

EAA CHAPTER 1128

Two Harbors Helgeson Airport

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It's a nasty day at the lake, I'm sitting by a crackling fire looking at icicles hanging off the eaves. I walked to the mailbox today in the same clothes I wore in January. It doesn't seem like May weather yet our May meeting will happen next week on **Thursday May 4 at 6:30** in the **Community Room at THHS**.

Last Meeting

The April meeting was a fun look at the future. Shop teacher Mark Schlangen took our group down to the Robotics Lab and showed us the techniques and tools his students use to build competition robots. The school's Rock Solid Robotics team has scored well in tournaments held in very large venues like the DECC in Duluth. Teams travel long distances to compete and they are not all boy shop rats, last year's team was 60% female. Their latest model was designed to lob big plastic balls at a target, retrieve a large gear from one end of the room then cross the room to a hanging rope and climb it. The students have a limited time to design, construct and tweak their machines and it is amazing what they accomplish. The tools they use include several 3D printers, a laser etching machine and a computer controlled mill. Mark built the first printer from a kit (sound familiar?) and now they have one that uses stereolithography or SLA to draw the part from a pool of polycarbonate and four that use fused deposition modeling. FDM squirts liquid like an ink jet that hardens layer by layer. Robots are not the only thing made here. One student designed a custom starter cord handle for his snowmobile, 3D printed the prototype then sent the program to the mill which carved it from aluminum billet. Other students used the laser etcher to print labels on coffee mugs. The lab was brimming with creative work including three other robots and Mark answered dozens of questions from our fascinated group. The future looks bright from here.

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Chapter 272 did another Young Eagles program last month in conjunction with Lake Superior College of Aviation and Cirrus. Lake Superior Helicopters brought a new dimension to the fun. Their last chapter meeting was at Mark and Sandra's Lark Cafe on Superior street. Check it out for lunch or ice cream when you're in town.

Chapter 1221 meets on the second Tuesday of the month at the Cloquet Airport. They are helping to sell a cute homebuilt single seater called Keleher Lark and it's a real bargain. Check it out on Barnstormers.

ETC.

Despite the bizarre weather I have been sneaking in some flying. The trusty Rotax two stroke that has been flinging Miss Chaos around the sky for fourteen years is approaching TBO (Time Between Overhauls) and I am not going to gamble on that number. Did it once, did not like the result: Superior Dragonflyers had been going along great for seven seasons and I was feeling pretty

accomplished as an Instructor and Aerotow rated pilot. After teaching dozens of student pilots and making nearly 700 tows without incident I thought I had seen it all and I felt like the Dragonfly was just an extension of me. The Rotax 582 had been a solid performer so when the club decided to run it past the 300 hour overhaul interval I let myself be convinced. After all I would be the one doing the shop work and I would rather fly.

On a warm June day in 2005 business was slow so Doug decided to take his high performance glider up to catch some air. At 1800 feet the tachometer slowly wound back from the normal 6400 rpm to 5500. We stopped climbing. I wiggled the throttle with no effect so I waved Doug off to go check it out. He didn't want to release the tow rope until he saw me start to descend. A couple of years previous I had experienced a partial power loss during a tow and we found some crumbs from a rubber gasket in the fuel line. I assumed something like that was happening again so I landed, blew out the lines and checked the spark plugs. Everything seemed fine and she fired right up so we lined all the guys up on the struts and did a full power ground run, again fine. Problem solved right? Don't get ahead of me.

I decided on a quick test flight before resuming my towing duties. The lightly loaded Dragonfly jumped into the air and climbed like an angel. This is where overconfidence nearly did me in. Instead of climbing straight down the runway to pattern altitude like a careful test pilot I yanked her into a low crosswind leg to come around and get back to work. Now turned 90 degrees from the runway at maybe 200 feet she shook so hard my vision blurred. It sounded like a half dozen manic monkeys with hammers were pounding on a garbage can in the back seat. I felt the deceleration and instinctively lowered the nose but what I saw was not good. Waste high weeds stood in ankle deep mud all the way to the hangars. I knew if we touched down here she would flip over instantly. On the rear engine Dragonfly the pilots toes are the tip of the spear so they would hit right after the wheels and the next thing to make contact with the ground would probably be my face. Time slowed down. I eased into a gentle left bank hoping to get back to the runway. This is what pilots and NTSB investigators call "The Impossible Turn". Many have been attempted, very few successfully. The Dragonfly's fat wing will fly very slowly but I had to give up altitude to keep it from stalling and I had precious little to give. At this point even the monkeys abandoned ship and it got very quiet. The airspeed indicator is virtually useless at these speeds so I judged my margin by the breeze on my face. Even in a very gentle bank the wingtip almost caught the fence at the end of the runway but I was over hard ground again and relaxed my death grip on the stick. Nearly 360 degrees from the initial event I had to adjust to the right to kinda line up with the runway and I was still turning when the wheels touched earth. Nobody rushed over. Hang glider pilots are as cool as cucumbers and they could see I was all right. Well, I looked all right but my butt cheeks were still gripping the seat cushion and my teeth were still clenched. As a matter of fact, there is still a little pucker factor going on just recalling the incident.

What I learned that day has stayed with me all these years later: 1) Your biggest lessons will come after you think you know everything and, B) Don't ignore manufacturers rules!

I do fly Miss Chaos with the full gusto she was designed for but I always leave a fudge factor. As they say, "Airspeed is life and altitude is life insurance!" Also you can rest assured her engine does and will always get the attention it needs in a timely fashion.

I will leave you with a little nugget I impressed upon all my students: "The ground is very hard and gravity never takes a vacation." Stay safe out there and.....

.....Happy Landings!.....