AFS-600
Regulatory Support Division

DESIGNEE UPDATE

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NEW PUBLICATIONS

Airline Transport Pilot & Aircraft Type Rating Practical Test Standards, FAA-S-8081-5D will be **effective February 1, 2001.** It is published on the AFS-630 web site at: http://afs600.faa.gov./630.asp?sub=630

The new Instrument Flying Handbook, FAA-H-8083-15 will be available by March 2001. This new handbook replaces Instrument Flying Handbook, AC61-27C.

NDPER PROGRAM

Working in conjunction with the FAA, the Experimental Aircraft Association (EAA) was selected to administer the National Designated Pilot Examiner Registry (NDPER) and National Designated Flight Engineer Examiner Registry (NDFEER) programs in 1993.

These programs were established to create a base of qualified FAA Designated Pilot Examiners and Designated Flight Engineer Examiners to conduct initial type ratings and proficiency testing in older specialty aircraft for which the FAA may no longer have experienced personnel to conduct the required evaluation flights. As part of the program EAA maintains a "registry" of NDPER's, NDFEER's, and the vintage aircraft they are authorized to conduct certification flights in. See the registry at the EAA Warbirds of America web site: <http://www.warbirds-eaa.org/prog_examiner.html>

To schedule a NDPER or NDFEER in one of the vintage aircraft, contact your local FSDO. The FSDO will coordinate the details of the evaluation flight with the FAA's National NDPER/NDFEER program coordinator, J. D. Martin, FAA Great Lakes Regional Headquarters, AGL-230. J. D. will, in turn, coordinate with the appropriately rated NDPER or NDFEER. EAA and the FAA request that all inquires for flight evaluations be made a minimum of 3 weeks before the flight is needed.

The FAA and EAA are always looking for FAA DPE's who would be interested in joining the NDPER/NDFEER team. We are also starting the search process for turbine rated NDFEER's. The minimum requirements are the same for either a NDPER or NDFEER candidate:

1. Hold and maintain a current FAA designation as a DPE (a DPE rating in one of the vintage aircraft listed in the registry is preferred).

2. Hold at least one type rating in a vintage aircraft which is listed on the registry.

3. Hold a valid/current Class III medical certificate.

4. Have a proven background involving the operation of vintage aircraft.

5. Be a current EAA member.

6. Be willing to travel.

7. Have the approval of the FAA Great Lakes Flight Standards Regional Office (e.g., J. D. Martin).

8. Have the approval/recommendation from EAA (Jerry Walbrun, 352-347-0664).

9. Have flown, in some capacity, with at least one current NDPER or NDFEER who will be willing to recommend you for the program.

Resumes need to be sent to EAA (EAA Government & Industry Relations Program, NDPER/NDFEER Program, PO Box 3086, Oshkosh, WI, 54903-3086) and must contain the following:

1. Career resume to include summary of flight experience.

2. Copy of current FAA pilot certificates and ratings.

3. Copy of current DPE certificate.

4. Copy of last DPE recurrent course certificate.

5. Copy of current FAA medical certificate.

6. Copy of EAA membership card.

When everything is completed, the candidate will be invited to the next NDPER/NDFEER meeting to meet all the current program members. At the meeting, the current program members will vote on the candidate for acceptance and if accepted, the new NDPER/NDFEER will be placed on a one year "probation" to be observed by the FAA. After the "probation" year is up, the "probation" status is removed and the new NDPER/NDFEER is accepted as a voting member of the program. For specific questions about the NDPER/NDFEER program contact J. D. Martin, Jerry Walbrun, or Randy Hansen, the EAA NDPER/NDFEER program administrator at 920-426-6522.

READY FOR FLIGHT?

As Flight Instructors, Check Airmen, Designees or FAA Safety Inspectors it is important that we include training, checking or testing of how pressurization and oxygen systems operate and that these systems are in actuality "ready for flight."

One factor that tends to make hypoxia so dangerous is its insidious onset. Any aviator who flies above 12,000 feet in an unpressurized aircraft without supplemental oxygen is a potential hypoxia case. Fortunately, once the hypoxia is detected and 100% oxygen is administered, recovery is usually only a matter of seconds. Civil Aeromedical Institute (CAMI), recommends that on any unpressurized flight above 10,000 feet, supplemental oxygen should be used.

Hypoxia is a constant and dangerous companion while flying. You must constantly be suspicious of how you and your passengers feel. Once hypoxia is recognized, quick and decisive action means recovery is only seconds away. The key, then, to flying safely at altitude is to be able to:

- Identify the flight conditions in which you may become hypoxic.

- Recognize your personal hypoxia symptoms. Symptoms of hypoxia do not vary in an individual, and the ability to recognize hypoxia can be greatly improved by experiencing and witnessing the effects of hypoxia during an altitude chamber "flight."

- Recover from hypoxia before you have gone beyond your ability or desire to help yourself.

Title 14 Code of Federal Regulations (CFR) section 61.31 specifies the training requirements that must be met to act as pilot-in-command of a pressurized aircraft that has a service ceiling or maximum operating altitude, whichever is lower, above 25,000 feet MSL. Although this rule refers to pressurized aircraft, the FAA recommends that pilots of unpressurized aircraft that are capable of flight above 10,000 feet also receive this training. When pilots are trained in the proper use and care of their pressurization systems and supplemental oxygen equipment, and are aware of their personal hypoxia signs and symptoms, they are safer and better prepared to meet the challenge of flying in an oxygen poor environment. Although symptoms of hypoxia for an individual will not vary over their lifetime, the symptoms will vary from one individual to another.

Symptoms may be visual acuity impairment, feeling very tired and fatigued, tingling in fingers and toes, dizziness, hot and cold flashes, air hunger, anxiety, euphoria (false sense of well being), nausea and headache. Pilots can safely obtain this experience by participation in a formal aviation physiology course.

The FAA provides aviation physiology training at CAMI and at many military facilities across the United States. For further information about the Physiological Training Program at CAMI, you can search CAMI's website at www.cami.jccbi.gov contact by telephone at (405) 954-6212 or by writing Airmen Education Program Branch, AAM-420, CAMI, Mike Monroney Aeronautical Center, P.O. Box 25082, Oklahoma City, OK 73125.

(also see: Effects of Altitude, Aeronautical information Manual, (AIM), page 8-1-2.)

Time of Useful Consciousness (TUC) or Effective Performance Time (EPT)

These interchangeable terms describe the period of time between the interruption of the oxygen supply or exposure to

an oxygen-poor environment and the time when a pilot is unable to perform flying duties effectively, such as putting on oxygen equipment or descending to a safe altitude.

TUC/EPT Averages

ALTITUDE	TUC/EPT
18,000 ft	20-30 min
22,000 ft	8-10 min
25,000 ft	3-5 min
28,000 ft	2-3 min
30,000 ft	1-2 min
35,000 ft	30-60 sec
40,000 ft	9-12 sec

The table is a guide only: The times are based on healthy individuals at rest in a hypobaric (altitude) chamber.

One important fact to keep in mind is that following a rapid decompression at and above 30,000 feet, the average TUC/EPT will be reduced from 1/3 to ½ its original value. This is due to a phenomenon know as reverse diffusion or fulminating hypoxia. This occurs when oxygen is forced out from the lungs due to the rapid expansion of gas during a rapid decompression. The result is acute and immediate hypoxia.

TREATMENT OF HYPOXIA

If hypoxia is suspected in you or others on board an aircraft, follow these simple steps:

- Immediately administer supplemental oxygen (don your mask).
- Check your equipment for proper operation.
- Ensure the regulator is turned on.
- Check the flow indicator (this will tell you that oxygen is coming to the mask.)
- Ensure that all oxygen equipment connections are secure.
- Monitor your breathing rate and depth (intentionally slow your breathing to prevent hyperventilation, use the flow indicator to help you monitor respiration.)
- If safe, descend to an altitude (below 10K feet) where supplemental oxygen is no longer required.

Pressurizing the cabin of an aircraft is a convenient means to escape the hazard of high altitude flight. One overriding factor that must always be kept in mind: ***at anytime you may loose that pressurization*.** When a cabin decompression occurs, the hazards of high altitude flight (hypoxia, decompression sickness, and hypothermia) are immediately brought into the cabin with you. The danger of slow decompression must be emphasized for that can sneak-up on you and rob you of your judgement and eventually your consciousness.

As always, thorough preflight of all aspects of your aircraft and your personal flight planning is a must. Follow the aircraft preflight checklist relative to the aircraft oxygen system. Prior to flight the pilot or pilots should locate the oxygen masks, practice donning them, and adjust the head harness to fit; locate and check the function of oxygen pressure gauges, flow indicators and connections; and check the quantity of oxygen in the system. The mask should be donned and the oxygen system should be checked to ensure adequate flow of oxygen.

A physical check of the mask and tubing to spot any cracks, tear, or deterioration should also be conducted. If a person is using a connection to an individual regulator, check for regulator condition and lever or valve positions as required by that particular system.

Remember, 14 CFR section 91.103, ***"Each pilot in command shall, before beginning a flight, become familiar with ALL available information concerning that flight."*** (Bold and Italics added)

We thank the personnel at CAMI for providing data from the Aeromedical Research Division, an article, "Beware Hypoxia," and a pamphlet from The Aeromedical Education Division, "Aviation Physiology."

Additional reference: AC61-107 may be found at www.faa.gov/avr/afs/acs/61-107.txt

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