. Eventually, NOAA will publish all IAP charts in the new format.

In addition to the new format, NOAA also started introducing on that date new Terminal Arrival Area (TAA) charts for arriving aircraft equipped with FMS or GPS navigational equipment. As explained in the *Aeronautical Information Manual* (AIM) Paragraph 1-1-21.f, a TAA chart is designed to provide properly equipped aircraft a no procedure turn (NoPT) instrument approach to a runway. The new TAA's will be included in both the current and the new formatted GPS and RNAV IAP charts.

Pilots using these new charts need to review the appropriate legends to ensure they understand the new data format and icons used to display information.



SHOWING THE WAY

The Aircraft Owners and Pilots Association (AOPA) Air Safety Foundation (AFS) has a new feature on its web site, and you do not have to be an AOPA member to make use of it. By entering some information on the site <http://www.aopa.org/asf/taxi> you can view and print airport taxi diagrams for the 330 busiest airports in the country.

These taxi diagrams are the same as the ones available to IFR pilots on NOAA instrument charts, but not readily available to VFR pilots. The appealing aspect to this is that when you print a taxi diagram from the AOPA ASF site, rather than the "thumbnail" print you have to use your most powerful reading glasses for, this version prints out on an 8.5" x 11" page and fills almost the entire page.

The user can search by entering either the airport identifier, airport name, the city, or the state, and if you are not sure of the airport or city name (or your spelling isn't that great), you can enter only a portion of the name. Click on "Find Diagrams," and your selection appears. You can also leave all the criteria blank and receive the entire listing of airport taxi diagrams, then chose which ones you want.

The diagrams are what are called .pdf files, meaning that they have to be viewed through Adobe Acrobat

Reader. The software can usually be downloaded for free from the Internet from many FAA sites and from <www.adobe.com>. Viewing them on-screen is manageable, and the printing quality is good and improves with more modern printers. The .pdf files range in size from 34kb to 480kb, but most are under 200kb, so you shouldn't tie up your memory to view them.

The diagrams will be updated on the AOPA ASF site as they are updated by NOAA. Taxi diagrams are a big help in assisting pilots at unfamiliar airports to prevent inadvertent clearance deviations and runway incursions.

For more information go to the referenced AOPA ASF web site or contact them at (301) 695-2000.

CORRECTIONS

In the January/February 2000 issue, the article, "Tackling the Tailwheel," used two illustrations, but we neglected to give credit to the appropriate publication for their use. Figures 1 and 2 on pages 13 and 14 were used with permission from Mr. William K. Kershner and taken from his publication, *Advanced Pilot's Flight Manual*. For further information on this publication, contact Mr. Kershner at P. O. Box 3266, Sewanee, TN 37375-3266; (615) 598-5723. We apologize for the omission.

In the March 2000 issue's Sun 'n Fun article, the web address of the Orlando Flight Standards District Office was incorrect. It should have been <www.faa.gov/fsdo/orl>.

The Aviation News Staff apologizes for the inappropriate photograph which appeared on page 4 of the March 2000 issue. In no way do we ever intend to demean anyone in the pages of this magazine, and we apologize that this photograph was not scrutinized closer.-Editor

GENERAL AVIATION SAFETY COMPARISON

Ever wondered how safe you are in general aviation compared to other walks of life? Recently, the National Transportation Safety Board (NTSB) released statistics for 1998 general aviation fatalities with comparisons to other types of transportation accidents.

In 1998, in the U.S. and its territories, nearly 44,000 people died in transportation-related accidents. General aviation suffered 621 of those fatalities—fewer than bicyclists (794) and recreational boaters (808)—and more people walked in front of trains (831) than died in general aviation aircraft.

Let's work toward reducing the numbers for 2000 even more.

FAA PUBS AVAILABLE THROUGH GPO

The following FAA publications are available through the U.S. Government Printing Office. The publications can be ordered by mail, phone, fax, or online. The freshly updated editions of several handbooks are also included in the list. All are now made available for sale from the Superintendent of Documents. Prices include regular shipping and handling. Prices and availability are current as of January 2000. Information products may also be purchased at the U.S. Government Bookstores.

Aircraft Weight and Balance Handbook, 1999, presents a method of determining the empty weight and empty-weight center of gravity of an aircraft, and provides flight crews with information on loading and operating the aircraft to ensure its weight is within the allowable limits and its center of gravity within the allowable range. 1999. 96 p. il. Stock number 050-007-01272-1. $12.

Airline Transport Pilot, Aircraft Dispatcher and Flight Navigator Knowledge Test Guide, 1999, focuses on eligibility requirements, test descriptions, testing and retesting materials, and sample test questions representative of those used in the official tests. 1999. 26 p. 050-007-01258-6. $3.00.

Airplane Flying Handbook introduces the basic pilot skills and knowledge essential for piloting airplanes and provides information on airplanes and the operation of airplane systems. 1999. 220 p. il. Stock number 050-007-01274-8. $22.

Airport Emergency Plan provides guidance on how to develop and implement an airport emergency plan. 1999. 219 p. il. Stock number 050-007-01278-1. $22.

Aviation Instructor's Handbook, 1999, provides information on learning and teaching flying skills and relates this information to the task of conveying aeronautical knowledge and expertise to students. 1999. 152 P. il. Stock number 050-011-00079-8. $16.

Commercial Pilot Knowledge Test Guide, 1999, contains information about eligibility requirements, test descriptions, testing and retesting procedures, and sample test questions representative of those used in the official tests for commercial pilot certification. 1999. 27 p. Stock number 050-007-01259-4. $3.00.

These publications may be ordered via phone, fax, mail, or online. To order, phone 202-512-1800 (M-F, 7:30 am-5:00 PM EST); fax 202-512-2250; or send mail to Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. To order on the internet, visit the GPO Online Bookstore at http//www.access.gpo.gov/Su_docs

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Editor's Runway

GUEST COMMENTARY

James W. "Pete" Campbell • by Ken Medley

Though the subject is a sad one, I am pleased to turn the Runway over to Mr. Ken Medley to commemorate the life of a very special aviator. Mr. Medley is an FAA Aviation Safety Counselor, consultant to the AOPA Air Safety Foundation, and Flight Instructor Refresher Clinic instructor. —Editor.

In the early 1960's the accident rate for instructional flying was alarmingly high. A solution was needed to stem the trend. An FAA inspector in the St. Louis General Aviation District Office believed that the flight instructor held the key to solving the accident problem. FAA Inspector James W. "Pete" Campbell wrote a memo explaining his ideas about safety and what he thought could be done. FAA liked his ideas and in 1964 he was transferred to Oklahoma City, OK to organize and manage what became the first Flight Instructor Refresher Clinic (FIRC). He recruited the best instructors to be found anywhere, began researching the best teaching methods for flight instructors, and wrote the teach course outlines. [Editor's note: FIRC's were initially taught by the FAA, but later that was delegated to the industry with the FAA approving the training course outlines.]

Under Pete's leadership the FIRC program was carried to all parts of the country. Seminars were aimed at solving the accident problem, and course content began by reviewing the basics of good instruction, regulations, instructor responsibilities, then proceeded with new concepts and ideas for personal development and better instructor performance.

Pete quickly established himself as an outstanding teacher. His most popular lecture was on the magnetic compass, and he proved that no topic need be dull. The lessons didn't change much over time, and today the magnetic compass is one of the more memorable lectures he ever gave. But he established the same standard for all topics, including the fundamentals of instruction, for which he also gained fame.

Six years later, the accident rate for flight instruction was down by 67%--proving Pete's idea that the flight instructor held the key to safety. The FIRC program was significant in reducing these accidents, and that success was due precisely to the caliber and performance of the instructors recruited by Pete.

In 1971 Pete was transferred to FAA headquarters to organize and establish the national Accident Prevention Program (now called the Aviation Safety Program). Three years later, the accident rate for general aviation experienced a substantial reduction that continues even to today. In the space of three years, Pete had been the driving force behind two, successful, national programs aimed at flight safety. Also during his tenure in Washington, in cooperation with aviation industry groups, Pete helped establish the National Flight Instructor of the Year and Mechanic of the Year Awards, which today honors flight instructors, aviation maintenance technicians, and avionics technicians.

During more than 26 years with FAA, Pete served with distinction in Los Angeles; St. Louis; Washington, DC; Oklahoma City; Seattle; and Fort Worth. In 1979 he was made manager of the Nashville Flight Standards District Office. He retired from FAA in 1980 and settled in his home town of Union City, TN, where he took up--you guessed it, flight instructing. Soon afterwards he joined the AOPA Air Safety Foundation. Over the next eight years he taught some 350 FIRC's, giving more than 2,800 lectures to 28,000 flight instructors.

Before the FAA Pete had been a B-24 pilot in the South Pacific, surviving 56 combat missions. After leaving the military he was a flight instructor and flight commander for California Eastern Airways then a flight instructor in Tennessee before joining the FAA. In his aviation career, Pete logged more than 22,000 flight hours, with more than 10,000 of them as a flight instructor. His pilot certificate is one earned by only a very few, select pilots--"All Ratings Authorized." It was this knowledge and experience that Pete brought to the two most successful safety programs in the FAA.

Those who knew Pete best are acutely aware of his humor. To try to describe his style would be futile. His delivery made him famous, and whatever he said was funny--but you learned. As I said, his lecture on the mag compass was a masterpiece, and his talent was rare.

After a long illness, Pete died on Christmas Eve 1999 and was buried in his hometown in Union City, TN. To say he will be missed is insufficient, but his legacy--the flight instructors he trained, their students who went on to be flight instructors, etc.--is continuing.

Pete Campbell was one of the first "characters" I met upon joining the FAA, and Mr. Medley's characterization is so apt. You could learn from Pete when he was just joking around. The FAA and the aviation industry are diminished without him. —Editor.

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