



# CHAPTER

# 613

## January 2010

(Chapter 613 web site)

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

### News and Views: Bruce Richardson

### A Brand New Year - New Resolutions?

I was originally going to call this month's article "Out With the Old, In With the... Old?", as our Chapter officers from 2009 all agreed to serve for 2010... so, here's to looking forward to another year of working with President **Tom Edwards**, Vice President & Acting Secretary **Bob Desmarais**, and Treasurer **Bryan Bourgeois**.



## DUES ARE DUE!



The new year means it's time to send in your chapter dues. EAA Chapter 613 dues have remained unchanged for years. Please consider spreading the word - to each of us membership is a small cost, but added together helps our chapter do great things. The renewal form can be found on the Chapter's web site at [http://www.eaa-chapter613.org/Chap 613 Application.pdf](http://www.eaa-chapter613.org/Chap%20613%20Application.pdf), you can get one at our monthly meeting, or you can use the one included in this newsletter. Dues are \$15 (single) / \$20 (family). Please make checks payable to EAA Chapter 613 of Vermont, and send them to Bryan Bourgeois, 23 Butler Rd, Underhill, VT 05489. You can contact Bryan with any questions at 802-899-1333, or email him at [bbourg@lightshiptech.com](mailto:bbourg@lightshiptech.com).

**News You Can (hopefully) Use:** Peter Fisk, EAA Chapter 968 President, has sent me a link to "Vectors for Safety", an interesting safety newsletter being published by Gene Benson. You can find the newsletter on-line at <http://www.genebenson.com/newsletter>, and if you like it, you can sign up to be added to his mailing list. Per Gene, "Vectors for Safety" is published approximately once per month courtesy of Bright Spot, Inc. I've found it to be interesting reading, so I thought I'd share it with you.

And it must be winter, as both Peter Fisk and our own Donald Taylor submitted information regarding the ice runway at Alton Bay, NH. Here is Peter's submission; he recommends checking NOTAMs for B18 for updates on the ice runway.

**Looks like there will be a fly-in in 2010.**

**The iceway is open**

Like Brigadoon, each year when it's really cold in New England, a runway rises from a frozen lake in New Hampshire, welcoming GA pilots to test their mettle on the slickest runway imaginable. Technical Editor Mike Collins captures the atmosphere of this unique airport in this online video.

(You can watch the video at <http://r.smartbrief.com/resp/tHywzjxInBmLznCicefRCicNXvGc>)

## President's Column: Tom Edwards

I again must offer my apologies for my lack of attention to the chapter over the past months. As many of you know, I have been caretaker for Nelson Bogue these past few years and he had gotten much worse and finally passed away December 23, 2009. His heart was failing and finally stopped beating after 93 years. Many of you will remember Nelson sitting quietly in the back of the room during pancake breakfasts and as my copilot on many flights.

I just found out that the last pancake breakfast had no officers present and at this writing, I have not found out what happened at the meeting. I can only assume that the meeting happened and the tour was given by Don Taylor of the Chapter Hangar.

So let's welcome the new year with a pancake breakfast at FSO January 17th at 9 with setup at 8! I haven't made any calls but I'll be there to cook and get ahold of Don Taylor to make things happen. There won't be a program, just a time to get caught up and get things going for the new year.

In the works are a safety seminar for February, Cabin Fever Frolic and a tour of the new FBO at Heritage. More information to follow.

- Tom

## Flight Advisor Corner: Hobie Tomlinson

### Winter's Ice – Part 1

Now that winter has arrived in the Northeast, it seems worthwhile to take another look at some winter operational issues involving ice. Like so many things in life, the decisions become pretty simple when the weather is either very good (no ice) or very bad (moderate to severe ice). The tough questions always fall in the “grey” area which exists between these two extremes. Let's take a look at the following areas of operation:

- **Snow and Ice on the Ground**
  - **De-icing the Aircraft**
  - **Ramps, Taxiways and Runways**
- **In-Flight Icing**
  - **Preflight Planning**
  - **Enroute**
  - **Approach and Landing**

**Snow and Ice on the Ground** presents the first challenge as we arrive at the airport for our winter operations. If we are lucky enough to have our aircraft hangared, we probably only have to deal with the snow and ice on the airport. Should we have the misfortune of having to keep our aircraft outside on a tie-down during the winter season, we will have to deal with de-icing the aircraft before we confront the issues of snow and ice on the airport.

- **De-icing the Aircraft** can be quick and simple or it can be a substantial undertaking; it all depends on the condition of the aircraft and the prevailing weather conditions at the time. Any aircraft which has been parked outside in temperatures of +5 degrees Celsius (+40 degrees Fahrenheit) or less needs a careful inspection for ice contamination before flight is attempted. It is an interesting fact that high-wing aircraft account for two-thirds of the general aviation icing takeoff accidents. This clearly points to the fact that it is necessary to have a means of inspecting the top of the wing on a high-wing aircraft prior to initiating a winter flight.

**The Hard Facts** of snow/ice contamination upon critical surfaces of an aircraft are as follows:

- The aircraft was certified when it was totally free of ice contamination. There is no data on takeoff with any surface contamination whatsoever; therefore, should you attempt to do so - you have just become the test pilot!
- Even small amounts of ice, frost, or snow contamination will impose large lift and drag penalties. Frost, with a roughness similar to medium sandpaper will reduce lift by as much as 30% and increase drag by as much as 40%.
- The stalling speed, stalling angle of attack, flight control response, and aircraft stability can all change quite dramatically with any surface contamination.

**The Critical Surfaces** of the aircraft are as follows:

- The wings including flaps, ailerons, and associated trim tabs; horizontal stabilizer including the elevators and associated trim tabs; and the vertical stabilizer including the rudder and its associated trim tabs.
- The propeller, spinner, and all cowling air inlets.
- All pitot probes, static ports, and angle-of-attack or stall-warning sensors.
- The top of the fuselage. While this is not a critical surface, any residual contamination will still add significant drag penalty.
- The windshield is doubly important during winter operations. Take special care when cleaning windows to not scratch or damage them. Only a very soft brush or cloth should be used. Never strike the windshield as the cold air makes the plexiglas brittle and easily damaged. Ensure that the side windows of your aircraft are free of all ice, snow, and dirt to maximize visibility.
- All landing gear components on retractable gear aircraft should be clear of frozen contamination.

**The Aircraft may be De-iced** by one or more of the following methods:

- The best method - when time permits - is to put the aircraft into a heated hangar. Make sure the aircraft is completely dry before de-hangaring into freezing temperatures in order to prevent the moisture from refreezing on the aircraft and causing recontamination. Also, when an aircraft is removed from a heated hangar into below freezing precipitation (such as snow), it must be treated with anti-icing fluid. Otherwise, the precipitation will be melted by the warm aircraft surface and then refreeze, which causes ice contamination on the aircraft.
- Dry snow may be brushed off from an aircraft. Make sure that a very soft bristle brush is used so that the aircraft surfaces are not scratched. Use extra caution around and on windshields, pitot tubes, antennas and any other protuberances. Always be sure to complete a “tactile feel” check (the actual touching of the aircraft surface with your fingers) to verify no frozen contamination exists under the removed snow. This is done because clear ice “blends” with the aircraft skin and is sometimes difficult to detect visually - much like the infamous “black-ice” on roadways. Do not bang on ice to remove it, as this can easily damage the aircraft structure.
- The FAA has rescinded its recommendation on “polishing frost” and no longer accepts the practice. Attempting flight with “polished frost” on the wings is a factor in approximately 15% of all small aircraft takeoff icing accidents. There is no performance data for polished frost and the FAA has now issued two SAFOs (**S**afety **A**lerts **f**or **O**perators) advising against the “polished frost” practice.
- When the ambient temperature is above freezing - and expected to stay that way - residual frost can be removed with warm water spray from a garden hose. However, when the temperature is below freezing - or is expected to go below freezing - Type I anti-icing fluid must be used. Type I anti-icing fluid is typically a 50/50 mixture of water and glycol, orange in color, and applied heated. The hot water performs the de-icing function, while the glycol provides the anti-icing component by preventing the refreezing of any residual moisture.
- Because most light aircraft have rotation speeds below 60 knots, only Type I anti-icing fluid can be used. You must have positive authorization from the aircraft manufacturer in your POH (**P**ilot **O**perating **H**andbook) or AFM (**A**irplane **F**light **M**anual) before using any Type II, III, or IV anti-icing fluids on your aircraft. These fluids have thickening agents which cause them to adhere to the airplane below a predetermined “shear” speed, thus providing continued protection for a limited period of time (which varies with the ambient temperature and existing precipitation type). Type III fluid is just starting to become available in the U.S.; it is bright yellow in color and shears at 60 knots. Type II fluid is rarely used in North America and is clear or straw color. Type IV fluid is most common in the U.S.; used after de-icing with Type I Fluid and green in color. Both Type II and Type IV fluid are designed to “shear” at 110 knots.

**Some Final Precautions** are as follows:

- Never assume that snow will blow off on the takeoff run - even if it does, it may be concealing a layer of ice underneath!
- Never assume that cleaning off the leading edge, or first 1/3 of the wing and tail is sufficient, the entire surface must be free from contamination.
- Always complete a tactile feel check of the wing – both to confirm that de-icing is needed (or not required) and to verify that all contamination has been removed after de-icing is completed. Clear ice can sometimes be difficult to detect because it blends with the color of the wing.

- **Ramps, Taxiways, and Runways** present the next issue when they are contaminated with snow and ice.

Depending upon the length of time since the last winter storm, the intensity of that storm, and the snow removal capability of the individual airport involved, winter airport conditions can be all over the map. For the purpose of our discussion, we will assume a typical, uncontrolled G.A. airport with paved surfaces. Depending upon traffic levels, these airports may provide some services or none at all. It is not even atypical for these airports to be plowed by local road crews (only after the roads have been cleared).

**Ramp Conditions** are the first issue to be confronted and involves the following considerations:

- A visual inspection of the ramp area is the first step to ascertain what type of surface contamination is present (if any) and whether the ramp boundaries and safe taxi areas can be easily identified. If snow exists on the ramp, it is probably well worth walking the route to reach a taxiway. Check for snow depth, ridges of compacted snow, hidden chocks or tie down fixtures, and how slippery the surface is. (Random chocks tossed on the ramp and left are my personal pet peeve!)
- The general rule of acceptability for contamination is not more than ½ inch of slush, while dry snow depth may be up to 2 inches. Be sure to check your aircraft's POH or AFM for any additional guidance or restrictions.
- Be very careful if wheel pants are still installed on the aircraft, as they are prone to pack with contamination material and freeze the wheel. For that reason, wheel pants are typically removed for winter operations.
- Study the airport diagram (especially if unfamiliar) to anticipate what actions to take if you miss a turn during outbound taxi.
- Once underway on the ramp, check braking conditions before the brakes are needed.

**Taxiway Conditions** will affect our operation as follows:

- When flying a low-wing aircraft, be extra vigilant to stay in the center of the taxiway and be aware of snow bank heights. It is very easy to dig a wing tip into a winter snow bank at some airports.
- Check braking conditions on the taxiway and evaluate contamination type and depth. There is a fine line between taxiing fast enough to avoid getting stuck in the snow or slush, and being able to maintain directional control with minimal braking.
- Look for a bare area on the taxiway to give sufficient braking capability to do an engine run-up. Never do a run-up on a contaminated surface without allowing enough room in front of the aircraft in case the aircraft starts to slide during the run-up. If the aircraft begins to slide during run-up, immediately discontinue the run-up and reduce the power. A great way to “get a prop” on a conventional gear aircraft is to have it side during the run-up and then hit a bare spot while still under power. On very slippery surfaces, it may not be possible to do a run-up with the normal power settings.
- Maintain situational awareness about your location on the airport, as signs, marking, and lighting can be obscured and difficult or even impossible to see during wintry conditions.
- Stay vigilant of all surface traffic and maintain an active listening watch on the CTAF for ground vehicles - especially when visibility is not good. Other aircraft or vehicles (i.e. snow removal equipment) may be distracted, have difficulty seeing you, or may have impaired braking capability.
- When slush exists on the taxiway, “snub” the brakes several times to heat the brakes and dry out the rotors. This is to prevent water from freezing between the rotor(s) and caliper (stators) after takeoff which may “lock” the wheel and prevent it from turning upon landing. This is especially a problem with the newer “carbon” brakes on heavier aircraft.

**Runway Conditions** are the final hurdle to our flight and involve the following considerations:

- “Snow, slush, ice, and standing water on a runway impede airplane acceleration by absorbing energy in compaction and displacement, and by impinging on parts of the airplane after being kicked up by the tires.” This is from Advisory Circular (AC) 150/5200-30C - Airport Winter Safety and Operations – which provides guidance on how aircraft performance is affected by runway surface conditions.
- As was stated above under ramp considerations, the generally accepted limit for winter operations is ½ inch of slush (or standing water) contamination or 2 inches of dry snow. If the runway has not been plowed full length and width, it should be taxied full length prior to takeoff to ascertain that it is actually within acceptable limits and does not present any nasty surprises. During this taxi verification, a braking check should be completed.
- Braking advisories (conditions) are listed in the *Aeronautical Information Manual* (AIM), Chapter 4, and are described as **good, fair, poor, and nil**. Operations should be suspended with nil braking and only undertaken with great care when poor conditions exist.
- On very slippery surfaces (such as ice with a thin lay of water on top during warmer temperatures) it is possible for the tires to lose all cornering ability during takeoff or landing. These slippery surfaces are a double hazard when any crosswind exists during the takeoff or landing. When this is the case and the aircraft begins to drift sideways during the takeoff or landing, it will be necessary to allow the nose of the aircraft to weathervane into the wind in order to contain the ground track within the confines of the runway. The danger now becomes striking a bare spot (which will restore the tire cornering force) while the aircraft is no longer aligned with the direction of travel. Extreme care needs to be used under these circumstances.
- Once airborne, consider giving a braking PIREP to FSS for your fellow aviators, especially if it is early in the day.

This is where we will break for this month. I would like to take this opportunity to wish everyone a ***Happy and Prosperous New Year*** and ***Safe Flying!*** The thought for this month: **Let us watch well our beginnings, and results will manage themselves.** ~ Alexander Clark / American clergyman. So until next month, be sure to **Think Right to Fli-Rite!**

## Bozeman, MT @ -20 Degrees Fahrenheit



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**Safety Tip By Don Taylor**

Ice &amp; Snow

Well, it is here again - winter, ice, and snow. I do not like ice to walk on, but it is fun to land on the lake when it is frozen. Make sure you have good ice, and only 1-2" of snow if you are going to land on wheels. Do not land in broad lake, but stay between the fishing shanties with cars and shore, that way you will know the ice is safe. Make sure you keep the nose of the plane into the wind, and that you have plenty of room. You may use your brakes very lightly, but don't lock them. If you follow the above you should have no problems. The best time to land on the ice is after a light snow and it sticks to the ice.

**Did You Know? By Don Taylor**

Airplanes on Skis

Landing an airplane on skis is just like landing on floats, when the water is smooth and it is hard to judge the height, it is the same on skis on a bright sunny day when it all looks alike. You just set up your landing and feel it in, sometimes you will not know when you are in the snow. It can be smooth and fun.

One thing you want to make sure is that the snow is not too deep. You will land okay, but you will not get enough speed to take off. In that case, you will have to go back and forth to make a path, or find some snowmobile to pack it down for you.

If you want to land on a plowed runway on the ice, the place to go is Alton Bay Seaplane Base (B18) in New Hampshire. It is an official public airport that you can find on the upper half of the New York sectional. It is at the south end of Lake Winnepesaukee. If you want more information, you can call 603-332-9098.

There is a good article on it in the January 2010 AOPA magazine (page 84).  
([http://www.aopa.org/members/files/pilot/2010/january/feature\\_icerunway.html](http://www.aopa.org/members/files/pilot/2010/january/feature_icerunway.html))

[Editor's note: Don provided a URL link in his original inputs; however, the site seems to be inoperative.]

**Young Eagles: Donald Taylor**

Pilots who flew Young Eagles for 2009:

George Coy -	1	Charles Robitaille -	17
Richard Swanson -	7	Don Nowakowski -	14
Thomas Edwards -	48	Frank Gibney -	4
John Butterfield -	22	James Baker -	2
Steve Couzelis -	11	Kevin Dauphinee -	16
Kurt Gruending -	13	Bill Morelli -	6
Donald Taylor -	31	Robert Desmarais -	31



I have not heard from anyone flying more Young Eagles in 2009, so it will stay at 223. We have 203 chits but we won't know for sure until we hear from the Young Eagles office in Oshkosh.

## Young Eagles - A Short Story

by Donald Taylor

It was a beautiful sunny day in late January, about 35 degrees. I thought I would fly my Citabria on skis. I checked Lake Champlain, but it was not that good, so I decided to try Lake Carmi in Franklin, it looked good, so I landed. It was great. There were a lot of fishing shanties on the lake, I flew around to see if any had kids playing. There was one that had four kids playing on the ice, I landed a little ways and taxied up to the shanty. The kids were thrilled to see an airplane on skis in the snow. I got out and two men came up to me, I told them I was a Young Eagles pilot and I fly kids free, between 8 and 17 years of age. They told the kids and they were all excited. They filled out the registration forms and I told them about the airplane, they could not wait to go. I flew the kids and gave them their Young Eagles certificates. I was talking to them when a young woman came out of the fishing shanty and wanted to know if she could go for a ride, I said sure, and away we went. Three women were cooking dinner in the shanty. It was around noon, one of the women came out of the shanty and asked where was I going now? I said probably to get something to eat. No way, she said, you will eat right here. So I did. It was a beautiful day, no wind. We ate right outdoors. What a meal! Hamburgers, cheeseburgers, hot dogs, beans, goulash, and soda.

When I took off, I came back by and they were all out there waving, That was one of the best days on skis.

### UPCOMING EVENTS



## PANCAKE BREAKFAST



Mark your calendars... the next chapter meeting will be a Pancake Breakfast at the Franklin County State Airport (FSO) on Sunday, January 17th from 9:00 - 11:00am.

**Hope to see you there!**

### Calendar of Events

January 17      Pancake Breakfast – Franklin County Airport (FSO), Highgate, VT, 9 – 11 am

## Hangar for Sale

I'm selling my condo t-hangar at FSO, \$19,000. It's #6 on the east side of the large hangar at the north side of the airport. The State lease, insurance, and snow removal is \$491.00 paid through September, Highgate Taxes \$307.00 a year, and my electric bill runs \$10-20 a month depending on the use of tanis heat. The inside is plain but a lot of tenants have added insulation and heat. Tom @ 802-355-1656



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### OFFICERS/COMMITTEE MEMBERS

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# EAA CHAPTER 613 of VERMONT



## Membership Application

and Renewal Form to update Chapter's database

Date \_\_\_\_\_

Name \_\_\_\_\_ Spouse or S. O. \_\_\_\_\_

Mailing Address \_\_\_\_\_

City \_\_\_\_\_ Zip \_\_\_\_\_

Business or Occupation \_\_\_\_\_ Business Phone \_\_\_\_\_

National EAA # \_\_\_\_\_ Date \_\_\_\_\_ Home Phone \_\_\_\_\_

E-Mail address \_\_\_\_\_ @ \_\_\_\_\_ Check Yes\_\_ or No\_\_ if you want  
EAA Newsletter sent via E-mail.  
(Saves chapter postage & paper)

Pilot License Yes\_\_ No\_\_ If yes, what class & ratings? \_\_\_\_\_

Aircraft Owned \_\_\_\_\_ Current Projects \_\_\_\_\_

Are you willing to give others rides? Yes\_\_ No\_\_ Would you like to be given rides? Yes\_\_ No\_\_

Are you willing to participate in the Young Eagles Program? Yes\_\_ No\_\_

### Aircraft Interests

Homebuilts\_\_\_\_ Classics\_\_\_\_ Warbirds\_\_\_\_ Ultralights\_\_\_\_ General\_\_\_\_ Aerobatic\_\_\_\_

Other\_\_\_\_ Please describe \_\_\_\_\_

**Use this area to express thoughts and suggestions for club activities, your interests in holding office or chairing a committee, as needed.**

Dues: \$15. (Single); \$20. (Family). Please make check out to: **EAA Chapter 613 of Vermont** and send with this form to:

Bryan Bourgeois, Treasurer  
23 Butler Rd.  
Underhill VT 05489

Dues are paid to Jan 1, and are up for renewal at that time.

Rev1/08

EAA... *the* **Sport Aviation Association**

EAA CHAPTER 613  
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