The Bend High Desert Flyer of Chapter 1345

WEBSITE: http://www.eaa1345.org/ *KBDN AWOS 134.425* **JULY 2007, VOL 6, #7**

PREZ SEZ:

It looks like summer is upon us...finally. Good flying days are to be treasured, aren't they? I just returned from a family reunion in the UK and the weather there was a-w-f-u-l; rain, low clouds and blustery winds the entire time. My brother-in-law and I had planned to go flying during my trip there but the weather wouldn't cooperate. So count your blessings that you live in Central Oregon, where the days are clear. (See my report on the cost of flying in the UK elsewhere in this issue.)

Last month's meeting was a pretty good one, I think. We had the helicopter guys and the glider guys there to discuss how we could all become better flying and taxiing neighbors. All of us have equal rights to the airport but we operate in three distinctly different zones. I think that, after the meeting, the helicopter guys are a little more aware of the damage and annoyance they cause when they hover near our planes and hangars and, hopefully, they will attempt to avoid open hangar doors and the like. We also got to hear the details of the 3-5 minute time line for glider launches. So if you see or hear that a glider is on the runway, or coming onto the runway, extend your downwind or make a 360 to give them time to launch. When you go flying, remember that the helicopter rotor wash can extend downwards and outwards for 100s of feet.

The July meeting will be a BBQ at Tony's/Jerry's hangar. The chapter will provide the hot dogs and hamburger meats and buns, chips, and some soft drinks. If you want to bring a dish to share, or something to re-stock the refrigerator, that would be OK. We're going to move the PJ down from my hangar to Tony/Jerry hangar and we'll have a chance to look at it during the meeting. I saw it for the first time the day after I returned from my trip and I was impressed. There's a lot of stuff there and a lot to do. But it looks like it will be a lot of fun. Be sure you try to bring your wives or girlfriends (one or the other). My wife, Pat, is going to bring some of her knitting projects to show the ladies. If your partner has an interest in knitting, quilting, or sewing, encourage them to bring something to show. If we can get the ladies to share their common interests, we might have better turnouts at our meeting. We'll start the talking and looking activities at about 5pm, then light off the BBQ at about 6pm and try to wind things up by 9pm. I hope to see you there.

Safe Flying....

Dennis Douglas

Schedule of Meetings & Events

Meetings:	Breakfast
July 11	July 21
August 8	August 18
September 12	September 15
October 10	October 20
November 14	November 17
December 12	December 15

June 13th, 2007 Meeting Minutes

Officers Present:

Dennis Douglas	President
Bill Blackwood	Vice President
Bud Candland	Young Eagle Coordinator
David Waltman	Secretary
Jack Watson	Treasurer

24 members and visitors present (not including officers)

Treasures report: Balance on hand $2,652.95

By Consent of the Board there was no Business meeting due to the length of the program scheduled.

Program: In an effort to dispel any conflicts or misunderstandings over past or future incidents at the airport between Powered aircraft, Glider, and Helicopters, Dennis invited the President of the High Desert Soaring club and Members of Leading Edge Aviation, Inc. to speak to the group.

Dennis also said that there was a new Fly Friendly brochure on the Bend Airport website which includes helicopter and glider information.

Minutes … continued

First to speak was Brad Fraley, President of Leading Edge Aviation, who made introductions of other members of his team and thanked Dennis for the invite. He turned over the rest of the presentation to Travis Walthen as he had another meeting to attend. Travis gave us an introduction to the different approaches made by the helicopters during training. In case you are unaware, Leading Edge now conducts their flight operations out of the old hangar south of the FBO. They have placed traffic cones outside of the hangar to mark off a safe area for helicopter start-up and shutdown. Travis spoke of concern of incursions into this area not only by aircraft but also by autos, bicycles, and people. They fully understand the inconvenience of their location but they are trying to handle it the best they can, considering the location of the Hangar. Several people made comments and suggestions about marking off the area. But Travis informed us that their present system is the best compromise they could come up with without the FAA getting involved.

We, as users of the airport, must work together and remember Helicopters have large rotors and take space to operate. If you see a rotor moving … Stay Away.

Next to speak was Brad Stankey, president of High Desert Soaring. He too explained some of the more common glider operations. When they take off, they follow the same left hand pattern we all do. However, in the climb out, they initially veer right in order to be able to perform a 180 back to the runway should the towrope break. I had a chance to watch them and they do appear to be heading off on a right departure but they do in fact turn left back into the pattern. If you were unaware of this practice, it could cause some confusion if you were in the pattern or about to just enter it.

Dennis introduced a possible project for the Chapter; it is a PJ-260 biplane, which he has purchased. The plane is comprised of a complete (ready-to-cover) fuselage with two seats, cables and controls installed.
It comes with complete plans and an engine. For more information and a chance to look it over be sure to be at the next chapter meeting.

Lastly, we adjourned to Tony Partain's hangar to view progress on his Kitfox since our last visit.

Next meeting will be at Tony's hangar at the South End of the Airport fore the Chapter annual picnic, where hamburgers and hotdogs will be served and everyone is welcome

Meeting adjourned,

Dave Waltman

PJ-260 project

Holy Cow... It's An Airplane (sort of)

Tony Partain's company delivered the PJ-260 and other stuff to my hangar while I was in the UK. I looked at it for the first time on June 28th. Wow. Everything appears to be as advertised. The IO-470 engine seems to be complete, albeit in pieces, and the fuselage frame and tail feathers are completed. The fuselage does need some surface rust spots removed and re-priming and some of the parts need to be cleaned and re-assembled. The first job will be to segregate the PJ parts and the IO-40 parts from the KR-2 parts and the Subaru parts. After that, we'll look at the plans and the current state of things and prepare a "path forward" as they call it in government-speak. In other words, we'll make a plan for completing it after we sort everything out and assess the condition of stuff. I'm thinking that, at the outset, we'll need an engine team and an airframe team. More specialized teams may be formed as time goes on.

I would like to sell the KR-2 kit. The canoe is built and the kit looks to be complete but I haven't checked everything. If there are any of you who would like to build a KR-2, you can have it for $2,000. I arrived at the price as the tax value I'd receive if I donated it.

Also, a couple of you asked me about the Subaru engines. They are also for sale at a deeply discounted price and they're here for your look-see so give me a call if interested.

At the July BBQ, I'll start taking names for guys wanting to work on the PJ project and we'll start work in mid-July.

Dennis

A completed PJ 260

And now for something completely different …

The Ochoco Convertaplane

By Henry Graham

As you probably see from the strange shape, the plane was built as an autogyro or tractor gyro.
We redesigned it for wings, as we didn't have quite enough thrust to gyrate at this altitude (we didn't know about model airplane engines on the rotors at that time).

At this time the aircraft is about 90% complete (with only 90% left to go!). The hope is to start testing in 90 days; in any event it'll probably be in the Chapter 617 hangar at Prineville this year. This is my first airplane, a prototype no less. My goal is to be under 260 lbs for under $1000.

The project is, for me, also an apprenticeship in airplane design and building.
Also interesting is that it's built, for the most part, from an Engleman Spruce Tree we cut at Cultus. We packed it out (with a firewood permit) in 20 foot planks and I had my friend at the coast mill it.

Now I'm buying Port Orford cedar from the same guy(s) for the next lattice projects ... a similar double longitudinal with gyro and an Arup 'flying wing'!

The Ochoco* Convertaplane is a high wing monoplane in the ultralight category.
* Ochoco means Willow in the native language

Fuselage is Spruce lattice with Spruce longerons and rudderpost. Baltic (Russian) Birch is used for firewall, lower stringers, etc. Ribs are 1/4" ply. Lift struts are steel spars, U-clips, compression and drag bracing are aluminum 6061T6.
We initially used Gorilla Glue but got far better uniformity with Elmer's Pro Bond exterior wood glue.
Right now it's a can 'o worms; I just brazed up and installed the aileron linkage and riveted it to the ply tube full-length aileron.

***The Ochoco Convertaplane** --- continued*

Approximate expected performance:

Cruise	55mph
Stall (w/o flaps)	23mph
VNE	85mph

Engine is a 35HP Cuyuna 430 (2 cycle, 2 cyl).
Reduction drive is Magnum 2.8:1, 4 V-belt.
Prop is 72" Isoprop. We hope for 200lbs thrust.

Wings are foldable, Avid/Kitfox style

Span	26' 10" (w/o wingtips), 9' 6" folded.
Length	19'
Wing cord	56".
Weight	260lbs

Conventional (tailwheel) rigid gear
Exhaust uses flex pipe (not swivels) and is very light/quiet.
Airfoil, modified Pietenpol
Wing was designed for 1200lbs @ positive 4G's by the late Bill Haavisto of EAA617

Ed Note: I had not heard of the Cuyuna engine but found it was popular in ultralights and there is a great website for it: http://www.ultralightnews.com/cuyuna/trcyn.html

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Gobsmacked: The Cost of Flying

Have you sent your no user fee letter to your congressional representatives yet? No? Well let me give you another example of why you should do so.

The cost of flying in England is very high. Much of the cost is related to the user fees. I asked my brother-in-law (Paul) to give me an idea of the cost of flying in the UK and he gave me a copy of his last receipt, as follows (I've converted the pounds sterling to dollars using the 2:1 rate that existed during my visit there at the end of June):

C-152 aircraft: $210/hour
Flight Instructor: $60/hour
Landing Fee: $27.00
Touch and Go Fee: $7.00 each.

For a 1.1hour flight, with seven touch & go's, one landing and a 17.5% value-added tax, Paul was charged $373.00. How much flying would YOU do if the costs were this high? I didn't ask Paul the cost of fuel, but auto fuel there is $8.00/gallon, with much of that in taxes. Now as you can deduce, since much of the charge is due to fees and taxes, keeping these things away from the US is important to all of us. Write that letter. And if you've written one already, write another....

Dennis Douglas

RENO AIR RACES

By Bill Lewis

I know many of you have attended the Reno National Air races and have many memories of the races and perhaps participated as my wife and I did for five years. I thought this month I'd bore you with some of my memories and comments from races of the mid 1980's when we were on the crew of a Formula One Racer.

Formula One aircraft are required to have a 500 pound minimum weight, 150 pound minimum pilot weight, constructed around an 0-200 Continental engine, fixed gear and fixed pitch wood or composite propeller, a minimum of 150 SF of wing area and specific visibility requirements. Cassutts, Owls, Miller Specials, Shoestrings and Grove GR-7's to name a few of the more popular Formula One racers during the 1980's. The aircraft we crewed on was a tube and fabric wood wing one-of-a-kind aircraft called a Ray Minges Special. The engine in our aircraft was a slightly modified 0-200 Continental engine, which at 3800 RPM produced about 150 hp. Our IF-1 air racer was commonly referred as "Race #97". Formula One racers are a rare bird since only about a total seventy-five existed in the US, France and England at that time.

Our crew consisted of the owner/pilot, mechanic/crew chief, a modification engineer (me, which meant anything that needed doing, from cleaning the belly to changing carburetor needles was my work) and the wives who kept the pilot away from us while the airplane was on the ground and it belonged to the ground crew. Nothing like an old combat jet jockey who would get nervous prior to a race.

Like most Formula I racers we had little money and what we did have we spent on propellers, gas food and booze (planning sessions!) but not necessarily in that order! We had fun but, the hours were long, and the victories were few. I wouldn't trade the friendships and memories I made for anything. People like John Sharp, Deke Slayton (astronaut), Jimmy Miller, Robie Grove and Crazy Dave Morrs. There were others like Carl Swenson, a pipeline patrol pilot who would play his fiddle in the pits following a race and, Jim Harris an Ag pilot from Goldendale, WA.

A Technical Inspection Committee strictly regulates all Formula One race aircraft as to what modifications may be done to the engines and requirements for the airframes. The first and second place winners in the final gold races are immediately torn down following any win to verify there are no violations of the engine rules!

The displacement may not be modified beyond what are standard replacement parts for the 0-200 engines.

Our engine on "Race #97" modified form a Dash -12 case by removal of the rear ring gear for the starter, magnetos and generator and installation of a dash -8 Continental 65 HP rear case cover. Then a new set of 0.060" oversized cylinders were installed followed with a set of 0.030" oversized pistons. Race car piston rings referred to as total Seal spiral rings were installed and oil holes were drilled into the engine oil gallery at the rear case to provide for a filter/cooler installation. The crank, pistons, rods and internal parts were carefully balanced. Unlike many we used only new parts in our engine build-up. The last requirement was to find a propeller, which at race speed balanced the drag of the airframe and the power output of the engine for maximum airspeed and keep the propeller tips of the 58 inch propeller subsonic. Yes, I said subsonic since we when we exceeded about 3950 RPM the propeller tips would go supersonic at the outer ends and unload the propeller causing the engine overspeed and to turn up as high as 4800 RPM. This can occur in rough air as the turbulence will upset the propeller loading and then the only thing the pilot can do is to pull power and regain the propeller loading. (NOTE – That little Continental ran five years at race speeds and never even whimpered or lost a jug; they are very tough little engines)

The actual races were very interesting since the small Formula One racers take-off from a dead stop in two rows deep and three abreast. Crews walk the aircraft out to the runway or ramp where they are hand propped to life, no radios in these aircraft and only hand signals are used. About an a half hour before the race we would start the engine on the ramp and warm it up then plug all the openings to heat sink the engine.

Once the race started about two laps were required to get everything up to temperature and the oil heat gauge would peg, the oil pressure would go back to virtually zero and the engine would run at its best peak RPM for the next six laps. The only thing that really needed attention was the mixture control. Turns done right were a steady 3-G's but most aircraft pulled 5-G's in the turns and gust loads took the G-meter to the peg at over ten.

It was five years of racing at Reno, San Diego and Albuquerque and other locations with our all volunteer pit crew but, what memories I will always cherish about air racing.

RENO RESERVATIONS

Several of us have made our reservations for the Reno Air Races this September 11th through the 16th. Have you made yours?

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