



CHAPTER 613

December 2010

(Chapter 613 web site)

www.eaa-chapter613.org



News and Views: Bruce Richardson

December Update

I had an "interesting" conversation with Donald Taylor the other day... seems he's planning something unusual for the December 19th Chapter meeting. He wouldn't tell me what it was, but he said he hopes everyone will be there, *including spouses and other family members*. So, please spread the word, and let everyone know the first meeting ever in our NEW Aviation Education Center promises to be a special one!

President's Column / November Minutes: Tom Edwards

On Saturday, November 6th, a handful of members had a moving day at our Educational Center. Don Taylor lead us all as we moved about 50 old CAP desks, tools, scaffolding desks, file cabinets and all kinds of building supplies between Don's hangar and the Ed Center. I delivered a refrigerator and stove to the kitchen and Marge Butterfield used a little elbow grease to clean them up. John Butterfield, Steve Hard, Don and Earl Taylor and Bryan Bourgeois had a bucket brigade going bringing the desks upstairs. All things are set for the December Meeting in the new Hangar!



Moving day volunteers and the new kitchen



November cooks and brave patrons

The November pancake breakfast was held Sunday, November 21st at the Shelburne Airport. Don Taylor brought down the trailer and the Shelburne locals helped set up. Eric and Bruce Richardson were our chefs but somehow over the years, they had missed the fact that they were supposed to pick up the food! After a quick trip the Shelburne Supermarket, things were quickly under control, until we needed orange juice and maple syrup. I ran down and returned with the missing groceries just as the first pancakes came off the grill! Thanks go to Jim Baker, Kurt Gruendling and Bruce Uvanni for the ground support!

We held a brief, informal meeting following breakfast. There were only a few current members in attendance and I was the only officer present. I announced that the December meeting will be held at the new hangar in Highgate and that I had located a couple episodes of Sky King and I will show them in the classroom! George Coy will be sponsoring a safety seminar in January. Earl Taylor and Steve Hard will be the cooks for December, and Don Taylor will make sure the victuals don't get forgotten this time!

Elections will be held in December. If anyone is interested, they can call a current officer or just show up in December! As a matter of fact, don't show up and get elected anyway!

See you all in December!

CHAPTER SECRETARY NEEDED!

Chapter 613 needs a minute taker, note writer, form filler-outer and all-around helpful person to help keep the chapter running smoothly. Our outgoing President Tom Edwards has done double-duty for most of the last few years, and before that, Marge Butterfield had done WAY more than her "fair share" during many, MANY years as Chapter Secretary. So I'm hoping you will consider stepping up and offering your time... the success of our chapter is dependent on the individuals who will step into leadership roles. Come to the December meeting and raise your hand!

Progress Report - EAA Chapter 613 Aviation Center

By Donald Taylor

The work party for November 6 was great, we had 10 show up - and we got a lot of work done. I want to thank everyone for the help. Everything is going great. The three of us are doing okay, plus Don Nowakowski worked all day Monday November 22nd. We are hanging pictures and so on, and things will be ready for our December pancake breakfast on the 19th. It will be our *FIRST* in our **NEW** Chapter 613 home. So if you can, please come and see what your money and hard work has done.

For breakfast we are going to have four cooks, because we are going to have something special. I am not going to tell you what it is, you will have to come on the 19th to find out. But, I can tell you this, we are working hard on it.

From your new home, *Merry Christmas!*
Donald - Earl - Steve - Dick

Scholarship Committee: Call For Candidates**By Frank Gibney**

It's time again to ask all members to think about youths they know who are interested in aviation and might be interested in attending one of our EAA Oshkosh Camps. The EAA Air Academy's Resident Summer Youth Camp is an accredited program geared for aviation-minded boys and girls. Professional educators, Certified Flight Instructors and students from the nation's leading aviation colleges conduct an array of hands-on aviation and leadership activities. EAA's Air Academy offerings include EAA Young Eagles Camp for ages 12 - 13, EAA Basic Air Academy for ages 14 - 15, and EAA Advanced Air Academy for ages 16 - 18. For additional details, see <http://www.young eagles.org/programs/airacademy/>.

Thanks to all for thinking about this very exciting opportunity we have to share our passion with those who are just getting started.

Flight Advisor Corner: Hobie Tomlinson**Human Factors, Part I**

As I was contemplating what topic to tackle next in our Flight Advisor Newsletter, I wanted to do something in-sync with the annual, "turning out the lights" ceremony which occurs each fall in Northern New England with the arrival of Eastern Standard Time. Since we suddenly now find ourselves flying "in the dark" (after 6 months of very little – or no – night operations), I thought it logical to look at some night flying issues. In order to preclude repeating information previously discussed, it seemed appropriate to look at "in-flight" illusions. In-Flight Illusions are much more common during Instrument and Night flight operation than during day, VMC (Visual Meteorological Conditions) flight operations. This subject is obviously a subset of "Human Factors," so here we go.

Human Factors is a broad field of research and study which deals with the interaction between humans and machines and how that interaction is affected by the operating environment within which it occurs. Its primary purpose is the recognition of the following:

- 1) People are error prone,
- 2) People have "hard-wired" natural tendencies which were included during product design by the OEM (Original Equipment Manufacturer). These natural tendencies cause major problems when machine design (or operation) requires a "counter-intuitive" action (i.e. Airplane Stall Recovery).
- 3) Over 80 percent of all accidents now involve some aspect of Human Factors.
- 4) Implementing Safety Design Initiatives requires consideration of Human Factors.
- 5) Pilots who have a basic understanding of Human Factors issues are much better equipped to plan and execute safe flight operations.

Persons flying during IMC (Instrument Meteorological Conditions) or night conditions can experience sensations which are misleading to the individual's sensory system. Safe Flight operations require pilots to understand these false sensations and to develop the knowledge and ability to successfully counteract them. IMC and night flight operations (unlike day, VMC operations) require pilots to base their decision-making on the use of all available resources. This, of course, is due to the total absence (or very limited availability) of outside visual clues during these types of flight operations. The ignoring of this very important premise is how two retired airline captains (with over 50,000 hours of combined flight experience) managed to fly a Garmin 1000 equipped CAP CE-182 into the mountain ridge just west of Las Vegas, Nevada on a dark December night. *The assumption that VFR flight operations during very dark, night conditions are somehow different than straight IMC flight operations has caused many fatal CFIT (Controlled Flight Into Terrain) accidents, including the recent accident occurring during a flight enroute from Schenectady, N.Y. to Malone, N.Y.*

Elements of Human Factors include *Sensory Systems* used for orientation, *In-Flight Illusions*, *Physiological* and *Psychological Factors*, *Medical Factors*, *Aeronautical Decision Making (ADM)*, and *Crew Resource Management (CRM)*.

Night Currency is the obvious jumping-off point for our discussion and the first consideration before undertaking any night flight operations. As you remember, night currency has a couple of different twists to it than day currency. First of all, you have to maintain night currency in the Category and Class of aircraft you are going to operate (When less than 12,500 pounds MTOGW (**M**aximum **T**ake-**O**ff **G**ross **W**eight) and no type specific rating/training required). This means that AMEL night currency does not maintain your ASEL night currency or vice versa. The same would be true between Aircraft and Helicopter night currency. AMEL aircraft which require a type rating cover those AMEL aircraft which do not, but the reverse is not true. The same would apply to ASEL aircraft which require a type rating and those which do not.

The Second Item regarding night currency is the requirement to make full stop landings. The requirement to make full stop landings to maintain currency only applies to conventional gear (i.e. tailwheel) aircraft during day time, but it applies to all aircraft during night time operations. Currency in tailwheel aircraft will keep you current in tricycle gear aircraft, but not vice versa

The Third (and Last) Item regarding night currency is that all night takeoffs and landings required to obtain/maintain currency have to be flown during a very specific time period. The regulatory, defined time period during which night takeoff and landing currency may be obtained/maintained is from 1 hour after civil sunset until 1 hour before civil sunrise as defined in the American Almanac. One of the easiest places to find this designated time, which is specified in the night currency regulations, is in one of the flight planning websites such as FltPlan.com. On that site the times are listed in a little block in the lower right hand corner of the flt log. Remember, *both the takeoff and the landing* must occur between time periods defined by one hour past civil sunset to one hour before civil sunrise. These times define the area during which night currency may be obtained or maintained. *Oddly enough, this time period is never defined by the presence, absence, or degree of darkness.*

During our Human Factors Series, we will discuss the following subjects:

- ***Sensory Systems for Orientation***
 - *Eyes*
 - *Ears*
 - *Nerves (Postural)*

- ***In-Flight Illusions***
 - *Visual*
 - *Optical*
 - *Vestibular*
 - *Flight Demonstrations*

- ***Physiological and Psychological Factors***
 - *Stress*
 - *Fatigue*

- ***Medical Factors***

- **Aeronautical Decision Making (ADM)**
 - Risk Management
 - Task Management
 - Flight Deck Resource Management
 - Single-Pilot Resource Management (SRM)- if a crew (CRM)
 - Situational Awareness

Sensory Systems for Orientation includes the eyes (visual), the ears (vestibular) and the nerves (postural). **Orientation** is an individual's awareness of the position of the aircraft and oneself in relation to a specific reference point (usually the surface of the earth or the natural horizon). **Disorientation** is the opposite or a total lack of orientation. **Spatial Disorientation** specifically refers to the individual's loss (or lack) of orientation with regard to one's position in space with reference to other objects (i.e. the surface of the earth or natural horizon).

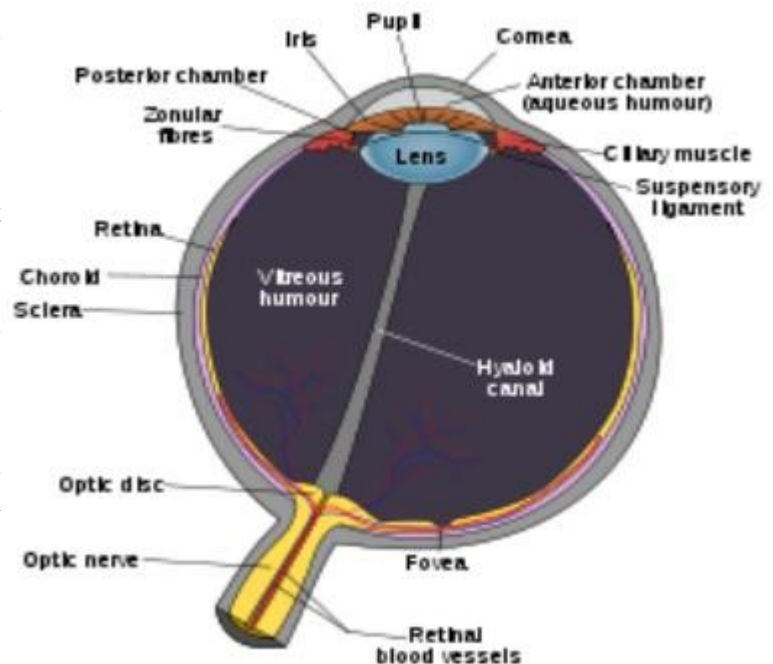
Orientation is maintained through the body's three sensory organs which are visual, vestibular, and postural. The eyes maintain visual orientation, the sensing system in the inner ear maintains vestibular orientation and the nerves in the skin, joints, and muscles of the body maintain postural orientation. When healthy human beings are in their natural environment these three systems work well. However, when the human body is subjected to the forces of flight, misleading information can be provided to the brain by these systems. It is this misleading information which causes pilots to become disoriented.

The Eyes are the most important in maintaining safe flight. This was dramatically demonstrated by a recent fatal B747-400 freighter crash when an onboard fire produced such intense smoke in the cockpit that the pilots were unable to see any of the flight displays or cockpit controls.

The eyes are optimized for day vision, however; they are also capable of vision in very low light environments. During the daytime (ample light) the eyes use light receptors called cones, while at night (low light) the eyes use receptors called rods. Both the cone and rod sensors provide a level of vision optimized for the lighting conditions for which they were intended.

Objects are seen with the sharpest focus when their images fall on the fovea (occurs when one looks directly at an object). The field of vision with which one best sees a stationary object is only 3 degrees. Because an aircraft, which is a collision threat, will not display any relative motion, it must be seen within this 3 degree field of vision which detects stationary objects. This is why it is so important to "block scan" the airspace when looking for traffic.

Cones are ineffective at night and rods are ineffective during daytime. Cones comprise a rather narrow visual angle (the part of your vision within which you can read) and are the sensors which are responsible for color vision. There are three types of cones, each with a maximum sensitivity to one of the three primary colors (red, green and blue). The color which the brain sees is



Wikipedia image

the combined effect of the stimuli to, and responses from, these three types of cone cells. (Just the same way colors are generated on a visual monitor). Cones are concentrated in and near the center of the eye (fovea), with only a few present on the sides of the retina

Rods cannot distinguish colors but provide low-light, monochrome (black and white) vision. Rods contain the pigment rhodopsin (visual purple) which is sensitive to low light intensity, but saturates and washes out during high light intensities. Hence when a bright light is momentarily introduced at night (i.e. automobile headlight glare) night vision may become totally ineffective, as the rods take time to again regain their sensitivity to low light conditions (regaining night vision can take up to 20 minutes). Smoking (carbon monoxide), alcohol consumption, density altitude, and age all affect vision, especially night vision. Night vision starts to significantly deteriorate above density altitudes which can be as low as 5,000 feet.

Two Blind Spots (day and night) exist in the eye. The day blind spot is located on the light sensitive retina where the optic nerve fiber bundle (which carries the optic data to the brain) passes through. This location has no light receptors and no optic data for the brain can be created from any part of an image which falls there. The night blind spot is caused by the concentration of cones in the area surrounding the fovea on the retina. Because this area lacks rods, looking directly at an object at night will cause it to disappear from view (autokinesis). This results in a requirement to use off-center viewing and scanning for best obstacle avoidance and maintaining maximum situational awareness at night.

Color, the relationship of colors, and vision from objects around us affects the way the brain processes information. The brain assigns color based on many items which includes the objects surroundings. This is why the same color can have a different appearance in different lighting or surroundings. (Metallic paints are known for this quality.) The aviation application of this principle is evident when processing visual information that is influenced by its surroundings. This has the affect of decreasing our ability to pick out an airport in varied terrain or another aircraft in light haze. This color interpretation problem makes increased vigilance all the more necessary

Dim Illumination makes aeronautical charts and aircraft instruments unreadable unless adequate supplemental flight deck illumination is available. Because red lighting distorts colors, alternate (dim) white flight deck lighting should be used for chart and instrument reading, especially under IMC conditions. *Dark adaptation* is the process by which vision becomes more sensitive to light. Full dark adaptation takes 30 minutes of total darkness while a moderate dark adaptation can be achieved in about 20 minutes under dim red flight deck lighting. The problem is that dark adaptation can be lost in a few seconds when exposed to a bright light and will take another 20 minutes to regain. If it is necessary to momentarily turn on a bright light, one eye should be kept closed to preserve some night vision. To prevent flash blindness, the cockpit lighting should be kept in a bright setting when flying in the vicinity of lightning at night. *Dark Adaptation* is impaired by exposure to carbon monoxide (smoking), Vitamin A deficiency, cabin pressure altitudes above 5,000 feet, and prolonged exposure to bright sunlight.

Bright Illumination provides the best environment for the eyes to function in. During flight in VMC (*V*isual *M*eteorological *C*onditions) the eyes are the major orientation source and usually provide accurate and reliable information. Visual clues typically prevail over false sensations from the other sensory systems. It is when these visual clues are taken away by night or IMC operations that false sensations can cause a pilot to quickly become disorientated.

False Sensations can most effectively be countered by the recognition of the problem and then intentionally disregarding it by using the process of substituting of a trained response (i.e. relying on the flight instruments as the proper source of valid flight information). The eyes thus become the primary sensory source for determining the actual aircraft attitude, either using an adequate visual horizon or the flight instruments. The pilot must have the required skill set to manually control the aircraft using either the visual horizon or (in the

case of dark-night or IMC operations) only the flight instruments. Instrument operations also require the skill set to adequately control the aircraft manually while using only the standby instrument indications.

This looks like a good place to break for this month. After the first of the year we will continue with our discussion with the ears and nerves as sensory systems.

The thought for this month is “**It was the best of times and it was the worst of times.**” ~ *Charles Dickens, English Author in “A Tale of Two Cities.”* So until next month, be sure to *Think Right to FliRite!*

Merry Christmas! ~ *Hobie*



2009 Christmas Tree in Rockefeller Plaza, NYC ~ Image by Hobie Tomlinson

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Safety Tip By Don Taylor**Close Call**

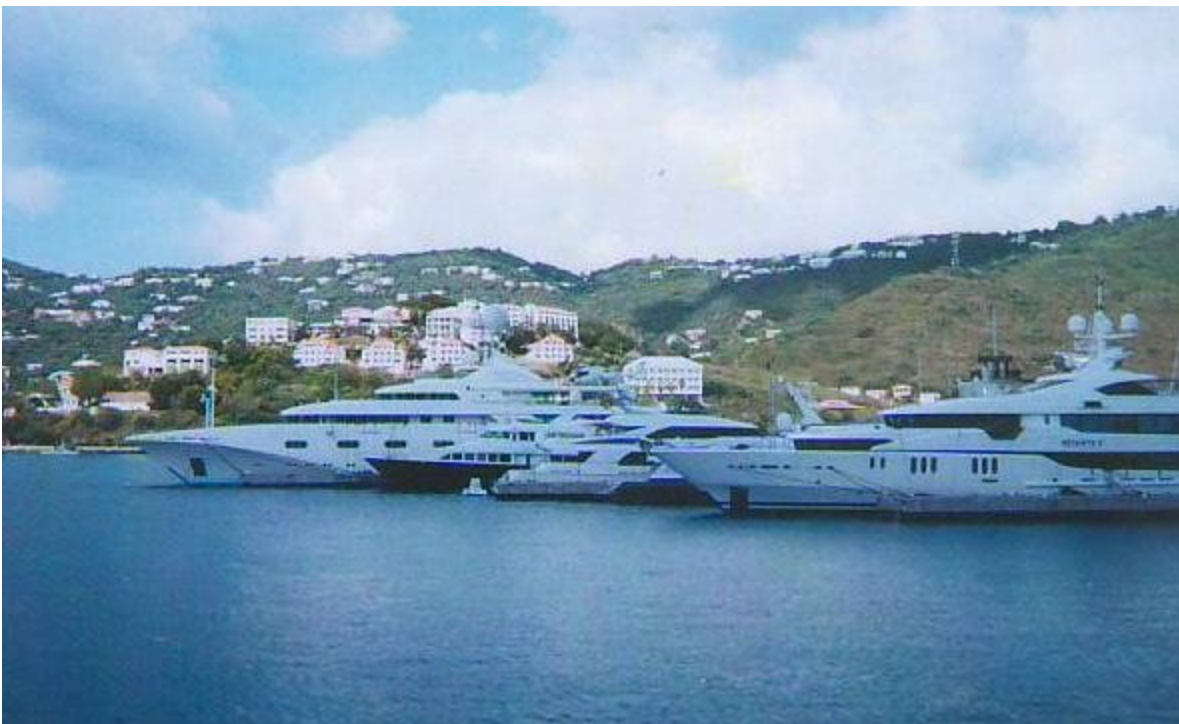
Have you ever seen a bald eagle in Vermont? I was flying my Skylane west, over the lake near Alburgh, VT, at 1500 feet when I saw this large bird ahead and diving at me. At first, I thought it was a goose, but as it got closer I could see it was a bald eagle, and it was attacking my airplane. It came for me on the passenger side. It had its talons out as if it was after prey. It was close - all I could see was white - its legs, tail, head - and yellow talons. I do not know if he got in the prop wash or not, but the next thing, he was going over the wing. I wanted to see if he was coming back, but he didn't. I circled, but never saw it again. I was talking to Robert Leblanc, and he told me eagles have been known to attack gliders and hit them.



[For a cool picture of a similar encounter "down under", go to <http://kathryn.typepad.com/kalog/2010/11/how-good-is-lake-george-.html> and scroll down a bit - Ed.]

Did You Know? By Don Taylor**The Elite**

Earl and I took a Caribbean cruise in February. When we were taking a tour of San Juan, Puerto Rico, down by the docks there were all those huge, beautiful yachts. And the largest one had a helicopter on it. I could not take a picture at that time, but when I got back aboard the cruise ship, I was lucky our stateroom and balcony was facing that way. If you look at the beautiful yachts, the tallest one in the background has a helicopter on it.



Donald Taylor took this picture of yachts - the helicopter is almost in the dead center of the picture

The next picture I found is one of a yacht with a float plane on it (a Glasair Sportsman 2+2). How lucky can you get? I just wanted to show you how the other half lives.



[Source: http://www.argosyachts.com/argos_news_release04.html All rights reserved]

Young Eagles: Donald Taylor

We still have only 6 pilots reporting Young Eagle flights for 2010:

Chuck Robitaille -	2
John Butterfield -	19
Dick Swanson -	6
Tom Edwards -	26
Donald Taylor -	22
Frank Gibney -	3



We have a total of 78 Young Eagle flights. It is one of the poorest years. Three pilots have flown 10 or more, for 67 flights worth \$335.00 to send someone to the Air Academy in Oshkosh. Last year we had \$1005⁰⁰ and it was not used.

[Editor's Note: Tom Edwards received this message from EAA Headquarters, wanted to share it with everyone]

Subject: Note from Paul Poberezny, EAA Founder

TO: TOM EDWARDS, EAA Chapter 613

Dear Tom,

I read your Chapter's November newsletter and wanted to congratulate you and your officers/members for keeping the chapter moving ahead. I really enjoyed the article relative to weather - very enlightening and appropriate.

I was pleased that your chapter is concerned about the future of EAA Chapter 968. I hope everything goes well in making the chapter better ... to be continued.

Give my best regards to all your Chapter members.

Sincerely,
Paul H. Poberezny
Founder, EAA
email: ppoberezny@eaa.org

UPCOMING EVENTS

EAA Chapter 968 Meeting

From Peter Fisk: Just a reminder that on Saturday afternoon, December 4 at 2PM the old and new EAA Chapter leaders plan to meet in the club room at KRUT. All members and non-members are invited to formally vote in the new leaders and to set new direction for the chapter and all aviation enthusiasts from up and down the west flank of the Green Mountains. We hope you will be there to contribute your thoughts, ideas and wisdom.



PANCAKE BREAKFAST

Mark your calendars... the next Chapter 613 meeting will be our first ever Pancake Breakfast in our new Aviation Education Center, at the Franklin County State Airport (FSO) on Sunday, December 19th from 9:00 - 11:00am. Donald Taylor tells me he is planning on something special for the breakfast, something requiring the help of **four** cooks - so, it must be **REALLY** special!

Hope to see you there!!

Calendar of Events

December 4 EAA Chapter 968 Elections Meeting, Rutland - So. VT Regional Airport (RUT), EAA 968 room, 2pm
 December 19 EAA Chapter 613 Pancake Breakfast – Franklin County Airport (FSO), Highgate, VT, 9 – 11 am
 January 16 EAA Chapter 613 Pancake Breakfast & Safety Briefing – Franklin County Airport (FSO), Highgate, VT, 9 – 11 am

ITEMS FOR SALE

For Sale!!

The following items are up for sale:

A set of Kenyon wing covers for a C-150 or C-152 -- \$500.00 or best offer;
 A set of three wheel pants for a C-150 or C-152 -- \$75.00 for all three.

Call Scott Myrick in Bristol, VT at 802-453-3326 or on cell phone at 802-349-4246

AIRCRAFT FOR SALE

From: EAAChapter517@aol.com
 Subject: EAA 517

Hi Guys,

Please help us advertise the 2005 Starduster Too that was donated to EAA 517.

For your bargain hunting members looking for an easy winter project. Fix it up in time for the spring flying season.

We are accepting offers and would like to see it gone before Christmas. Please be kind enough to pass the word to your members. This link will take you to a web page that was donated to us with details about this airplane.

<http://www.aircraftexchangenetwork.com/listman/listings/10024.php>

Thanks,

Steve Rossiter
 Newsletter Editor
 PO Box 16446
 Missoula, MT 59808
 406 529-1601/ 406 542-5177



[Editor's Note: While I did check out the link above, and their web site (<http://www.eaa517.org>) to verify it seemed legitimate, I'd be remiss to not say "caveat emptor" when dealing with items sold on the Internet]

C140 FOR SALE

CESSNA 140, All metal, N2380V, Hangared in Rutland, Vermont (KRUT), Contact Peter Fisk at fiskinvt@sover.net

- Total times: Airframe = 4570hr; Engine (C-85-12) = 615hr since major overhaul
- Radios: Icom A-200 transceiver; King KT-76A transponder w/mode C
- 0-200 crank STC; new accessory case w/oil pump; All Logs since new
- Alternator and light weight starter; New prop; Scott tailwheel: Cleveland brakes
- Hooker shoulder harnesses; Tires/glass - good; Paint & interior 8+; No corrosion
- If you're in the Rutland area, a package deal including my 42 x 48 hangar might be doable

**CHAMP FOR SALE**

Aeronca Champ Share For Sale at Rutland Airport: The share consists of co-ownership of the plane (registered as 'co-owner' with FAA).

1/5 share of :

- 1946 Aeronca 7AC Champ (75 hr +/- on rebuilt A75)
- ICOM IC-A22 radio head
- Lowrance Airmap 100 GPS
- Pre-Heater - battery/propane

The cost of ownership is estimated at -

- 6,000.00 Share price
- 250.00 - Estimated cost of 1/5 annual insurance.
(25,000.00 hull, 1,000,000 liability)
- 75.00 - Estimated annual cost per share.
- 360.00 - Yearly hangar rent per share (30.00 per month per share).
- 30.00 - Per hour flying cost (wet).

1/5 of all costs for maintenance or repair not funded by the Champ checking account.

6% sales tax on sale amount to be paid to State of Vermont.



There is no projected repair work. A Tailwheel Endorsement in your log book, 10 hours of tailwheel instruction will be needed for insurance

For Info, Call 802-235-2808



Ready for Winter?

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FIRST CLASS MAIL

December 2010

