FAA AviationNews

AVIATION SAFETY FROM COVER TO COVER

SEPTEMBER/OCTOBER 2005

BALLOON Fiesta 2005

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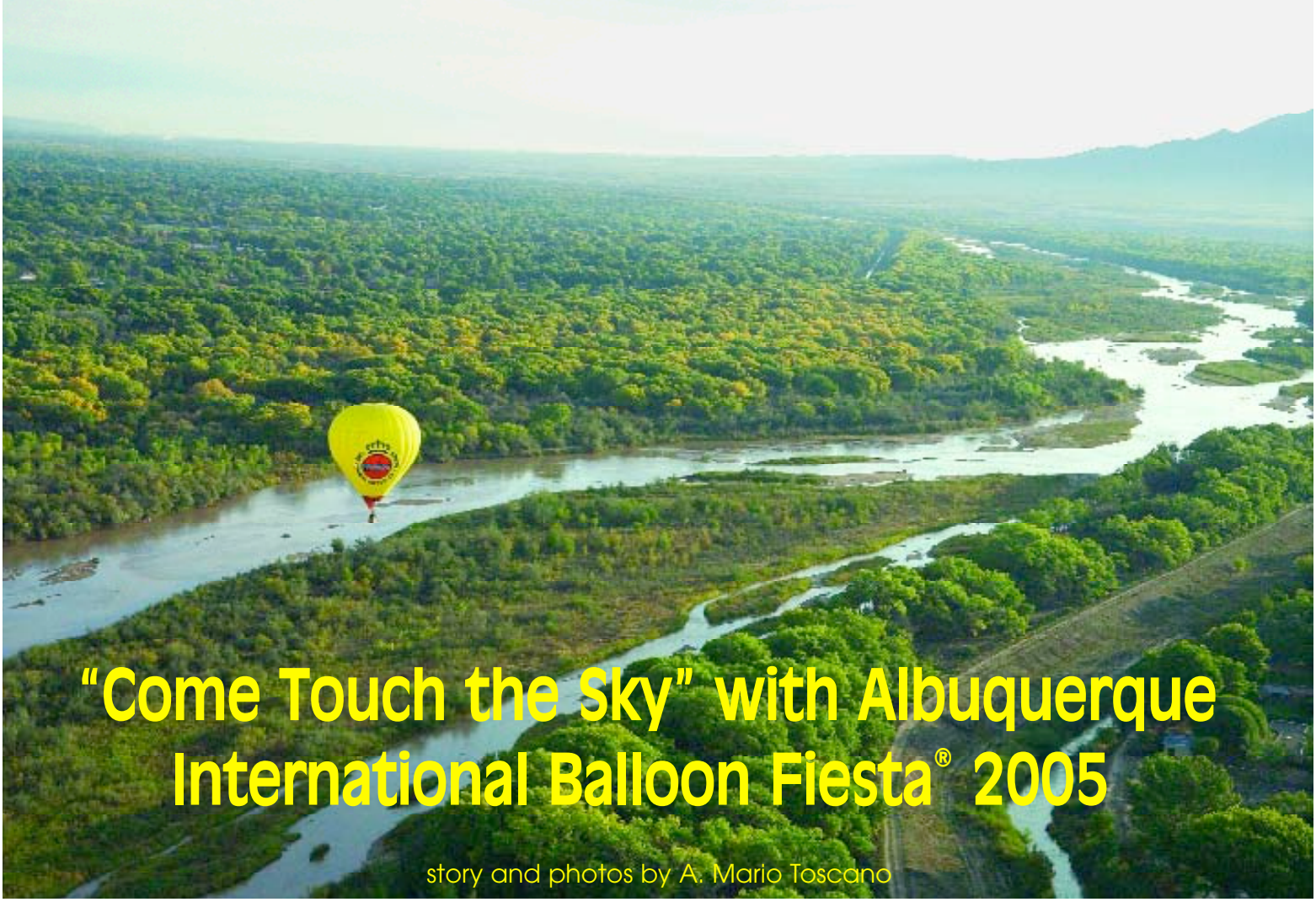
FRONT COVER: This majestic 2004 Balloon Fiesta special shape balloon greets visitors at Fiesta Park (Mario Toscano photo)

BACK COVER: Stewart Dawson's Spirit of Texas in front of the Lone Star Flight Museum, Galveston, TX. (Ray Stinchcomb photo)



"Come Touch the Sky" with Albuquerque International Balloon Fiesta® 2005

story and photos by A. Mario Toscano

And, touch the sky, you will!

This is a very special year for Albuquerque, New Mexico. On October 1, it will host the world's most prestigious gas balloon race, the 49th Annual Coupe Aeronautique Gordon Bennett. The "ballooning capital of the world" is also center stage for the 34th Albuquerque International Balloon Fiesta® from September 30 to October 9. Balloon Fiesta organizers are forecasting the participation of more than 750 hot air and gas balloons. The 10th America's Challenge Gas Balloon Race—qualifier for U.S. participants for next year's prestigious Gordon Bennett's race—has been scheduled to launch October 1.

Balloon Fiesta officials reported last year's attendance at an estimated 794,709 guests. A total of 730 balloons, 95 special shapes balloons, and 18 gas balloons representing 42 American states and 19 foreign countries were registered for the nine-day 2004 event. A total of 723 media representatives from 298 national and international media organizations, including the *FAA Aviation News*, covered the event.

The first prize in the overall hot air balloon competition was awarded to Kansas pilot Johnny Petrehn. The U.S. team of Richard Abruzzo and former New Mexico Governor Gary Johnson won the 9th America's Challenge Gas Balloon Race. The Annual New Mexico Challenge hot air balloon race had winners in three categories. Belgian pilots Peter Van Overwalle, who had also won the 2003 competition in the same category, and Lowie Vanluffelen won the 83,000 cubic feet and smaller category. U.S. pilots Tom Bergeon and Chuck Polonowski won the 84,000 to 100,000 cubic feet category, and U.S. pilots Rene Meier and Daniel Kirk won the 100,000 cubic feet and larger category.

Of course, planning for the next year starts early. Last November, the 24-member volunteer board of directors that manages the Albuquerque International Balloon Fiesta® re-elected Rod May for another year as its president and elected two new board members: Jay Czar and Scott Cummings.

THE FAA'S WORK

FAA's ALBUQUERQUE AIR TRAFFIC CONTROL TOWER

Albuquerque's Air Traffic Control Tower (ABQ ATCT) synchronizes its work with all FAA facilities involved with Balloon Fiesta, in order to achieve the maximum in aviation safety during the event.

David Ausherman, ABQ ATCT manager, keeps a close relationship with Balloon Fiesta officials for efficient air traffic procedures. The ultimate goal is to figure out the safest way to avoid conflicts with airplanes and helicopters during balloon operations.

Pilots receive a live weather brief at the FAA's "Temporary Flight Service Station" booth in the Pilots and Crew tent during Balloon Fiesta 2004.

"The FAA community (Albuquerque AFSS, Flight Standards District Office, ABQ Center, and naturally the tower), work closely with the balloon community to make this the biggest and safest ballooning event in the country. It is a collaborative effort on all our parts to ensure the event proceeds as planned, and at the same time, with as minimal impact as possible to the rest of the flying community," says Ausherman.

Representatives of the tower are present each day at Balloon Fiesta relaying information between the field and the tower, coordinating the closure and release of airspace, identifying aircraft entering restricted airspace, and identifying any possible security issues. Personnel in the tower and Terminal Radar Approach Control pass along this information as needed to security personnel, keep the flying public clear of the restricted airspace, and work around hundreds of balloons to get aircraft to and from the airport in a safe and efficient manner. Ausherman points out, "There are times when balloons land on the airport. When this occurs, close coordination with the City Aviation Department results in the expedient removal of the balloon and associated personnel from the airport while maintaining a safe environment for arriving and departing aircraft on other runways."

FAA's "TEMPORARY FLIGHT SERVICE STATION"

The FAA Albuquerque Automated Flight Service Station (AFSS) returns for its fifth year as a remote AFSS in Balloon Fiesta Park. AFSS Manager, Thomas C. Wimber, plans to continue providing online and live services directly to the pilots and crews participating in Balloon Fiesta 2005.

Last year, recently retired Operations Manager Thom Ochello, Jr., had his crew set up the customary "Temporary Flight Service Station" in the pilots' tent, and in each Balloon Fiesta day answered questions, provided maps, projected looping weather graphics on a wide screen, and held pilot briefs upon request.

Albuquerque AFSS personnel also staffed the America's Challenge Gas Balloon Race Command Center to provide weather and aeronautical information to race contestants and officials as contenders flew across the United States.

The FAA Albuquerque AFSS provides Balloon Fiesta pilots and crews with general information, automated services, frequencies, weather patterns, flight planning, and pilot briefings. Available maps include the New Mexico topography, weather reporting locations, airspace classification, area AFSS and Air Traffic Control frequencies, Airways-Jet routes, IR/VR routes, and restricted areas. Most of these current products are available online in the internet, at the AFSS web site at <www.abqafss.jccbi.gov> and for a weather briefing over the phone you can call 1-800-992-7433 (1-800-WX-BRIEF).

THE ALBUQUERQUE FSDO

Balloon Fiesta operates every year —as it has since 1972—under a Certificate of Waiver or Authorization for an Aviation Event issued by the FAA's Albuquerque Flight Standards District Office (FSDO). It is a long process that begins early in the year and involves several experts from the FAA and the Balloon Fiesta's organization. J.D. Huss, a senior aviation safety inspector with the Albuquerque FSDO, was the FAA's designated inspector in charge (IIC) for the 2004 Balloon Fiesta with the responsibility of overseeing the entire event. This year's Balloon Fiesta IIC is Albuquerque FSDO safety inspector Tamara Bell.

Before making recommendations for the waiver to be issued, the IIC conducts a feasibility study, participates in preseason evaluation meetings, and reviews all the details in the Balloon Fiesta's application for the waiver. Safety, from beginning to end, is the FAA's goal.

With the waiver granted, the Albuquerque FSDO and 2005 event IIC Tamara Bell set up a temporary remote facility at Balloon Fiesta Park in the Pilots and Crew tent to continue the process of overseeing the event's safety. The FAA has the responsibility of reviewing the certificates and currency of all participating pilots, as well as each entrant's balloon airworthiness. No stone is left unturned. Like airplane pilots, balloon pilots must meet federal requirements for certification. To receive an FAA certificate, they must pass written and in-flight tests covering

regulations, meteorology, and general ballooning rules. The minimum age for a balloon solo flight is 14 years. To be eligible for a private pilot balloon certificate or a sport pilot balloon certificate, you must be at least 16 years old.

In addition to the training and knowledge requirements per Title 14 Code of Federal Regulations (CFR) Part 61, balloon pilots must include actual hours flown to qualify for a balloon rating. Private pilots must have 10 hours of flight time, including a minimum one hour solo. Commercial pilots need 35 hours of flight time and must pass an additional exam and flight check. Every two years pilots must pass a Flight Review administered by a commercial balloon pilot. Balloons must be inspected for airworthiness every year or, if operated for hire every 100 hours of flight time. Fabric, maintenance, and conditions in which a balloon is flown determine its longevity. Normally, a balloon that has flown 500 hours is considered old.

During the Balloon Fiesta, the IIC manages the FAA booth—which is located beside pilots and crew registration—reviews required certificates, resolves any last minute issues, and ensures that spectators remain clear from target areas during balloon competitions. To help the IIC manage the large workload during Balloon Fiesta, the FAA selects and sends several aviation safety inspectors from neighboring FSDO's to augment the FAA's temporary "office" at Balloon Fiesta Park.

THE OPERATIONAL AIRSPACE WAIVER IN BRIEF

The FAA, as it has done consistently throughout the years, issues Balloon Fiesta a Certificate of Waiver or Authorization for an aviation event governed by the 14 CFR Part 91. This official document authorizes certain operations of aircraft to deviate from regulations, while assuring an equivalent level of safety. Section 91.905 lists the sections that can be waived, and the FSDO reviews and processes a waiver request. Waivers are primarily granted based on a recommendation by the FAA-designated inspector in charge (IIC) and upon an in-depth knowledge of the proposed operation and show site.

The safety of spectators and participants in an event like Balloon Fiesta are foremost for the FAA. Events organizers assume responsibility for an operationally safe meet with target areas under event officials' control. When applying for a waiver, event organizers are also asked, but not required, to submit a set of competition rules conforming to industry standards such as those developed by the Balloon Federation of America (BFA). To be eligible for a waiver to 14 CFR section 91.119[b] and [c], the applicant must prepare and maintain an Organized Manned Free Balloon Competition Manual that has been found acceptable by the jurisdictional FSDO. When satisfied that the manual presented addresses all pertinent federal aviation regulations and FAA directives, the jurisdictional FSDO grants and issues the requested Certificate of Waiver or Authorization for the event.

The Manual is an extremely complex safety document that includes operations, personnel, letters of agreement, and the names of balloon flight crewmembers. The Manual is a necessary tool to assure that all operators work under the same standards. Section 91.119 (b) can be waived to allow flight over a congested area at an altitude of no less than 500 feet above the highest obstacle within a 500 feet radius from the balloon. The section requires a specified maximum distance from launch and target areas. If a target area is small and does not allow for a normal descent of 200 to 300 feet per minute, the waiver will not be granted. However, the section may be waived to allow flight over, but not less than 75 feet from, any open-air assembly of people (spectators' area) under direct control of event organizers. Section 91.119 (c) may also be waived to allow flight over open water or sparsely populated areas, no closer than 200 feet horizontally to any person, vessel, vehicle, or structure.

The maximum wind speed for launch and for the target area is set by an agreement between the event organizer flight director and the FAA. Balloon Fiesta maximum wind speed is set at 10 knots.

IN AND AROUND BALLOON FIESTA 2004:

THE BALLOON MUSEUM, SOME DISTINGUISHED VISITORS, AND ITS GRAND OPENING

Last September, Albuquerque Mayor Martin J. Chavez hosted an evening reception on the eve of Balloon Fiesta 2004 to welcome dignitaries and to lead a tour of the unfinished balloon museum. The Anderson-Abruzzo Albuquerque International Balloon Museum is scheduled to be completed and open to the public by October 1, 2005. A Gala Opening is scheduled for September 24.

The $12 million, 59,000-square foot museum is designed to house creative and technological exhibits of ballooning experiences. It will feature one of the finest collections of ballooning equipment and memorabilia in the world. Learning spaces and educational classrooms are planned for the new facility, also a library on ballooning and air flight, a film and photo archives, a museum shop, and food service. The exhibition space is 25,000 square feet.

For more information, visit the Museum web site at: <http://www.balloonmuseum.com/balloonmuseum.html >.

Tom D. Crouch

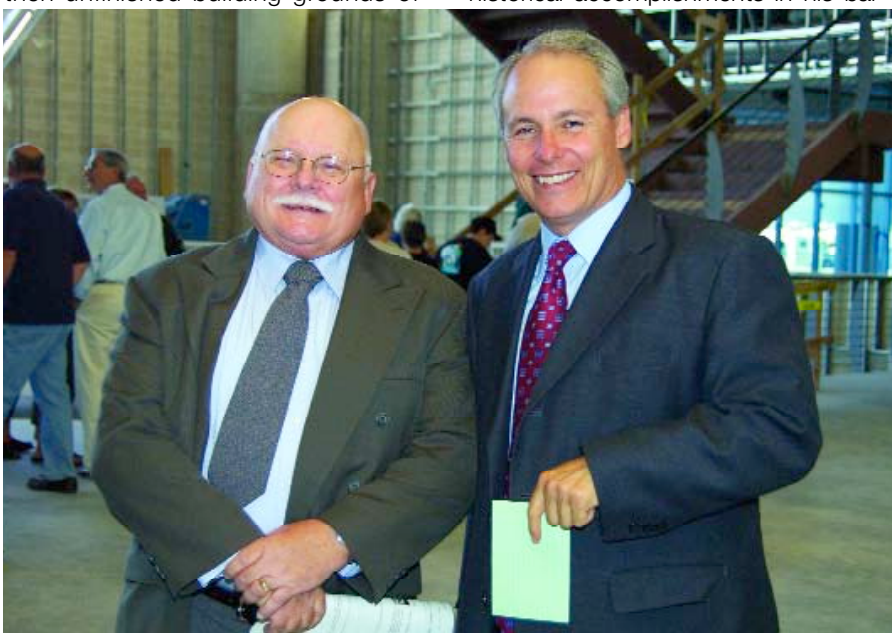
Tom Crouch, the Smithsonian's National Air and Space Museum Senior Curator of Aeronautics, was on hand at last year's Balloon Fiesta and for the new Balloon Museum reception. Crouch, a balloon historian and author of several aviation books including *The Eagle Aloft: Two Centuries of the Balloon in America*, led a group

Above: Smithsonian's National Air and Space Museum Senior Curator of Aeronautics and author Tom Crouch, left, visits with Ed Yost. Below: Tom Crouch poses with Albuquerque Mayor Martin J. Chavez during their walk through the new Balloon Museum facility construction site. Above, left, the majestic Balloon Museum building during Fiesta's 2004 spectacle.

of Smithsonian associates for their visit to Albuquerque and the Balloon Fiesta.

During his visit, Tom gave a presentation on the Smithsonian's Air and Space Museum new Steven F. Udvar-Hazy Center <http://www.nasm.si.edu/museum/udvarhazy/> as part of a City of Albuquerque reception in the then unfinished building grounds of the Balloon Museum. "It was a celebration, our way in welcoming the new museum," says Crouch.

Later that evening, Tom revisited with Ed Yost, highly esteemed and recognized in the world's ballooning community as the "father of modern hot air ballooning." "It was wonderful to see Ed," and "revisit some of his historical accomplishments in his ballooning career." Tom reminisces fondly when they "first met in 1993 in Philadelphia during the celebration of the 200th Anniversary of free flight in America. Really, a world class engineer."



Tom Crouch is scheduled to lead a new group of some 20 to 30 Smithsonian Associates to this very special year for Balloon Fiesta. Coincidentally the Udvar-Hazy Center is scheduled to open its new balloon and airships exhibit in Chantilly, VA, around the same time.

Ed Yost

Paul Edward "Ed" Yost is considered the father of modern hot air ballooning. He was also on hand at Balloon Fiesta 2004 for the launch of the America's Challenge Gas Race. Ed, by developing, building, and flying the first modern hot air balloons began a colorful career in ballooning when he was a senior engineer at the High Altitude Research Division of General Mills. There, he was instrumental in the development of high altitude research balloons capable of reaching altitudes over 100,000 feet.

Yost flew the first modern manned hot air balloon at an old air base at Bruning, Nebraska, on October 22, 1960. It was the crowning moment of Ed's search for a cheaper replacement for the European gas balloons. Principal among his many accomplishments is the first hot air balloon flight across the English Channel in 1963 alongside Don Piccard and co-founding the Balloon Federation of America.

Ed Yost has been widely recognized for his accomplishments. He shaped the stage in which the new worldwide sport, ballooning, flourished and developed the first successful transatlantic gas balloons. And, among the many awards he received, in 1999 Ed Yost became the 48th individual to receive the coveted Godfrey L. Cabot Award from the oldest aero club in the United States, the Aero

Club of New England. He was recognized for a lifetime of achievements and significant contributions to aviation as the inventor of the modern hot air balloon.

9th AMERICA'S CHALLENGE GAS RACE

Repeating their feat in 2002, U.S. pilots Richard Abruzzo and former New Mexico Governor Gary Johnson won the ninth America's Challenge Gas Balloon Race. The winning team landed safely 3.2 miles northeast of Okmulgee, Oklahoma, after traveling 611.60 miles in 35.97 hours.

The U.S. team of David and Alan Levin finished second and landed near Guthrie, Oklahoma, logging 509.18 miles in 33.18 hours. Germany's Gerd Strasmann and Rainer Herkenhoff were third-place winners, and U.S. pilots Lesley Pritchard and Jack Muller was fourth.

The three top U.S. teams in the America's Challenge race will represent the United States this October in the world's most prestigious gas balloon race Coupe Aeronautique Gordon Bennett. The 49th edition of the Coupe Gordon Bennett race is scheduled for October 1 at Balloon Fiesta.

The Education Committee of the Albuquerque Aerostat Ascension Association (Quad-A), as it customarily does before each gas race, held a special seminar for all participating teams. FAA's Albuquerque Flight Standards District Office, Air Traffic Control, and Automated Flight Service Station personnel presented pertinent information on charts, Air Traffic Control Centers, communications, weather, and flight services among the several topics related to the safety of the race. The Quad-A Education Committee also hosts a "Balloon Fiesta Safety Seminar" on Tuesdays, during Balloon Fiesta, open to all balloonists wishing to attend. Last year, more than 280 balloonists attended the program that includes an in-depth safety presentation from the FSDO's Safety Program Manager J.D. Huss.

The Quad-A web site is a "must-visit" for balloonists. In addition to downloadable material such as prohibited zones (PZ), area maps, schedule of safety seminars, and the latest about Balloon Fiesta, <http://www.hotairballoning.org> provides valuable links to its visitors.

...AND NOW, TO BALLOON FIESTA 2005!

49th COUPE AERONAUTIQUE GORDON BENNETT

The Coupe Gordon Bennett is a major highlight in this year's Albuquerque International Balloon Fiesta®. Albuquerque has been given the honor to host the 49th Coupe Gordon Bennett by the Ballooning Commission of the Federation Aéronautique

Internationale, along with Balloon Federation Of America and the National Aeronautic Association.

When the U.S. team of Richard Abruzzo and Dr. Carol Rymer Davis won the 48th Annual Coupe Aéronautique Gordon Bennett last fall, in Thionville, France, they secured arrival of this prestigious event on U.S. soil for the first time since 1999. Traditionally, the Coupe winning team earns their country the right to organize the following year's competition. The 49th race is scheduled to take place in Albuquerque on Saturday, October 1.

The race, named after the International Herald Tribune founder, James Gordon Bennett, Jr., dates back almost 100 years. It is the world's premier gas balloon distance race and attracts some of the most experienced and distinguished international pilot teams. While the mission of the race is simple, executing that mission is anything but easy. The winning team is the one that flies the farthest distance from the launch site. But desire alone won't carry a team to victory. Physical resistance, mental strength, strong morale, and incredible knowledge of winds and weather are the keys to taking home the cup.

Each country is allowed to enter its three best teams. This is the first time the Gordon Bennett race has been approved for competitors to have their choice of helium or hydrogen gases. To read the race's rules, please visit <http://www.gasballooning.org/Coupe Gordon Bennett/Gorden Bennett Rules March 2005.htm>.

CONCLUSION

The balloon magic of Balloon Fiesta lightens up the sky between the Sandia Mountains and the Rio Grande Valley modifying New Mexico's cerulean sky into a colorful masterpiece created with balloons from all over the world. Yet, there is more to the mythical balloon flight.

From an inaugural mass ascension to the farewell mass ascension, the gas and hot air balloon races, evening glow spectacles and special shapes ascensions, Albuquerque In-

Left, on page 6, gas balloons are getting ready for lift-off for the 8th America's Challenge Gas Race, qualifier for U.S. teams' participation in the prestigious Coupe Aeronautique Gordon Bennett. Above, a successful dusk launch of a competitor in the America's Challenge Gas Race.

ternational Balloon Fiesta® is considered the largest and most photographed ballooning event in the world. In addition to the thousands of spectators who visit Balloon fiesta Park each year, millions see the event on television segments worldwide.

As one marvel's at a balloonist handling dexterity, extreme expertise, public and event safety are foremost in the mind of FAA officials and event organizers. "That work has begun way, way before the first Balloon Fiesta launch," recalls J.D. Huss, 2004 Balloon Fiesta's IIC.

Safety in ballooning and in Balloon Fiesta Park during operations cannot be over-emphasized. It is FAA's primary mission as it is Balloon Fiesta event director Pat Brake. Brake instills in all her volunteers—more than 2,000 of them each year—that safety is their foremost concern. The Albuquerque FSDO is publicly grateful for the "outstanding job" that Brake's team does in keeping Balloon Fiesta and Albuquerque's skies safe.

The FAA (Albuquerque FSDO) achieved and maintains a stellar safety record because it enjoys genuine collaboration from the event organizers. The mechanics of safety are simple: work all the angles before they become problems that require improvised reactions with untested solutions. And, should there be a rough spot along the way, the strength of the FAA and the event organizers commitment to their partnership, most likely, have already anticipated it and dealt with it.

And, now let us have some genuine fun. If you are a participating pilot or crew in 2005 Balloon Fiesta, drop by the FAA booth in the pilots' tent for an AFSS briefing, to see the FSDO team and get a free copy of *FAA Aviation News*, or just to say hello. You'll be glad you did, and so will we!

Thanks to the Albuquerque FSDO manager, John Wensel, its personnel, to J. D. Huss, 2004 Balloon Fiesta IIC, for support and help in facilitating our coverage of Fiesta 2004 and for this report on the upcoming Fiesta 2005.

ALBUQUERQUE INTERNATIONAL BALLOON FIESTA® 2005

Balloon Fiesta Park, Albuquerque, NM
September 30 – October 9, 2005

2005 Event Schedule

Friday, September 30
7:00am 10:00am Albuquerque Aloft
5:00pm 7:00pm Fiesta Challenge Competition Flight
Saturday, October 1
5:45am 6:45am Dawn Patrol Show
6:45am 7:00am Opening Ceremonies
7:00am 8:30am Mass Ascension
12:30pm 7:00pm Fiesta del Vino - Wine Tasting
2:00pm 5:00pm America's Challenge Gas Balloon Race inflation begins
5:00pm 7:00pm Fiesta Challenge Competition Flight
6:00pm 7:15pm America's Challenge Gas Balloon Race
Sunday, October 2
5:45am 6:45am Dawn Patrol Show
7:00am 8:30am Mass Ascension
9:00am 10:00am Car Display of Classic and Special Interest Vehicles
10:00am 11:00am Salute to Veterans
5:45pm 8:00pm Balloon Glow®
8:00pm 9:00pm AfterGlow™ Fireworks Show
Monday, October 3
5:45am 6:45am Dawn Patrol
7:00am 8:00am Flying Events
Tuesday, October 4
5:45am 6:45am Dawn Patrol
7:00am 11:45am Flying Events
Wednesday, October 5
5:45am 6:45am Dawn Patrol Show
7:00am 10:00am Flight of the Nations Mass Ascension
Thursday, October 6
5:45am 6:45am Dawn Patrol
7:00am 8:00am Special Shape Mass Ascension
8:00am 10:00am Flying Events
5:45pm 8:00pm Special Shape Glowdeo™
8:00pm 9:00pm AfterGlow™ Fireworks Show
Friday, October 7
5:45am 6:45am Dawn Patrol
7:00am 8:00am Special Shape Mass Ascension
8:00am 10:00am Key Grab Competition
5:45pm 8:00pm Special Shape Glowdeo™
8:00pm 9:00pm AfterGlow™ Fireworks Show
Saturday, October 8
5:45am 6:45am Dawn Patrol Show
7:00am 8:30am Mass Ascension
5:45pm 8:00pm Night Magic ™ Show
8:00pm 9:00pm AfterGlow™ Fireworks Show
Sunday, October 9
5:45am 6:45am Dawn Patrol Show
5:45am 9:30am Propane Day
7:00am 8:30am Farewell Mass Ascension

ALL TIMES AND EVENTS ARE WEATHER DEPENDENT
Please visit <http://www.balloonfiesta.com> for current schedule.

THE GAS BALLOON COMPETITIONS LINE-UP:

9th AMERICA'S CHALLENGE GAS RACE

	Country	Type of gas
Boylan, Tom	USA	HELIUM
Cole, Tim		
Kugler, John	USA	HELIUM
Brown, W. Brown		
Cayton, John	USA	HELIUM
Suskin, Dan		
Wechter, Frank	USA	HELIUM
Clinton, Paul		
Fricke, Barbara	USA	HELIUM
Cuneo, Peter		
Lind, Ruth	USA	HELIUM
Davis, John		
Macnutt, Wm.	USA/	HELIUM
Kümmerlein, Anja		
Padelt, Bert	USA	HELIUM
Vitanza, Louis		
Folkes, Janet	UK/USA	HELIUM
Arras, Bill		
Hempleman-Adams, David	UK	HELIUM
Mason, Jonathan		
Martin, Ron	CANADA/USA	HELIUM
Levin, Alan		
Hale, Bruce	USA	HELIUM
Herschend, James		
Wallace, J. Michael	USA	HYDROGEN
Brielmann, Kevin		
Boring, Gordon	USA	HELIUM
Campanale, Frank		

49th COUPE GORDON BENNETT

	Country	Type of gas
Abruzzo, Richard	USA	HELIUM
Davis, Carol		
Burman, Leo	CANADA	HELIUM
Francoeur, Danielle		
Hohl, Josef	GERMANY	HYDROGEN
Handl, Stefan		
Krebs, Max	SWITZERLAND	HYDROGEN
Vollenweider, Walter		
Levin, David	USA	HELIUM
Sullivan, Mark		
Stoll, Christian	SWITZERLAND	HYDROGEN
Mattenberger, Walter		
Ichiyoshi, Sabu	JAPAN	HYDROGEN
Owia, Maco		
Sturzlinger, Gerald	AUSTRIA	HYDROGEN
Fuerstner, Johann		
Van Havere, Ronny	BELGIUM	HYDROGEN
Van Geyte, Luc		
Brachtendorf, Heinrich	GERMANY	HYDROGEN
Huthmacher, Karl-Heinz		
Berben, Bob	BELGIUM	HELIUM
Simeons, Benoit		
Pritchard, Lesley	USA	HELIUM
Mullen, Jack		
Eimers, Wilhelm	GERMANY	HELIUM
Landsmann, Bernd		
Donnelly, Tom	UK	HELIUM
Butter, Colin		

Ballooning and Fiesta 2005 ON THE WEB

Albuquerque International Balloon Fiesta®
<http://www.aibf.org>
<http://www.balloonfiesta.com>

Albuquerque Flight Service Station
<http://www.abqafss.jccbi.gov/>

Albuquerque Flight Standards District Office
<http://www.faa.gov/fsdo/abq/>

Albuquerque Aerostat Ascension Association (Quad-A)
<http://www.hotairballooning.org>

Albuquerque Gas Balloning Association
<http://www.gasballooning.org/>

Anderson-Abruzzo
Albuquerque International Balloon Museum
<http://www.cabq.gov/balloon/>
<http://www.balloonmuseum.com/balloonmuseum.shtml>

Balloon Federation of America (BFA)
<http://www.bfa.net>

BFA Jr. Balloonist
<http://www.bfa.net/jrballoonists/index.htm>

Balloon Life® Magazine
<http://www.balloonlife.com>

City of Albuquerque
<http://www.cabq.gov/>

EAA SportPilot & Light-Sport Aircraft™ magazine
<http://www.sportpilot.org/magazine/>

Federation Aeronautique Internationale (FAI - International Ballooning Commission)
<http://www.fai.org/ballooning>

Federation Francaise d'Aerostation
<http://www.ffaerostation.org/>

49th Coupe Aeronautique Gordon Bennett (9/30/05)
<http://www.gordonbennett2005.org/>
<http://www.aibf.org/Gas/Races/gordonbennett.php>
<http://www.coupegordonbennett.org/>

Gas Ballooning
<http://www.gasballon.be/uk>

North American Balloon Association (NABA)
<http://www.eballoon.com>

Top Gun Ballooning
<http://www.topgunballooning.org/>

Mario Toscano photo

THE FAA AND HOW BALLOONS FLY – FROM LIFTOFF TO LANDING

by Mario Toscano and J.D. Huss

The mix for a successful balloon flight is simple. It must have an FAA certificated pilot, an experienced chase crew, a suitable chase vehicle, and all required certificates and equipment. Title 14 Code of Federal Regulations section 31.85 discusses the required basic equipment of a hot air balloon, which includes altimeter, variometer, fuel quantity gauge, and an envelope temperature indicator. Captive gas balloons require the addition of a compass. Desirable equipment includes protective headgear, markers, safety line, charts, radio, transponder, gloves, and fire extinguisher.

Usually, a balloon's day begins two hours before sunrise, stuffed inside a round three to five foot canvas bag stowed inside its gondola. It arrives at the launching site with pilot, crew, and chase vehicle.

The two existing types of balloons (hot air and gas) share terminology, but differ in cost and weight lift capacity. The envelope is the balloon skin that holds the gas or hot air. The gondola, or basket, carries the pilot and passengers. A hot air balloon envelope is made of either polyester or nylon fabric coated with polyurethane. Its gondola, or basket, is made of wicker, while gas balloon gondolas may be wicker, aluminum, or heavy-duty synthetic material.

To inflate the envelope of a hot air balloon, the ground crew patiently spreads (unfolds) the envelope on a large, flat canvas that protects it from direct contact with the ground and uses a large fan to blow cool air into it. As the envelope inflates, the ground crew holds the balloon's mouth open, while the pilot directs hot air from the propane burner into the envelope. Because hot air rises, the envelope fully inflates to an upright position. The gondola is securely tethered to the chase vehicle until the pilot signals his or her intent to ascend. After liftoff, the propane burner is used to control the altitude of the balloon. To rise, air is heated inside the envelope.

At its peak, air in the upper portion of the envelope can reach 250 degrees F. To descend, the pilot may "vent" hot air by opening a portion of the top of the envelope, or simply lets the air inside the envelope to cool down.

Balloons drift with the wind and cannot be steered but an experienced pilot can manage the direction of flight by ascending or descending. Most Fiesta balloons, limited by propane capacity, fly from one to two hours for a distance of three to 12 miles from the launch site and rarely exceed 2,000 feet above ground level.

New hot air balloons cost an average $30,000 to $40,000. A special shape balloon can cost up to $200,000. However, used balloons, which are still required to be maintained to FAA standards are available for much less. As mentioned earlier, propane is used to fuel the burner to heat the air inside the envelope and lasts for one to two hours of flight. Propane is usually carried in 10, 15 or 20-gallon tanks, and fuel costs an average of less than $20.00 per hour of flying. The ideal time for balloons to fly is in the morning, when cooler temperatures and lower winds provide a safer environment for flying. Winds below 10 knots ensure safe launchings and safe landings.

Most hot air balloons are class AX-7 and AX-8, measuring 77,000 to 105,900 cubic feet. Generally, a size AX-7 balloon can carry three to four people, and a size AX-8 four to five people including the pilot. Balloons are usually 50 to 80 feet tall.

Finally, after a safe flight and if not engaged in a balloon night glow, the balloon is back in its container for the night, reserving the next day for more pleasant surprises.

Gas balloons are handled a bit differently from hot air balloons. In general, a gas balloon journey begins just as early for the pilot with a morning briefing on the weather and conditions for flight. Weather conditions and pilot skill determine how far a gas balloon can fly. Strong winds can help balloon teams cover great distances. In the first America's Challenge in 1995, Richard Abruzzo set a world distance record flying his balloon 3,610 miles and landing in Virginia. Last year, the same Richard Abruzzo and former New Mexico Governor Gary Johnson ended up in Delaware, just short of the Atlantic Ocean. After taking flight, gas balloons become a part of the weather system. The balloons move up, down, and across as determined by the jet streams and weather fronts. Sometimes the ride is peaceful while other times it can be extremely dangerous. Some pilots recount of being sucked up into a storm cloud while others have experienced the horror of a microburst downdraft.

Gas balloons fly as a result of a lifting gas trapped in their envelopes. In the United States the preferred gas is helium, which is lighter than air. The international standard size for competitive gas balloons is 1,000 cubic meter (approximately, 35,600 cubic feet) envelope. To fill that envelope with helium for two to three days of flight costs more than $2,500. However, the European balloonists have been safely using hydrogen for over 50 years. The cost is much less and hydrogen is the lightest of all gasses. This year almost half of the 28 balloons flying in the "America's Challenge" and "Gordon Bennett" races will use hydrogen as a lifting gas. Pilots have two ways to control the altitude of their balloons. To decrease altitude, pilots can either vent helium or hydrogen from the top of their envelope (competition pilots do not vent unless it is absolutely necessary) or wait for the cooler temperatures to contract the gas in the envelope. To increase altitude, pilots can either drop ballast (sand or water) or wait for warmer temperatures to heat the gas and cause it to expand in the envelope. Again, to launch safely, surface winds must be less than 10 knots.

In addition to propane-fired hot-air balloons and gas balloons inflated with helium or hydrogen, solar balloons are now under development.

PILOTS AND CHASE CREWS

Ballooning is a group sport of mainly volunteers. Some volunteer for the opportunity to learn more about balloons, others do it in exchange for a ride. Some enjoy a customary after flying breakfast offered the crew by the pilot. But, they all do it for the fun and magic of free flight.

The pilot and crew relationship is vital to a safe flight. All members move in the same direction, especially after they are briefed by the pilot on flight objectives. A good inflation and safe flight is not luck, but a well-planned operation that includes all members of the team.

The ground crew prepares the balloon for its flight. Every pilot has preferences for preflight procedures and must thoroughly instruct the crew before inflation. Some pilots will name an experienced handler their Crew Chief (CC) or "Balloonmeister" to facilitate communications and task distribution. The ground crew is also the chase crew.

The chase vehicle and crew are extremely important to a balloon's safe landing. That is the general crew's goal and sometimes extremely difficult to achieve. The chase crew's primary job is to arrive at the projected landing site as fast as possible. The crew, pilot, and passengers must then deflate the balloon, fold it, and pack it back into its container. The gondola, burners, and envelope are then loaded aboard the chase vehicle for the return to launch site. All this must be done according to the manufacturer's recommendation to ensure that the balloon will be in an airworthy condition for the next flight.

With just a bit of temperance in following prescribed guidelines, keeping current, and observing good safety practices, you'll have a safe and successful ballooning experience. In all, ballooning is fun and highly rewarding.

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The Snow That went "Bump" in the Night

by Michael Lenz

Bill was a meticulous young doctor. He did everything full out. He tied for the top spot in his medical school class. At 30, he was beginning his practice and held a private pilot certificate with instrument rating and had a total time of 360 hours. Thirteen of those hours were in the Mooney M20C involved in this accident.

Unbeknownst to Bill, the rental plane had altimeter problems. After the accident, it was learned that the barometric adjustment gears for the Kollsman setting did not mesh and this allowed the altimeter's hands to move while the barometric scale did not.

On an April day back in the 1970's, Bill was pilot-in command on a mission to fly from Milwaukee to Wyoming to look at a campground that he and his three passengers were considering as an investment. The other travelers were Joe, Fred, and Susie. Joe, also a doctor and private pilot, was in the right seat. Fred and Susie, a husband and wife, were in the rear seats.

Dr. Joseph "Joe" Hoffman tells it best:

The flight was going well. We had stopped for fuel in Sioux City, Iowa, and the weather was good. We took off and continued westbound.

I recalled, as night fell on the accident leg of the flight, we were over Nebraska as we began to run into unforecast snow. It persisted and became heavy. We were on a VFR flight plan and called ATC to see about finding a route clear of the snow. They said they weren't showing anything and couldn't suggest any alternate routing. [Remember this was 1970's technology.]

Bill changed our flight plan to IFR figuring the snow would end soon. It didn't! It was late now and the snow began sticking to the wings and was so heavy that all we could see was a faint glow from the wingtip lights. We requested clearance to Scotts Bluff, Nebraska, where we could sort things out and get a better handle on the weather.

The faulty altimeter was showing us at 5,000 feet, but in reality we were

much lower and narrowly missing treetops. Bill had his hands full flying instruments. Visibility was almost nil, at the last minute I saw the terrain and bluff approaching and pulled back on the stick, but it wasn't enough, and we impacted into the fresh snow. A few feet either up or down, and I probably wouldn't be writing about this now.

I lost eight teeth and suffered facial injuries that required plastic surgery to correct. After the impact, Bill, seriously injured and in a state of shock, continued to fly the plane. Fred and Susie had minor injuries.

Bill didn't believe we had crashed. I said I'm going for help. He said, "You're crazy, don't open that door, we're at 5,000 feet!" I had a hunch we weren't.

I stepped out of the plane into snow up to my chest. Fred and Susie followed. A bit dazed, I didn't bother to take my coat. The only thing I could see was a light that, fortunately, was downhill from the crash site. I hate to be cold, and to me that light meant it must have be warm nearby and I was going for it.

The light turned out to be about three and a half miles away. It took around two hours to reach it. Fortunately it had stopped snowing now. The snow may have been an "on-again, off-again" thing and that's why ATC wasn't showing it.

The light was from the only farm around, and we knocked on the door of the house. The farmer's wife answered about midnight. You can only imagine the sight that greeted her—the three of us wet and cold and me a bloody mess. She wouldn't let us inside because her husband was out tending to the cows.

When the farmer returned, they happily let us in and I proceeded to bleed all over the furniture until help arrived. We were taken to the hospital and a separate group of emergency personnel went to rescue Bill.

Bill had serious chest injuries and was MedEvac'd to a hospital in Houston. He survived and practices medicine today. We still talk, although infrequently. We did joke later about Bill's rescue. He was still flying the plane when the emergency personnel arrived. He later told me it was quite a shock to him when "in the middle of the flight" the rescuers opened the door and people were getting in the plane! He said he thought he must have died and that they were from heaven. I told him in his case, they might not have been from heaven. But that's another story.

In retrospect, it's ironic that the snow that almost killed us may have also saved our lives. The reason the light was on that lead us to the farmhouse was because the snow was so high, the farmer had to make sure the cows could not walk up and over the snow and cross the fences. The farmer said our guiding light, which illuminated the whole area surrounding the barn, was only on four or five times a year.

The "driven snow" that night also drove me out of aviation. I stopped flying after that. I learned how suddenly snow can start, even in late April. If weather as severe as the sudden snowstorm that brought us down that night was unforecast and could not be detected by ATC, I thought the risks were too great to use general aviation aircraft for transportation.

That was over 30 years ago, and fortunately a lot has changed for the better regarding weather forecasts and detection. I have taken a few more flying lessons since then in California where I live, but never stuck with it and got serious about getting back into aviation. And, by the way, I did buy the farm couple some new furniture to replace the blooded pieces.

This is an intriguing story of rescue and a narrow escape from what could have easily been a fatal accident. Equally important is the lesson of how unpredictable and transient snow can be.

In the time that has passed since this accident, aviation has benefited from improvements in forecasting and weather reporting. Now we have numerous ATIS/AWOS/ASOS locations available to monitor conditions at terminals along our route of flight. Enroute Flight Advisory Service (Flight Watch, 122.0 MHz) has also been enhanced.

Keep in mind that this accident predated GPS navigation. GPS now allows us precise VFR flight at altitudes that previously would have been below the altitudes of VOR coverage. Almost all GPS navigators include a feature that can be used in Terrain Avoidance Planning or TAP (See *FAA Aviation News,* November/December 2004). Since GPS knows where it is, it also knows the minimum safe altitude for the area and can be used in VFR flight planning.

Terrain Avoidance Planning can be used when any precipitation is forecast or if marginal weather (ceiling below 3,000 feet and/or visibility below five miles) or close temperature dewpoints are forecast anywhere along the proposed route. It's forecasts that include these types of conditions that can lead to big surprises in flight. This is especially true when reporting stations along the route may be good VFR at the time of the preflight weather briefing, but changes are in the offing.

When it comes to weather, "What you see, is what you get." That may be most true in winter when weather systems, fronts and lows, really get a push from the atmosphere. If the weather you see out the window is not the same as the forecast, it's time to proceed with great caution. It may even be time to consider some alternates. You did include some contingencies in your flight planning, right?

Update your weather information from Flight Watch or ATC. Tune in Hazardous Inflight Weather Advisory Service (HIWAS – broadcast on select VOR frequencies), or ATIS, AWOS/ASOS to keep up with what's happening and learn what nearby terminals are reporting.

Enjoy the winter wonderland, instead of one winter day wondering where you're going to land.

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Becoming a Sport Pilot Examiner

by Martin Weaver

Since the new Sport Pilot regulation was signed, a common question we have received in the FAA's Light Sport Aviation Branch (LSAB) is, "How do I become a Sport Pilot Examiner?" The answer to the question is simple, but complex. Our initial response is, "You need to complete a Light Sport Standardization Board – Designated Pilot Examiner Candidate Application, FAA Form 8710-12." We explain to the individual that the application can be found on the <afs600.faa.gov> web site under the Light Sport Aviation Branch (AFS-610) listing. It is listed under "Sport Pilot Documents."

The instructions are included with the application and occupy about four pages. It is very important that the applicant read the instructions in detail because, if the form is not filled out properly, the application will be returned to the individual. The flight experience must be completed with actual times and be verifiable with logbook entries or flight records. Many applications are not accepted because the flight experience is rounded up to the nearest 1,000s. The flight experience will be verified when an applicant is accepted into the Sport Pilot Examiner Initial Seminar.

Once the application is received by the Light Sport Standardization Board (LSSB), the application will be placed in the "hold" file for the next Board meeting. Currently, the LSSB meets once a quarter. The LSSB reviews each application to determine the experience level of each candidate and ranks the candidates with a numerical value. The Board places the applicant on a list that identifies the individual in order of numerical rating from the highest to the lowest. Applicants are sent a letter asking them to take the appropriate airman knowledge test for the primary category/class aircraft the applicant could be accepted as an examiner. If the applicant already holds a flight instructor certificate, the applicant will be asked to take the Sport Pilot Examiner test. If the individual does not hold an FAA flight instructor certificate, the applicant will be asked to take the appropriate initial Flight Instructor Knowledge test. Upon successful completion of the knowledge test, the applicant will mail the original copy of the results to the LSSB. After the LSSB receives the knowledge test report, the applicant is placed on the Sport Pilot Examiner Initial Seminar selection list.

The Sport Pilot Examiner Initial Seminar is scheduled by the Light Sport Standardization Branch to meet the needs of the Sport Pilot community. The seminars are held in Oklahoma City during the summer months. The 2006 schedule will be posted by January and will list the dates of the seminars. Attendance in the seminars is by invitation only.

The next step in the process is the manager of the LSAB selects six to eight applicants to become candidates for the Sport Pilot Examiner Program. The applicants are invited to one of the scheduled courses via a letter. Enclosed with the letter are a copy of the appropriate Sport Pilot Practical Test Standard, a pre-course study guide, a Sport Pilot Examiner Handbook (FAA Order 8710.7), and the location of the academic portion of the seminar. The applicant is also advised of the aircraft that will be used during the training. The aircraft will vary depending on the availability of manufacturer support. If the applicant accepts the offer to enroll in the seminar, the cost of the seminar is $150.00 for the academic portion. The aircraft rental costs depends on the type of aircraft available.

The seminar schedule is very busy. The seminar curriculum covers all of the subjects the examiner needs in order to perform as a designee of the FAA Administrator. The first day begins with a review of the appropriate regulations that the candidate will need to know in order to conduct pilot certification. If the examiner candidate has a good background in Title 14

Code of Federal Regulations (14 CFR) part 61 then it is not as overwhelming as someone who has minimum exposure to this regulation. After this presentation, the examiner candidates are asked to demonstrate their knowledge as a pilot and flight instructor. If the individuals hold an FAA pilot and flight instructor certificate in the category and class of the examiner privileges they are seeking, they are required to pass a validation practical test. This test is a sampling of the examiner candidate's technical knowledge to ensure the candidate has the ability to evaluate pilots and possibly flight instructors. If the individual does not have an FAA pilot and/or flight instructor certificate, such as a transition flight instructor from an FAA recognized organization, then the examiner candidate is given an initial pilot and/or flight instructor practical test. Beginning in 2006 an examiner candidate will not be invited to the initial seminar unless they hold an FAA flight instructor certificate.

Upon completion of the practical test, the course continues with lectures on the practical test standards, FAA certification files, and the *Sport Pilot Examiner Handbook*. The four lectures up to this point in the course are used to give the examiner candidate the basic knowledge needed in order to conduct a practical test in accordance with FAA regulations, policy, and guidance. These tools are essential in order to continue with the training of the examiner candidate. At this point, the seminar changes focus to the actual certification procedures. The lecture now covers the development of a plan-of-action that is required for every certification evaluation. The presentation provides the procedures to be used by the examiner candidate in developing the plan-of-action. It gives helpful hints in organizing the evaluation and conducting the oral and flight portions. The examiner candidates are asked to develop a plan-of-action that will be used in a practice flight portion of the practical test in their category/class aircraft. Prior to conducting the flight portion, the instructors review the individual plans-of-action and provide feedback to the examiner candidates.

Dean Chamberlain photo

The flight portion of the practical test is designed to give the examiner candidate the opportunity to practice evaluating one of the FAA instructors' ability to fly an aircraft using the plan-of-action the examiner candidate developed. Sometimes the FAA instructor is doing the best he or she can do and still not meet the practical test standard tolerances. The examiner candidate is expected to determine whether the maneuvers are satisfactorily accomplished or not. The challenge for the examiner candidate is to be able to properly determine if the standards are met. Candidates quickly learn that gray areas do exist, but they are no longer flight instructors when performing the role as a representative of the Administrator.

As stated previously, the last exercise for the examiner candidates is to develop a flight instructor plan-of-action. During this exercise, they outline the general organization of the practical test and develop flight instructor knowledge test questions that they will use during the oral portion of the practical test. This is probably the most challenging and fun part of the course. The examiner candidates try to get the FAA instructor to answer the questions at the application level. The examiner candidates learn quickly that it is a lot harder then it appears and realize that preparation is essential regardless of the level of certification.

At the conclusion of the seminar, the time for designation occurs. The manager of the Light Sport Aviation Branch designates the successful examiner candidates as Sport Pilot Examiners (SPE). If, during the course, the instructors determine an examiner candidate has demonstrated exceptional knowledge of the certification procedures, the instructors will recommend the individual be designated a Sport Pilot Flight Instructor Examiner (SFIE). An SPE conducts only pilot initial certification. SFIEs can conduct initial flight instructor with Sport Pilot privileges evaluations.

Throughout the seminar the examiner candidates are asked to participate in all discussions. Maximum time is spent in hands-on-exercises with the FAA files that are associated with certification. The examiner candidates are constantly directed to the tools that they will be using while performing duties as an SPE and SFIE. The individuals that have completed this program successfully have shown they are willing to work hard to become the subject matter experts in the Sport Pilot community and willing serve as representatives of the FAA Administrator and their respective aviation communities.

If you have any questions about the Sport Pilot Examiner program, please feel free to contact the Light Sport Aviation Branch in Oklahoma City, OK, at 405-954-6400 or <afs610comments@faa.gov>. You can also write to AFS-610, P.O. Box 25082, Oklahoma City, OK, 73125. Information concerning Sport Pilot and Light Sport Aircraft programs can be obtained at <afs600.faa.gov>.

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Winter Cometh — Keeping Warm On A Cold Winter Day

As I noted in the Editor's Runway on the inside back cover of this issue, editorially, summer is gone and winter cometh. What this means for many pilots and aircraft owners in the snow belt is a long, dark, cold period before spring flying starts again. In some cases, this is because of the type of aircraft involved. In other cases, it is because of the general inconvenience of flying in the cold and snow. Snow and frost removal takes all the fun out of preflighting an aircraft on a cold January day. Now if you live in Florida, Arizona, or Hawaii, you may not understand what it is like to preflight in the cold, but please read on.

I spoke with a pilot of a weight-shift trike aircraft at the Sun 'n Fun Fly-in last April in Florida. Although it was T-shirt and shorts weather on the ground at the time, he told of flying down the coast of Florida at about 3,000 feet while wearing an insulated snowmobile outfit. He said he was comfortable at altitude, but he was sweating because of the heat when he had to land to refuel.

For those intrepid aviators who fly open or open cockpit type aircraft such as this trike pilot or some of the ultralight or light sport aircraft during the winter, they have to not only ensure their aircraft are prepared for the cold, but they themselves must also be prepared. Without proper clothing and facial protection, they risk not only hyperthermia, but also frostbite on any exposed skin.

In the case of enclosed cockpit aircraft with airborne heating systems, their pilots may be more comfortable in flight, but they face another type of danger unique to aircraft with certain types of heaters. That is the risk that their heaters may be leaking carbon monoxide (CO) gas into the cockpit. Carbon monoxide is a deadly gas because it effectively prevents the blood from absorbing oxygen vital to life. As noted in the FAA's *Pilot's Handbook of Aeronautical Knowledge*, FAA-H-8083-25, on page 15-2, under the general chapter title, Environmental and Health Factors Affecting Pilot Performance, the handbook describes the various types of hypoxia that pilots need to be aware of. Under the subheading of Hypemic Hypoxia, it states one of the types of hypemic hypoxia is when, "...hemoglobin, the actual blood molecule that transports oxygen, is chemically unable to bind oxygen molecules. The most common form of hypemic hypoxia is carbon monoxide poisoning."

Since many general aviation aircraft use part of the exhaust system to heat the air going into the cockpit, aircraft owners and pilots need to be aware of the fact that a hole or crack in the portion of the exhaust system that the heater shroud surrounds can allow exhaust gas to enter the cockpit along with the heated air. This type of heater is the most common type of heating systems installed in many general aviation aircraft. The other type of heating system used in other general aviation aircraft is basically a small, fuel-fed "furnace" that heats ram air that is directed into the cockpit. A defective or worn furnace can allow combustion products, which includes CO, to enter the cockpit. In either system, the best defense is a properly inspected and functioning heating system.

THE DANGERS OF CARBON MONOXIDE

To reduce the risk of CO entering the cockpit along with heated air, some pilots buy one or more of the various types of chemical and electronic CO detectors that can be installed in an aircraft to detect dangerous levels of CO. Pilots should review the latest handbooks and manufacturers' guidance for more detailed information on how to recognize and cope with a heating system that is permitting CO to enter the heating system. At a minimum, pilots should, if suspecting a CO leak in their aircraft, close or shut off the heating system and open any fresh air vent or vents as applicable.

According to the *Pilot's Handbook of Aeronautical Knowledge*, some of the first symptoms of hypoxia include euphoria and a carefree feeling. With more oxygen starvation, it says "...the extremities become less responsive and flying becomes less coordinated." Other signs may include cyanosis (blue fingernails and lips), headache, decreased reaction time, impaired judgment, visual impairment, drowsiness, lightheaded or dizzy sensation, tingling in fingers or toes, and numbness. The handbook noted that although symptoms vary by individual, these symptoms are common. A hidden danger in all of these is the fact that when a pilot needs to be the most aware that a problem is developing, the root cause of the problem may im-

pair the pilot's judgment to the point the pilot may not want or be able to take effective action to correct the problem. Corrective actions for hypoxia include using supplemental oxygen, flying at a lower altitude, shutting off the source of CO, and breathing fresh air when able.

PREPARING THE AIRCRAFT

Checking the aircraft's heater system is only one of the checks aircraft owners and pilots should be aware of when preparing an aircraft for winter operations. As I said in the Editor's Runway, the aircraft's flight and maintenance manuals are the best sources of information for preparing your aircraft for winter operations. The same is true of your aircraft's maintenance personnel. They know their local area's weather conditions and how to service your aircraft.

PREPARING THE PILOT

The real challenge for safe winter flight may be preparing the pilot. In addition to preparing their aircraft and heating system for winter operations, pilots need to review material for their own benefit.

For example, now would be a good time to review your own decision-making criteria. What are your decision-making limitations for winter flights? If your aircraft is not approved for flight into known icing conditions, have you considered under what weather forecast conditions will you launch? What are your divert criteria?

Have you reviewed the FAA's regulations applicable for your proposed flight? Have you reviewed the current *Notices to Airmen* (NOTAM) for any reports for your airport of departure and landing? Flying to an airport closed for snow removal can make for a long day.

Do you have the appropriate survival equipment for your route of flight? *FAA Aviation News* continues to support the well-publicized viewpoint that you should wear what you want to walk home in when going flying during the winter. A year or so ago, there was a well-publicized report of a winter accident out west in the mountains where one of the survivors was wearing shorts. After all, no one planned to walk home in the snow when the flight departed. Certain areas of Canada and the State of Alaska have regulatory requirements for specific types and amounts of survival equipment.

Have you considered the best use of inhabited areas and routes along highways and other populated areas to be near help in case of an accident or precautionary landing off airport? In many cases, a safer route may only add a few extra miles to your flight plan while increasing your odds of rescue significantly.

Do you have a plan to deice or defrost your aircraft in case it gets snow covered or exposed to freezing rain? From fuel tanks to control surfaces to landing gear, have you considered how you would deice your aircraft? If you have a retractable gear aircraft, does your flight manual recommend you leave the gear down a little longer after takeoff to help blow off any potential source of freezing liquid before retracting the gear. There have been cases where wheels have frozen in the "up" position. Do you have a plan for dealing with slush and freezing rain and snow on your landing gear as you taxi out for takeoff and after landing? What about frost on your wings?

When was the last time you checked your pitot's heating system?

What is your plan for starting your aircraft if your battery dies? Do you know how to protect your aircraft's battery when the temperature is below freezing? Do you know how to jump-start your aircraft? Does it have any special safety precautions for jump-starting? Considering the risks of hand propping an aircraft with snow or ice on the ground, do you have a plan and a safe method for hand propping your aircraft if you decide to do so?

Do you have a plan for operating on a slippery runway and ramp area?

With all of the news stories about the dangers of super-cooled water droplets, have you considered or know how your aircraft might perform with a significant amount of ice attached to it?

Do you know the capabilities of the various types of deicing and anti-icing fluids available? Are they approved for your particular type aircraft? Some fluids have a minimum rotation speed necessary so that the fluid will blow off the aircraft. Is your aircraft's rotation speed fast enough for the available fluid?

SUMMARY

These are only a few of the things a well-prepared aviator or aircraft owner needs to think about when operating in snow country. FAA has published many snow and winter operations advisory circulars as well as other safety recommendations for those operating in snow country. Those living full-time in the snow belt should be aware of how to operate safely when the landscape turns white and cold, but everyday new pilots are certificated and new and old pilots from the sun-belt venture into the frozen north. They may not know or remember the safe operating techniques needed to flying in the cold areas and especially during the limited daylight hours we all have during the winter months. For those pilots, we recommend they contact the Flight Standards District Office (FSDO) Safety Program Manager (SPM) in the area they are planning to visit for the latest safety information. The SPM may refer you to one of the office's volunteer aviation safety counselors who may be an expert on winter operations in that area for more advice.

Winter can be a beautiful and safe season for flying as long as you and your aircraft are properly prepared for its unique challenges. The secret is simple. It is the same for any season. With proper planning, preparation, and good risk management, you can have a safe and fun filled winter season. But the single most important safety practice any pilot can do is to file and activate, as appropriate, a flight plan. *FAA Aviation News* hopes everyone has a safe winter-flight season.

"Ode to a Jump Seat"

by Bill O'Brien

Once a year, I quit pretending to be the wellspring of regulatory knowledge and invite you to come along and take a look at an FAA inspector's job functions and examine the good as well as all the accompanying warts and blemishes of this government job.

In 2004, I wrote about how to become an FAA inspector in the AMT article titled, "Crossing Over." While this FAA inspector's job is the best one I ever had in aviation; in that article, I only pushed the positives of this job. This time around I will try to balance that less than notable contributions to journalism by letting you take a peek behind the curtain and look at some of the negatives of this job—like doing an enroute inspection and riding on a jump seat.

What the general public fails to realize that second only to investigating a fatal accident the next least favorite thing for an FAA inspector to do is to perform an enroute inspection. While it appears glamorous to sit up there in the front office with a 180-degree view of the world at 35,000 feet, the truth is, en routing is not a fun thing to do.

Getting a Seat

There are two ways for an FAA inspector to get on a jump seat. The first is to show up at the gate unannounced and request a jump seat. This direct approach throws the gate agent into a low level conniption fit because, on top of everything else that is going wrong that day, now the FAA shows up and this guy wants to do an inspection! Witnessing a normally nice people person unravel under all that pressure is not pleasant. The second option is to phone the carrier a day or two ahead of time and get a hold of the airline jump seat coordinator to schedule a seat. This is my personal choice. While it is true you lose the element of surprise at the gate, my way is a bit more civilized.

Once you get the coordinator on the phone, you provide the who, what, when, where, and why information along with your ID number. Since my ID number is way under 3,000 they know right off that I am an old dog. So due to my advanced years, he gives me a modicum of respect as he checks the computer for jump seat availability. If there is no one listed, then I have the seat.

Scrutiny by the TSA

Next hoop to jump through is the TSA security checks at the airport. My job requires me to dress in a suit coat and tie. However, the only other people in the queue that are dressed up like me are pilots, crewmembers, or Federal Air Marshals. Everyone else in line, young or old, looks like they are on their way to a rock concert or beach party, so naturally I stand out.

At the entrance to the TSA screening line, I flash my FAA ID and jump seat form to the uniform TSA agent. The immediate reaction to my ID is either suspicion that I am packing, or some inbred fear that I am a semi-important government official that they haven't been trained to handle. So the predictable response is they put a little check mark on my jump seat form. What that little mark means is when I get to the X- ray machine and show the screeners the form; the only thing they see is the check mark. So I get pulled out of line and get treated to a special inspection

behind the privacy screens.

Now I am well aware that the FAA and TSA have a memorandum of understanding (MOU) that says once the FAA inspector shows his ID and badge, he or she just goes through the line without being frisked. The reality is TSA suffers from frequent personnel turnover at many airports, so the word about the MOU never filters down to the new guy. So rather than fight the system, it is easier for me to spend the next couple of minutes getting my stocking feet wanded. The alternative is to wait 15 minutes for a TSA supervisor to show up and have to tell him who I am, show him my ID all over again, and explain what I am doing in his airport, all dressed up.

The Gate Agent

Trying to make up lost time I half run, half walk through the terminal with my shoelaces still untied until I arrive at my gate slightly winded and disheveled. I again introduce myself to the gate agent and show my ID. The agent then types in about 300 keystrokes into her computer until she mutters, "there you are!" This is computer talk that means I am in the system. The agent then trades my FAA jump seat form for a boarding pass. Then I politely ask if I can board with the crew, so I can make proper introductions and swap IDs before the passengers' board.

At most airports the airplane is sitting at the gate and the crew is already on board. So the gate agent, who is secretly glad to get rid of me, punches in the door code at the gate door, opens it, and sends me down the jet way, un-escorted. Since most jet-ways are at least 60 feet long, I stop about halfway down, lean against the handrail, tie my shoes, straighten my tie, and make sure I can represent the FAA in a professional way.

Cabin Crew

When I step from the jet-way to the aircraft, a flight attendant greets me. Her keen eyes scan me as if I am a potential ax murderer. While I am being checked out, I already know what she is thinking. It's either "No one told me we were boarding," or "Who is the guy in the suit? He's too old to be an air marshal." Soon the other flight attendants gather around, and once again I show the FAA ID and tell them that I will be in the cockpit for the whole flight. I also tell them that I will play the role of the second person in the cockpit when one of the pilots takes a potty break. Well, of course, now they are all smiles at that bit of good news and they offer me meals, water, coffee, magazines, or anything else they think I would want, because now I am the captain's problem, not theirs.

I do have one flight attendant story to tell. It was at Dulles Airport, about four years ago and I was on my way to the west coast. The flight was scheduled out in 90 minutes but, since a crewmember was on board, the ramp agent allowed me to board early. At the left main entrance door, I was met by a 20-year old flight attendant. She had less than three months on the job and she was still bubbly and talkative about her new glamorous aviation career. Half listening to her life's story, I showed her my ID and was about to ask her where the rest of the crew was, when she continued in a gushy fashion that I was the first FAA inspector that she had ever met and said that she just had to hug me—and she did!

It was a full face-to-face three-second hug, not a quick squeeze, or a friendly off to the side clutch. This was the real thing! I was stunned! I was 58 years of age at the time; my face was about as attractive as a wedding cake left out in the rain. No one, absolutely no one outside of my wife and mom, goes out of their way to hug me, and I like it that way.

But I can remember time slowing down when she hugged me and thinking: This is nice, followed instantly by the question, "why is she doing this?" Then a nano second later I remembered what my Dad told me years ago when he was being hugged by all the young women at my brother's wedding years ago and I kidded him that Mom would get after him. My Dad who was in his late fifties at the time, stuck his finger in my chest and told me, "Son when a young woman hugs you when you are my age, it's only because they figure you are either too old or harmless!"

I lost my mind! Old I am! Harmless I am not! For the next 20 minutes I had that flight attendant running around the cabin showing me carry on oxygen bottles, mega-phones, safety demonstration gear, the latest revision to her flight attendant manual; asking her questions on use of door slides, how to handle a passenger who is so heavy he can't get a seat belt on, and on and on until my blood pressure returned to normal. When it was over, she said with the proper amount of respect, "Mr. Inspector, I never had a cabin inspection like that one, even the company's final exam was not that bad." With my tattered dignity firmly in place, I said, "And you never will again, unless you try to hug another FAA inspector!"

Meeting the Captain

Airline captains come in many sizes, shapes and genders—but only two types. There are the military reservist/ex-military type or the guy who came up through the civilian aviation route. All are competent flyers, but the military types have this air about them that the left seat of power belongs to them as if it was predestined to be theirs before they were born. This guy wants everything formal and wants to be called captain!

The civilian trained captain is still amazed that he is now sitting in left seat and considers himself extremely lucky to be there and always introduces himself using his first name. After the mandatory shaking of hands comes the exchange of ID. I show them my FAA "creds," they show me their pilot certificates and medical, and I write down their name and number and check the date on the medicals to see if they are current.

One of my checks is to see if they signed their pilot's certificates. You would be surprised to learn that many pilots forget this little, but important, detail. One ex-military type, who first regarded me like I had head lice, gave

me his temporary pilot certificate with a new type rating, but the signature block was blank. I looked at the certificate and looked back at him. He looked at the certificate and looked backed at me and nervously said, "What are you going to do to me?"

Savoring the little bit of tingle to my central nervous system that always happens when I wield the full weight and power of the bureaucracy, I paused and very quietly said, "Captain, I am going to give you my pen so you can sign your name on the certificate." I was his best friend for the rest of the flight.

After the ID check I then give the flight crew my 20-second briefing that I have rehearsed and refined over the last two decades. I first tell them that I am an airworthiness inspector who is more interested in the nuts and bolts of the aircraft then I am in their flying abilities. That statement almost always relaxes the flight crew. I next cover the emergency procedures, oxygen mask, communications, logbook, sterile cockpit, and opening and securing the cockpit door. The captain, now satisfied that I have done this before, goes out to brief the cabin crew and the co-pilot does the walk around.

As the time for departure gets closer, the activity in the cockpit increases. I test my oxygen mask and pressure, copy information off the airworthiness certificate and registration forms mounted on the bulkhead or cockpit door, and check the logbook. Then I set my radio for ATC and cockpit intercom and plug in my headset. Around the same time I ensured that all bags are tied down and pilots are seated and belted, the flight attendant appears and gives us the head count and reports that the passengers are seated and the main cabin doors are closed and the cabin is ready for takeoff. When she closes the cockpit door that is the time for me to get into the jump seat.

The Seat

Jump seats are small, little fold out things that are hidden away in the cockpit on purpose, as if something was wrong with them. Nevertheless they are shrewdly designed to slide out of bulkheads or attached directly to bulkheads or slide along fixed rails riveted to the bulkhead. They have tricky little locks, knobs, handles, or catches that are designed to make you look like an idiot the first time you are trying to get the seat in the down and locked position. The actual seat itself is not much bigger than a bedpan and the seat cushion is as hard as a diamond, but not as comfortable. The seat's lumbar support is as firm as wet bread. Now parked in the seat, you strap yourself in with a five-point harness and remain frozen in place for the duration of the flight striking a pose similar to a hood ornament on a '48 Buick.

While the bigger wide body aircraft jump seats are more comfortable and rate a solid three on the comfort scale, with 10 being equal to a La-Z-Boy™. The worst jump seats are on the regional jets that rate a minus 47 on the same scale. In those jump seats you sit directly above the nose gear and behind the communications pedestal that divides the two pilots seats. In most regional jets you have less than 10 inches between seat and the center pedestal; so getting into the jump seat is tough. For this reason, I tell both pilots that there is just no graceful way for me to get into the seat. So I warn them that if they don't want to witness a sight that would frighten women and children, it might be better for each of them to look out the side windows until I am seated.

The signature of getting into each jump seat is written on the shoes of every FAA inspector who inspects regional jets. If you look closely, you will see little nicks and punctures in the toes of the shoes. This is caused by the shoes hitting the heads of rivets and screws on the back of the pedestal. These deformities on the shoes are a mirror image of the nicks and punctures in the inspector's scalp caused by the interference fit between ones' head and the overhead circuit breaker panel.

The rest of the ride is pretty straightforward and quietly professional, except at cruise where now I noticed that unlike the pilots of four years ago who would talk about wine, women, and song, today's' pilots talk about seniority, benefits packages, and job security.

One captain, in an attempt to make me more talkative, asked me what I thought of the then new FAA Administrator. I said nothing, but looked up at the microphone for the cockpit voice recorder on the overhead panel. He noticed what I was looking at and said, "If it bothers you, Mr. Inspector, I can pull the CVR circuit breaker." I replied with a slight smile on my face, "If you do that, I will have to write you up."

Around 130 miles out from the destination airport, things get busy again as we begin to descend. I spend all my time looking outside the cockpit for aircraft or terrain that might cause a quick end to this long ride. For some reason, excellent pilots make lousy landings with an FAA inspector on board. The mains touch down like a feather, but the nose wheel always hits the ground hard. So this reverse pile driving technique transmits the shock of landing right up through my jump seat cushion to my lower back and spine. Taxiing in, between back spasms, I created this little ode to a jump seat:

It's a fact that all aircraft jump seats are poorly designed.
For all confer pain and suffering to one's behind!

With regulatory power I could change this evil perception.
By requiring each aeronautical engineer to sit in his own creation.

Strap him down for two hours of takeoffs and landings is what I seek!
This will give him new insight into the old proverb "turn the other cheek!"

Bill O'Brien is a NationalResource Specialist in Flight Standards Service's Aviation Maintenance Division. This article first appeared in AMT Magazine.

Uncle Sam Wants You

Becoming an Aviation Safety Counselor

by John Loughmiller

It's a mid-afternoon Sunday in late summer on a see forever kind of day. Two airplanes are converging on the local airpatch's active runway. One is on downwind in the pattern, having just done a touch and go, whereas the other is in the midst of a long straight-in approach to the active runway. The aviator flying the straight-in approach made an announcement five miles out that he intended to conduct a straight-in approach. The aircraft in the pattern has not made a transmission for several circuits.

On the ground, an old greybeard is watching the proceedings and noting the lack of chattiness between the two pilots. He's somewhat concerned because statistically today is the perfect set up for a midair collision: Mid to late afternoon on a weekend summer day at an uncontrolled airfield when VFR conditions prevail.

The aircraft in the pattern turns base without any radio chatter. The straight-in traffic doesn't see the other aircraft because he's focusing on the VASI and a bit of chop caused by a transition from trees to a cultivated field that abuts the runway. He hasn't spoken on the radio since announcing his intentions three miles back.

Suddenly the straight-in pilot sees movement out of the corner of his eye. It's the other aircraft turning base to final. That aircraft's pilot has decided to cheat the "base to final turn" a bit and is rapidly converging on the other aircraft. Unfortunately, his view of that aircraft is blocked by his bank angle.

The straight-in pilot pulls up and banks hard away from the converging aircraft and the other pilot belatedly sees the second airplane and turns hard the other way, nearly causing an accelerated stall in the process—a disaster at his altitude if allowed to actually develop.

Now the Unicom comes alive with a torrent of abuse—each directed at the other—and serving no purpose other than to provide salve to damaged egos. After all: it had to be the other guy's fault.

Once on the ground, the two shut down and bail out of their flying machines, eager to continue the argument in full cry in front of any and all within earshot (or perhaps in spite of any and all within earshot).

Into the maelstrom walks the old greybeard who listens for a moment and then says:

"Hi. My name is John Loughmiller and I'm an Aviation Safety Counselor with the FAA's Louisville Flight Standards District Office. I wonder if I might have a word with you two?"

Silence.

Suddenly the two pilots—ready to resort to fisticuffs a moments ago—now perceive they have a much bigger problem than who cut off whom.

Of course, there is no such problem. Aviation Safety Counselors (ASC) are not, repeat not, junior "G" men. ASCs exist to help, period. We cannot arrest, detain, harass, or otherwise legally prevent a person from killing him or herself. Instead we try our best to mitigate potential problems, educating and mentoring wherever and whenever we can. [Of course, if you become particularly obnoxious to an ASC he or she can and probably will discuss the situation with a superior at the Flight Standards District Office (FSDO) but an ASC is appointed by the FAA to help pilots and others involved with aviation, not to harass them].

In the above example, a few suggestions were made pointing out where both pilots went astray and the pilots allowed as how they were both culpable and vowed to do better going forward. After handshakes all around, the matter was closed.

A Bit of History

In the 1970s, the FAA realized that it needed to be more proactive in preventing accidents from happening and instituted a test program to reach out into the general aviation community to try and accomplish the new mission. From that test program came the Accident Prevention Program and the first Aviation Safety Counselors were called Accident Prevention Counselors.

Later, the FAA realized that not all missteps in aviation result in an accident and the mission was broadened to include additional duties such as identification of potential unsafe practices including non-pilot practices. The name was changed to the Aviation Safety Program and the charter became what it is today.

Each FSDO has a Safety Program Manager (SPM) and each Regional HQ has a variant of the same office charged with coordinating activities of all FSDOs within their jurisdiction.

The local SPM appoints individuals that have volunteered to serve, without pay or compensation of any kind, as a local resource for pilots based at or near specific airports.

The ASCs conduct safety programs in support of the Wings program—more on that in a moment—as well as provide counsel to people involved with aviation.

They are also on the look out for potential system problems, such as confusing airspace issues and dangerous obstacles around airports and

helicopter landing sites.

Once a year they attend a recertification and standardization session and on occasion work directly with the FAA inspectors to counsel an airman who has strayed a bit over the line, but not enough to warrant an official action.

A Few Good Men – and Women.

Like the title of the article says: *Uncle Sam Wants You.*

Finding and keeping highly motivated Aviation Safety Counselors is a full time job for the Safety Program Manager at each of the FAA FSDOs. One reason for this is the general flying public believes that to be appointed to any position by the FAA you must be three meters tall and covered with hair (for the men at least) – a legend in your own time, Yeager and Lindberg rolled into one all knowing, all seeing body.

Fortunately, none of this is true. If it were, I certainly couldn't qualify to be a counselor.

Although it helps if you're a CFI, you don't have to be one. If fact, a private pilot's certificate will do just fine since there is no requirement that you even have a pilot's certificate. What the FAA is looking for is a dedication to safe practices and willingness to make yourself available to further the cause of aviation safety. If you care about helping your fellow pilots stay alive and you enjoy hangar flying, you should look into obtaining an ASC appointment.

Becoming an Aviation Safety Counselor

To begin, simply contact your nearest FAA Flight Standards District Office and ask to speak to the Safety Program Manager. (You can find a list of FSDOs at <http://www.faa.gov/about/office_org/field_offices/fsdo/>)

The Safety Program Manager will ask you what airport(s) you frequent and consult his list of ASCs to see if he or she has that area covered. If not, a short Q&A will follow and you'll likely be asked to drop by and visit with the SPM for a chat. (Everyone gets nervous about "dropping by the FAA for a chat," but in this case, it really is just a chat.)

The SPM will want to gauge your dedication to the mission and try to determine if you are interested enough to attend the annual recertification sessions, conduct safety meetings, counsel airmen and submit the required monthly reports via the FAA's SPANS web site.

If all goes well, you'll be advised the next date when training will be held and, following that one day standardization course, you'll become an ASC.

Duties and Rewards

Studies have shown that pilots who take part in the FAA's Pilot Proficiency Award Program (AC 61-91H) better known as the WINGS program drastically reduce their likelihood of being involved in an aviation accident. The WINGS program therefore is a centerpiece of the FAA's entire safety program.

Attending a safety meeting and then flying three hours with a CFI is all that's required to receive one of the WINGS phase award certificates and lapel pin and, as a bonus, you don't have to obtain a BFR for 24 months after you complete the training.

These safety programs are one of the responsibilities of the ASCs. You simply find a sponsor––surprisingly easy to do––and then schedule a meeting. The FAA will mail out the invitations and also promote meetings on the SPANS web site <http://faasafety.gov/> to those airmen that have registered to receive FAA news.

The FSDO's Safety Program Manager will help you and even attend the meetings if you like. And he or she will also make the library of FAA publications and programs available to you for use at the meetings.

As an ASC, you will be looked upon by your fellow pilots as a source of information—a person who can be a go between with the FAA on some matters—and someone who can clarify conflicting advice pilots may receive such as the best way to navigate through the local maze of special use airspace, how to work with the local TRACON (Terminal Radar Control) to get flight following, etc., etc.

But what about the counseling duties you ask?

Yes, you are expected to counsel errant aviators and others. You are not expected to be confrontational or pushy—in fact, if you are, you won't be an ASC for long. If someone doesn't want your help, fine, you don't offer it again. But if you consider a person to be engaging in dangerous practices and that person tells you to buzz off, you do alert the SPM and let the Pros from Dover deal with it.

If you're a CFI, the local FSDO inspectors may ask you to ride with a pilot to correct techniques or mindsets that are not sufficiently bad to require official FAA action, but do need some gentle persuasion.

The rewards? Not money and not prestige. If you seek appointment for either of those reasons, you're barking up the wrong tree. You have to genuinely want to help your fellow pilots; aviation technicians and aviation support personnel become safer, more professional in their actions.

The FAA rewards counselors with "ASC of the Year" recognition and also relies on them to nominate Flight Instructors, Avionics Technicians, and Aviation Maintenance Technicians for annual honors as well. You get to hang out with pilots and do serious hangar flying that results in maybe saving someone's life. Most of all, you can make a difference. When you help someone avoid a pitfall that might have resulted in something truly bad happening, that's all the reward you will ever need.

John Loughmiller is a 4,000+ hour CFIIMEI-A and an Aviation Safety Counselor with the FAA's Louisville, Kentucky FSDO. This article originally appeared in the Cessna Owner magazine and is reprinted with permission.

Tales from an FAA Inspector

by Al Peyus

Correction and Beseeching Time

Into every life a little rain must fall! And after the last two articles I have been walking around in a tropical rainstorm! Yep! I inadvertently lead you down the primrose path with incorrect or missing information. I would like to make amends by correcting those omissions and explaining them.

Temporary Flight Restrictions (TFR's) have been in our flying lives for a long while. After September 11, 2001, they have been popping up in locations never before considered. National security was the by-word and orders and direction for implementation of many of the TFRs were issued through other agencies of the Federal government outside of the FAA.

As I was listing the additional means and ways to gather information on them, I made the assumption that every person reading the article knew of the services provided by Flight Service Station (FSS) personnel. These services include being your primary source of information for weather briefing, flight plan filing, and those ever-important *Notices To Airmen* (NOTAM) concerning TFRs.

The friendly briefer will make the pilot aware of all the weather pertinent to the proposed flight path as well as include those NOTAMs that may lie near the proposed flight path. As all FAA certificated pilots learn from their first days of flight instruction, the FSS is the starting point for all flights. It is also the primary point for current information that is pertinent to safe flight operations.

All the web sites mentioned in the TFR article are very good areas for gathering information and crosschecking data on TFR's. However, a good weather and flight planning briefing should start with a call to Flight Service. The telephone number to contact your local FSS is toll free 1-800-WXBrief (1-800-992-7433).

Now let me talk a bit about flotation gear. Yes! Title 14 Code of Federal Regulations (14 CFR) parts 121 and 135 operations must adhere to the regulations for the safety of their passengers. Flights that are "extended over water," "over water," or "beyond gliding distance from shore" all require flotation gear, rafts, emergency supplies, and/or signaling equipment pending on the type of flight and location.

The problem that was pointed out to me was a misinterpreted and often forgotten regulation. I might add the person that pointed this out was a fellow FAA Aviation Safety Inspector in my Branch the day the magazine appeared on the street! He was right! The regulation I missed was 14 CFR part 91, subpart C, 91.205 (b) (12). The basic regulation is titled, "Equipment, Instrument, and Certificate Requirements."

This regulation lists all the equipment needed for day, night, and instrument flight that pertain to the safe operation of the aircraft and provide for the safety of the passengers. There are two portions of this one regulation that refer to operations "for hire." One section, 91.205 (c) (4), requires an operable landing light if the flight is for hire. The other is the one I missed in my last article. It requires some part 91 operations to have flotation devices (gear) onboard for each occupant of the aircraft.

This regulation states, "(12) If the aircraft is operated for hire over water and beyond power-off gliding distance from shore, approved flotation gear readily available to each occupant and at least one pyrotechnic signaling device. As used in this section, 'shore' means that area of the land adjacent to the water which is above the high water mark and excludes land areas which are intermittently under water."

Allow me to try and clear up one of the more misunderstood segments of this regulation. Flight instruction, for some reason, seems to fall into the missed box for the carriage of floatation gear. Flight instruction is a commercial operation (for compensation or hire) that is operated under 14 CFR part 91.

"Commercial Operator means a person who, for compensation or hire, engages in the carriage by aircraft in air commerce of persons or property, other then as an air carrier or foreign air carrier or under the authority of part 375 of this title (14 CFR). Where it is doubtful that an operation is for "compensation or hire," the test applied is

whether the carriage by air is merely incidental to the person's other business or is, in itself, a major enterprise for profit." This is quoted from 14 CFR part 1 definitions.

Compensation or for hire is also noted in 14 CFR section 61.113, Private Pilot Privileges and Limitations: Pilot In Command. This regulation states the limitations concerning compensation or for hire that apply to private pilots acting as pilot in command. For example, subsection 61.113, (c) states, "A private pilot may not pay less then the pro rata share of the operating expenses of a flight with passengers, provided the expenses involve only fuel, oil, airport expenditures, or rental fees." This rule prevents a private pilot from receiving compensation or for hire for such a flight. Because this type of flight is not a "for hire" flight, flotation gear is not required by section 91.205. However, common sense says flotation gear, although not required by regulation, would for nice to have when over water.

"Over Water" is a term used to describe flights that are 50 nautical miles from shore. This is not to be confused with another "over water" term that has additional requirements.

"Extended Over Water" involves flights that operate at or beyond 100 nautical miles from shore. Although this term is not mentioned in the regulation in this discussion, it still comes up during any conversation about flight over water.

"Beyond Gliding Distance of Land" is the term that is most misunderstood and misinterpreted. And to make matters worse, there are a ton of airports that are affected by this one regulation!

Allow me the opportunity to explain this one term so that we all can understand the very important implications of this regulation and how it affects a large portion of pilots flying today! This combination of five little words affects nearly EVERY airport that lies next to or near a body of water! If any portion of the IFR or VFR approach or traffic pattern takes the aircraft over the water at an altitude that would place the aircraft below gliding distance to the shore while preparing to land, it is that portion of the "for hire" flight that is required to have flotation gear on board and accessible to each occupant!

Just think of all the airports that you know of that are next to a lake, a wide river, or along our coastal shores. If any portion of the normal traffic pattern or approach to the active runway takes the aircraft out over the water and the flight is below 1,500 feet above ground level (AGL), there is an excellent chance the flight needs flotation gear!

All the flight instructors out there must take heed! If you fly from an airport along the coastal waters, the Great Lakes, or any of the many thousands of lakes in our great country, and even rivers such as the Mississippi and Missouri, please take a closer look at 14 CFR section 91.205 (b) (12)! If you are ever in doubt about if you have to comply with the regulation, please contact your local FSDO. They really are out there to help you!

Title 14 CFR holds thousands of regulations that affect, in one part or another, every aircraft and vehicle. Every machine that enters the National Air Space environment has at least one or more regulations that it must abide. This includes not only parts 121, 135, and 91 type of operations, but also those who fly under parts 101, 103, 133, and 137.

Each aircraft category requires training, experience, and practice to assure a safe operation. Only by having an understanding of the regulations, receiving competent instruction, practice, a solid and detailed preflight, and a full and complete briefing can a pilot assure a safe, fun, and enjoyable flight.

Now that you have allowed me to make amends for my transgressions in past articles, I have a request of you. My next article is aimed at winter flight operations. November is almost right around the corner, and that brings all the excitement the mind can handle with snow, ice, fog, winds, contaminated runways, cold temperatures, first of the year heater use, and bulky clothing while you try to fly your aircraft. If you would care to have another topic involving safety, flight operations, regulations, National Airspace System, communications, navigation, runway operations, or any "Hangar Talk" topic that has a safety theme, please let me know and I shall respond to the most requested area of requests.

I can be reached through the *FAA Aviation News* or through email at <al.peyus@faa.gov>. As always, I look forward to your comments and requests.

FAA's Safety Hotline 1-800-255-1111

FAA's Safety Hotline operates Monday through Friday (except holidays) from 8 am to 4 pm ET. It provides a nationwide, toll-free telephone service, intended primarily for those in the aviation community having specific knowledge of alleged violations of the federal aviation regulations. Callers' identities are held in confidence and protected from disclosure under the provisions of the Freedom of Information Act.

The Dreaded Medical

Just mentioning the regional flight surgeon normally sends shivers up a pilot's spine.

by Bill Cuccinello, *(The author is a pilot and editor of the Hanscom Beacon.)*

We all know the feeling. *Sheer fright.* That time of year when we take the physical to renew our medical to prove that we are still fit to fly. And with the physical comes all the stress and anxiety that we bring to the aviation medical examiner's (AME) office.

Why are we so concerned, and what do we do about it?

Well, for some pilots who fly for a living, it means their careers. For others, it may simply mean getting their wings clipped.

To answer the many questions surrounding the dreaded physical and to get more information as to what to do should something go wrong during the physical, we decided to go directly to a FAA Regional Flight Surgeon, Dr. Paul Clark, located at the FAA Regional Office in Burlington, Mass.

Just mentioning the Regional Flight Surgeon normally sends shivers up a pilot's spine. Somehow, we think of the Flight Surgeon as a huge ogre who sits high above in an ivory tower, much like the Grand Oracle of Delphi, and dispenses simple yes's or no's, and mostly no's on your medical. How surprised we were! No way, no how is this true.

After meeting Dr. Clark, you realize how wrong we have been. We found him not only to be exceptionally knowledgeable regarding aviation physicals but very compassionate regarding pilot problems.

But it's understandable. He comes from a "flying family." His father was a top executive with a regional airline. He had two brothers who flew—-one retired from Delta Airlines—and a sister who recently retired number-one in seniority as a flight attendant for Air Canada.

Dr. Clark, originally from Prince Edward Island, served with the Canadian Air Force. He moved to Portland, Maine, in 1978, where he practiced medicine and later, in 1982, became an aviation medical examiner for the FAA. In 1989, he moved to Nashua, NH, as Flight Surgeon at the Boston Center.

There are nine regional flight surgeons in the country, each responsible for the review of questionable medicals in their respective region. The medical certification review program in the regions was recently increased by the Federal Air Surgeon to help alleviate the tremendous workload handled by the medical division in Oklahoma City.

A major step was recently established by the Federal Air Surgeon, Jon L. Jordan, M.D., J.D., in an additional effort to reduce the delay in medical certification. Entitled Aviation Medical Examiner-Assisted Special Issuance (AASI), Aviation Medical Examiners (AME) are now allowed to issue and reissue Special Issuance medicals for about 20 medical conditions after initial approval from FAA officials. This should help reduce the backlog in Oklahoma City and allow pilots with relatively simple Special Issuance problems be approved on the spot in the AME's office.

Recently, Dr. Clark was among seven medical officers that underwent 28 hours of intensive work in Oklahoma City, generating 724 medical review decisions for airmen pending needed medical authorization to fly. This "Tiger Team," as it is called, is an elite group of highly qualified experts that tackle time-sensitive problems. The Medical Certification Division Manager, Dr. Warren Silberman, initiated the program to improve customer satisfaction by reducing a backlog of cases. The intensive effort highlights another step in the FAA's commitment to service medical certification.

When asked what pilots could do to expedite their physical, Dr. Clark replied, "If you feel you have any medical problems such as high blood pressure, eyesight, or other problems, it's normally a good idea to see your own doctor first to assess your condition, and if necessary, resolve the condition before you meet with the AME. Oftentimes, your doctor can write a letter, which will explain the situation. It'll certainly facilitate any paperwork with the FAA you might have to encounter.

"Some people become anxious about the examination, and this, too, tends to raise blood pressure. It's the 'white coat syndrome.' In some individuals, anxiety can raise the pressure substantially. Pilots who tend to become apprehensive should tell the AME promptly. It allows the doctor to take multiple measurements for a more accurate reading. This is especially important when visiting a new doctor.

"Many pilots face this problem each year as their medical expiration date rolls near. The problem is twofold. First, aviation is one of the few professions that require medical certification on an annual basis to perform the job. Lose your medical and you lose your livelihood. That, in itself, creates a lot of pressure. Second, pilots tend to be controllers. Pilot personalities reveal that pilots are strong-willed leaders who like to be in charge. They like to be in control of day-to-day situations, and that trait is

denied when a pilot walks into the doctor's office. Now someone else is in control, not only of the exam, but of his or her future as well."

Dr. Clark continues, "If you have questions, you can always go to our web site, <http://www.cami.jccbi.gov/index.html>. That's the main site for the FAA Office of Aerospace Medicine, Civil Aerospace Medical Institute (CAMI). There's a wealth of information available there in addition to other FAA web sites."

The AOPA site also has a section on drugs or pharmaceuticals that are allowed while flying. Oftentimes, AMEs may not be able to answer medically related flying questions. As Dr. Clark says, "If your AME is not able to answer your question, feel free to call your Regional Flight Surgeon direct. There are always modifications or changes being made, and usually the flight surgeon is kept abreast of them."

One important aspect pilots should appreciate— Regional Flight Surgeons don't like to "clip the wings" of pilots. They realize many pilots depend on their physicals for their livelihood, while others simply enjoy the excitement of flying in the wild blue.

"If your medical is denied," suggests Dr. Clark, "don't just automatically call it quits if you're intent on flying. Pursue it. Check to see what must be done to rectify the situation."

"Only 0.7% of all airmen are denied certification. This is reduced to less than one-half of one percent when airmen follow up and provide the requested information, certainly far better than the figures for life-insurance applicants. With approximately 450,000 pilot exams per year, that's a pretty good record."

"However," as Dr. Clark explains, "there may be a time when we have to call it quits. If, at any time, you feel your reflexes are not up to par or you experience any type of dizzy spells or strange feelings, perhaps it's time to reassess your health. Safe flying demands a pilot with good, proficient skills and a healthy condition."

"Remember," he continued, "only you know how you physically feel. If you're tired or stressed out, or if you've been taking 'meds' that are disqualifying, don't fly. Use your good pilot judgment to decide if you're safe to fly that day."

Dr. Clark went on to say, "If you have some specific medical problems and need more information, start with your AME. A list of AMEs can be found on our CAMI web site." In addition, the Aviation Safety Counselors of New England list the regional AMEs on their web site.

Many pilots question eyesight surgery. Any vision corrective surgery must be reported, if it has potentially adverse effects with flying duties. That also includes lens implants. A report of your eye evaluation should be presented to your AME. If you were to seek a commercial rating, in the past there were certain vision standards for a Class-II medical, but now there are no uncorrected limits, providing your eyesight is correctible to 20-20.

Many other cases require [that] you discuss medical issues with your AME, such as benign positional vertigo, prostate cancer, diabetes mellitus. In short, discuss any questions you might have with your AME prior to the physical. If in doubt, you can always call the Regional Flight Surgeon.

Recently, the Sport Pilot ruling came into effect, stating that only a driver's license is needed for a medical. But if you have [had] a denial, the Sport Pilot rule states that if an individual's most recent application for an FAA medical certificate has been denied, suspended, or revoked, that person may not use a driver's license as a medical certificate until the denial is cleared from the record.

Many conditions causing denial in the past are no longer cause for denial. An estimated 80% of all denials are simply caused by the applicant not correctly providing all the paperwork or medical tests requested. These can be corrected simply by providing the missing information. Once the record is cleared by the issuance of a medical certificate, the applicant never need go through this again but can use the valid drivers license in lieu of a medical certificate.

And as we are all aware, gliders (including motorgliders) and balloon licenses do not require a medical or driver's license.

So if you lose your medical, it may not necessarily mean that you must give up flying. Remember, if your medical is denied, you have the right to appeal. But a denial by the AME is *not* a denial by the Administrator, whereas a denial by the Federal Air Surgeon, the Manager of the Certification Division in Oklahoma City, or the Regional Flight Surgeon *is* considered a denial by the Administrator. Incidentally, if you are denied, you must (apply) request reconsideration of the denial within 30 days; otherwise, it is considered you accept the denial and are withdrawing the application. Further information can be found in Title 14 Code of Federal Regulations Part 67, which outlines the appeal process for applicants who are denied medical certification.

So as we mentioned, the dreaded physical doesn't really have to be dreaded after all. There are many ways to fare better during the AME's examination. If you have a problem, contact your regular doctor first to rectify the situation or have him write a letter to the AME describing your plight. If in doubt, present the question to the Regional Flight Surgeon's office.

As one pilot recently said to me as we flew along, "We are the luckiest people in the world. Here we are, at our age, doing exactly what we want to do—enjoying the freedom of the skies, the scenery below—and still on our way to that one hundred dollar cup of coffee. What a wonderful life!"

This article is reprinted with permission from the spring-winter issue of the Hanscom Beacon, *a quarterly newsletter for "pilots, mechanics, and anyone connected with aviation" in and around Hanscom Field. Located about 20 miles northwest of Boston, MA, Hanscom Field is part of the towns of Bedford, Concord, Lexington, and Lincoln, world-renowned for their rich colonial history and tradition. On its south side, the airfield is bordered by one of the Commonwealth's most important sites, Minute Man National Historic Park.*

Safety First

A Weighty Matter

by Patricia Mattison

As the Safety Program Manager I have the opportunity to talk to air carrier operators as well as the passengers who trust their lives to those operators. History has shown that weight and balance problems do exist, especially for smaller single engine aircraft. However, getting actual weights of passengers can be a problem. Most people are not too happy about 'fessing up the few extra pounds that they carry on their bodies. In order to illustrate the situation I am going to confess that it has happened to me. It was several years ago when I owned a charter service.

The mother and sister of a man, who worked for the company that I flew for as their corporate pilot, were flying into Los Angeles International Airport (LAX). He scheduled me to go to Hawthorn Airport (it was impossible to get clearance into LAX at the time) to pick them up. He was a rather large fellow. When asked how much he weighed he stated that he weighed 180 pounds. Looking at him I rather doubted that. I asked him what his mother and sister weighed and how much luggage they were bringing with them. He said they were small women and were traveling very light. Accepting his word on it we launched to Hawthorn.

We should be fine on weight and balance, I thought as I waited and waited. Being bored at the time I ran the weight and balance numbers as I remembered the man telling me they were. Weights were as follows: me, 114, him, 180, mother, 120, sister, 120, and about 50 pounds of baggage. So far so good, that is until I saw the travelers and their escort return to the ramp.

His mother was about 5'2" and about as wide, I guessed 190 maybe, feeling generous. His sister was not far behind maybe 5'3" and best guess about 160. But the "light" baggage took my breath away. Two small hand carried overnight bags, two clothes bags, (stuffed to the max) two large suitcases, carried by the fellow who hired me and huge handbags that looked like the only thing left behind was good sense. Okay, so we're at max gross weight or so. We had burned off some fuel, but not much on the 30-minute flight to Hawthorn.

I was in trouble!

I pulled the at least 210 pound, that said he weighed 180, guy aside. I explained to him, "We can't take all the luggage and passengers on one trip. I can come back in a few minutes for you." His reply was to turn to his mother and sister and speaking in German, which I do not understand, said something that had them shouting and shaking their heads in an obvious gesture, that I did understand. He turned back to me and shrugging his shoulders said, "Sorry, they won't hear of my staying here and they won't leave their baggage here to get stolen." I could understand that!

You know the mistake that you once made (I am speaking in the universal you) that made you a believer? Well, it was my turn. Trusting my flying ability—if not my judgment—I loaded, pushed, and crammed the baggage in the aft baggage compartment and wedged the passengers past the front seat and into the back seat, each holding HUGE handbags, the overnight cases placed on the floor in front of them. I extended the seat belts to their max and secured them on mom and sis, said a fervent prayer to the lift god, and taxied for take off.

Having watched me load the Cessna 172RG the tower was curious and asked "Are you sure you want to do this?" I said "If I don't have lift off by the last 2,000 feet of runway, I will abort." At almost 5,000 feet of runway available I felt I could do it. Cocky, wasn't I.

It was 70 degrees at 66 feet of elevation, so trusting the old wives' tale of a built in 50% fudge factor I

planned for a short field takeoff procedure. Ten degrees of flaps, lean the mixture, and hold the brakes as power came in. Releasing the brakes, we were rolling and rolling and rolling. There were buildings at the end of the runway, getting bigger and bigger. Just about the time I was ready to abort the takeoff, the RG lifted off in ground effect and then began a sloooow climb. Obviously we missed the buildings—barely. Probably scaring ten years of life off the occupants, I'm sure that my passengers were none too relaxed.

Gear up, climb, albeit slowly, to 3,000 feet and aim for home. I was so grateful for whatever sheer luck element, prayers, or fudge factor Cessna had built into this aircraft. The decision to go ahead and take off with that load was a very stupid thing to do. If I had known the actual weight of the passengers and baggage, I would have taken the Cessna 210 for the trip. Not only was it capable of carrying more, but at the time the 210's fuel tanks were half full, more than enough for the trip. I learned the hard way not to sway to the egos of my passengers, and ask for actual weights. If I suspected that folks were not quite truthful about their weight, I would have them use the scale I later kept in the baggage compartment. Explaining how important it was to have an accurate weight and balance.

Never again comes to mind. I really did learn from that exciting episode in my life that computing an accurate weight and balance is a lifesaver.

This brings to mind the an old story here in Alaska that goes like this.

Some hunters hired an aircraft and pilot to take them hunting near a lake. The agreement was that the pilot would return in three days to pick them up. Three days passed and the floatplane landed on the lake and water taxied over to the hunters. The hunt had been a success and they had bagged a moose. The pilot said to the hunters "I can't take you and your gear and the moose on one trip." The hunters argued with the pilot and said, "Joe did it last year. We all have to go because we have a flight home to catch. Come on load the airplane". The pilot figuring that if Joe did it last year it must be okay, so he loaded the airplane, moose and all. He taxied to the end of the lake and gave the plane full power. Lifting off he could see that he wasn't going to clear the trees. Sure enough the plane crashed in the woods. The pilot was okay and so were the hunters. The pilot felt bad about the crash and said so to the hunters. Their reply was, "That's okay you got further than Joe did last year."

Patricia Mattison is the Safety Program Manager at the Juneau Flight Standards District Office.

What Do You Weigh?

This Safety First article titled "A Weighty Matter" highlights a critical flight safety issue. As we go into winter, weight and balance (W&B) becomes an even more weighty matter (pun intended) because individually I think we all tend to add a few pounds of weight over the holidays. In addition to gaining weight, our winter clothing adds pounds and bulk that we may not think about. Add in the potential for a few pounds of ice or sludge on the aircraft and our aircraft weight continues to add up. Throw in a couple of quarts of oil and you can see where we are going. Then an inadvertent encounter with some freezing precipitation can make a marginally stable aircraft over gross into a test flight for the unsuspecting "new test pilot."

Although all pilots have to study weight and balance as part of their certification, the question is how many pilots routinely check their aircraft's weight and balance? If they do check the aircraft's W&B, are they using correct information? Aircraft tend to gain weight over time. Things like oil, chocks, tie-down gear, old flight gear, handheld GPS and radio, charts, and newly installed avionics may not weight much individually, but collectively they all add up. Do you know what your aircraft weighs?

The importance of an accurate weight and balance check was highlighted by the National Transportation Safety Board (NTSB) Aircraft Accident Report on the Air Midwest Flight 5481, during business as US Airways Express flight 5481, at Charlotte, NC, on January 8, 2003. According to the NTSB's Executive Summary for the accident that killed two flight crewmembers and 19 passengers, "The National Transportation Safety Board determines that the probable cause of this accident was the airplane's loss of pitch control during takeoff. The loss of pitch control resulted from the incorrect rigging of the elevator control system compounded by the airplane's aft center of gravity, which was substantially aft of the certified aft limit." In its detailed report, NTSB was critical of the maintenance factors that resulted in the airplane's misrigging.

But a key element in the Board's report noted both the company's W&B process, and the FAA's W&B program guidance at the time of the accident contributed to the accident. At issue was the average passenger and baggage weights used in the company's data and in the FAA's W&B program weights.

Based upon the NTSB comments in this accident report and the natural growth in both our aircraft's weight and our own, the only accurate way to determine your particular flight will be within the manufacturer's recommended weight and balance limits is to actually weight everything that goes into your aircraft. To be safe, you can't use rough estimates of someone's weight. You don't want to be like old "Joe" who didn't make it very far on last year's moose hunting return flight; you want to clear the trees and make it home.

Editor's Note: For more information on weight and balance you can review the FAA's Aircraft Weight and Balance Handbook*, FAA-H-8083-1.*

from Northwest Mountain Region

Aviation Security & Hazardous Materials

THINK BEFORE YOU SHIP OR PACK!

What are Hazardous Materials?

Beware...

Many common items used everyday in the home or workplace may seem harmless, however, when transported by air, they can be very dangerous. In flight, variations in temperature and pressure can cause items to leak, generate toxic fumes or start a fire.

It's the Law...

You must declare your hazardous materials to the airline, air package carrier, or U.S. Postal Service. Violators of Federal Hazardous Materials Regulations (49 CFR parts 171-180) may be subject to a civil penalty of up to $32,500 for each violation and, in appropriate cases, a criminal penalty of up to $500,000 and/or imprisonment of up to 5 years.

Some common items containing regulated hazardous materials utilized in aviation include but are not limited to: Flammable aerosol lubricants and cleaners, flammable or corrosive solvents, flammable paints, flammable adhesives (gasket materials), flammable gas (butane/propane) powered torches and welding equipment, non-flammable gas (oxygen and fire extinguishers), battery and gasoline powered tools (cordless drills and cutting tools), aviation batteries, internal combustion engines retaining fluids, fuel system parts (fuel controls, fuel pumps, carburetors, fuel injectors, throttle bodies, fuel lines, etc), and fuel tanks.

Plan Ahead... Most hazardous materials are prohibited in checked or carry-on baggage. Some items may be shipped as air cargo. If you are unsure whether the item you wish to pack in your luggage or ship by air is hazardous, contact your airline representative.

For more information, log onto <http://ash.faa.gov/> and review hazardous materials information under the heading "What can Fly."

FAA
Fact Sheet

Federal Aviation Administration

Security-Restricted Airspace

Flight-Restricted Zone (FRZ)

The Flight-Restricted Zone (FRZ) extends approximately 15 nautical miles (about 17 statute miles) around the Ronald Reagan Washington National Airport. The airport is located in Arlington County, Virginia, four miles from downtown Washington, D.C. The FRZ is not a perfect circle.

The only non-governmental flights allowed within the FRZ are scheduled commercial flights into and out of Ronald Reagan Washington National Airport. Pilots who have been vetted by the Transportation Security Administration are allowed into the three Maryland general aviation airports. Other commercial air carrier flights can be vectored into the FRZ by air traffic controllers. Some news and traffic-reporting aircraft are allowed in as close as seven miles.

The FRZ has been in effect since the terrorist attacks of September 11, 2001. It was initially 25 nautical miles (about 29 statute miles) and was subsequently reduced to 18 nautical miles (about 21 statute miles). It has been a radius of 15 nautical miles for the past three years.

Air Defense Identification Zone (ADIZ)

The Air Defense Identification Zone (ADIZ) surrounds the FRZ, and extends in radius around the three major metropolitan airports: Reagan Washington National, Baltimore-Washington International, and Dulles International. The ADIZ extends approximately 20 nautical miles (about 23 statute miles) around Dulles and Baltimore-Washington, and 30 nautical miles (about 35 statute miles) around Washington National Airport. Reporters say the shape of the ADIZ reminds them of Mickey Mouse's head and ears.

The ADIZ was put into effect in February 2003.

There are a number of requirements for aircraft flying within the ADIZ:

- Flying within, into, or out of the ADIZ requires an advance clearance from the FAA's air traffic control.
- Aircraft flying within the ADIZ must have an altitude-encoding transponder that is operating.
- Each aircraft that is given clearance to fly within the ADIZ is assigned a four-digit number that identifies the aircraft to air traffic control by call sign or registration number, aircraft type, destination, etc.
- While flying within the ADIZ, the pilot must be in direct contact with air traffic control unless cleared to the local airport traffic advisory frequency.

Prohibited Area 56 (P-56)

P-56A & B are areas surrounding the White House and the vice president's residence.

The only aircraft that are allowed to fly within these prohibited areas are specially authorized flights that are in direct support of the U.S. Secret Service, the Office of the President, or one of several government agencies with missions that require air support within P-56. These prohibited areas have been in effect for about 50 years.

P-56A covers approximately the area west of the Lincoln Memorial (Rock Creek Park) to east of the Capitol (Stanton Square) and between Independence Ave. and K Street up to 18,000 feet.

P-56B covers a small circle of about 1 nautical mile (about 1.2 statute miles) surrounding the Naval Observatory on Massachusetts Ave. up to 18,000 feet.

Temporary Flight Restrictions

The FAA institutes temporary flight restrictions for hazards to aviation, such as forest fires smoke, volcano plumes, and air shows, as well as for security reasons. Most temporary flight restrictions (TFRs) are noted on the FAA home page, <www.faa.gov>, under "Graphic TFRs."

When the president or the vice president flies, their planes receive priority handling by air traffic control.

However, Air Force One and Two receive standard en-route separation from other aircraft.

At the request of the U.S. Secret Service, the FAA can restrict airspace around locations where the president is visiting for TFRs of up to 30 nautical miles in radius and heights of 18,000 feet. Generally, all flights that have not received special security vetting by the Transportation Security Agency are prohibited within these TFRs.

Airspace Security Violations

As of May 12, 2005, there have been approximately 1,682 pilot deviations filed for violations of the restricted airspace in and around the National Capitol Region since the ADIZ was put in place February 13, 2003.

As of May 12, 2005, there have been 2,211 security-related airspace violations in the Washington, D.C. area. This includes violations of the FRZ, P56, P40 (Camp David), and other violations that occurred before the ADIZ was put into effect.

Pilots are required by FAA regulation to check in advance for any flight restrictions that may be in effect on or near their planned routes before they fly. The best way to do this is for pilots to call their Flight Service Stations before take off for briefings on the weather, flight restrictions, and anything else that may effect the area in which they plan to fly. The FAA also issues *Notices to Airmen* (NOTAM) to advise pilots of flight restrictions and other special circumstances (such as closed runways, restrictions due to volcanic plumes, etc). Both the NOTAMs and most of the graphic representations of all flight restricted-areas can be found on the FAA home page, <www.faa.gov>, under "NOTAMs" and "Graphic TFRs." The agency has also performed extensive outreach in coordination with the Aircraft Owners and Pilots Association.

The FAA has the authority to take certificate (suspension or revocation of the pilots' certificate) or civil-penalty (monetary) actions against pilots who violate the federal aviation regulations. Most of these security-related violations result in 30- to 90-day suspensions of the pilots' FAA certificates. Other agencies may pursue criminal actions if those are warranted.

Visual Warning System for the ADIZ

NORAD (the North American Aerospace Defense Command) on May 21, 2005, deployed a new warning signal for communicating with aircraft that have flown into the ADIZ or FRZ. The signal consists of highly focused red and green colored lights in an alternating red/red/green signal pattern. This signal will be directed at specific aircraft suspected of making unauthorized entry into the ADIZ/FRZ and are on a heading or flight path that may be interpreted as a threat, or that operate contrary to the operating rules for the ADIZ/FRZ.

The beam will not injure the eyes of pilots, aircrews or passengers, regardless of altitude or distance from the source.

If pilots are in communication with air traffic control and this signal is directed at their aircraft, they are advised to immediately tell air traffic control that they are being illuminated by a visual-warning signal. If this signal is directed at a pilot who is not communicating with air traffic control, that pilot should turn to a heading away from the center of the FRZ/ADIZ as soon as possible and immediately contact air traffic control on an appropriate frequency, or if unsure of the frequency, contact ATC on VHF guard 121.5 or UHF guard 243.0.

Failure to follow these procedures may result in interception by military aircraft and/or the use of force. This applies to all aircraft operating within the ADIZ, including Department of Defense, law enforcement, and aeromedical operations.

Aviation Maintenance Alerts

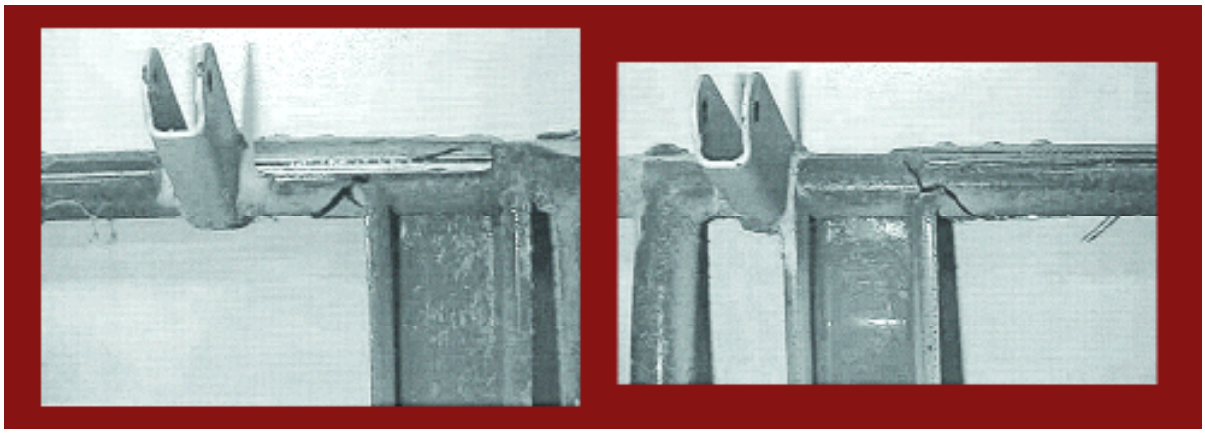
Cessna; A185F; "Freezing Brakes"; ATA 3243

Subfreezing temperatures greeted this small Alaskan airplane at touchdown, immediately followed by erratic, "hanging" brakes. This behavior prompted a stop at a repair shop. Inspection of the system by the attending mechanic revealed dirt and water contaminating the brake fluid in both left and right master cylinders (P/N 0541139-22). The aircraft logs verified periodic cylinder seal replacement, but no records of the cylinders ever having been removed and cleaned "...in the 27 years, 11 months of service." The mechanic concludes: "...if cylinder seals are replaced, the entire body should be removed and cleaned. The entire system should be removed and thoroughly cleaned every 2,000 hours or 10 years as an ageing aircraft inspection item." Part Total Time: 5,034.0 hours.

Cessna; 550; Cracked Seat Frames; ATA 2500

(The following description is a composite of three defect submissions on the same aircraft having identical cracks in the same locations on three different seat frames. Two of eight enclosed photos are shown below.)

The repair station technician states, the "...upper chair base assembly cracked at chair back attach points." (Seat frame P/N 55-19009-21, 55-19009-22, 55-19009-32.) These chairs were repaired in accordance with "...Aviation Fabricators STC STO1042WI Structural Seat Repair." The photos (below) show the remnants of a previous, inappropriate repair.



Piper; PA31T; Non-functioning Heater Solenoid Valve; ATA 2140

A mechanic provides the following description of his new aircraft heater and its out-of-the-box problem. "(I) installed a new C&D aircraft heater (P/N CD12022) as a replacement to the old Janitrol unit. The new heater would run approximately five minutes, and then produce no heat. Troubleshooting showed that fuel was reaching the nozzle solenoid valve (P/N CD21701), but not past (it). Voltage was present, as well as a click (sound) from the solenoid. (I) replaced the solenoid valve with the same part number, and had the same issue. Further troubleshooting, using shop air on the valve and a bench power supply, showed...(after five minutes of sustaining electrical power this valve would suddenly fail to allow air to

pass). The manufacturer was advised of these findings, and they tested a replacement valve of the same part number, but of a different batch number, and found it to be satisfactory. This (third) solenoid valve was installed and the heater is now operational." Part Total Time: 0 hours.

Raytheon (Beech); *1900D*; Spar Cap Corrosion; ATA 5511

"During an 'I' check inspection, the upper and lower horizontal spar caps were found with corrosion in the area of the elevator hinges," states the technician. "This area was not treated or primed by the factory during aircraft manufacture and thus was conducive to corrosion. This is considered to be a factory defect requiring inspection, corrosion control, and repairs IAW with Raytheon Field Repair Details. (I) recommend that Beechcraft (Raytheon) add details of damage allowance to the structural repair manual. (I) recommend all areas to be treated to prevent further corrosion." Part Total Time: 10,903.0 hours.

Erickson; S-64F; Cracked Inner Bearing Race — Main Rotor Head; ATA 6220

An oil leak was noted on the main rotor head Sleeve and Spindle Assembly during a routine inspection. The mechanic states, "Upon removable and replacement with a serviceable assembly, a crack was found on the inner race (65952-11522-102). Visual inspection (found) wear and corrosion typical for this part that has been in service." "The crack is approximately three inches in length and runs in an axial direction. This is a first time occurrence." No speculation as to this defect's cause or its prevention was offered. Part Total Time: 2,717.3 hours.

Continental; IO 550G; Cracked Oil Cooler; ATA 7921

During a routine oil change, a crack was found in the mounting flange of this engine's oil cooler (P/N 654585). The mechanic states, "This is the fourth instance of an oil cooler crack found by this station within the last year. All previous cracked coolers had at least 500 hours time in service. Close examination of this area is recommended at each oil change or cowling removal." Part Total Time: 602.8 hours.

Honeywell; TPE 331; Failed Turbine Bearing; ATA 7250

The respondent states this destroyed engine's turbine bearing (P/N 3101092-1) has identification markings from the vendor who reworked and overhauled this part in 1995. "Rework and overhaul of this bearing is no longer approved by the manufacturer's current TBO program (SB 72-0180, R31) and requirements now call for replacement of this part number bearing at each hot section inspection. Evidence leads to the belief that the bearing rollers turned in their cage, thus allowing the rotating group to move off center and contact the turbine housing — resulting in catastrophic failure." (Time since overhaul given as 1821.5 hours.) Part Total Time: unknown.

The Aviation Maintenance Alerts provide a common communication channel through which the aviation community can economically interchange service experience and thereby cooperate in the improvement of aeronautical product durability, reliability, and safety. This publication is prepared from information submitted by those who operate and maintain civil aeronautical products and can be found on the Web at <http://www.faa.gov/avr/afs>. Click on "Maintenance Alerts" under Regulations and Guidance. The monthly contents include items that have been reported as significant, but which have not been evaluated fully by the time the material went to press. As additional facts such as cause and corrective action are identified, the data will be published in subsequent issues of the Alerts. This procedure gives Alerts' readers prompt notice of conditions reported via Malfunction or Defect Reports, Service Difficulty Reports, and Maintenance Difficulty Reports. Your comments and suggestions for improvement are always welcome. Send to: FAA; ATTN: Aviation Data Systems Branch (AFS-620); P.O. Box 25082; Oklahoma City, OK 73125-5029.

UNAPPROVED PARTS NOTIFICATION

U.S. Department of Transportation
Federal Aviation Administration

SUSPECTED UNAPPROVED PARTS PROGRAM OFFICE, AVS-20
13873 PARK CENTER ROAD, SUITE 165
HERNDON, VA 20171

UPNs are posted on the Internet at <*http://www.faa.gov/aircraft/safety/programs/sups/upn/*>

No. 2004-00041
June 15, 2005

Mailed by: FAA, AIR-140, P.O. Box 26460, Oklahoma City, OK 73125

AFFECTED PARTS Aircraft propellers.

PURPOSE The purpose of this notification is to advise all aircraft owners, operators, maintenance organizations, manufacturers, and parts distributors regarding improper maintenance performed on aircraft propellers.

BACKGROUND Information received during a Federal Aviation Administration (FAA) suspected unapproved parts investigation revealed that Millennium Propeller Systems, Inc. (Millennium), located at 780 Ferris Road, Hangar 105, Lancaster, TX 75146, improperly maintained and approved for return to service propellers applicable to various types of aircraft. Millennium previously held Air Agency Certificate No. NWOR140K with these ratings: Propeller Class 1 and Class 2, Limited Nondestructive Inspection, Testing and Processing, and Limited Specialized Service. Discrepancies noted in Millennium's practices included, but are not limited to, the following:

Approving for return to service propellers described as being in compliance with Airworthiness Directive (AD) 2002-09-08 when, in fact, they had not been reworked in accordance with note 2 of the AD. The AD requires that a repair station be Hartzell-approved to perform blade shank, cold-rolling procedures. Millennium is not a Hartzell-approved repair facility.

Using parts that were not purchased from an approved source or have no traceability when performing maintenance operations.

Approving for return to service propellers that were not maintained in accordance with the current manufacturer's maintenance manual or methods otherwise acceptable to the Administrator.

Allowing unqualified personnel to perform nondestructive inspection.

RECOMMENDATIONS Regulations require that type-certificated products conform to their type design. Aircraft owners, operators, maintenance organizations, and parts suppliers and distributors should inspect their aircraft, aircraft records, and/or parts inventories for propellers approved for return to service by Millennium. Suspect products and parts installed on aircraft should be inspected for conformity to type design. If any are found in existing stock, it is recommended that the products or parts be quarantined to prevent installation until a determination can be made regarding each product's or part's eligibility for installation.

FURTHER INFORMATION Further information concerning this investigation, and guidance regarding the above-referenced propellers, can be obtained from the FAA Flight Standards District Offices (FSDO) given below. The FAA would appreciate any information concerning the discovery of the above-referenced parts from any source, the means used to identify the source, and the actions taken to remove the products and parts from aircraft and/or stock. This notice originated from the FAA Dallas FSDO, 3300 Love Field Drive, Dallas, TX 75235, telephone (214) 902-1800, fax (214) 902-1862; and was published through the FAA Suspected Unapproved Parts Program Office, AVS-20, telephone (703) 668-3720, fax (703) 481-3002.

WASHINGTON DC AREA FLIGHT RESTRICTIONS

The FAA has announced a proposal to make the various Washington DC area flight restrictions permanent. In a notice of proposed rulemaking (NPRM) published in the *Federal Register*, Volume 70, Number 149, on August 4, 2005, the FAA outlined the need for and its plan to make the Washington DC flight restrictions permanent through the rulemaking process. The NPRM outlines the various options the Government is considering for protecting the greater Washington DC Metropolitan area.

The NPRM's formal title is Docket No. FAA-2003-17005, Notice No. 05-07, 14 CFR Part 93, Washington, DC Metropolitan Area Special Flight Rules Area, Proposed Rule. Anyone interested in reading the complete NPRM can find it on the FAA's Internet site at <http://www.faa.gov/regulations_policies/rulemaking/recently_published/> Once you are at the site, you only have to click on the NPRM's title to link to the document.

The document is also available for viewing at the FAA's Public Document room in Washington DC. A copy of the NPRM can also be obtained by submitting a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Ave. SW, Washington DC 20591 or by calling (202) 267-9680. Anyone requesting a copy must include the docket number, notice number, or amendment number of the NPRM.

November 2, 2005, is the deadline for submitting comments on the proposal. The NPRM states how and where comments are to be submitted. It also tells how public comments can be read. The NPRM reminds readers not to submit Sensitive Security Information to the Public Docket. The Notice explains how someone may submit sensitive information.

ACRA TO GO

FAA is terminating support for its Airman Certification and Rating Application (ACRA) software on October 1, 2005. Designed to automate the processing of airman applications, ACRA is a compact disc (CD) based program. It has been replaced by web-based technology. An example of an airman application is a pilot certificate processed by a designated pilot examiner. Because of the cost of maintaining the software and distributing the CD's and paper forms used in the ACRA program, the FAA developed an Internet-based replacement system known as the Integrated Airman Certification and/or Rating Application (IACRA).

The new system incorporates the functions of ACRA while providing expanded capabilities. IACRA uses online validation and digital signatures. Being Internet-based, the IACRA program also reduces the FAA's cost to maintain and distribute the program. IACRA currently has over 17,000 users compared to ACRA's less than 1,000.

GENERAL AVIATION AND COMMERCIAL DIVISION REORGANIZED

For many years, the *FAA Aviation News* has been part of Flight Standards' General Aviation and Commercial Division, AFS-800. To better serve the general aviation community, the division's organizational structure was reorganized and the general aviation programs were realigned within two technical branches. The Operations and FAA Safety Team Support Branch, AFS-820, has been renamed the Commercial Operations Branch, AFS-820. The Certification and Flight Training Branch, AFS-840, has been renamed the Certification and General Aviation Operations Branch, AFS-810.

The Certification and General Aviation Operations Branch, AFS-810, is the principal element of the division concerning the certification and training of airmen (pilots, ground, and flight instructors) under Title 14 Code of Federal Regulations (14 CFR) part 61 and the operational aspects of part 91 (except for air traffic and aircraft maintenance rules) as pertaining to sport/recreational/ personal operations, and operations under parts 101, 103, and 105.

The Commercial Operations Branch, AFS-820, is the principal element of the division with respect to the operational aspects of 14 CFR part 91 (except for air traffic and aircraft maintenance rules) as pertains to commercial operations, and parts 125, 133, 137, and 142.

The magazine will remain part of the Plans and Programs Branch, AFS-805, which will remain unchanged. The only change that the magazine is experiencing is a new web address, which is <http://www.faa.gov/library/aviation_news/>

SPECIAL TRAINING FOR PILOTS FLYING WITHIN 100 NM OF DC ADIZ

The FAA plans to issue an Interim Final Rule, which establishes training requirements for any pilot who flies under visual flight rules (VFR) within 100 nm of the Washington, DC, Air Defense Identification Zone (DC ADIZ). The training primarily focuses on the procedures for flying in and around the Washington, DC, Flight Restricted Zone (DC FRZ) and the DC ADIZ.

Over the years, the FAA has conducted pilot meetings/seminars concerning operations in and around flight restriction areas and other special use airspace. However, since September 11, 2001, there have been a large number of inadvertent incursions into security related Temporary Flight Restriction (TFR) areas throughout the U.S. In the DC ADIZ alone, over 1,500 unauthorized flights/incursions have occurred. Therefore, it is believed that mandatory pilot training would reduce

the number of incursions.

After receiving the training, pilots will be required to carry a certificate of training completion in his/her personal possession or have it readily accessible in the aircraft, when flying under VFR within 100 nautical miles of the DC ADIZ airspace. Compliance is required within 60 days of the effective date of the interim rule. Check the following FAA web site <http://www.faa.gov/regulations_policies/rulemaking/recently_published/> to view the rule when it is published, as the public is invited to comment on it.

REVISED AIRCRAFT EQUIPMENT SUFFIX TABLE FOR FLIGHT PLANS

Starting September 1, when filing an FAA Flight Plan (FAA Form 7233-1), operators will use a new set of aircraft equipment suffixes to indicate Advanced RNAV and RVSM capabilities. Either "/J", "/K," "/L" or a newly defined "/Q" will be filed to indicate Advanced RNAV and RVSM capabilities. "/W" will continue to indicate RVSM capability only. The revised table also contains significant changes to the definitions of "/E", "/F" and "/Q." A revised table will be posted in the *Aeronautical Information Manual* (AIM) at <http://www.faa.gov/ATpubs/AIM/index.htm>.

Suffix	Equipment Capability
	NO DME
/X	No transponder
/T	Transponder with no Mode C
/U	Transponder with Mode C
	DME
/D	No transponder
/B	Transponder with no Mode C
/A	Transponder with Mode C
	TACAN ONLY
/M	No transponder
/N	Transponder with no Mode C
/P	Transponder with Mode C
	AREA NAVIGATION (rnav)
/Y	LORAN, VOR/DME, or INS with no transponder
/C	LORAN, VOR/DME, or INS with transponder with no Mode C
/I	LORAN, VOR/DME, or INS with no transponder with Mode C
	ADVANCED RNAV WITH TRANSPONDER AND MODE C (If an aircraft is unable to operate with a transponder and/or Mode C, it will revert to the appropriate code listed above under Area Navigation.)
/E	Flight Management System (FMS) with DME/DME and IRU position updating
/F	Flight Management System (FMS) with DME/DME position updating
/G	Global Navigation Satellite System (GNSS), including GPS or WAAS, with enroute and terminal capability.
/R	Required Navigational Performance. The aircraft meets the RNP type prescribed for the route segment(s), route(s) and/or area concerned.
	Reduced Vertical Separation Minimum (RVSM). Prior to conducting RVSM operations within the U.S., the operator must obtain authorization from the FAA or from the responsible authority, as appropriate.
/J	/E with RVSM
/K	/F with RVSM
//L	/G with RVSM
/Q	/R with RVSM
/W	RVSM

Editor's Runway

from the pen of H. Dean Chamberlain

WHAT HAPPENED TO SUMMER?

From an editorial viewpoint, summer is gone. I don't know what happened to it, but for *FAA Aviation News* purposes, summer flying is history. Now, we are discussing such topics as what pilots and maintenance technicians need to remember when transitioning to winter flight operations. Not to rush the seasons, we are also looking forward to spring. When we again encourage pilots who have not flown much, if at all, over the winter months to refresh their piloting skills by adding a new rating or by going flying with a certificated flight instructor for some refresher training before launching off with the family in your Mark I rental.

Each year, *FAA Aviation News* has two transition issues. The first one is our spring issue, March/April, where we stress the need for pilot refresher training as well as reminding aircraft owners of the need to make sure their aircraft have been properly prepared for warm-weather operations. The second transition issue is this one September/October, reminding pilots and aircraft owners of the need to prepare for winter operations. Of the two periods, I believe the winter transition period is the most critical. To paraphrase part of the memory aid about altimeter settings, "when going from hot to cold, look out below."

The reason is winter poses more dangers for the unprepared. Obviously, cold and weather-related hyperthermia pose risks for anyone not properly dressed for those conditions. But more importantly, winter flight operations pose additional risks both to the aircraft as well as to the pilot. From ice on the runways to ice in the fuel to ice on the wings to ice blocked controls, winter operations can be deadly. Add in the reduced daylight hours for travel—or if you want to be positive, the extended hours of darkness—and you can begin to see the increased risks of winter travel. Aircraft are not immune to winter's risks. From batteries that won't turn the engine over to the need to preheat both the engine compartment and the cockpit to installing required baffles, aircraft require special care during the cold winter months.

The best guides for servicing your aircraft's cold-weather needs are its pilot operating handbook or aircraft flight manual and your local aircraft maintenance technician who through experience and access to factory maintenance manuals knows how to prepare your aircraft for winter. This important aircraft information includes the proper type of oil and grease based upon your local temperatures, adjusting control cables for proper tension, installing any required baffles such as one for the oil cooler, and checking your aircraft's heating system for proper operation and any leaks. These are only a few of the items pilots, aircraft owners, and maintenance technicians should think about and check in the next few weeks.

Pilots and aircraft owners who spend the winter in or live in the warmer areas of the country may also be at risk. These I break down into two groups. There is the group that migrates each year from the cold northern tier part of the country to sunny Florida and Arizona and other equally warm areas. Then there is the group of hearty folks who leave warmer parts of the country during parts of the winter to either go skiing, especially those flying to the western mountain resorts such as those in Colorado or Utah, or to cold areas of the country for the winter holidays. These groups of folks need to be especially careful because they may not have prepared their aircraft for extended winter operations, and since they are only going on trips of short duration, they may lack the knowledge or pilot proficiency for operating in the cold, snow-covered areas.

As *FAA Aviation News* prepares for the winter months and looks ahead to spring, we think those pilots and aircraft owners planning on flying over the winter months should also start to prepare for winter operations while reminding themselves that spring is just around the corner.

Now, where did summer go?

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DO NOT DELAY -- CRITICAL TO FLIGHT SAFETY!