

PLANE TALK

**FAA, Flight Standards District Office, 3431 Aviation Road, Suite 120,
Lincoln, NE 68524, 402 475-1738, FAX 402 474-7013
<http://www.faa.gov/fsdo/lincoln>**

UPCOMING EVENTS

- October 9—Pilot Safety Meeting, 7:00-9:30 p.m., Whister Aviation Facility, Municipal Airport, Seward, NE
- October 16—Pilot Safety Meeting, 7:00-9:30 p.m., Infinity Air Hangar, Municipal Airport, Nebraska City, NE
- October 21—Pilot Safety Meeting, 7:00-9:30 p.m., Terminal Building, Municipal Airport, Beatrice, NE
- October 23—Pilot Safety Meeting, 7:00-9:30 p.m., Senior Citizens Center, 1501 West 29th Street, South Sioux City, NE
- November 6—Pilot Safety Meeting, 7:00-9:30 p.m., Terminal Building, Municipal Airport, Lexington, NE
- November 12—Pilot Safety Meeting, 7:00-9:30 p.m., J & D Aircraft Service Hangar, Municipal Airport, Tekamah, NE

CHANGE OF ADDRESS

If you change your address or do not want to continue to receive PLANE TALK, please let us know so we can change our address listing.

FAA AVIATION NEWS

For more FAA information, you can subscribe to the **FAA AVIATION NEWS** magazine by calling the Government Printing Office (GPO) at (202) 512-1800. GPO's code for the magazine is FAN. You can also call the FSDO, (402) 475-1738, and ask for a copy of the magazine and use the subscription form included in the magazine. We only get a few extra copies of the magazine for each edition, but we will put your name on a waiting list and send you one when we get it. Cost of the magazine is \$28.00 per year.

SECURITY

As we reported in our last newsletter, because of increased security at FAA offices, we must keep our office locked; therefore, no one will be allowed in the office without an appointment. **Also, when entering our facility, you may not have any items in your possession that are not fully exposed and easily viewed. Briefcases, purses and backpacks are not allowed. REMEMBER: PLEASE CALL FOR AN APPOINTMENT BEFORE YOU MAKE A TRIP TO OUR OFFICE.**



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WINGS PROGRAM PARTICIPANTS



PHASE I: Gerald S. Pfeffer, Kevin L. Saathoff, Robert C. Wilson

PHASE II: Cleo T. Drozd, Steven L. Hull, Dallas C. Robinson, Clarence L. Werner, Alan Biniamow, Don Rauch, David J. Koukol

PHASE III: Donald G. Pearson, Mark Werth, Allen Soll, Scott Vogler

PHASE IV: Michael Carver, Darwin D. Franzen

PHASE V: Roland M. Pence

PHASE VI: Kent L. Dorste, Ted Kayton

PHASE VII: Jonathan M. Catlett, Daniel Peterson, John L. Campbell, Russell J. Kelsea

PHASE VIII: Arthur W. Jordan, Dwayne Margritz, Kenneth F. Rieger

PHASE IX: Ward A. Combs II

PHASE XII: Jerry R. Witthuhn





ELT DEADLINE AND UPDATE

The January 1, 2004, deadline for certain turbojet-powered aircraft to start carrying emergency locator transmitters (ELT), as required by 14 Code of Federal Regulations (14CFR) section 91.207, is rapidly approaching. A check with the National Oceanic and Atmospheric Administration's (NOAA) National Environmental Satellite, Data, and Information Service for the latest number of registered 406 MHz ELTs in its U. S. 406 Emergency Beacon Database revealed that as of August 4, 2003, there were 3,647 406 MHz ELTs in their database. The total number of registered 406 MHz beacons of all types in the database is 98,710.

Although any FAA-approved ELT will meet the pending 14 CFR section 91.207 carriage requirement, FAA recommends the carriage of 406 MHz ELTs because of the pending loss of satellite coverage of the older 121.5 MHz ELTs in 2009 and the many benefits the new 406 MHz ELT design has over the older generation 121.5 MHz ELTs. Those 406 MHz ELT benefits include more transmitter power, digitally encoded aircraft/owner identification which helps the RCCs resolve false alerts, and prompt attention by NOAA and the RCCs to any 406 MHz distress alert.

If you install a 406 MHz ELT in your aircraft or you buy an aircraft with a 406 MHz ELT installed, it is important that the 406 MHz ELT be registered with NOAA as outlined in the data provided with a new ELT or as explained below. To help aircraft owners register their 406 MHz ELTs with NOAA, various FAA Headquarters Internet homepages provide a link to NOAA's 406 MHz ELT registration web site. For more information about NOAA, its 406 MHz beacon registration process, or the Cospas-Sarsat system, you can check NOAA's Search and Rescue Internet web site at <www.sarsat.noaa.gov>.

NOAA is the U. S. Government Agency that operates the U. S. Mission Control Center and represents the United States in the international satellite-based distress alerting systems known as Cospas-Sarsat. As part of its systems responsibilities, NOAA, with NASA support, provides both space and ground

support as part of the U. S. contribution to the international distress alerting system based in London.

When a distress beacon, whether a marine, aviation, or personal, is detected by satellite in the U. S. area of responsibility, NOAA processes the alert and forwards the information to the appropriate authorities. In the United States, the U. S. Air Force Rescue Coordination Center (ARFCC) or one of the U. S. Coast Guard Rescue Coordination Centers (CGRCC) will be notified as appropriate. If you are not familiar with the National Search and Rescue Plan, the Air Force is responsible for inland search and rescue (SAR) and the Coast Guard is responsible for maritime SAR, including select waterways in the U. S.

NOAA has announced the termination of the satellite-based alert monitoring of 121.5 MHz distress beacons in 2009 due in part to the high false alert rate of 121.5 MHz distress beacons. After that date, the satellite system will only monitor and process 406 MHz distress alerts.

For those who don't know about the 121.5 MHz false alert issue, according to NOAA, about 99 percent of the 121.5 MHz distress alerts, maritime and aviation, are false alerts. Because of this high false alert rate, rescuers normally wait for either extra satellite passes over the alert area or some other verification of a real distress before activating a 121.5 MHz SAR response. This delay can mean hours before a SAR mission is initiated for a 121.5 MHz distress alert. In contrast, the response to a 406 MHz distress alert can be a matter of minutes. The key to this responsiveness is the 406 MHz beacon registration requirement. Since a 406 MHz beacon transmits its own unique digital identification code, the registered owner can be contacted for verification of an actual alert or asked to turn off a 406 MHz beacon transmitting false alert signal. Because of this quick verification capability of an actual emergency, SAR forces can be quickly mobilized. (Courtesy of FAA Aviation News)

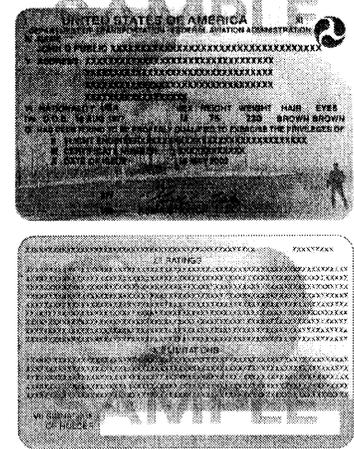
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NEW LOOK FOR AIRMAN CERTIFICATES

FAA began issuing new, security-enhanced airman certificates July 31, 2003, to the nation's 650,000 active pilots. The new durable credit card-sized certificates are made from high quality composite polyvinylchloride (PVC) media card stock and incorporate new security features, such as a hologram of the FAA seal, micro printing and ultra-violet ink printing. They will replace the existing paper airman certificates, which can be easily damaged. This certificate will be issued to all new and existing airmen as they achieve higher certificate levels or additional ratings. It will also

replace certificates that have been lost or damaged. The "old style" certificate is still valid. However, it is expected that all active airmen will be able to replace their certificates over the next three to four years.

In keeping with this year's Centennial of Flight celebration, the new certificates feature graphics of the Wright Brothers, 1902 Wright Glider, the 1903 Wright Flyer, a Boeing jet aircraft, the DOT seal, and a hologram of the FAA seal. The Wright Family Fund provided the images of the Wright brothers.



The certificate is colored and not black and white.

SFAR 100, Relief for U. S. Military and Civilian Airmen Certification

On June 20, 2003, the FAA issued a new Special Federal Aviation Regulation (SFAR) that allows Flight Standards District Offices (FSDO) to accept expired flight instructor certificates and inspection authorizations for renewals from U. S. military and civilian personnel who are assigned outside the United States in support of the U. S. Armed Forces operations. This SFAR also allows FSDO's to accept expired airman written test reports for certain practical tests from U. S. military and civilian personnel who are assigned outside the United States in support of U. S. Armed Forces opera-

tions. This action is necessary to avoid penalizing U. S. military and civilian personnel who are unable to meet the regulatory time limits of their flight instructor certificate, inspection authorization, or airman written test report because they are serving outside the United States in support of U. S. Armed Forces operations. The effect of this action is to give U. S. military and civilian personnel who are assigned outside the United States in support of U. S. Armed Forces operations extra time to meet the certain eligibility requirements under the current rules. This SFAR expires on June 20, 2005.

U. S. military and civilian personnel assigned outside United States given relief.

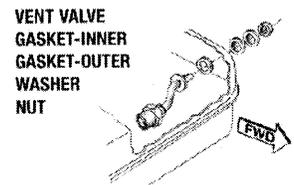
CESSNA MODEL 150/152 FUEL TANK VENT INSTALLATION; ATA 2810

Recently the FAA receive a Safety Recommendation applicable to the fuel tank vent installation description as shown in the maintenance manual for the Cessna Model 152 airplanes.

The picture shown in this maintenance manual can be perceived as showing the fuel tank vent line as being located toward the bottom of the fuel tank rather than toward the top as intended and also described in the written test above the suspect picture.

Since as many people often say, "A picture is worth a thousand words," Cessna has agreed to provide a change to the applicable maintenance manuals when future revisions to the manuals are initiated.

This article is courtesy of FAA Aviation News and they coordinated with Cessna Aircraft Company, and the article is intended to provide early notification to these changes. (Refer to the illustration.)



TUBE FOR VENT VALVE EXTENDS INTO FUEL TANK, THEN FORWARD AND SLIGHTLY UPWARD

DETAIL A (LH TANK ONLY)

FIVE RUNWAY SAFETY GUIDELINES TO KEEP IN MIND WHILE USING NOTAMS

NOTAM a.k.a. New Opportunities To Avoid Mistakes... on the Runway

1. Obtain a complete pre-flight briefing, including all NOTAMs.
2. The pilot-in-command has the primary responsibility of ensuring that all current NOTAM information is received during a preflight briefing.
3. Automated Flight Service Station/Flight Service Station (AFSS/FSS) personnel provide D NOTAMs and L NOTAMs during standard, abbreviated, and outlook briefings, when pertinent to the flight. L NOTAMs are not available when you use Direct User Access Terminal Service (DUATS) for a preflight briefing.
4. As noted above, L NOTAM information for non-local AFSS/FSS area must be specifically requested directly from the AFSS/FSS that has responsibility for the airport concerned. Facility specific toll-free telephone numbers are available in the Airport/Facility Directory or by dialing 1-800-WX-BRIEF.
5. Because NOTAM data constantly changes, pilots should contact AFSS/FSS en route to obtain updated information.

It is also important to note that the NTAP (Notices to Airmen Publication) is issued every four weeks. When NOTAMs are published, they are no longer provided during a briefing. Therefore, it becomes the responsibility of the pilot to specifically request this information. By requesting NOTAMs, the opportunity for human error decreases and the pilot makes the runway a safer place for all. (Courtesy of Inez Kennedy, Air Traffic Rep (AFSS) in FAA's Office of Runway Safety)

MAINTENANCE ALERT—EXPERIMENTAL AMATEUR-BUILT AIRCRAFT

The pilot of a single engine experimental amateur-built aircraft was at 2,400 feet MSL when he experienced a partial engine failure. Shortly thereafter, the engine became erratic and then failed completely. The pilot landed in a soybean field. Investigation disclosed two drilled out rivet heads lodged in the fuel line that had apparently caused fuel starvation and engine stoppage. The aircraft had been in service for approximately three years. Although the source of the rivet heads is

unknown, they may have inadvertently fallen into the open fuel tank filler during construction or maintenance activity. The investigator recommends that experimental aircraft builders consider installing a finger screen at the outlet of the fuel tank. The screen would catch and retain debris before it entered the fuel line. Periodic inspection and cleaning of the finger screen may eliminate debris from the tank preventing it from clogging the fuel line.

INTERNET SITES

Have you ever wondered where you can get a list of Designated Pilot Examiners, Designated Mechanic Examiners, or IA's? You can find this and other information at the following web site:
<http://afs600.faa.gov>

Also at that same site, you can find the latest updates to the Practical Test Standards.

A list Aviation Medical Examiners can be found at <http://ame.cami.jccbi.gov>.

At <http://registry.faa.gov>, you will find information about aircraft registration and airmen certification.

Remember to use our web site at:
www.faa.gov/fsdo/lincoln.

I REMEMBER WHEN... by Al Peyus

Recently, while out with a certificated flight instructor (CFI) at a large fixed base operation (FBO), I was chagrined to find a lack of knowledge that was a "given" a few years ago. I was passing the time by asking a few simple questions to keep my mind alert as well as find out the level of knowledge of the instructor I was about to be "challenged" by.

Fuel questions have always been a great "ice breaker" to start a challenging interchange of "I'll bet you didn't know." The Cessna we were to fly is designed to use both 100/115 and 100/130 aviation fuel (avgas). Both are referred to as "low lead."

When asked what would happen when the 100/115 was unavailable, my instructor's response was correct. We would simply use the 100/130 grade fuel. Then I asked, "If we still had some 100/115 fuel in the tanks, what would we see in sampling the fuel?"

After some stuttering and stammering, my instructor said we would see the predominant fuel color. Wrong! Then my next question was, "What would happen if the fueler inadvertently poured any of the different jet fuels into our tank?" From the instructor's puzzled look, I realized the tried and true test of color, smell, feel, evaporation, and residue to check fuel were lost to the wind.

What were the correct answers? If two different aviation fuels were mixed, the fuel color would be clear, just like water. If a jet fuel is mixed with any aviation fuel, the color again will turn to a clear color. Well, now how do you differentiate between water in the tanks, a mix of aviation fuel (100/115 and 100/130), or mix of aviation fuel and jet fuel? Each has the same clear color. One useful fact is that water and jet fuel are heavier than avgas and will settle to the bottom of the sample, so a friction line between these layers appears as a hair thin gray line. What do you do now? Is it water or jet fuel?

Many facets of aviation training are based on the rule of five. We have five mandatory reports required during instrument

flight, the five "T's" at the outer marker, and five differences to check in fuel (color, smell, feel, evaporation, and residue). Long gone are the days of 80/87 (Red) and 130/145 (Purple) avgas. Our FBO uses 100/115 (Blue) as the normal avgas and 100/130 (Green) as the fall back fuel.

When we check a fuel sample before the first flight of the day or after every refueling, we always check to make sure the fueler gave us the proper amount of fuel. Then, we should check, through fuel sampling, the color, smell, feel, evaporation, and residue to assure the proper fuel was pumped into our tanks.

Avgas is colored by a dye to denote the octane and lead level. The higher the octane, the more letters in the description of color denoting the specific fuel. Next, we check for smell. Does it smell like avgas (just like car gasoline)? Kerosene (jet fuel) has an odor very unlike avgas. Could it be water which has no smell of its own and heavier than avgas causing it to settle to the bottom? If the fuel sample is clear, there is no bottom settlement, and the aroma is indefinite, use the other four tests to confirm it is or is not avgas.

The next step is why pilots always smell "funny" after a preflight. We "feel" the fuel. This is accomplished by pouring a small amount over one finger (just enough to cover the tip) and rub it with another finger. Avgas does not feel slippery. Jet fuel always feels slippery because it is kerosene.

After we have poured the fuel on our fingers, we watch for the evaporation. Avgas evaporated rapidly. By the time we have rubbed our fingers together, the fuel should have already started to evaporate. Jet fuel does not evaporate any way near as fast as avgas.

Lastly we check the residue from the sampled fuel on our finger. Avgas leaves a residue from the chemicals that are mixed into it. This residue leaves a white coating that seems to hang onto our finger print loops and swirls. Jet fuel does not leave a residue that is as immediately visible.

(Continued on next page)

How do you differentiate between water in the tank, a mix of aviation fuel, or a mix of aviation fuel and jet fuel?

I REMEMBER WHEN... by Al Peyus (Continued)

Prior to the mid to late 1970's, Red avgas (80/87) was used in the early Cessna, Piper, and Beech trainer models. We had and still have the 100/115 Blue low lead designated for most mid-range aircraft models. The 100/130 Green was designated as the primary fuel for the larger reciprocating engine single and multi-engine aircraft of all makes and models with the reciprocating engine.

Lastly, we had the 130/145 Purple which was prescribed for the "round" engine aircraft. The fuel was the high lead and high octane mixture designed to keep the radial engine running smoothly and cleanly.

Although the 130/145 Purple has long ago disappeared from today's market, there still is a very limited supply of 80/87 Red in some parts of the country.

Engine manufacturers have since redesigned their engines to take the most common and available fuel (100/115 LL and 100/130). The primary reason for the loss of the two extreme grades of aviation fuel was economy. Because the aviation industry uses such a small percentile of all

the gasoline produced for the world's markets (some estimates have been at less than 10 percent of all fuel produced), it is more economical for the gasoline industry to produce only the "general" grades of avgas.

This brings me back to my, "I'll bet you didn't know..." questions with my instructor. Much of the information that was passed along in the "old days" is still very pertinent in today's flying environment. It is information that should still be available for all pilots and applicants. You should always question and seek to improve even the most mundane level of your understanding of our environment, the National Air Space System, weather, the aircraft, and the tools we use. This should include having fun "hangar flying" with some of the "old" instructors you know to help keep much of the "forgotten" knowledge alive and available.

(Al Peyus is a General Aviation Operations Aviation Safety Inspector in FAA Headquarters.—Article is courtesy of FAA Aviation News)

CHECKLIST FOR PILOTS APPROACHING THE FLIGHT PHYSICAL

This checklist was prepared by two long-time aviation medical examiners who know the value of good preparation by the applicant for medical certification. This checklist is not an FAA-generated or approved device.

- Do not forget your eyeglasses.
- Make sure to have a current eye exam and glasses, especially if your near/far vision has changed.
- Bring your Special Issuance letter from the FAA with you to the exam.
- If you have a Special Issuance medical, mail in all necessary information requested by the FAA by the required date.
- Bring all medical information outlined in your Special Issuance letter.
- Do not forget to tell your AME if you have one of the 15 disqualifying con-

ditions: diabetes mellitus requiring hypoglycemic medications; angina pectoris; coronary heart disease that has been treated or, if untreated, that is symptomatic or clinically significant; myocardial infarction; cardiac valve replacement; permanent cardiac pacemaker; heart replacement; psychosis; bipolar disorder; personality disorder that is severe enough to have repeatedly manifested itself by overt acts; substance dependence; substance abuse; epilepsy; disturbance of consciousness without a satisfactory explanation of the cause; and transient loss of nervous system function(s) without a satisfactory explanation of the cause.

(Continued on back page)

INCIDENTS

The pilot of a Maule M7 was conducting touch and go landings. Upon completing the final landing, a gust of wind caught the aircraft and the aircraft started veering to the right. Pilot applied rudder pressure and the aircraft did not respond. The aircraft continued veering to right and veered off runway. The left wheel hit a soft spot in the grass and the left gear collapsed. Investigation revealed the tail wheel may have unlocked prematurely.

A Mooney M20 experienced an uncommanded reduction in engine power shortly after takeoff. At 800 feet AGL, the PIC experienced a significant loss of engine RPM. The pilot attempted to return to the runway, however, the loss of altitude and airspeed forced the pilot to land on a taxiway without incident. Investigation revealed that the engine throttle cable had separated from the control rod swivel joint

ACCIDENTS

A Grumman 164B departed the airport for an aerial application. The pilot departed turning east into the wind, then turned north and the west. Following the turn to the west, witnesses on the ground stated the tail of the aircraft dropped causing the aircraft to fly in a nose high attitude. The aircraft maintained the nose high attitude for approximately one-half mile. The aircraft was losing air speed and altitude when it struck the terrain tail wheel first. The aircraft sustained substantial damage and the pilot received severe head injuries.

The pilot of a Piper J3 attempted to take off from a private farm strip and misjudged

ENFORCEMENTS

A Grumman 164B took off for a 137 operation. The aircraft maintained a nose high attitude for approximately one-half mile and then started losing altitude and the tail wheel made contact with ground first and caused the aircraft to crash. Subsequent investigation disclosed that the pilot did not calculate the weight and balance of the aircraft prior to takeoff. A 30-day suspension was recommended.

at the carburetor throttle control arm.

The nose gear of a Beech A36 collapsed during rollout. Aircraft received minor damage and there were no injuries.

The pilot of a Lancair 4P was distracted by the TCAD issuing him "Alert, Alert, Alert" and forgot to lower the landing gear. Aircraft received minor damage and there were no injuries.

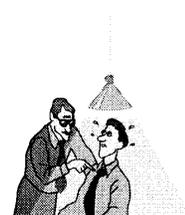
A Beech 58P sustained minor damage as a result of a nose landing gear failure during rollout. The aircraft received damage and the pilot was not injured. Investigation revealed that the lower nose landing gear torque knee was incorrectly positioned to the right of the upper nose gear torque knee creating the misalignment of the nose wheel assembly. This kept the gear from going into the locked position.

the distance needed to takeoff and clear obstacles. The aircraft was unable to gain altitude and remained in ground effect hitting the aircraft owner's hangar right of center. The aircraft received substantial damage and there were no injuries.

A Cessna 177 lost engine power and landed on a highway. The pilot moved to the right to avoid a car on the highway and the right wing tip struck small trees along the side of the highway. The aircraft went into the ditch. The pilot and passenger were not injured and the aircraft received substantial damage.

The pilot of a Piper PA-28R was cleared to taxi to a runway. He fail to hold and crossed the approach end of the an active runway. The pilot very seldom goes into tower controlled airports, and was, therefore, a prime candidate for remedial training. He completed remedial training and was issued a Letter of Correction.

(Continued on last page)



CHECKLIST FOR PILOTS (Continued)

- Bring ALL required medical records from your personal physician regarding any chronic medical condition. (Examples: hypertension and asthma)
- See your personal physician for evaluation and treatment prior to medical exam if you have borderline high blood pressure.
- Avoid coffee, decongestants, cigarettes, or any other stimulants prior to your exam.
- If you have a family history of diabetes mellitus (or other familial diseases), you need to have periodic checks with your personal physician prior to medical exam.
- If you have a family history of diabetes mellitus, avoid large amounts of sugar prior to the exam. Urinalysis will show positive sugar if large amounts are consumed prior to exam.
- Mark on question 17a. (under Medications) if you are taking a prohibited medication on a regular basis.
- Do not forget your SODA (Statement of Demonstrated Ability; e.g., color vision defect).

ENFORCEMENTS (Continued)

The pilot of a Beech C90 landed on the assigned runway and was instructed to turn left at the taxiway and contact ground control. He did not contact ground control and crossed an active runway without authorization. A 30-day suspension was recommended.

The pilot of an amateur-built aircraft departed the an airport without ATC taxi and takeoff clearance. Investigation revealed that the aircraft communication radio would transmit but not receive. The pilot completed remedial training and was issued a Letter of Correction.

An individual was operating as pilot in command without a valid pilot certificate and medical certificate. The aircraft was operated without an airworthiness certificate and was unregistered. A \$10,000 civil penalty was recommended.

One passenger on a commercial flight refused to follow a crewmember's instruction and interfered with the crewmember's duties. Another passenger on this flight threatened and verbally abused the cabin crewmember. A \$5,000 civil penalty was recommended for each passenger.



FEDERAL AVIATION ADMINISTRATION
Flight Standards District Office
3431 Aviation Road
Suite 120
Lincoln, NE 68524

WE'RE ON THE WEB

[HTTP://WWW.FAA.GOV/FSDO/LINCOLN](http://www.faa.gov/fstdo/lincoln)
