



The Beacon

The newsletter of Chapter 54
Lake Elmo, Minn.

DECEMBER 2004

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THIS MONTH'S PROGRAM

MONDAY DECEMBER 13TH, 2004

- **SOCIAL HOUR AT 7 P.M.**
- **MEETING AT 7:30 P.M. CHAPTER HOUSE, ENTRANCE B, LAKE ELMO AIRPORT**
- **OUR SPEAKER WILL BE KEVIN GRUYS FROM AIRCRAFT AND MARINE INSURANCE CO. HE WILL GIVE US AN UPDATE ON AIRCRAFT AND HANGER INSURANCE TRENDS AND LIABILITY LIMIT ISSUES. KEVIN WILL INVITE AND ANSWER QUESTIONS ON FIRST TIME INSURING OF HOMEBUILTS, RENTERS, HIGH PERFORMANCE UPGRADING, SPORT PILOT CLASS, ETC.**

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ACROSS THE COUNTRY IN A TITAN

BY: HUGH SONTAG

I didn't think I'd get the bug again. After all, I hadn't been flying as pilot in command since 1976. And even though I'd finished the first half (the easy half) of a VariEze before giving up flying when my first son was born 24 years ago, I had no intention of doing any more than keeping my friend Mike company at Oshkosh.

Mike and I have been getting together at least once a year since my wife and I moved from Colorado to Minnesota in 1981. Mike helped me build the rudder, wings, spar and fuselage of the VariEze before the reality of no time and little money made it obvious I wouldn't finish it. I sold it to an airline pilot in California.

I'd never been to Oshkosh AirVenture, even though I lived most of my life within easy driving distance. I figured it would be an interesting diversion, and I even told my wife I had no intention of flying again. At the time, I believed it.

After a day of following Mike around as he found the manufacturer of every piece of equipment in his two airplanes, I decided he could do without my shadow. Besides, my feet hurt, standing on the concrete all day.

To keep myself amused, I decided to look at ultralights. Even though I'd sometimes said I'd build an ultralight when I retired, I wasn't thinking about one for me. It was just to see some interesting airplanes.

So I looked at a CGS Hawk, an Odyssey, a Titan Tornado, and all the others. I thought the Hawk was a nice combination of a true three-axis airplane and affordability.

After AirVenture, I saw the Hornet by U.S. Light Aircraft at the EAA Fly-in at Lake Elmo. It seemed to be a little sturdier.

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PRESIDENT'S COLUMN
BY PAUL HOVE

I spent the month of November assisting a friend in upgrading a Cessna 340A with a RAM Mod VI engine upgrade. We also added vortex generators and pressurized magnetos to the mix. This project took twice as long as we anticipated but produced a very serviceable aircraft. The mod increases the gross weight by 400 lbs and provides 335 HP on each wing. Below is a picture of the engine that we overhauled and reinstalled. I worked on this project to learn more about turbo charged engine installations and to keep current on engine rebuilding.



Many of you may remember that last year we started talking about the aviation program at Washburn High School. We were contacted by a parent to write letters to the school board to which was planning on cutting Peter Denny, the instructor for the Washburn Aviation Small Learning Community (SLC). Several members wrote some very nice letters in Peter's behalf. I can now report that the good news is that he is at Washburn part time and has been able to secure enough funding to obtain a Sonex kit and get working on it. In fact Peter is interested in "getting the word" out about the SLC to build momentum and support for the program, as well



as making sure that folks interested in flying know the program exists in case they have a son, daughter, niece, nephew, grandchild or friend who might be interested in the program. I have invited Peter to speak at one of our chapter meetings this spring. Meanwhile if any of our members has any interest in stopping down at the school to check on their progress or lend a hand, he says that the doors are wide open! Next month's newsletter will have an article with pictures of Peter and the 30 children working in the "Hangar" in the basement of the school.

The Minnesota Wing of Van's Airforce had their winter meeting at Doug and My hanger this last Saturday and it looked like at least a dozen RV aircraft were parked along the taxiway. I recognized many of our members there and it appeared that everybody was having a good time

Valter's Aviation reports that the 24 hour gas pumps have had very little use since they were installed. He wants everyone to know that they are up and working.

There will be a Board of Directors meeting at 6:30p before the normal monthly chapter meeting this Monday. The main subject of the meeting is to nominate Class II Directors.

TREASURER'S REPORT

BY: PAUL LINNEROOTH

November's Financial Summary

Cash on hand	\$ 40.00
Checking Acct.	\$ 4,894.16
Investments	\$ 6,268.74
Total	\$11,202.90

Income in November consisted of \$325.00 in membership dues, \$25.00 in donations, \$22.00 from the parachute raffle, and \$140.00 in calendar sales for a total of \$512.00.

Expenses for the same period were \$1,293.67 and included \$64.34 for newsletter publication, \$46.33 for utilities, \$500.00 for building insurance, \$215.00 for liability insurance, and \$468.00 for 72 EAA calendars.

BOARD OF DIRECTORS MEETING MONDAY 6:30P

BY PAUL HOVE

There will be a Board of Directors meeting on Monday Evening at 6:30p before the regular chapter meeting.

The meeting subjects on the agenda at this time.

1. Election of Class II Directors

The following directors terms will expire this year.

Tim Reberg-Events Director
Lief Erickson-Events Director
Scott Olson-KidVenture
Jim Michalski-Publicity

2. Purchasing new banners for the Pancake breakfast.

These are open meetings and all members may attend.



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Chapter member 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 printed on the first Monday of every month. Parts of the newsletter may be reprinted with appropriate credit.

21D RCO 118.625
21D Unicom: 122.8
TPA: 1932'
Runways: 4-22 (2497' x 75')
14-32 (2850' x 75')

Titan (Continued from page 1)

I decided that I'd like to fly again. I bought the ground school book and read it from cover to cover. With a few hours of instruction, I completed a BFR.

With the help of Dale Seitzer, I flew a Hornet and his Titan Tornado. Flying the Tornado was like having a light turned on. This is what I liked! It was like sitting in a seat at an OmniMax theatre a couple of thousand feet off the ground. The view is unrestricted - from left to right, and all the way from horizontal to straight up. The wing is behind you, so you can see everywhere.

Sitting in front of my computer reading Barnstormers ads, I found a Titan Tornado II with the 80 HP Rotax 912 and a nice set of instruments. One thing led to another, and I flew to Reno to look it over. If I like it, I'll fly it home.

The plane was painstakingly built by Skip Pardee with great workmanship. It's been flying about 100 hours in three years, with the kinks well worked out. I bought it.

If the weather had been kind to me, I'd have left the next day, a Sunday, to start my way home. Instead, it rained off and on for five days. The nearby LA area got 14 inches of rain. I flew the airplane a couple of times, below the cloud cover, so it wasn't a total waste.

Finally, on Friday, we went out to the airport early so that I could leave as soon as the sun rose. The engine wouldn't start!

Two hours later, after taking the electrical console completely apart, inspecting it and reassembling it, and recharging the battery, I decided to give it one more try. I hadn't found anything wrong, and nothing that seemed at all related to not being able to start it.

This time, it started right up. I could only theorize that the sun had been shining, and the air and the plane had warmed up.

So I left for Battle Mountain, Nevada, later than I hoped, but better than not leaving. There was

weather predicted to move in again if I didn't leave, and I really wanted to be on my way home!

Battle Mountain was windy, about 20 knots. I followed what would soon become a routine: get fuel, get weather from Flight Service, file a flight plan, take off.

The weather hadn't moved overnight as expected, so my original plan to fly northeast into Idaho wouldn't work. Instead, a route directly east was open, over Wendover, Utah and then past Salt Lake City. This was my original route, which brought me to Fort Collins, Colorado, where my friend Mike lived. Off I went.

Twice before arriving at Wendover I encountered severe turbulence. Both times, it felt like someone picked up the airplane and shook it. The vitreous in your eyes goes opaque under heavy acceleration. That's how you can look quickly at another spot without getting dizzy. It felt like suddenly waking up in the airplane. The plane suddenly jumped, I was thrown against my shoulder harness, and then I would slowly resume controlled flight. Thinking about it, I probably flew through a couple of downdrafts on the downwind side of a mountain. There were plenty of ridges and mountains, and plenty of wind.

Wendover is an old WWII bomber training base. You can identify them on the sectionals by the three long runways placed in a triangle. The idea was that the big bombers could land regardless of the wind. Even the ramp was huge - big enough for me to land on and take off again! After landing, I taxied for almost a mile before I got to the ramp.

There wasn't enough time to fly on from Wendover, so I stayed the night. I hoped that the weather nipping at my heels would hold off long enough for me to leave Wendover. I hoped, too, that I'd be able to start the engine in the morning.

The next morning, I learned to use the choke and throttle to get the cold engine started. The clouds were around 6000 feet AGL, so I had room to fly, and the ceilings were forecasted to improve as I

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went east.

I followed Interstate 80 most of the way to Salt Lake City. The salt flats are often wet and not a very inviting place to land in an emergency.

The plan was to skirt the edge of the Mode C veil around Salt Lake City International, then fly over Provo and on to Vernal, Utah. It was bumpy in the Salt Lake City area, but there was nothing like the two incidents of the day before.

The weather over Provo was better, with high clouds at 13,000 feet. I climbed to 12,000 feet to clear the mountains east of Provo. The view of Strawberry Reservoir was spectacular as I entered the high plains of northern Utah.

Vernal is tucked behind a small mountain when you approach from the west. It seemed like there was nothing there until I was almost upon it. The Garmin 296 GPS was absolutely wonderful for the entire trip - like following bread crumbs, and unerringly pointing out the landmarks and airports.

The plan was to get fuel and fly east to Fort Collins, Colorado. It didn't work out that way. On my climb out from Vernal, I noticed that the coolant pressure was zero. That didn't seem right, so I turned around and went back to Vernal - better safe than sorry.

It took me the rest of the day to sort out that this is normal in this kind of engine. When the coolant heats up, it expands, and the radiator cap opens at a pressure of 15 pounds to allow excess coolant to flow into the overflow tank. When the coolant cools, it contracts, and coolant is drawn from the overflow tank into the engine. As I climbed out, the cooler air at higher altitudes caused the coolant to cool, causing its pressure to be the same as the overflow tank, which is vented to outside air - zero pressure.

The weather nipping at my heels caught up with me that night. It was three days before I could fly to Fort Collins. The weather in the mountains was more like winter than fall by now, with storm systems blowing in from the west one after another.

I tried to fly to Fort Collins on the second day, only to find that rain blocked my path halfway there. I tried to land at Craig, about 100 miles east, but a really strong wind from the south and directly across the only runway made it impossible. I had all the aileron in and I was still drifting across the runway. The only sane alternative was to return to Vernal.

The flight to Fort Collins, when it finally happened, was uneventful. I flew right over the Steamboat Springs ski resort at 12,300 feet. Clouds were at 14,000 feet. It was a little bumpy, but not bad. I flew north about 30 miles and then east down the Poudre Canyon. There were homes studing the tree-covered foothills as I finally broke free of the mountains!



In Fort Collins, I kept my plane in a hangar my friend Mike found. It was owned by one of his buddies. It was handy to have as we worked in it to replace the defective fuel level gauge with a totalizer.

Three days after I arrived, another break in the weather looked like it was shaping up. A storm front in Nebraska made travel to the northeast a problem because of high winds, but the weather directly to the north looked OK.

I headed north to Torrington, Wyoming. The winds and weather changed dramatically south of Torrington, from light to windier and more turbu-

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Titan (Continued from page 5)

lent. It surprised me how the boundary between the two air masses was so noticeable and abrupt.

Winds at Torrington were 22 knots gusting to 29, right down the runway. At one point during the landing, it seemed that I was hovering. I probably was! I practiced my best high-wind aileron and pitch control while taxiing. The plane had to be tied down before I could get out because the wind would push it back when I released the brakes.

Torrington has fuel, but no fuel truck. Because the tie down isn't near the pump, one of the guys at the FBO found me a 5-gallon can to carry the fuel to the plane. I only needed 5 gallons!

I recruited two of the four people hanging out at the airport to hold on to the wingtips as I taxied out to the runway. I didn't want the airplane to be blown over before it faced the wind.

Takeoff was quick. After all, I only needed 10 more mph for the wing to fly!

Next stop was Rapid City. Winds were much less, about 13 knots. Tower and ground control was handled by the same person. After fueling, I found out from Flight Service that the weather in Pierre was OK, but further east was still affected by the high winds of the front I avoided in Nebraska. I taxied out to the runway, which was 8700 feet long. After passing up one runway access, I asked for a midfield departure. It was no problem, the airplane can take off in around 300 feet.

Landing at Pierre near sunset was tranquil. The winds were almost calm and the sun was low in the sky to the west. The FBO was extremely helpful. In the course of 10 minutes, I had fuel, my airplane had a spot in a hangar with two biplanes (one an Experimental) and I was on my way to a hotel in their van.

That evening, I walked along the river as the sun set. It was quiet and peaceful.

The next morning, I woke up early to check out

the weather. Fog was affecting all airports to the east, so there wasn't any rush. After breakfast, I checked out and took the van to the airport. The fog wasn't clearing very quickly, so I relaxed in a big recliner in the pilot's lounge. At 10:30, I woke with a start. The fog had cleared in Huron, 100 miles to the east, and would likely clear in Brookings soon. I got the airplane out of the hangar, conducted the preflight, and started it up.

The trip to Brookings, my fuel stop, was uneventful. Landing at Brookings was a little interesting, because I couldn't receive their AWOS with my COM-only radio. A trip around the pattern showed the prevailing wind to be from the south-east, so I landed on runway 12. I picked up fuel and flew on to Mankato.

Mankato, Minnesota had broken clouds about 4000 feet AGL. Flight Service told me that the weather to the east was 1600 - 2000 feet overcast and not expected to change. The weather was supposed to clear by late in the day, but it didn't to happen.

So near and but still not home yet. I decided to go take a look for myself. If it was raining or the ceiling deteriorated, I'd head back. I had plenty of fuel. New Richmond, my final destination, was about 100 miles away.

I found that I could fly 1000 feet above the ground and still stay adequately clear of the clouds. My GPS came to the rescue again, showing the radio towers as I flew along. Their white strobes and red warning lights were visible, too, but it was nice to have them pointed out as I flew along.

Before I knew it, the town of New Richmond was below me. I knew, even without my GPS, because I could read the name on the water tower. I'd flown into this airport before, as part of my BFR training, so the runways were familiar. A straight-in approach, an easy landing, and I'd arrived at my destination. I let out a small sigh. It was a long trip.

I taxied up to my new hangar and shut down. The tail dolly was waiting for me, I left it in the hangar

when I arranged for space. The airplane that is normally in front of mine wasn't there, so it wasn't hard to roll mine into its corner. I called my wife and waited for her to pick me up. The sun had set, but I was home and safe.

The trip took 16 days of calendar time. I made forward progress on five of those days, flying 1800 miles in 16.2 hours.

Before I bought the airplane, I told my wife that flying it back from Nevada would be an adventure. It certainly was.



EAA CHAPTER 54

NOVEMBER 8, 2004

MEETING MINUTES

BY BETTIE SEITZER

The meeting was called to order at 7:35.

Treasurer's report was approved. A check for \$1,000 was sent to Farnsworth Elementary school to support scholarships for the field trips to Oshkosh for the Air Academy camp. Expected expenses for this month include property liability insurance. EAA carries the liability insurance, our carrier will be changed from Auto-owners to Aircraft and Marine to take advantage of more favorable rates.

Jesse Black announced that he visited Farnsworth Elementary School to drop off magazines. They showed him around and he was very impressed with the simulators that the kids are allowed to use after they complete their ground school training. The kids are organized into crews of 4 and they plan and execute a space launch.

Chairman Reports Followed:

Flying Start: Art Edhlund reported that flying start is independently scheduled. Contact him for more information.

Housing: Dave Fieburger would like to start a dedicated fund for an addition to the clubhouse. We could add up to 14 feet. That would be used for storage and to frame in a bathroom and kitchen. A motion was made and approved to form a building committee to investigate costs, plans, MAC issues and the best way to manage the accumulation of funds for the project. Anyone interested in working on this project should contact Dave – he is looking for volunteers.

Events chairman and Young Eagle chairman were absent.

A drawing was held for the parachute that was being raffled off. Owen Nelson was the delighted winner.

The meeting was adjourned. Our speaker was attorney Don Mart who presented a recap and analysis of a mid-air collision that took place at the downtown St. Paul airport on July 7, 1992.

ROLLING YOUR OWN
BY BOB COLLINS



Admirers pour over Doug Weiler's RV4, on display in his hangar at Lake Elmo Airport on December 4.

"How many of you builders intend to paint your own plane?" homebuilder Paul Webber of Hastings asked a group of a hundred RV builders, gathered inside the hangar of Paul Hove and Doug Weiler on Saturday December 4th.

Several dozen hands shot up.

"You're crazy," Webber said to a hangar full of laughter as he recounted the difficulty he had in finding information to make critical decisions on painting his RV. He spoke as part of the quarterly meeting of Van's Air Force - Minnesota Wing. He said his biggest problem was finding information on the wide variety of choices builders face in selecting a paint.

"I primed with Dupont Variprime through the building process," he said. "But it was tough getting information from Dupont. I went to Oshkosh and talked to the representatives at the booth, and they were salesmen.

Eventually, he settled on a base coat/clear coat process using PPG, but found it also difficult to get datasheets on the PPG paint. But once he

had it, the challenge turned to creating an environment conducive to a professional paint job. He cleaned out his garage, installed an exhaust fan and "I still had dirt problems," he said.

Then came the choice of what to use to paint. He had used a regular pressure gun for the priming



Paul Webber, RV painter

process, but initially settled on an HVLP (High Volume Low Pressure) gun because HVLP doesn't waste as much material as a conventional spray gun. "The transfer rate is 60-75% with HVLP, but 30-60% with a regular pressure gun," he said.

He bought a "knock-off" gun of a German model that regularly sells for \$300. But he says he couldn't get a good job out of it. "You can't get good atomization," he told the group. He finally concluded that it's the EPA, not painters, that are pushing the HVLP market, and that even professional painters, painting all the time, need weeks to learn how to do it right using the HVLP method. He switched to a standard pressure gun.

He built a paint booth for \$50; 8 feet across, 8 feet high and silicone-caulked areas of leakage. He installed a box fan and began painting. The basecoat is the color of the paint. The clearcoat is, for practical purposes, the shine and the UV protection. "Once you put on the base coat," he advised, "you have to put the clear coat on within 24 hours." He also suggested would-be painters be on the lookout for "orange peel," a rough and uneven finish. "You have to know how to buff," he said.

He also suggested that anyone planning to "roll their own," add plenty of light. "You can't get enough light," he said.

He started his painting project in July. The first post-paint flight was in September. He says he didn't use a respirator, since the PPG paint is considered "less deadly" than others. He estimated the cost of his materials at \$1,500- \$2,000. He hasn't re-weighed his plane since it's new clothes; he estimates the paint adds about 50 pounds. The cost of a professional job was pegged at between \$4,000 and \$10,000.

The toughest part of painting, he said, "was tearing the plane down," after spending so much time to put it together.

Doug Weiler, the Minnesota's club's president, then recounted his travails on a different route: the professional paint shop. Doug originally was



Paul Irlbeck, Alex Peterson, and Tom Berge ruminated on the safe flying of an RV.

going to have Wipaire do the painting, but did some research and found a shop in Alabama. But the owner was having personal, financial, and business problems and Doug's RV4 was marooned for a good part of the summer.

After the session on painting, several Top Gun RV pilots fielded questions about flight safety. Paul Irlbeck, Alex Peterson, Tim Mahoney and Tom Berge described what it's like to fly -- and more important, land -- an RV. The plane has a high sink rate and builders were advised not to flare too high off the runway. Several of the speakers urged builders to stay proficient while building, but also plan on 8-10 hours of instruction in an RV.

Prior to the session, several builders received plaques for making their first flights in their RVs during 2004. They included Dale Rupp in his RV6, based at Lake Elmo; Dick Nordquist, Jeff Pointed of Milwaukee, Mike Reid of Buffalo and Jim Lenzmeier, the treasurer of the Minnesota Wing, who recounted numerous engine oil-leak problems in his trusty steed



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