

LTA Ground School returns to EAA 304 – by Randy Coller, LTA D.P.E

Most fixed wing pilots are only vaguely aware of hot air balloons and their requirements. Once a year, they infiltrate the Jackson Airport for the (until recently annual) Hot Air Jubilee, but other than that, fixed wing pilots for the most part don't have to pay much attention to them.



Way back in 1981, I got my first balloon lesson from Rick Dellinger. Many of you may remember Rick, he was the director at JCC Flight School for several years. Then sometime in 1982, the Hot Air Jubilee was born. After working with the balloons for a few years, I decided to get my LTA (Lighter-than-air) rating. Already being fixed wing rated, it wasn't all that difficult. More like getting checked out in a different aircraft, albeit, one much more difficult to control. Later I went on to get my commercial LTA, and then about 7 years ago, became the (DPE) designated pilot examiner for LTA in Michigan.

Like airplanes, a balloon is an FAA certificated aircraft. It must be built according to its type certificate. It must have a valid airworthiness certificate displayed in view of passengers. It must be registered and have an "N" number. It is subject to an annual inspection, and, if flown commercially, it must have a 100 hour inspection. Any Airworthiness Directives (AD notes) must be complied with. There are three levels of pilot certificate for LTA, student, private, and commercial. So far, this all sounds pretty much like the fixed wing world.

Most balloon pilots have a certificate that reads "Private (or Commercial) Pilot, Lighter-than-air, free balloon."

Limitations that would appear on their certificate would be, "Limited to hot air balloons with airborne heater." There are hot air balloons that do not have airborne heaters called smoke balloons. In the early days of the Hot Air Jubilee, we had a pilot who flew one of these. The balloon consisted only of an envelope and a sling for the pilot to sit on. Once filled with hot air (mostly smoke), they would fly for some distance, The pilot would leave the balloon by parachute as their smoke filled balloon ran out of hot air and drifted to the ground.

Another class of balloon rating is Gas balloons. These are helium or hydrogen filled balloons and since they are so expensive to fill (\$6,000-\$8,000) for one flight only, they are pretty rare. There is also a separate rating for airship.

Back to LTA.....this past winter, we decided to conduct a LTA ground school. We did this once before in 1993 in the chapter meeting room. The time was way overdue to do it again. Originally we planned to hold it at the JCC Flight Center, but due to local circumstances, it decided that we needed to find an different location. After a short discussion with our chapter President, we decided to hold it again in the EAA Chapter 304 meeting room. The ground school would be held on Saturday mornings from 8:00 am to 1:00 pm. every other Saturday for a total of four sessions.

After the first two sessions, we realized we had more material to cover than time, so we added two hours to the remaining two classes in order to review the FAA knowledge exam questions.

The idea behind the every other week format was that the usual weekend ground school has been described as like getting a drink from a fire hose. They are intensive, they teach you to pass the test on Monday, and usually by Wednesday, you've forgotten much of what was covered Saturday and Sunday.

By holding the class over a longer period of time, we hoped to instill a greater depth of understanding than from the usually weekend ground school. This would allow students ample time to study between class sessions.

We had 19 students enroll. This was for all three levels, student, private, and commercial. Even commercial pilots signed up as sort of a refresher course.

Students came from Huntington and Warsaw Indiana, Pontiac, Durand, Belleville, Plymouth, Battle Creek, Grand Rapids, and Jackson MI. One student was an FAA Inspector from the Detroit Flight Standards District Office. We had one returning student who was only 14 when she first took our class in 1993.

One of the reasons we wanted to do a ground school is because the level of student training in the LTA world seems (to me at least) to be sub par.

A commercial balloon pilot is also the CFI (Certified Flight Instructor) in the ballooning world. There is no separate rating. Balloon pilots who simply want to become a commercial pilot in order to charge for rides and offset some of the expenses are required to learn about the fundamentals of instruction and are permitted to train pilots. Many commercial balloon pilots are not actively involved in instruction, and those that are, only teach one or two students.

Fixed wing CFIs must have their instructor's certificate renewed every two years by attending a FAA approved Flight Instructor Refresher Clinic (FIRC), or complete an approved online training course. These FIRCs encompass 16 hours of training and cover a wide range of issues. AOPA puts on two each year in Michigan.

Unlike fixed wing CFIs, a commercial LTA pilot does not have to undergo recurrent training, other than the standard annual flight review that all pilots are subject to.

As a designated examiner, I have concluded that LTA training is below par because there are so few instructors and they only engage in instruction occasionally. There are few "professional" instructors in ballooning, but most instructors just "dabble" in it. Rather than to just complain about it, I decided to do something, thus the birth of this LTA ground school. We thought we could raise the level of instruction with this ground school.

Shortly after the conclusion of our class, two students took the FAA written exam, one for private and one for commercial. Coincidentally, both passed with an 88%.

Student evaluations were favorable. They liked the setting of the EAA Chapter meeting room. Comments from the evaluations were: "Room size is perfect for number of students, good learning environment." "Very good syllabus and lesson plans." Among other things, students liked the open conversations and casual atmosphere.

We would like to express our appreciation to EAA Chapter 304 for allowing us to conduct this ground school in the meeting room. It's a great facility for this and it keeps with the mission of EAA as being a learning environment. Because of the huge success of this class, hope to do it again in 2009.

If you have any questions about ballooning, feel free to contact me at

cell: 517-745-3606
home: 517-784-0237 rcscruffy@yahoo.com
work: 517-335-8521 collerr@michigan.gov
or rcoller@schoolcraft.edu

Balloon School Syllabus

Week 1

1. Safety & introduction to instruction
2. Aircraft Systems, documents, checklists, flight manual
3. Fuel & Fuel Systems (propane)
4. Instruments
5. Information Sources Charts / Directory, NOTAMs

Week 2

6. Airspace
7. Weather - basic theory
8. Weather systems
9. Weather reports, forecasts, and information sources, METARs TAFs
10. Flight Planning, navigation, cold weather operations

Week 3

11. Medical and human factors
12. Aeronautical Decision Making, hazardous attitudes
13. Accident prevention
14. Federal Aviation Regulations and Aeronautical Information
15. Radio Communication
16. Crewing
17. Flight Operations 1 - Pre-flight, checklists, launch site, layout
18. Private Knowledge Exam questions

Week 4

19. Flight Ops 2 - Flight, Inflation - equilibrium - launch, climbs - descents
 20. Flight Ops 3 - Special conditions
 21. Airport Ops & radio communication
 22. Landowner Relations, crop & animal identification - trespass laws
 23. Emergency Procedures
 24. Balloon Events
 25. Pilot Certification, fundamentals of instruction, human behavior, Aeronautical Decision Making
 26. Pilot Certification, preparing for the check-ride
 27. Commercial Knowledge Exam questions
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Randy Coller is a member of EAA 304 and former airport manager at Jackson, Benton Harbor, Sidnaw, Romeo, and Plymouth airports. He currently is president of the Michigan FAA Safety Team, an adjunct instructor at Schoolcraft College and chief airport inspector for the State of Michigan where he has been employed for the past 22 years. He produces the state aeronautical chart, oversees production of the Michigan Airport Directory, and oversees the state owned airports. He owns a Cessna 182 and holds private instrument fixed wing and commercial LTA ratings as well as being a Designated Pilot Examiner. He was instrumental in assisting EAA Chapter 113 (Plymouth) in getting their Sport Aviation Center hangar built on the state owned Plymouth Mettetal Airport.