



## CHAPTER

613

December 2005

(Chapter 613 web site)

[www.eaa-chapter613.org](http://www.eaa-chapter613.org)

### **News and Views: Tom Edwards**

First I would like to apologize from the start that this news letter is late and short due to my other commitments. I have gone into a short retirement and the last dozen days I have been working 15 hours or so a day. That has all ended and now I can devote even more time to this newsletter and Chapter 613.

We had a very fruitful meeting last month. We now have a full slate of officers for the coming year and we have settled on a few plans.

From the good news/bad news department: Since I am not working for the time being, I have lost my high speed internet connection. For now I will limit pictures and scans until I solve the broadband shortage.

### **NOVEMBER MINUTES BY TOM EDWARDS**

We had a slow but steady turnout for the first Pancake Breakfast for the fall season. 17 souls came to protect themselves from being railroaded into office. The meeting was called to order at 10:46 by President Terry Griffin.

First we recognized Don Taylor and Charlie Mackin, our chefs for the morning's breakfast. After the smoke cleared from the new stove operator, we decided to let them try it again next month. (December 18) These guys were whipping up the eggs and pancakes like they were pros!

The secretary's report was accepted as printed in last month's newsletter.

The Treasurer's report from Steve Couzelis was filed in absentia. From the period from October 23 through November 20, 2005 the general fund had a balance of \$8528.99, the Emando Roberti Scholarship fund had \$983.13, and the Mary J. McGrath fund had \$35,796.32. The treasurer's report was accepted as read by President Terry Griffin.

There was no scholarship committee meeting since Frank Gibney was absent.

George Coy reported that the DC3 was still in the paperwork process and moving it to Franklin County may have to wait until spring.

Terry Griffin reported for the hangar committee. He has contacted several other Chapters which own hangars. They have all kinds of ownership from just for club's use and one club owns 3 hangars and rent out one to pay expenses. We decided that there is no rush to start building and we might take the time to set up the bylaws and plan the building. Tom Edwards made a suggestion to put a hold on the hangar and work on the plans and bylaws until the DC-3 project is underway to get a better feeling for the funds available. An informal poll was taken of the membership present of who might use the club hangar for projects; no one showed interest as most already had their own. We all decided to table the hangar until we got a better feel for its needs and wants. We will keep the communication open on the hangar for now.

We next held elections for the coming year. The top three offices were open as they have been held by the same people for quite a while. The slate of officer started with a few volunteers for a position. Moe Boivert struck first for the VP position, Terry Speranza volunteered for a position and was coerced for President and with no takers for secretary, it was suggested by George Coy since Tom Edwards was already writing the newsletter, it would be very easy for him to do both. Steve Couzelis was continuing as treasurer so the slate was set and were chosen unanimously.

Don Taylor reported on the status on Young Eagles for the year. We still need 58 flights to meet our goal. Don asked if there were any other flight to file they need to get them in to him right away. Terry Griffin has form if anyone needs them.

We discussed that the future pancake breakfasts were all scheduled for FSO and that might be unfair to the southern membership. Bruce Uvanni and Bob and Rick Rotax volunteered their hangars for future breakfasts. We will look into moving some breakfasts back to Shelburne.

It was surprising that so few tickets were sold for the 50-50 drawing since Marge Butterfield was absent. The very last ticket sold to Terry Speranza netted \$6.50 each to him and the club!

## **Flight Advisor Corner: Hobie Tomlinson**      Night Operations

Now that fall is behind us and Daylight Savings Time has ended, short days and early darkness will be our lot for the immediate future. Given that, it seems like a good time to do a series on Night Operations.

The best place to start our discussion would be to look at what the FARs have to say about night operations. There are actually five specific regulations dealing with flight during the hours of darkness. They are:

- FAR 1.1 (Definition of Night)
- FAR 61.57 (b) (night takeoff and landing experience)
- FAR 61.315 (c) (5) (Prohibits Sport Pilots from flying at night)
- FAR 91.205 (c) (Required equipment for VFR flight at night)
- FAR 91.209 (Aircraft Lights)

FAR 1.1 defines "Night" as the time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac and converted to local time. That sounds like a lot of words to say, "When it's dark"! For those of you who really "Get into" this sort of stuff; go to <http://aa.usno.navy.mil/AAmap.html> (Astronomical Application Department Site Map) and print out the times for your location.

FAR 61.57 (b) prohibits acting as pilot-in-command of an aircraft carrying passengers during the period beginning 1 hour after sunset and ending 1 hour before sunrise, unless within the preceding 90 days you have made at least three takeoffs and three landings to a full stop:

- During the period beginning 1 hour after sunset and ending 1 hour before sunrise
- While acting as sole manipulator of the controls

- In an aircraft of the same category, class, and type (If the aircraft requires a type rating.) For most of us the category and class would be ASEL.

Note: Takeoffs and landings made at night count toward the general takeoff and landing requirement for day, but not vice versa.

Takeoffs and landings made in an aircraft with a tailwheel count toward the takeoff and landing requirement for a tricycle gear aircraft, but not vice versa.

The time period where the night takeoff and landing requirement applies is different from both the time period requiring aircraft lights and the time period defined as night.

FAR 61.315 (c) (5) prohibits a Sport Pilot from acting as pilot-in-command of a light-sport aircraft at night.

FAR 91.205 (c) defines the aircraft equipment required for VFR, night flight operations. It requires all the equipment required for VFR, day flight operations, plus:

- Approved position lights
- Approved aviation red (or white) anti-collision light system (in the event of a light failure, you can continue to a stop where repairs can be made)
- One electric landing light (only required if the aircraft is operated for hire)
- An adequate source of electrical energy for all installed electrical and radio equipment (a consideration worth evaluating for older/experimental aircraft with a lot of new equipment installed)
- One spare set of fuses (or three spare fuses of each kind required) accessible to the pilot in flight. That's an oldie; everything on new aircraft use CBs. If, however; you fly an older (or not so old) aircraft that uses a few fuses – Have you got “spares” accessible in flight? Do you know where they are? Cessna's always used to have a “spare fuse” holder in the glove box. When was the last time you checked it????

FAR 91.209 says that during the period from sunset to sunrise, no person may operate an aircraft unless:

- It has lighted position lights (i.e. “Turned on”)
- Park or move an aircraft in (or near) an airport night flight operations area unless it is: (a) Clearly illuminated (b) Has lighted position lights, or (c) Is in an area marked by obstruction lights
- Anchor a seaplane unless it has: (a) Lighted anchor lights, or (b) Is in an area where vessels do not require anchor lights
- It has lighted anti-collision lights, if so equipped. (Unless the pilot-in-command determines that it would be in the interest of safety to turn them off, because of operating conditions.)

Note: The period that lights are required is different from the period defined as “Night”. Both sunset and sunrise times are listed on the “Navlog” page generated by [www.fltplan.com](http://www.fltplan.com). Another web site where this information is available is the National Oceanic and Atmospheric Administration, [www.noaa.gov](http://www.noaa.gov).

Night Vision is the next area we will look at. As night vision is quite different than day vision, it is important to understand the construction of the human eye and how it is affected by darkness.

The back of the eye contains innumerable light sensitive nerves, known as “cones” and “rods”. The cones are located in the center of the retina (directly behind the pupil) and function to provide us with the best vision of details and faraway objects during daytime. They also provide us with color vision. To best see an object during the daytime, look directly at it.

The rods are located all around the cone area and provide us with our peripheral vision. Peripheral vision detects objects (especially moving ones), but does not provide any detail or color (only shades of gray). As the cones function best in normal light, the process of night vision is placed almost entirely upon the rods. As there are no rods behind the pupil, off-center viewing (looking to either side of an object, rather than directly at it) is important for night vision. To best see an object at night, look beside it rather than directly at it. Thus it is important at night to develop and practice a scanning procedure, which will help improve night vision.

Dark Adaptation is another important aspect of night vision. In low light, the pupils of the eyes enlarge to allow as much light as possible to enter the eyes. The cones adjust in about 10 minutes, becoming about 100 times more sensitive to light. The rods take longer (about 30 minutes) to adjust, but become 100,000 times more sensitive to light! Thus almost all night vision is provided by the rods, requiring “off-center” viewing.

If a bright light is encountered after dark adaptation, the eyes readjust in just a few seconds to protect them from excess light. The night adaptation which took 30 minutes to acquire, is now totally lost and will require the full 30 minutes to reacquire.

Exposing night adapted eyes to an unusually bright light will cause temporary blindness and may result in illusions or after images until the eyes recover from the brightness. The brain creates these illusions as reported by the eyes. These can include misjudging or misidentifying objects and possibly vertigo. Recognizing that the eyes and brain can play tricks at night is the best defense for night flying.

Maintaining good eyesight depends upon maintaining good physical condition. Fatigue, colds, vitamin deficiency, alcohol, stimulants, smoking, or medication can seriously impair night vision.

To optimize night vision effectiveness:

- Adapt the eyes to darkness before flight and keep them adapted
- Close one eye when exposed to bright light to help avoid the “blinding effect”.
- If oxygen is available, use it above 5000 feet
- Do not wear sunglasses after sunset
- Move the eyes more slowly than during daylight
- Blink the eyes if they become blurred
- Concentrate on seeing objects
- Force the eyes to view off center
- Maintain good physical condition
- Avoid smoking, drinking and harmful drugs

Night illusions are another vision problem associated with night flying.

On clear nights, distant lights can be mistaken for stars and vice versa. Bright northern lights can give a false horizon, confusing a pilot. Sometimes certain geometrical patterns of ground lights can cause confusion. On very dark nights, especially over sparsely populated areas or water, the visual horizon disappears. Thus competency with flight and navigation instruments is very important in night VFR flight. This was sadly proven off the coast of Nantucket with the night VFR accident of Robert Kennedy, Jr.

Visual autokinesis will occur if the pilot stares at a single light source for several seconds on a dark night. This will cause the light to appear to move and is best stopped by expanding your visual field. It is poor night vision practice to fixate on a single source of light.

Flicker vertigo can cause distractions and problems in the cockpit. This can be induced by the reflected light from strobes, anti-collision light, or even a landing light striking a propeller operating at low rpm. In advanced cases this may cause nausea, dizziness, grogginess, headaches, confusion or even unconsciousness. Eliminate any light source causing blinking or flickering problems by turning it off!

A black hole takeoff is one in which the aircraft immediately leaves the lighted airport and flies over water or an area with few (or no) ground lights. The illusion is that the aircraft has suddenly pitched up and there is a very real tendency in to lower the nose and fly right back into the ground. Be especially alert to the flight instruments during this type takeoff.

A black hole approach occurs when the runway is providing the only light source because the approach is over water or an area with few (or no) ground lights. In this approach, difficulty is encountered maintaining orientation to the surface. The runway may seem “out of position” (downsloping or upsloping) and there is a very real danger of hitting short of the runway. If a VASI or an electronic glide slope is available, use it! If nothing is available, be especially alert to your flight

instruments and maintain an altitude (above the runway elevation) of 300 feet/mile away from the runway threshold. (i.e. 1mile = 300', 2miles = 600', 3miles = 900', etc.)

Lights beyond and airport on higher ground will cause a lower-than-normal approach path.

Clear nights, bright runway and approach lights, and wider than standard (200') runway widths will make the aircraft appear closer than it actually is, resulting in a lower-than-standard approach.

Hazy nights, dim runway lights, and narrower than standard (75') runway widths will make the aircraft appear further away than it actually is, resulting in a higher-than-standard approach.

Night landings can be further complicated by the difficulty in judging distance, as well as the possibility of confusing runway and approach lights. This is especially true when the runway has a double set of approach lights leading up to the threshold. It is doubly important in night flying to make a good preflight review of the destination's airfield layout and surrounding terrain.

This looks like a good place to break for this month. Next month we will continue with proper equipment and preflight planning. The thought for this month is "What you don't see can hurt you!"

As we close another year, I would again like to especially thank everyone for providing me a "soapbox" and wish everyone a Very Merry Christmas with a Happy and Prosperous New Year! So until next month, remember to Think Right to Fli-Rite!

## Young Eagles: Donald Taylor

We have flown 242 Young Eagles so far, which leaves 58 more to go for our goal of 300!

The pilots and Young Eagles Flown:

Steve Couzelis	17	George Godin	9
Don Nowakowski	8	George Coy	1
Chuck Robitaille	10	William Hanf	8
Donald Taylor	107	Ronald York	9
John Mcnerney	17	Terry Griffin	2
Pete Laframbois	10	John Butterfield	18
Mike Pecue	17	Bill Yendrzski	6



We still have time to make our goal of 300. There are a few pilots that can make 10 flights for 2005!

**From North Ramp Aviation**  
**Nick Santos is stocking the government charts of the Florida Route!**

### Calendar of Events

Dec 18, 2005	Pancake Breakfast, Franklin County Airport (FSO) 9-11, Meeting to follow
Jan 15, 2005	Pancake Breakfast, Franklin County Airport (FSO) 9-11, Meeting to follow

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## FIRST CLASS MAIL



December 2005

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