Wing Tips

Winter 2006 — Des Moines Flight Standards District Office

SAFETY SEMINARS -- *Go to www.faasafety.gov to find seminars in your area*

THE 2007 MIDWEST REGIONAL AIRCRAFT MAINTENANCE SYMPOSIUM & TRADE SHOW

This year's symposium and exhibits will be held at *The Gateway Hotel* in Ames, Iowa, on February 2 and February 3, 2007, starting at 8:00 a.m. The Iowa Chapter of PAMA in conjunction with the Iowa Department of Transportation is sponsoring the 16th Annual Symposium in cooperation with the FAA Des Moines FSDO and the Central Region FAA Safety Team.

Transportation from the Ames Airport is available upon prearrangement with *The Gateway Hotel*. Visit their website at www.gatewayames.com for driving directions.

Training sessions qualify for IA renewal. For more information, browse www.pama.org on the internet, choose the "Chapters" link for the Iowa Chapter of PAMA or call Iowa Chapter President Phil Conn at (319) 295-5221.

Frost

Winter time has arrived. Frost…it sure can look pretty on the trees and the landscape, but how about it's affect on flying?

The purpose of this article is to emphasize that when taking off with polished frost on the wings or control surfaces, as currently permitted by regulations, pilots should do so only in accordance with an aircraft manufacturer's approved procedures.

Background: The practice of making takeoffs with frost on an airplane, polished to ensure that a smooth surface exists, dates back to at least 1960. A Civil Air Regulations Draft Release addressed the procedure which has evolved into Title 14 of the Code of Federal Regulations (14 CFR) part 91, subpart F, 14 CFR part 125, and finally 14 CFR part 135. FAA guidance regarding this technique appears in Advisory Circular 135-17 which states that "It is recommended that all wing frost be removed by means of conventional deicing process; however, if polished frost is desired, the aircraft manufacturer's recommended procedures should be followed."

Discussion: Since 1960, operational experience and accident history have shown that contamination of any kind can adversely affect the aerodynamic properties of an airfoil, and that the safest course of action is to completely remove all contaminants from wing and flight control surfaces.

Therefore, the FAA cannot support the practice of merely polishing frost on a wing or control surface **unless** an aircraft manufacturer has developed explicit, approved procedures for doing so, and these procedures are strictly adhered to in operations and supported in training.

Recommended action: Pending rule changes, directors of operations**,** directors of training and pilots should ensure (1) that during operations in ground icing conditions no contaminants including frost are adhering to wings or stabilizer control surfaces immediately prior to takeoff; and (2) that "polishing frost" as a means to meet this objective is not practiced unless an aircraft manufacturer has developed explicit, approved procedures for doing so, and these procedures are strictly adhered to in operations and supported in training.

Welcome to Des Moines FSDO

Kara Hendricks came to the Des Moines FSDO on October 30, 2006 as an Aviation Clerk.

Before joining the FAA, Kara worked for the Des Moines Radio Group in downtown Des Moines and attended AIB College of Business.

Kara grew up in various small towns around Central Iowa, graduated from high school in Story City, and now lives in Ankeny. In her spare time, she enjoys spending time with her daughter, Ella (3), traveling, buying and selling on e-Bay, listening to live music, and participating in Yoga classes.

8710 Airman Application

The FAA Form 8710-1 ***Airmen Certificate and/or Rating Application***, it's the form we've all filled out at one time or another….whether applying for our first pilot rating or adding another type rating to our ATP certificate. The form gets used for many different purposes. Maybe in part because of this, too many of these forms are making a laborious and time consuming round trip back and forth to the FSDO. In some cases, all the way to the Airmen Records Branch in Oklahoma City only to be rejected because of a typo or omission error and sent back to the FSDO and then the examiner for correction.

Mistakes and/or missing information on the form cause delays in processing the application. The temporary airmen certificate is valid for 120 days, certainly enough time for an airman to have his/her application processed and receive a new updated plastic certificate via the US Postal Service. However, if the form has to go back to the designated examiner and potentially to the recommending instructor or airmen, before you know it, you're left with an expired temporary certificate in your pocket. That's easy enough to fix but it's an unnecessary hassle.

So what kinds of mistakes are being made you might ask? Well, we undertook a brief survey of the returned 8710-1s and here's what we found. By far the most common errors that the Des Moines Flight Standards District Office sees fall into five areas:

1. Incorrect or missing information on the top half of the FAA Form 8710-1.
2. Insufficient or missing times for the rating being applied for.
3. Not dated properly (wrong or missing).
4. Omitted or incomplete Airmen's Identification on second page (driver's license info).
5. Designated Examiner's Report portion (to include the Temporary Airmen Certificate) is incomplete or missing information.

To be sure, there are a host of other errors coming through, too. All of this leads to the question; isn't there a better way?

Recommended Solution

IACRA, which stands for Integrated Airmen Certification and/or Rating Application, is the FAA's new web-based application that allows airmen, recommending instructors, and designated examiners to fill out airman certification documents online which are then sent electronically to the Registry. Most of us have filled out an on-line form or two and have experienced the frustration of a web-based application rejecting our input only to find out that we were the cause of the mistake and the computer helped us catch it. In much the same way, IACRA is poised to dramatically reduce the number of errors made on these forms on the spot, so to speak.

Of the errors identified in our survey, the vast majority of them would be caught with an on-line web-based application. For example, the designated examiner's or recommending instructor's certificate has expired. You will not be allowed to proceed.

Some parts of the country are already using IACRA. The majority of those using it are extremely happy with it. It does take some getting use to but once recommending instructors and designated examiners are registered and using the system they often wonder why they waited so long. Life is better now.

What IACRA promises for the customers of the Des Moines FSDO is a compromise. It's a compromise between the momentary frustrations of filling out an on-line application versus the real hassle of having a temporary airmen certificate expire in your wallet with no alarm going off.

While the Des Moines FSDO is not ready to mandate use of IACRA, we are encouraging those who would naturally fall into the category of early adaptors to go ahead and begin using it. To register and begin using IACRA, visit the FAA's web site for Licenses & Certification and click on the link: Integrated Airmen Certification and/or Rating Application (IACRA).

FAA To Overhaul Part 21 Regs

The FAA is proposing a major rewrite of the Part 21 regulations affecting the production of aviation parts.

According to the FAA, the update is needed to address changes in the global aviation market since the current rules were written back in the 1960s. The proposed changes affect every element of producing aircraft parts including standard parts, owner-produced parts and parts produced as part of maintenance. Primarily, the proposed rule would standardize requirements for production approval holders; require production approval holders to issue airworthiness approvals for aircraft engines, propellers and other aviation parts; require manufacturers to mark all parts and components; and revise export airworthiness approval requirements to facilitate global manufacturing.

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"We make a living by what we get, but we make a life by what we give."

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Cedar Rapids plans to build a parallel taxiway 500 feet north of runway 9-27 during 2007 and 2008. In 2009, the parallel taxiway would be converted to a temporary runway (designated 8-26) and runway 9-27 would be closed for rehabilitation (for the 2009 construction season).

There is a Runway Safety Action Team (RSAT) meeting scheduled in Cedar Rapids for April 18-19, 2007. Everyone involved in the airport including airport personnel, FAA (Air Traffic and Airway Facilities), airlines, FBOs, tenants, etc. will be invited to the RSAT. This would be a good time to talk about 1) construction of the new parallel taxiway, 2) airport operations during taxiway construction, and 3) airport operations during use of the temporary runway while runway 9-27 is being rehabilitated.

Question from Inspector Roger "N" Clark to the flying public.

Okay, now it's time to get advice from you, the flying public, in answering a question that I have.

In discussing the terms of Vyse and Vy for multiengine aircraft, normally Vy (best rate-of-climb, two engines) is a higher airspeed than Vyse (best single engine rate-of-climb.)

The question is: For the Piper Navajo PA-31-350, Vyse (106) is a higher airspeed than VY (101) which is just the opposite of most normally aspirated twin-engine general aviation aircraft.

Can someone explain why this is?

If you have the answer, give me a call at the office or e-mail me at roger.clark@faa.gov and I will print the answer in the next issue of "Wing Tips."

New Processing Procedure for FAA Forms 337

The FAA has changed the rule involving processing the FAA Form 337**.**

Under the previous rules, when a repair station or other person completes a Form 337 to record a major repair or major alteration (in accordance with Part 43 Appendix B), the form is filed with the local Flight Standards District Office

Under the current rules, when a repair station or other person completes a Form 337 to record a major repair or major alteration (in accordance with Part 43 Appendix B), the form is filed with the FAA Aircraft Registration Branch in Oklahoma City, Oklahoma,

The FAA is also releasing a new, interactive Web-based FAA Form 337 System that gives the user the ability to fill out, digitally sign, and print forms online. The user may also interact with the FAA when necessary and forward forms directly to the aircraft registry to be placed in the official aircraft records.

While the Aviation Safety Inspector (ASI) will not be performing reviews of electronic Forms 337, this does not mean the ASI cannot perform spot checks or surveillance of forms submitted by its assigned certificate holders that perform major repairs or alterations.

The electronic Form 337 can be accessed at http://eformservice.faa.gov/eform337.aspx.

In order to keep this information separate and reduce any confusion, information specific to the electronic Form 337 is not in AC 43.9-1E. Instead, it is described in detail with drop down menus, mouse over help, an online help system, and individual online tutorials accessible to the user in the electronic Form 337 Program. The online help system and tutorials can be accessed from the system Web page and do not require an account to use.

Creating and submitting forms electronically greatly speeds processing time as opposed to the paper method. The electronic system mirrors the traditional paper version so the information contained in Advisory Circular (AC) 43.9-1E, Instructions for Completion of FAA Form 337, Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance), is relevant to both methods. Differences specific to the electronic Form 337 include the need to acquire access to the system and use digital signatures.

BENEFITS

A. The FAA and industry will benefit by using a Web-based electronic Form 337. Customer service will be improved by the following additions:

(1) A more efficient and standardized interface for inspectors and industry users.
(2) Instantaneous access and direct processing to the aircraft registry.
(3) The most current blank form will be available to industry users, which can be computer generated to produce clean, legible reports.
(4) A common database for internal FAA oversight and monitoring functions, generated from the electronic Forms 337.
(5) The ability to query the database for safety trend monitoring and compliance.

B. The updated electronic Form 337 retains the same OMB number and may be used for the paper version. A blank e337 form can be printed and used for the paper process. However, the two processes cannot be mixed. If a form is started in the electronic version, it must be finished in that manner, and visa versa. This is due to security issues with the electronic signatures. Details of the form changes are described in AC 43.9-1E.

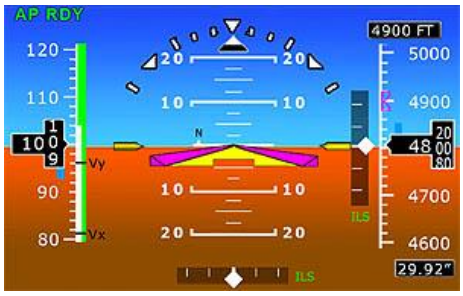
C. Further information on processing FAA Forms 337 can be reviewed in FAA notice 8300.337, which is available on the FAA Web site.

http://www.faa.gov/library/manuals/examiners_inspectors/8000/

Soon, the FAA will also implement electronic filing for Forms 337 field approvals.

Remember, utilization of the automated system is entirely optional. Regardless of which system you use (Electronic or directly filing with the registration branch), please ensure prior to sending the Form 337 that the information contained in the form is complete and accurate. If you are unsure, please contact the FSDO for assistance.

FAA Warns Of Avidyne Glitch



Owners of Cirrus, Columbia and Piper airplanes with Avidyne Primary Flight Displays (PFD)were advised by the FAA on Tuesday of a possible glitch in the system. The FAA Special Airworthiness Information Bulletin said a modification is available to eliminate the possibility that the system will display misleading attitude and heading information. Avidyne has already issued a Service Alert to owners. The FAA recommends that pilots using the Avidyne panel should pay increased attention to standard and emergency operating procedures when flying in instrument metrological conditions. Avidyne can modify the units to prevent the problem, and owners should call Avidyne to ensure that modification is completed, the FAA said. The action is not mandatory, but the FAA says, "If your PFD is eligible ... we highly recommend you do the modification."

Safety Hot Spot: Winter Preflight

Even though we've heard all this before, maybe it's time to refresh some important tips in preflighting for the winter season.

Flight Planning

- ✔ **Outlook weather briefing** — Check the weather *the night before your flight* to see if snow, freezing rain, or frost is in the forecast. If so, put the airplane in the hangar for the night or arrive at the airport early, giving yourself time for deicing.
- ✔ **Standard weather briefing** — Avoid in-flight icing by obtaining a thorough weather briefing during preflight.
- ✔ **Gloves, hat, and boots** — Preflight will take longer. Be thorough — be comfortable. This gear also may ensure survival in the event of an off-airport landing.
- ✔ **Continuing education** — Review the AOPA Air Safety Foundation publications *Aircraft Icing Safety Advisor* and the *Cold Facts: Wing Contamination Safety Brief*.

Aircraft Preflight

- ✔ **Walk around** — Ensure all ports on the airplane are open (static, pitot, oil breather, stall warning horn, etc.). If the ice has started to melt, make sure water has not rolled into the control surface hinges where it may refreeze and cause a problem later.
- ✔ **Visual inspection** — Visually inspect the top of each wing and tail to ensure no ice is present.
- ✔ **Physical inspection** — Verify ice is absent from the wing and tail by touching the top of the surfaces. Even small amounts of clear ice, which can cause the flight controls to become unbalanced or disrupt airflow, are particularly hard to see and may be detected only by touch.

- **Ice removal** — If ice is present on the aircraft, it must completely be removed before flight. Use the procedures recommended in the *Cold Facts: Wing Contamination Safety Brief* to remove snow and ice.
- **Snow removal** — It may look like loose snow, but don't count on it blowing off during your taxi or takeoff. Remove snow during preflight, and you'll be sure it's gone before you depart.
- **Flashlights** — Use the flashlight to aid in ice detection. Bring two, just in case you need a backup.
- **Engine preheat** — Be kind to your engine — have it preheated before starting.

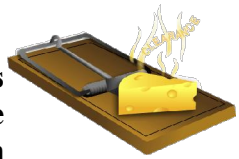
Airport Operations

- **Airport diagrams** — It's easy to get lost at snow-covered airports when runway and taxiway markings are hidden. Use taxi diagrams to help increase your situational awareness.
- **Taxiing** — Taxi at a slower pace when surface areas are covered in snow and slush. Use the aircraft's brakes sparingly to avoid sliding across ice patches. Rely on the aircraft's throttle and rudder to control speed and direction. Do not program the GPS and other navigation equipment or run checklists while taxiing on ice or snow.
- **Braking action reports** — At towered airports, heed these reports. If the braking action is reported as *good* or *fair* you're probably OK for taxi, takeoff, and landings, but allow extra distance for all operations. If the report is *poor* or *nil*, you may want to rethink your entire flight or, if airborne, divert to another airport. Even light crosswinds will complicate landings.
- **Runup** — On a dry piece of pavement, position the airplane away from other people and aircraft. As you bring the throttle up to check the engine and instruments, look outside to ensure you're not sliding on ice.

"Do not follow where the path may lead. Go instead where there is not a path and leave a trail."

The following article courtesy of NASA's Aviation Safety Reporting System. (ASRS)

"Classic Traps"



A "trap," as ASRS reporters use this term, is an undesirable circumstance or outcome from which escape is difficult. In almost all cases, the trap is self-made. A pilot may not have reviewed charts and is involved in an airspace incursion. Pilots talking to ATC sometimes hear what they "expect" to hear and become involved in unintended surface and airborne incidents. A pilot becomes fixated on cockpit duties and may fail to comply with ATC instructions.

These "classic" traps are those that are well-known to ASRS analysts and have been reported to the program many times. In this issue of CALLBACK, we look at some of these "classic traps" – and at how these situations may be avoided.

The Fixation Trap

Fixation (cognitive tunneling) is focusing on some flying tasks to the exclusion of others that may be just as important to the safe outcome of flight. A GA pilot flying single-pilot IFR reported a loss of situational awareness while preoccupied with icing, an electrical problem, and programming chores for the GPS.

- *...I had been cleared by Approach to descend from 9,000 feet and intercept the Runway 15 Localizer. I flew through the Localizer and missed two calls from Approach. This resulted in Approach having to reroute two other aircraft.*

  The weather was deteriorating, with ceilings lowering rapidly, visibility dropping below 2 miles, and snow. I had picked up light/moderate ice during the initial descent from 13,000 feet and observed that the left alternator was not indicating that it picked

up any load. The "alternator out" warning light was not flashing. In the process of analyzing the electrical issue and picking up the ATIS, I lost track of how far past the fix I was. As a result, when Approach cleared me to 3,500 feet, and to intercept the Runway 15 Localizer...I did not establish a rate of descent necessary to comply. Further, in listening to the new ATIS, loading the approach for Runway 15 in the GPS, and continuing to monitor parts of the electrical system,

I missed 2 calls from Approach...I also realized that I had flown through the Localizer...

I fell into the trap of becoming overly focused on parts of the task, and lost situational awareness...What was missing was the ability to properly prioritize and stay focused on just flying the approach...Prevention: a mental checklist when working on a non-routine flight issue, something along the lines of: 1) fly the plane, 2) what's most important right now? 3) relax, 4) repeat steps 1-3.

The Clearance Anticipation Trap

A number of "trap" reports received by ASRS involve pilots' anticipation of ATC clearances. In a typical scenario, a pilot receives a clearance the same way many times, until a response is ingrained. Then a change to the clearance is introduced – but the pilot's response is based on reflexive (unthinking) habit patterns.

A Baron 58 pilot, anxious to do "everything right" at a major airport, got caught in the trap of anticipating taxi instructions:

- *Clearance Delivery instructed [me] to stay on frequency and notify when ready to taxi. Upon notification, I was instructed to monitor Ground. I interpreted the instruction to commence taxi to the active and monitor Ground...Instead of contacting Ground, I made the wrong assumption that the controller was monitoring both frequencies...I got caught in the trap of anticipating taxi instructions and caught off mental guard when told to monitor [Ground] instead of what I would normally do – contact Ground when ready to taxi.*

A charter pilot was very familiar with a departure procedure at an airport, but got used to flying the departure without an initial altitude restriction:

- *...I was given the departure with my clearance and took off from Runway 24. I am thoroughly familiar with this procedure, flying out of [airport] 20 times a month. My departures are normally at night. The 1,500-foot altitude restriction is usually not an issue at these hours and I am cleared to 4,000 feet on initial contact with Departure. I guess I became conditioned to ignore the altitude restriction. On this flight I continued to climb until ATC informed me of the altitude. I was then at 2,000 feet. I was instructed to maintain 2,000 feet at that time. Fortunately, I do not believe my violation caused a traffic conflict. This incident has [taught] me to be extra vigilant about not falling into the trap of anticipating a clearance.*

Wright Brothers Master Pilot Award

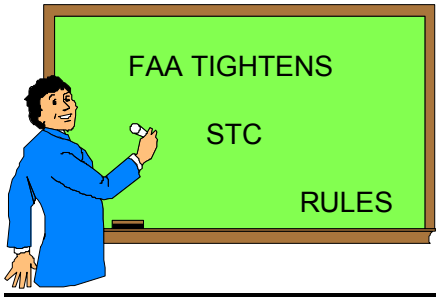
When the Wright Brothers Master Pilot Award was initiated, it was advertised that the names of those receiving the award would have their name placed in a book at FAA Headquarters in Washington, D.C.

A recent inquiry to FAA Aviation news asked about how a person could view the book and where it was located.

The response was that the decision was made to only list the award recipients on the FAA's Internet Web Site at

http://www.faa.gov/safety/awards/wright_bros/list

"Not everything that is faced can be changed, but nothing can be changed until it is faced."



In response to recent mandates by Congress, the FAA is changing its rules to require written permission from a supplemental type certificate (STC) holder to use its data for follow-on installations that alter the affected aircraft, engine or propeller. The changes became effective October 2, 2006. Although written in a manner requiring the STC holder to report to the FAA when it grants permission for installation of the STC, the new FAR, Section 21.120, has the effect of continuing the FAA's recently adopted responsibility of protecting the intellectual property of STC holders.

The FAA also added a new Section 91.403(d), which requires a person altering an aircraft based on an STC to only do so if he or she holds the STC or has written permission from its holder. According to the Aircraft Electronics Association, the two new rules leave some questions unanswered, including whether an avionics installation, typically performed pursuant to an STC but by using the manufacturer's data, is considered "use of the STC data" as specified in the law.

WINGS WINNERS

Phase I
James M Schroeder, Gary J. Koppie, Keith A. Williams, Jesse Harlan, Christine Roberts, Richard Hart, Jr.

Phase II
Craig Rairdin, Robert Clark, Charles Smith, Mike Matthey, Richard Jacobs

Phase III
Said Saida, Tom Anderson

Phase IV
Nicholas Hildreth

Phase V
Axel Ruprecht, Duane Harris

Phase VI
Paul Slaughter, Michael Cufr

Phase VII
Seah Kirschen, Gregory Finzen, Diane Bassham

Phase VIII
Theodore Nikkel, Thomas Dentel, Thomas McClinton, Donald Cashatt

Phase X
Gerald Wilson

Phase XIII
Ron Haffner

Phase XIV
Gregory Siemann, Melvin Dop

Phase XVI
Juanita Moore, Dennis Oliver

AVIATION MAINTENACE TECHNICIAN AWARD

Phase II
David Kuykendall

ACCIDENTS

The CFI and Commercial student pilot were involved in an accident when the nose gear collapsed in a Cessna 182 RG on landing.

- The pilot had noticed an unsafe gear light on the nose gear and executed a soft field landing.
- Maintenance personnel discovered a pin had failed preventing the nose gear from coming all the way down.

INCIDENTS

The Private pilot in a M-20C experienced a nose gear failure on landing. Initial investigation found that the nose gear retract mechanism failed for reasons unknown.

A Douglas DC-9 aborted takeoff due to failure of the number two engine. Maintenance personnel discovered that the engine driven fuel pump failed.

The Private pilot of a PA-22 aborted the landing when several deer entered the landing path. On the second attempt to land, the pilot maneuvered on the ground to avoid striking the deer and came to a stop off the runway. While taxiing back the aircraft tipped on its right side damaging the propeller, nose gear and right hand outboard wing tip.

The Private pilot of a M20E landed gear-up on his third touch and go landing. The pilot stated he thought he had extended the landing gear but did not verify if the green indicator light was on or not. Subsequent operation of the landing gear on jacks was normal.

The Private pilot of a Piper J3 struck power lines while maneuvering. The pilot stated he was on approach to an open field and did not see the private power lines approximately 20 feet AGL.

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The staff of Des Moines FSDO would like to take this opportunity to say we hope you and your families all had a safe and happy Holiday Season.

We appreciate the opportunity to have served our aviation customers in 2006 and look forward to this continued partnership in 2007.

Until Next Time!
Have A Safe Flight

Kenneth F. Rieger
Manager, DSM FSDO

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HOURS OF OPERATION
MONDAY THROUGH FRIDAY
7:45 a.m. – 4:15 p.m.

Visitors are requested to make appointments.

The DSM FSDO will be closed on the following dates in observance of national holidays:

New Year's Day	**January 1, 2007**
Martin Luther King Day	**January 15, 2007**
President's Day	**February 19, 2007**

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