The Bend High Desert Flyer of Chapter 1345

WEBSITE: http://1345.eaachapter.org/ *KBDN AWOS 134.425* **JANUARY 2013, VOL12, #1**

PREZ SEZ:

January 2013, WOW. Another year has come and gone. If you are the type to make "resolutions", (I'm not) I hope they are about flying more, getting involved in chapter meetings, events, having fun and fly-outs.

Our December meeting at McMenamins was well attended and we had good food with lots of discussions going on around the table.

One item that keeps coming up is having more fly-outs. I for one am planning to fly to "Oshkosh" (ok, "Air Venture" I'm old 'skool' and it will always be "Oshkosh" to me). Anyone interested in joining and having a "Flight", let's start planning for it.

We have a number of great places to visit with-in 1-2 hours flying time and places to do overnight trips too. Any one of our members is free to make suggestions and actually do the planning for these types of events. How about inviting friends or associates out to our meetings? I am also looking into different forms of interacting with each other, that we can all put comments, ideas and suggestions out there for all to see ("face book", "Meet-up Groups") and add input. Suggestions are welcome.

Also if you are working on a project, let Henry know so we can come look it over.

It's time again for chapter dues; still a bargain at $20. **January's meeting will be held above the Pro Air's maintenance building, in their conference room on Wed, 1/9/2013.** We will have Mike Dehate talk about aircraft maintenance and being an "EAA tech counselor". Doors open at 6 o'clock with Pizza, water and adult drinks available.

For those of you that use "mogas", I came across a simple, cost effective way to check if you have any alcohol in your fuel.

Instead of buying an approved kit, just use regular, water-soluble food coloring. Just a drop in a small quantity of fuel will tell if there is alcohol. If the food coloring mixes in and turns the fuel the color you added, it has alcohol. If it globs up and sinks to the bottom, NO alcohol; a simple, easy and cost effective test.

See you at the meeting.

Thomas Phy, *President*

Start the New Year right and …… Keep thy airspeed up, lest the earth come from below and smite thee.
[anonymous]

… and for our 'trekkie' members…

December Meeting Minutes

December 12, 2012 was a special meeting since it was the Chapter's ANNUAL CHRISTMAS PARTY, held at McMenamins Pub, on Bond Street, in the City of Bend.

ATTENDEES

In attendance were, Tom Phy, Molly Hanns, Jack Watson, Mike & Ann Bond, Henry Graham, Sonja Englat, Frank Fitzgerald, Mike & Monique Pederson, Sean Harbison and Eric, Debra & Devon Simpkins

CALL TO ORDER

President Thomas Phy called the meeting to order at 6:35 p.m.

MINUTES & TREASURER'S REPORT

As both the September minutes and Treasurer's report were published in the November newsletter, without objection or correction they were accepted as published.

PROGRAM

The President presented certificates and badges to the board members thanking them for their 2012 service to the Chapter.
Since the 2012 board members agreed to run again and there being no more candidates, the new 2013 board was installed. Tom made a request for volunteer Young Eagles Coordinator for 2013. Also, we are looking for someone to sponsor for the "Hayward Air Rally" scholarship.
Following several new business announcements, the formal meeting concluded and all participants celebrated the passage of another year with dinner and adult beverages in true Yuletide tradition.

ADJOURNMENT

The meeting adjourned at 8:10 pm, to reconvene at the regular Chapter meeting place, at the Pro Air maintenance facility at the Bend Municipal Airport on January 9, 2013.

Jack Watson, *Secretary/Treasurer*

'Air Into Petrol'

Some years ago there was a Mars project for the NASA Institute of Advanced Concepts. The project was called "Planetary Exploration Using Biomimetics" (we invented that last word - it helps to baffle when asking for funds..)

The Entomopter (another new word!) was powered by a mono-propellant: hydrogen peroxide as we determined that we could generate hydrogen peroxide - albeit slowly - out of the Martian atmosphere, to refuel our device, and keep it running (or flying) for a long time.

An Entomopter achieves abnormally high lift with rapidly flapping wings (think; insect), and therefore allows the fuselage to move slowly in relation to the ground.

The Reynolds number for flight on Mars is equivalent to that found at over 100,000 feet here on Earth. Nothing currently flies with any regularity at this altitude. However, the Reynolds number regime for the tiny Entomopter operating in Earth's atmosphere is equivalent to a larger version (perhaps one meter wing span) operating in the Martian atmosphere.

In addition, the gravity on Mars is only 37 percent of that on Earth, so an Entomopter-based Mars Flyer would benefit by proportionately reduced weight, even at its increased size on Mars.

An Entomopter-based Mars Flyer holds promise of not only flying slowly over the Martian landscape, but being a multimode vehicle, could land, take samples/recharge/or communicate, and then take off to continue the survey mission. It even has the potential of returning to its launch point for refueling, downloading of data, or transferring of samples.

A great video covering Earth-launch to mission on Mars is available for viewing at:

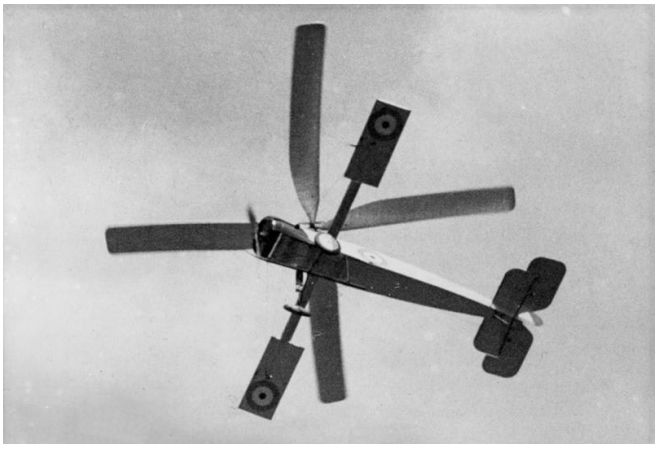
www.youtube.com/watch?v=hhs1ioXSt8U

"Flapping" (by Tim McAdams 12/13/ 2012)

In the early 1900s, Juan de la Cierva, a Spanish aviator who built airplanes and gliders, unknowingly helped with the development of the helicopter. When one of his airplane prototypes crashed on its second flight during a low speed stall he decided to try to find a way to allow airplanes to fly slower. Windmills got him thinking that a rotating wing could produce lift without the need for forward airspeed. This led him to build the first autogyro (an aircraft that uses a propeller for thrust, but replaces the wing with a free-wheeling rotor for lift).

His first design lifted off the ground and immediately rolled over and crashed. He rebuilt the aircraft and tried again only to see the same result. This perplexed Cierva because the small model he built first as a proof-of-concept did not roll over. What was becoming clear to him was the concept of dissymmetry of lift – that is the difference in relative wind (and as a consequence lift) seen by the advancing and retreating sides of a rotor flown edgewise through the air. After much thought, the difference between his model and the full-scale aircraft became clear. The model's rotors were small and did not need supports which allowed them to flex, while the full scale rotors were heavy and required wire bracing making them stiff. The flexible rotors on the model could flap up and down which compensates for dissymmetry of lift. He then added hinges to his full-scale aircraft to allow flapping and was able to proceed with development. The autogyro could not hover, but did meet his goal of slower flight. Over the next several years, various manufactures developed and sold autogyros.

Pitcairn Autogiro (NASA photo) -- Cierva-licensed



Cierva's sixth model, the Cierva C.6

Crew: 1 or 2
Length: 29 ft 6 in
Max takeoff weight: 1,984 lb
Powerplant: 1 × Le Rhône 9Ja 9-cyl. air-cooled rotary piston engine, 110 hp
Main rotor diameter: 32 ft 10 in
Main rotor area: 845.5 sq ft
Propellers: 2-bladed wooden propeller
Maximum speed: 54 knots

The autogyro went on to achieve limited success until the 1930s, which saw the development of helicopters that could hover. As helicopter designs continued to mature, the autogyro faded out as a commercial aircraft. However, it was the autogyro that solved one of the biggest aerodynamic problems for rotary wing flight.

A Prophecy?

"For I dipt into the future, far as
human eye could see,
Saw the Vision of the world, and all the
wonder that would be;"

"Saw the heaven fill with commerce,
argosies of magic sails,
Pilots of the purple twilight, dropping
down with costly bales;

Heard the heavens fill with shouting,
and there rained a ghastly dew
From the nation's airy navies grappling
in the central blue"

from Locksley Hall, **written in 1835** by
Alfred Lord Tennyson (1809–1892)

Thought for the season

Christmas – What other time of the year do you sit in front of a dead tree and eat candy out of your socks?

Treasurer's Report

Financial for period 1/1/12 through 11/31/12

Total Income:	$805.00
Total Expense:	$798.81
Cash Balance:	$2088.74

Jack Watson, *Treasurer*

!!!
Another hand-prop accident!
CAUTION: graphic photo.
!!!

WARNING -- WARNING -- WARNING
By Dennis Douglas

A flight instructor acquaintance of mine in Redding, CA suffered a dual injury accident in trying to free a stuck starter gear on a Cessna 172. Eric (my acquaintance) was with a student in a C-172. When the engine started, the starter gear did not disengage from the prop's ring gear. They shut the engine down, Eric got out and went to the right-side of the cowling (the co-pilot side) and attempted to disengage the starter gear by wiggling the prop back and forth. It get's a little fuzzy after that, but a witness said the engine fired and pulled Eric into the prop blades. The first blade shattered Eric's right collarbone and forced him into the prop even further. The second blade caught Eric on the back portion of his head, shattering the rear of his skull.

Rushed to the hospital, the doctors removed a portion of his skull and removed numerous pieces of bone from his brain and replaced the missing skull bone with a titanium plate. Eric's head injury required 26 staples to close the surgical site. You can count 18 of them in the photo below. It was very fortunate for Eric and his family that he wasn't killed. He will recover and, hopefully, be able to fly and instruct again. The prop was bent from hitting him, and Eric says he'll buy it as a memento of a "very bad day".

In 1961, I also suffered a prop strike. Working as an avionics technician at San Jose Avionics in San Jose, California, I had changed the ignition harness on an Ercoupe at the direction of the head tech there.
He started the engine, told me the radio's ignition noise was still there, shut the engine down and told me to do (something else). He hadn't turned the ignition off and when I moved the prop, the engine started and whacked my right hand, cutting it open above the top knuckles all the way to the bone. I recall standing 3-4 inches in front of a running engine, in shock, looking at the bones in my hand. The company secretary saw the accident and rushed in from behind me and pulled me away from the prop. Fortunately, I wasn't more seriously injured than a few stitches.

In the case of my accident, I was very inexperienced. In the case of Eric's accident, he was very experienced. So the message, folks, is VERY CLEAR: No matter how much experience you have around airplanes, DO NOT MOVE THE PROP UNTIL AFTER YOU HAVE VERIFIED THAT THE IGNITION IS "OFF"! Read that again and repeat it to yourself three time out loud: "DO NOT MOVE THE PROP UNTIL YOU HAVE VERIFIED THAT THE IGNITION IS 'OFF'!!! ". Then say that again every time you get near an airplane.

Don't let something like Eric's accident happen to you or anyone around you. BE VERY CAREFUL!

Send this to as many pilots as you know, in the hopes that your email will prevent an accident.

Dennis Douglas
2049402CFI

… and perform a magneto check every time you shut down the engine; if you don't know how, ask your CFI

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