# The Beacon

The newsletter of Chapter 54
Lake Elmo, Minn.

JANUARY 2014


## January 20114

**THE NEXT PROGRAM WILL BE ON MONDAY**

**February 10, 2014**

- **Regular Monthly Meeting**
- **7:00 PM, CHAPTER HOUSE, ENTRANCE B, LAKE ELMO AIRPORT 21D.**

## Upcoming Events

**May Young Eagles** **May 10 or 12, 2014**

**RV Lake Elmo Airport Fly In TBD**

**Ground School Begins** **February 6, 2014**

Just a quick reminder to all our members that Chapter 54 is sponsoring a Private/Sport Pilot Ground School again this year. Information about the course, including a course schedule and printable flyer, is available on the chapter website.

If you know of anyone that may be interested, please encourage him/her to check out our website. Or, they are welcome to contact me at education@eaa54.org. We have a very qualified, experienced, and dedicated faculty that will do their best to prepare them for the FAA knowledge exam.

Prospective students can register online at our website, www.eaa54.org.

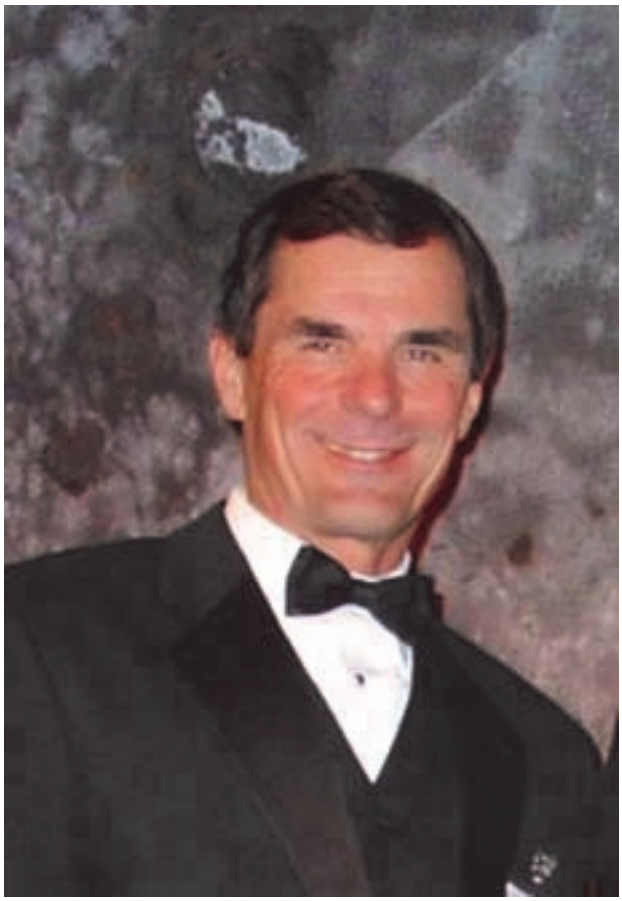
## INSIDE THIS ISSUE:



## BRS System Overview by Bettie Seitzer

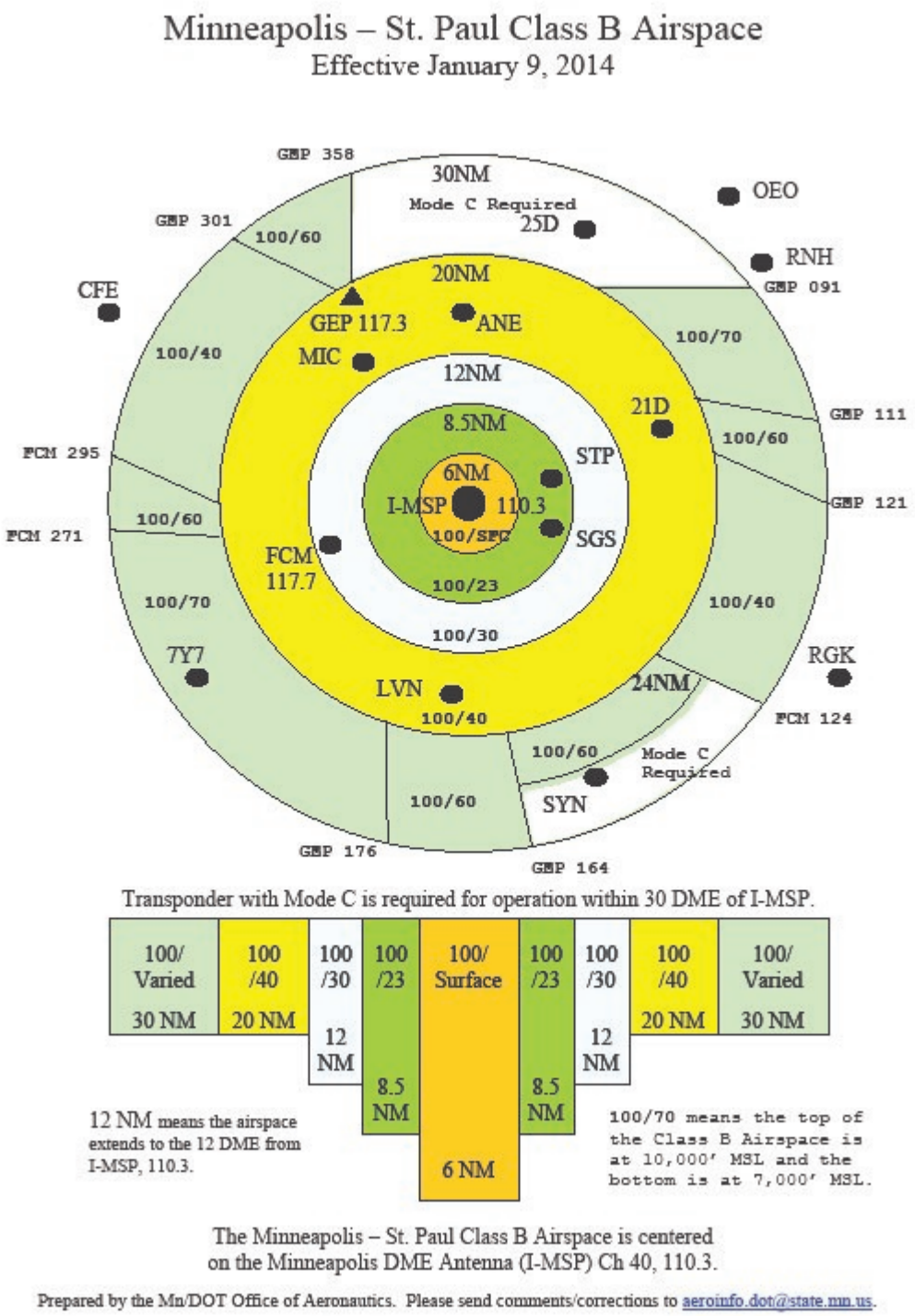
Boris has spoken many times at Oskosh and Lakeland; and has been active with the EAA community in the twin cities. It would be tough to find a pilot who did not know about BRS chutes!

308 lives save through deployment of chutes in flight; there are 28,000 systems currently installed in planes all



over the world. BRS was founded in 1979. In 1977 Boris experienced a boat drawn hang glider accident that lead to his motivation to develop a parachute that could save a pilot. He started with hang gliders and ultralights, and then moved to larger planes. Now there are military and commercial planes with these systems installed.

One out of every 125 systems sold gets deployed every year! Cirrus planes have followed this same pattern – one out of every 125!




The Class B Airspace around Minneapolis will change on January 9, 2014
The changes are in the outer most ring from 20 to 30 miles from MSP. Radials have changed to account for declination changes and new sectors have been defined to help keep air carrier traffic landing at MSP in the Class B Airspace. The Minneapolis Terminal Area Chart has the most complete information on the airspace. Please purchase one to carry with you if you fly in the Minneapolis area. All aircraft need clearance from ATC to operate in Class B Airspace. Learn more and see a depiction of the new Class B Airspace.

# FROM THE FLIGHT DECK (PRESIDENTS REPORT)

*BY JIM PEARSALL, CHAPTER PRESIDENT*

I love our bio section of our newsletter and in the same spirit of getting to know one another I want to take this opportunity of my first report to provide a bit of introduction.

I began my deliberate contact with aviation with the Dakota County Library Bookmobile in Apple Valley where I grew up where my friend Ben Pirie and I would go and get all the Aviation Week and Space Technology we could put hands on until the librarian cut us off, recommending that publication was not suitable for eleven year olds. Between that and movies, most notably in my memory, The Spirit of St Louis I was hooked.

Around 1970, I was lucky enough to be within a bike ride of Southport Airport. I recall riding down there and looking at these curious parasol monoplanes flying and in various states of construction. These for course were Pietenopls as I would figure out on my first trip to Oshkosh in 1982.

In the early 80's , I was spending my working hours fueling heavies to Cessna 207's, handling freight and catering for Page AVjet at MSP. I recall back at that time, the general public was not yet trusted on the flight line at OSH, you needed credentials. For me that was not yet my pilot ticket but my IAMAW Union card as it would be awhile before I had anything else that qualified. Fortunately for me, it was not long before that requirement was relaxed.

From the early 80's near perfect attendance to OSH, marred only by a wedding and arrival of an adopted child, and occasionally attending a chapter meeting with my nearby EAA Chapter 25, kept my interest in aviation going. This brings me to recent history, my introduction to Chapter 54.

As many of you know, I began my effort to gaining PIC privileges in a Chapter 54 Ground school. Five years ago this month after passing my Sport Pilot written, thanks to the fine ground school, and the stick time, solo guided by CFII Scot Johnson, I passed my Sport Pilot check ride in a Flight Design CT. Eighteen months later, I followed up with a Tail wheel Endorsement in a Sport Cub down at Stanton.

I needed to secure an airplane. Building would need to wait, at least if I had any chance of flying too with my families schedule. My original intention was to secure a share or whole of a Light Sport conforming classic. Problem was I did not fit, even after losing considerable girth from my pre-flying lack of trim nor would most of the people I know go into the passenger seat of one. I went back to the drawing board, eventually settling on my Pipistrel Alpha N119JP of which I will fill the time available with telling you all about.

There is a brief story of how I got here. I look forward to hearing more about the stores you have to tell. I also anticipate my helping create an environment to bring in others outside our chapter to share with us and provide education about sport aviation and to introduce young people to flying for fun through Young Eagles or our peers in our daily contacts and chapter events.

I am excited about what we have planned for this year, the return of the Ground School I benefited from, the new energy our new board members bring to build on the work done by her predecessors, playing a bigger role in helping Chapter 54 grow throughout the next couple years.


Left: Paul Hove and Jeff Hove at Airventure 2013.

Right: Marlon Gunderson at Airventure 2013 with his airplane.

**TAX DEDUCTIONS** Did you know that you may be allowed a federal and state income tax deduction for expenses incurred when volunteering at EAA headquarters? Expenses like transportation (including automobile mileage expense), lodging, and meals that you incur in connection with volunteer services performed on behalf of EAA may be fully or partially deductible as a charitable contribution on your personal income tax returns. To determine if you are allowed to deduct your expenses, EAA suggests that you consult with a qualified tax professional and review this memorandum, which has been drafted by EAA legal counsel. Locally we can take a nonprofit volunteer deduction for Aviation Day planning and service, Young Eagles and working on the Chapter house.

Welcome to new members

## Pilots Lounge

**AERO SKIS, MODEL 1800** • $1,250 • **FOR SALE** • Package deal, $1250. Aero Ski Model 1800 and ski dolly's for aircraft with gross wt. to 2000 pounds . Rigging for Spezio Tuholer w/ Taylorcraft axle adapter. Excellent condition, no damage history. Will not separate, no over seas sales, CASH only. Possible delivery within 200 miles of St. Paul, MN. • Contact Danny Bergstrom, Owner - located Stillwater, MN USA • Telephone: 651-439-0944 •



# Tailwinds Flying Club Welcomes New Members

Tailwinds **Flying Partnership** is based at Lake Elmo airport, 21D, in Lake Elmo, MN. We are a non-profit corporation of 38 pilots who equally own three aircraft. Our goal and philosophy are to fly great airplanes inexpensively. We strive for consistency in equipment among our three airplanes. We currently have a Cirrus SR20, Archer II and a Cherokee Six.
**To inquire about membership, please send an e-mail to Mark or call 651-982-275.**
**Visit us at www.tailwinds21d.org to learn more.**

# Chapter 54 Meeting Minutes
# January 13, 2014
# Bettie Seitzer, Chapter Secretary

**January 13, 2014**

The meeting began with 30 people in attendance. Newly elected President Jim Pearsall called the meeting to order, and Paul Randall introduced our speaker - Boris Popov of BRS Aerospace. His talk was about full airframe parachutes.

**Business Meeting**

Secretary minutes and treasurers report are published in the newsletter and available for review on the website.

Ground school will start Feb 6th; Paul Rankin will get the schedule published on the website. There are currently14 people registered; we will also accept walk-ins on the 6th at 6:00.

At the May meeting we will have our annual picnic on the deck. Bettie and Linda will plan delightful event for everyone.

Young Eagles will be the second Saturday of each month May through October.

January 27th is the date for our annual board meeting. 6:30 – 8:30 p.m. Topics: Budget – technology, aviation day, other events. Communications – calendar, media. Housing. Additional topics can be added; contact Jim Pearsall if there is something you would like to add.

January 23rd there is an open house at Farnsworth to show off the expansion of the school into Junior High grades. There will also be a viewing of the simulators. This event is open to the public; if you attend, please consider writing a brief summary of the event for the newsletter.

Next regular meeting is Feb 10th.

Meeting adjourned at 9:00 sharp!

Respectfully submitted;

Bettie Seitzer, Chapter 54 secretary.

**Continued from Page One:** Cirrus has a chute installed as standard equipment on every plane. Cirrus is the number one seller of single engine planes in the world! They call the chute the CAPS system "Cirrus Airframe Parachute System". The recommendation in the POH is that anytime the pilot feels they have lost control of the airframe they should deploy the chute – there is no minimum height. Even close to the ground the chute can provide some protection.

The first certificated plane to have the system built in was the Cessna 150 mounted in the top of the cabin. The Cirrus design has the chute mounted slightly further back taking into account the weight and balance and desired angle of the plane on descent under the chute.

The chute is deployed by means of a mechanically initiated rocket motor. Customers have asked for a button on the panel, but the feeling is that a button would be too easy to accidentally hit, a manual pull requires effort and following procedures to launch. Location of the handle varies by design, Boris prefers a floor mount since it is easier to reach for and grasp, Cessna's design uses the floor mount. Cirrus has the handle mounted overhead, some pilots are concerned that in some situations it might be challenging for the pilot to reach a hand up to pull the handle – for example a spin where the rotational force can push the pilot and their arms down into the seat.

Rate of descent – maximum rate at impact is about 15 mph for a pilot to be unhurt. Angle of descent is a slight nose down angle. Both rate and angle of descent are critical to survivability. This is a continuing engineering challenge and is under ongoing study.

Boris showed a couple of videos of pilots reporting incidents in which they pulled their chutes in serious situations. All reported that the incidents happened very quickly and that the chute deployed quickly. The videos included testimonials from the pilots as well as photos and footage. Boris also had photos of rocket tests demonstrating how quickly the chute is deployed.

Questions:

*What is the status of the RV7 design*? On the market since Oct 30, a few have been sold. RV 7 and 9 are available; BRS

# NTSB Issues Five New GA Safety Alerts

PART ONE By Dave Syverson

To start off the new year, the National Transportation Safety Board (NTSB) issued five specific safety alerts for the General Aviation audience with the intent of mitigating accidents/incidents through targeting these hazards and offering practical remedies to address these issues. While people usually think of general aviation as the aircraft with standard airworthiness certificates; experimental aviation, as a subset, is a hugely significant sector of general aviation. The operator of an aircraft with a standard airworthiness certificate essentially operates as the pilot and refers maintenance to certificated mechanics; however, we as experimental aircraft builders and operators are blessed with options and responsibilities as the people who do the maintenance on our aircraft as well as the annual condition inspection if we have our repairman's certificate.

Certainly these five alert points are far from the totality of what issues can bite us in the toches (Yiddish for "rear end" if you are wondering); however, the emphasis which NTSB applies is intended to bring these specific items to attention where they might sometimes be overlooked.

As a subset of general aviation, those of us flying experimental aircraft are addressed by the safety alerts, only a bit more so due to the fact that we do the maintenance on our aircraft. Here is the official list of new GA safety alerts which can be found on the NTSB website:
'Armed' for Safety: Emergency Locator Transmitters
Engine Power Loss Due to Carburetor Icing
Next Month:
Proper Use of Fiber or Nylon Self-Locking Nuts
Check Your Restraints
All Secure, All Clear

**ELTs** are supposed to function so that someone can find us when we can't help ourselves in the hope that people can get needed medical attention in time to mitigate injuries and lessen the possibility of loss of life. An ELT is certainly no guarantee; and, there are times where all it can do is provide a location where to draw the chalk outlines; however it has been documented by the NTSB that there are cases where ELTs did not function because they were turned off; or they were mounted in such a fashion that the unit broke free of its mounting and separated from the antenna cabling. The NTSB recommendations include being sure the ELT unit is armed and securely fastened per the aircraft manufacturer's specification. Units which are secured to their bases with a Velcro strap are subject to the strap being properly secured and subject to condition issues with the strap. As Experimental builders; we have options to exercise regarding how the ELT is mounted, how and where the antenna is mounted and as operators/repairmen assuring that the system and its battery are meeting specification. As experimental aircraft builders, the general cut to the chase is defined in 91CFR207 "(b) Each emergency locator transmitter required .... must be attached to the airplane in such a manner that the probability of damage to the transmitter in the event of crash impact is minimized. Fixed and deployable automatic type transmitters must be attached to the airplane as far aft as practicable." (Other details in 87CFR) A sage bit of advice provided by an EAA Tech Counselor some time ago concerning mounting of the ELT antenna was to place it inside the fuselage if at all possible (tube and fabric & composite aircraft noted) since an airplane will end up either on its top or its bottom in a situation where the ELT would be triggered, and there is at least half a chance of a broken or buried antenna not transmitting if it is on the top or bottom of the aircraft.

The alert related to **Carburetor icing** is primarily an operational issue for all pilots and mostly reviews what we were all taught in ground school and primary flight training.....understand how carb ice happens, use carb heat per the Aircraft Pilots Operating Manual and be sure the system is maintained properly by your mechanic.....pretty straightforward stuff. For those of us building and operating experimental aircraft the interest might be a bit different. As the builder, we are responsible for determining what systems must be included in the aircraft we are assembling. The engines used in experimental aircraft do not necessarily suffer the same susceptibility to carburetor icing which we associate with non experimental aircraft. Pilots with experience in many aircraft, both non experimental and experimental, are certainly going to be aware some engines are entirely capable of finding three molecules of water within a five nautical radius, putting them in the carburetor and making ice while other engines seem to be immune to carburetor icing. Rotax 912 series carbureted engines, often used in Experimental and LSA aircraft have been used for a number of years and have been found to be minimally susceptible to carb icing to the point that many LSA and Experimental with Rotax power do not have carb heat engineered into their systems; or, if they do, it may be an electric carburetor throat heater that does not use heat off the manifold. At any rate, the phase 1 testing we do is where we should be determining if carb heat really is unnecessary or if it needs to be added if the plane was not built with it. As repairmen of our experimental aircraft, verification of carb heat systems, if they are installed is an obvious inspection point. The electric carb throat heaters are unique in that they do not show an RPM drop when functioning like a heat muff type carb heater does. If we have an electric carb throat heater, inspection must include a procedure to determine if it is working or not.

has been unable to get good cooperation from Van's to design the chutes for the newer RV designs.

*What is the strap design for Cirrus aircraft?* In the Cirrus the design has been modified to be more aesthetically pleasing; the RV design has also been improved to be less obtrusive and it can be a builder installed piece of equipment.

*Can a BRS kit be sent through the mail?* No, because the deployment system includes a rocket, USPS will not carry them, but FedEx will deliver them.

*For a Whitman Tail wheel, what would the unit weigh?* About 70 pounds.

*For a rag and tube plane do you need straps?* The chute is mounted inside and the straps are attached inside to the frame. The 4 attachment points must be able to handle 6 g's each so the design must take into account the plane's weight and balance

in selection of the connection points.

*The original design included a ring called a slider that makes sure the chute deploys quickly and without tangling; do the current designs still have that?* Yes, the design idea came from two young guys who were not trained engineers. That innovation enabled re-design of the chute allowing for a smaller chute that takes up less space in the plane.

*How is the time to re-pack design determined?* There was a meeting earlier today at BRS discussing this issue. It is currently 10 years for Cirrus, BRS continues to study this to determine whether that can be extended. BRS has been in business for 30 years; they continually collect data. FAA does not set the requirement. There was a system that was 23 years old that was evaluated yesterday and it was fine.

*Have there been examples of pulling the chute where it did not work?* There was a pilot who flew into severe icing conditions, air traffic clocked him at 400 mph when he deployed the chute and it ripped itself off the plane. There have been a few examples of people not using the chutes when there would've been time to deploy. Unfortunately, in those cases the people have all died and cannot explain why they did not pull the chute. There have been about a dozen cases where the chute was pulled too close to the ground and there wasn't enough time for the chute to fully deploy. Deployments close to the ground will have an immediate pitch up with the plane

## EAA Chapter 54 Treasurer's Report *By Paul Rankin*

*Edititors Note: As discussed at a recent Board of directiors meeting, the Treasurer's report will now be on our website at* *www.eaa54.org/membersonly*

## Chapter 54 Directory

President: Jim Pearsall
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Secretary/Class IV Director

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secretary@eaa54.org

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Education Director

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Housing Director

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Membership Director

John Renwick

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Young Eagles Director

Linda Amble

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Chapter Historian: Jeff Hove

Chapter members meet on the second Monday of every month at the Chapter House, Entrance B at Lake Elmo Airport (21D). The House is at the base of the airport beacon. The newsletter is published about a week after the meeting..