



DESIGNEE NEWSLETTER for October 2007

A quarterly publication designed to serve the Examiner, Designee, and Instructor community.

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Designee Newsletter is Back by Popular Demand

As the new manager of AFS-640 I have had a wonderful time hearing from all of the designees in the field. As some of you noticed, we stopped the newsletter for three quarters. However, due to overwhelming response from the field, we have brought it back. I would like to take a little time to thank each of you who took time to let me know how you feel about the products we produce. I know that I'll hear from more of you in the future. Please don't hesitate to contact me either by email at: jay.kitchens@faa.gov or by telephone: (405) 954-6448.

AFS-640 and designees have seen many changes in 2007. We are trying to make the online registration more usable for the designee and the instructors while other organizations are developing tools for designees to use. We will try to incorporate each of these new tools into our system. This will allow you to log in once to access each of these new systems. Two examples of this are the DME Question Data Base and Electronic Data Recovery System (EDRS). Both of these will be accessed through the Designee Registration System.

Many of you have seen the new FAA Order 8100.15, Organization Designation Authorization Procedures, which covers Organizational Delegation Authorization. This is the future of organizational designation in the FAA. We also have two other new functions that designees will be performing before or near the beginning of next year. These are the Field Approval Designee and the Instructions for Continued Airworthiness Designee. Much work is going into the FAA's designee program. It is truly an exciting time for designees in the FAA.

During this time of change, AFS-640 will be teaching more designees with wider varieties of functions. Due partly to this, you will begin seeing seminars that use blended training. This training technique combines internet and face-to-face instruction. This will help maximize the time spent away from your

home and work place while attending training. We are undergoing major redesign of our current online courses to make them more relevant to how designees perform their functions and build in usability to make navigating the courses easier.

As we move forward together during this time, I look forward to hearing from those of you in the field. Enjoy this issue of the designee newsletter and look for our next edition to be out around Christmas time.

Jay Kitchens

Manager, Designee Standardization Branch, AFS-640

IACRA and the Use of Government Computers by Non-FAA Personnel

On July 21, 2004, the FAA released Notice (N 8700.31, IACRA and the Use of Government Computers by Non-FAA Personnel). N 8700.31 stated, "This notice prescribes conditions under which applicants may use a Federal Aviation Administration (FAA) computer to digitally sign the airman application, FAA Form 8710-1, Integrated Airman Certification and/or Rating Application (IACRA)."

The problem: N 8700.31 was cancelled on July 21, 2005, and the information in N 8700.31 was incorporated into Order 8700.1, General Aviation Operations Inspector's Handbook. However, the information contained in Order 8700.1 was not specific regarding non-FAA personnel using government computers. Due to the cancellation of N 8700.31, some Flight Standards District Office (FSDO) inspectors are not allowing the public to use government computers for IACRA purposes.

The solution: The IACRA Manager will publish a new Notice that incorporates expanded information. The new Notice has been signed and should be released in the near future. (The expanded information will eventually be incorporated into Order 8900.1.)

NOTE: Until the new Notice is released, use of Government computers by non-FAA personnel for IACRA purposes (E-signing only) **is permitted**. For questions regarding this issue, please contact: Mr. Greg French, IACRA Business Program Manager, (202) 493-5474

One of the goals of Airmen Certification Branch (AFS-760) is for everyone to be using IACRA in the very near future, so be on the look out for the new information.

Ken Pannell, Aviation Safety Inspector
Designee Standardization Branch, AFS-640

Learning Statement Codes Replacing Subject Matter Knowledge Codes

A learning statement code will replace the three-digit Subject Matter Knowledge Codes on knowledge test reports effective September 27, 2007. A Learning Statement Reference Guide for Airman Knowledge Testing, which is available at http://www.faa.gov/education_research/, under Education & Research /Airmen Testing, will contain the new codes.

The new codes will be six digits, for example PLT001 for pilots, AMG001 for maintenance technicians, RIG001 for parachute riggers. Learning statements more clearly define the knowledge deficiencies,

encourage the use of multiple references when correcting knowledge deficiencies, more efficiently and effectively focus on applicant learning, and expose certified airmen to a broader base of knowledge.

A few examples of Learning Statements follow:

The most effective technique to use for detecting other aircraft at night is to

- A) turn the head and sweep the eyes rapidly over the entire visible region.
- B) avoid staring directly at the point where another aircraft is suspected to be flying.
- C) avoid scanning the region below the horizon so as to avoid the effect of ground lights on the eyes.

PLT001 - Learning Statement: Recall collision avoidance – scanning techniques

Why is hypoxia particularly dangerous during flights with one pilot?

- A) Night vision may be so impaired that the pilot cannot see other aircraft.
- B) Symptoms of hypoxia may be difficult to recognize before the pilot's reactions are affected.
- C) The pilot may not be able to control the aircraft even if using oxygen.

PLT002 - Learning Statement: Recall physiological factors - cause / effects of hypoxia

The Airman Knowledge Test Report is valid for 2 years; therefore, the current version of AC 60-25, Reference Materials and Subject Matter Knowledge Codes for Airman Knowledge Testing, which contains the old subject matter knowledge codes, will be available at the above listed site until September 30, 2009.

COMMENTS TO AFS-630: Applicants, instructors, examiners and inspectors having comments regarding the knowledge testing process, should e-mail the comments to: AFS630comments@faa.gov

Light-Sport Aircraft: Three Years and Counting

September 4, 2007, marked the third anniversary of the effective date of the Certification of Aircraft and Airmen for the Operation of Light-Sport Aircraft rule. In three years much has been accomplished with regard to the certification of aircraft and airmen for the operation of Light-Sport Aircraft (LSA).

Over 250 designated Sport Pilot Examiners (SPEs) and Designated Pilot Examiners (with Sport Pilot privileges) have been trained and appointed. Over 110 light-sport designated airworthiness representatives (DAR) have been trained and are now busy certificating the new light-sport category aircraft and the estimated 5,000+ transitioning experimental LSA. The past three years have seen over fifty new models of aircraft certificated in the LSA Category. The majority of these new aircraft have been in the airplane class, but manufacturers of weight-shift-control and powered-parachute aircraft are starting to produce more models that meet the ASTM consensus standards. The FAA recently accepted the design standards for light-sport gliders and several manufacturers are currently working on prototype aircraft.

On June 4, 2007, the FAA changed 14 CFR part 1, section 1 regarding the definition of a light-sport aircraft. The Maximum Takeoff Weight (MTW) for lighter-than-air (LTA) was increased from 660 pounds to 1,320 pounds. This weight includes the structure, uninflated envelope, engine, burner system (if installed), fuel, installed equipment, and a maximum of two occupants. This increased limit permits LTA designers to provide better integrity for the structure that carries the sport pilot and passenger. The FAA also changed 14 CFR part 1 to allow retractable landing gear on an LSA used for water operations. This allows amphibious aircraft that meet the definition of LSA to be operated by a sport pilot. It does

away with the term “repositionable” landing gear that caused so much confusion and unintentionally prohibited a large group of aircraft from LSA.

As the January 31, 2008, deadline date quickly approaches for the existing “fat-ultralights” transitioning to experimental light-sport quickly approaches, FAA inspectors and light-sport designees are receiving applications for airworthiness certifications at an ever increasing rate. Human nature is to wait to the last minute to act, but time is rapidly running out for these folks. Given the time it takes to register an aircraft and providing the application goes through on the first attempt, an applicant might miss the window of opportunity if he or she waits longer than November 1, 2007, to get the aircraft registered, and apply for an airworthiness certificate. High ranking FAA officials have stated that there is no intention to extend this deadline. 14 CFR part 21, section 191(i)(1) states that an experimental certificate will not be issued for these aircraft after January 31, 2008.

The following is review for inspectors and designees regarding 14 CFR part 21, section 190, and 14 CFR part 21, section 191(i), the two regulations used to certificate light-sport aircraft.

Light-Sport Category or Special Light-Sport Aircraft

14 CFR part 21, section 190 is the regulation that allows for the certification of Light-Sport Category aircraft. Light-Sport Category aircraft are manufactured to industry developed consensus standards and are delivered in a ready-to-fly condition. These aircraft may be used for compensation and hire (e.g., flight training, towing, and rental). Light-Sport Category aircraft require a higher level of maintenance than experimental light-sport aircraft. They must be maintained strictly in accordance with the manufacturer’s maintenance instructions by a certificated light-sport repairman with a maintenance rating or a certificated mechanic with airframe and powerplant ratings. Light-Sport Category aircraft must have all alterations and major repairs approved by the aircraft manufacturer. Compliance with all Manufacturers’ Safety Directives is mandatory. These aircraft have been ground-tested and flight-tested prior to delivery, and require no further flight testing (Phase 1). The manufacturer’s statement of compliance will certify that the aircraft is in a condition for safe operation. Cessna Aircraft and Cirrus have committed to produce aircraft in the Light-Sport Category within the next 2 years. This will be a huge validation of the light-sport aircraft concept.

Experimental Light-Sport Aircraft

14 CFR part 21, section 191(i) allows for the certification of Experimental Light-Sport aircraft. This CFR has three subparts (i)(1), (i)(2), and (i)(3). All aircraft certificated under 14 CFR part 21, section 191(i) require an annual condition inspection to be performed by the owner who holds a light-sport repairman certificate with an inspection rating, or a light-sport repairman with a maintenance rating for that class of aircraft, or a certificated mechanic with airframe and powerplant (A & P) ratings.

14 CFR part 21, section 191(i)(1) allows an experimental certificate to be issued to aircraft that meet the definition of a light-sport aircraft per 14 CFR part 1, section 1 that have not been issued an U.S. or foreign airworthiness certificate and do not meet the provisions of 14 CFR part 103, section 1 (ultra light). These aircraft are often referred to as transitioning aircraft. They may be the two-place ultra light trainers or uncertificated amateur-built or manufactured aircraft. Aircraft that are transitioning to experimental light-sport must be certificated no later than January 31, 2008. Aircraft certificated under 14 CFR part 21, section 191(i)(1) may be used to conduct flight training for compensation until January 31, 2010, or they may be used to tow an unpowered ultra-light vehicle or light-sport glider for unlimited duration.

Aircraft that are used for compensation or hire will require a 100-hour inspection in addition to the annual condition inspection that must be done by an A & P mechanic or light-sport repairman with a maintenance rating. These aircraft are not required to meet any industry-developed consensus standards.

Experimental Light-Sport Aircraft

14 CFR part 21, section 191(i)(2) allows an experimental certificate to be issued to aircraft that has been assembled from a kit that meets a consensus standard. These aircraft must be assembled in accordance with the manufacturer's assembly instructions. The manufacturer will issue FAA Form 8130-15, Statement of Compliance, for these aircraft. These kit aircraft are not required to comply with the "major portion or 51% rule" that amateur-built aircraft kits have to meet. Aircraft certificated under this rule may not be used for compensation or hire. These aircraft will require the applicant to develop a flight test program using the manufacturer's operating instructions (Phase 1). To be eligible to produce an aircraft kit to be certificated under this rule, the manufacturer must first certificate at least one aircraft of the same model in the Light-Sport Category (14 CFR part 21, section 190). At the present time, no manufacturer has produced such a kit, but several are reported to be considering producing kits.

14 CFR part 21, section 191(i)(3) allows an experimental certificate to be issued to an aircraft that was previously certificated in the Light-Sport Category under 14 CFR part 21, section 190. This could be done if the owner of the aircraft wanted to alter the aircraft without authorization from the manufacturer or if the owner wanted to do the maintenance on his or her aircraft without being a certificated repairman. Aircraft certificated under this rule may not be used for compensation or hire. These aircraft will not require additional flight testing unless the aircraft has been modified. It would require a current manufacturer's statement of compliance to return to the Light-Sport category.

Per 14 CFR part 21, section 190, there are five classes of aircraft that are eligible for certification in the Light-Sport Category. They are Airplane, Glider, Powered Parachute, Weight-Shift-Control, and Lighter-than Air.

Per 14 CFR part 21, section 191(i), there are six classes of aircraft eligible for certification in Experimental Light-Sport. They include all the above classes of aircraft plus Gyroplanes.

Van Stumpner, Aviation Safety Inspector
Designee Standardization Branch, AFS-640

Message for Technical Personnel Examiners

The fiscal year 2008 (FY-2008) schedule for the initial and recurrent Technical Personnel Examiner seminars is now available.

Our first recurrent seminar for FY-2008 will be held in Hawaii at the Honolulu Flight Standards District Office (FSDO) on October 24, 2007. You can enroll for that seminar at the following URL:

<https://av-info.faa.gov/DsgReg/Login.aspx>.

The other recurrent seminars shown on the FY-2008 schedule are tentative, pending hotel/meeting room arrangements, and you cannot enroll at this time. The initial seminars are also shown on the FY-2008 schedule, and you can enroll in those. In order to provide better customer service, we have spread out the initial seminar schedule. If you know anyone that is interested in becoming a designee, please encourage them to start the process.

There are a lot of changes in the mix right now regarding revisions to orders and the oral question data base. We will get that information to you via Designee Notification System and/or via the seminars when it becomes available.

Roger D. Webb, Aviation Safety Inspector,
Designee Standardization Branch, AFS-640

Recent Changes Within the Pilot Examiner's Designee Standardization Team

In the past year, the Pilot Examiner's Designee Standardization Team has lost and added new members.

The team lost the following instructors:

- Bruce Rengstorff transferred to the Designee Quality Assurance Branch (AFS-650).
- Kelly Sweeten transferred to the FAA Academy.

The team added the following instructors:

- Todd Burk joined us from the Oklahoma City FSDO, where he was an Operations Inspector. Prior to coming to the FAA, Todd was Assistant Chief Flight Instructor at the University of Oklahoma and brings with him a vast amount of training experience in both the part 61 and 141 training environment.
- Ken Pannell joined us from the Memphis FSDO, where he was an Operations Inspector for about 10 years. Ken brings with him a high degree of field experience and training. We also found that Ken can play a guitar and a banjo, so ask him to play for you.

Over the next year you will see changes to the way we conduct training in both the initial and recurrent courses. Check your newsletter to see the changes to registration and the online courses.

David Chadwick, Aviation Safety Inspector
Designee Standardization Branch, AFS-640

Testing in Aircraft with Electronic Flight Instrument Displays

In June 2003, AFS-600 published a Designee Update Special Edition and placed it on AFS-600's website. The update advocated opening circuit breakers to simulate instrument failures during practical tests in aircraft with electronic flight instrument displays. AFS-600 now advocates adherence to the aircraft/avionics manufacturer's simulated instrument failure procedures. (For the purpose of the Practical Test Standards (PTS), any flight instrument display that utilizes LCD or picture-tube like displays will be referred to as *Electronic Flight Instrument Display*. FAA-S-8081-4D, Instrument PTS, page 7.) Currently there is no guidance in FAA Order 8710.3E, Designated Pilots and Flight Engineer Examiners Handbook, or Flight Standards policy on opening circuit breakers to simulate instrument failure during practical tests of applicants. The FAA does provide guidance on the proper use of circuit breakers and the circuit breaker's design function. This policy raised concerns in the pilot examiner community since it is contrary to guidance contained in several Advisory Circulars (ACs) listed below.

AC 23-17B, System and Equipment Guide for Certification of Part 23 Airplanes, (Amendment 23-49 and Subsequent)

For part 23 applications, the definitions of a switch and a circuit breaker are as follows: 1) A switch is a device for opening and closing or for changing the connection of a circuit; 2) A circuit breaker is a device designed to open and close a circuit by non-automatic means and to open the circuit automatically at a predetermined overload of current, without injury to itself when properly applied within its rating. Thus, circuit breakers used for operational functions are not acceptable because they are not performing their intended function, which is protection against overloads. Circuit breakers, even those suitable for frequent operation, should not be used as a switch to perform procedural functions.

AC 43.13-1B/2A, Aircraft Inspection, Repair & Alterations, (Page 11-15, Paragraph 11-51, Circuit Breaker Usage)

Circuit breakers are designed as circuit protection for the wire. Circuit Breakers are not for protection of black boxes or components, and are not recommended for use as switches. Use of a circuit breaker as a switch will decrease the life of the circuit breaker.

AC 120-80, In-Flight Fires, (Paragraph 11, What is the FAA's Policy About Resetting Tripped (Popped) Circuit Breakers (CB) in Flight?)

Note: This guidance specifically relates to CBs that tripped due to a system malfunction rather than being opened to simulate an instrument failure. However, the guidance in the last sentence of the second paragraph will guide our decision to open CBs during the practical test.

The FAA Reiterates Its Concern About Resetting Circuit Breakers During Flight

Crewmembers may create a potentially hazardous situation if they reset a circuit breaker without knowing what caused it to trip. A tripped circuit breaker should not be reset in flight unless doing so is consistent with explicit procedures specified in the approved operating manual used by the flightcrew or unless, in the judgment of the captain, resetting the circuit breaker is necessary for the safe completion of the flight. A detailed entry in the aircraft's maintenance log is a proven safety practice for tracking purposes, and may provide maintenance personnel with key information to enable prompt trouble shooting and effective corrective action on the ground.

Air Carrier manuals and training programs should contain company policies and explicit procedures regarding resetting tripped circuit breakers, both during flight and on the ground. The procedures shown in the manuals used by the air carrier's crewmembers, maintenance personnel, and airplane ground servicing personnel should be consistent with the airplane manufacturer's guidance. *Crewmembers should be reminded that a circuit breaker should not be used as a switch to perform procedural functions unless doing so is specified in approved company procedures or manufacturer's operating procedures.*

Responsibility of the Designated Examiner

As indicated previously in this article, examiners should refrain from using circuit breakers as a switch during a practical test, unless specifically authorized to do so by the aircraft/avionics equipment manufacturer. Review the Pilot's Operating Handbook, Flight Manual, and the appropriate supplements for the correct procedures to employ in the aircraft used for the practical test.

The complexity and variety of electronic flight instrument displays places an additional training and proficiency burden on the pilot examiner. Before accepting an application for a practical test, you must

be both knowledgeable and proficient in the use of the avionics equipment installed in the aircraft used for the test. Bottom line: If you don't know how to use the avionics, you should not be testing an applicant on its use.

Consult the following manufacturer's websites to get the latest information on their avionics products:

Manufacturers

Avidyne: Pilots guides www.avidyne.com/techpubs.shtm

Garmin: Under: Aviation – Integrated Avionics Systems – G1000: Non-Airframe Specific
www.garmin.com/support/

Chelton: Pilot Training www.cheltonfs.com/pilot_traning.html

Sandel: Product Information www.sandel.com

Rockwell Collins: Products and Systems www.rockwellcollins.com

Honeywell: Training www.honeywell.com

Cirrus: Cirrus Pilot: General Operations Manual www.cirrus.com

Web-based Programs www.aero.und.edu/cirrus

ASF: GPS Technology www.aopa.org/asf/publications/

Mark Aldridge, Aviation Safety Inspector
Designee Standardization Branch, AFS-640
