The Bend High Desert Flyer of Chapter 1345

WEBSITE: http://1345.eaachapter.org/ ***KBDN AWOS 134.425*** **NOVEMBER 2013, VOL12, #11**

PREZ SEZ:

Last month, we visited with Dale Anderson and his "Sonex" project. Dale filled us in on how he picked this project over others and his getting it here to the Bend airport. Yes it was cold and dark but for the brave souls that did show up, the chili and corn bread were awesome.

This month, Henry has again, lined up another great project that we will be visiting, right here at the Bend Airport.

Our meeting on Wednesday, November 13th starting at 6 o'clock will be at Mike Custer's hanger to look over a "Mustang" kit with a Honda V-6 that he is building. Doors open at 6 with the meeting starting around 6:30. Pizza will be available for a buck a slice with water available.
Mike's hanger is on the Powell Butte Highway, last hanger on the South side or 1st hanger as you arrive at the airport if coming from Bend. Yes, I will have our sign there to help direct you in.

At last month's meeting, I again brought up the subject of "where is our chapter going"? One idea that sparked some interest would be to have members fund (for a profit) and build, an LSA kit plane that when sold, would provide a return on investment for the member/ builder/ investees and provide a "building fund" (profit) for the chapter. We would also open the building process to all chapter members as well as young adults, who would like to get involved in building a plane and our chapter. A hanger/ building space has already been offered up. Tools and build tables are also available. If anyone has an opinion (who doesn't) an idea or any other suggestion, I'd like to hear about it.

It's November so that means our chapter will be nominating next year's officers!

Don't be afraid or too shy to come out to what should be another great meeting. I have spoken with most of the current officers and we are all willing to have at it for another year. It would be nice for someone to step up and become our "Young Eagles Coordinator".

Also don't forget to sign up for our "Christmas Dinner" that will be Wednesday, December 11th, at the "Black Bear Dinner" located on 3rd Street, Bend. Doors will be open at 5:30 with dinner starting at 6! Email me with your reservation so that I can give them a count. Maxfly55@gmail.com
Again, everyone is welcome, menu selections are available and they can bill separately.

Lots of things can happen if you really want them to! Come on out for another great meeting and bring a friend!

Thomas Phy, *President*

Treasurer's Report

Financial: For period 1/1/2013 to 10/31/2013

Total Income:	$3763.95
Total Expense:	$2443.90
Net Income (Loss)	$1292.85
Cash Balance:	$3408.79

Jack Watson, *Treasurer*

Also, please note that 2014 EAA calendars are available at $15.00 each

September Meeting Minutes

Minutes of a regular meeting held on October 9, 2013, at the hangar of Dale Anderson, located just north of the "Air Link" facility at the Bend Municipal Airport.

ATTENDEES
In attendance were, Tom Phy, Jack Watson, Dale Anderson, Henry Graham, Mike Bond, Mike Pedersen, Jim Stone and Devon Simpkins.

INFORMAL MEETING
The informal/social portion of the meeting began at approximately 6:00 PM when attendees were treated to Chili and corn bread courtesy of Tom Phy and Mike Bond, respectively, subsequent to which all hands participated in a "pre-inspection" inspection of Dale's Sonex kit-built project. Dale has done a beautiful job and all hands complimented him on his work.

CALL TO ORDER
President Phy called the business portion of the meeting to order at 7:45pm

MINUTES & TREASURER'S REPORT
As both the minutes of the August 14th meeting and the Treasurer's report were published in the newsletter, they were accepted as published.

OLD BUSINESS
None

NEW BUSINESS
There followed several announcements from President Phy and a discussion concerning a project which would allow us to purchase/build our own chapter hangar. The project, as proposed, centered on building and then selling a kit aircraft such as an RV-12 each year which would produce sufficient funds within about three to four years. The key would be for a sufficient number of members to commit and follow through on contributing "sweat labor" of about 100 hrs. a year on each kit built.
There appeared to be real interest in the concept and details will be discussed at the next meeting.

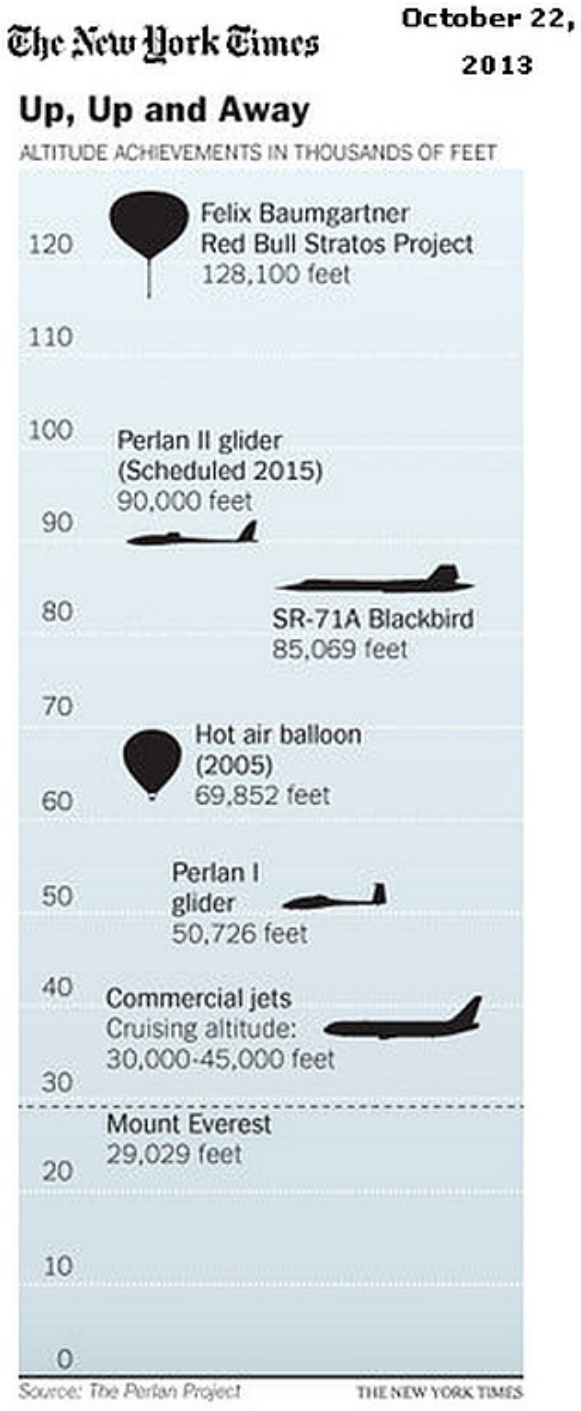
ADJOURNMENT
The meeting then adjourned at 8:15pm.

Jack Watson, *Treasurer*

Perlan II

BEND, Ore. — It might be the weirdest part of the atmosphere, 15 miles above the polar regions, where vast stratospheric clouds of nitric acid and water vapor shimmer in iridescent pink while human-made chemicals play havoc with the ozone layer. Scientists long to study the stratosphere at close range. But this is almost the edge of space, far too high for a conventional airplane in level flight.

How to get there? In a glider.



Perlan – continued

Without the weight of engines or fuel, a glider can be lifted by natural atmospheric phenomena, engineers say. So a team of scientists, aviation buffs and entrepreneurs is building a two-seat sailplane designed to withstand the peculiar hazards of stratospheric flight. The journey is scheduled for August 2015.

The glider will be shipped by freighter to El Calafate, Argentina, where winds from the Pacific Ocean are deflected by the Andes Mountains to create a standing wave, like the waves of water that form over rocks in a mountain stream, with updrafts of 30 feet per second.

“These mountain waves get so steep and energetic, they turn into white water,” said Edward J. Warnock, an aerospace engineer who is chief executive of the Perlan Project, the nonprofit organization that is building the glider, Perlan II.

A single-engine plane, probably a crop duster, will tow the glider to meet these waves, at about 10,000 feet. Where the waves weaken, at about 60,000 feet, the glider is supposed to intercept another phenomenon, the polar vortex — circulating winds that act like a giant cyclone during the austral winter, delivering a strong uplift. If it can catch that current, the glider will soar still higher, into the Perlan Clouds, and higher, into the ozone hole, where the chemical reactions that disrupt the ozone layer take place. (Perlan is the Icelandic word for “pearl,” describing the clouds’ sunlit glow.)

The aim is to go to 90,000 feet, or 17 miles up, and set a new altitude record for a glider. The plane’s predecessor, Perlan I, set the record of 50,726 feet on Aug. 30, 2006.

Perlan II will cost an estimated $7.5 million, of which $3.5 million has already been spent; the project is still trying to raise the balance. The organizers include Dennis Tito, the pension fund manager who paid $20 million to visit the International Space Station, and, until he was killed in the 2007 crash of his single-engine plane, Steve Fossett, the aeronaut and sailor who flew Perlan I.

Perlan I also used the Andes mountain uplift; the climb took about four and a half hours. The new sailplane will have a wingspan of 84 feet and weigh just 1,700 pounds, counting crew — 100 pounds lighter than Perlan I, even though the older plane had a 72-foot wingspan. The builders at Windward Performance, Bend, OR, say Perlan II is 80 percent complete. Huge carbon-fiber pieces that look like a woven fabric, a tight-knit plaid in two shades of gray, fill most of a hangar, waiting to be glued together.

In the end, all will be painted a reflective white to stop the sun from heating the parts enough to weaken the epoxy. (Inside the cabin, though, the air will be near freezing.)

The glider was designed partly by computer calculation and partly by intuition. Long wings with a short distance from leading edge to trailing edge have low drag, essential in a plane with no engines. But as the wings get longer, the bending forces become greater, so the wings require a stiffer internal spar, which adds thickness. And thicker wings have a harder time cutting through the air.

“You’re always working trade-offs,” said Einar K. Enevoldson, the founder and chief pilot of the project, who was Mr. Fossett’s co-pilot on the record-breaking flight.

Mr. Enevoldson has been flying gliders since 1947, when he was 15 years old, and has extensive experience in high-altitude fighters and research planes. Now he is 81. His reflexes are not the same, he said, but his judgment in the tricky business of finding the uplifts is still good.

The glider’s design is a trade-off of performance and safety. Above 50,000 feet, the air pressure is so low that a pilot would find it impossible to exhale, even with an oxygen mask. One solution is a pressure suit, but it would be too big for a glider built to climb so high.

The glider’s system will be tricked by the thin atmosphere into showing an airspeed of 46 miles an hour, about what it needs to stay aloft. But for the speed indicator to get to that reading in such low-density air, the actual speed will have to be about 335 mph.

Perlan – continued

And this, indirectly, sets the altitude limit. The challenge for the glider, as for most aircraft, is to move fast enough to get sufficient lift in the thin air to stay airborne, without approaching the speed of sound, which causes unacceptable stresses on the airframe. But as air density goes down, so does the speed of sound. On the top of the Perlan II glider's wing, the passing air will approach the speed of sound but will not reach it.

"They're definitely going to need to push the performance envelope, which means high lift and incredibly low drag," said Richard P. Anderson, a professor of aerospace engineering at Embry-Riddle Aeronautical University in Daytona Beach, Fla., and a glider pilot, who is not affiliated with the project.

And the high altitude will introduce other complications.
One is the need to pressurize the cabin so human lungs can overcome low air pressure — something other airplanes do with an engine.

THE MARTIN JETPACK

Border patrols, first responders and bungee jumpers looking for a new thrill are all potential users of what developer Martin Aircraft says will be the first practical Jetpack when deliveries begin in 2014. The military is also interested. The Auckland, NZ-based company has conducted initial manned test flights of the latest prototype of its ducted-fan Jetpack after receiving a permit to fly from New Zealand's Civil Aviation Authority. The single-pilot machine is being developed to comply at first with rules governing microlights.

It is designed for a cruise speed of 30 knots, a range of 19 miles and endurance of 30 minutes, with vertical-takeoff-and-landing. With its ability to carry 330lbs there is also interest from the agricultural and film industries.

Flight tests of the company's 12th and latest prototype are underway and being flown unmanned to expand the low-altitude envelope as Martin modifies the engine, adding a balance shaft to reduce vibration inherent in the 200-hp. V4 two-stroke which powers a pair of ducted fans to provide both vertical thrust and flight control. Martin is aiming for a maximum speed of 40 knots. Empty weight manned is 400 lbs and maximum takeoff weight 720 lbs, for a payload with full fuel of 220 lbs.

Altitude is limited to 3,000 ft. by microlight rules but, in May 2011, the P11 was flown unmanned to 5,000 ft. to show the machine could fly out of ground effect and "prove it's an aircraft".

That flight ended with the first deployment of the ballistic recovery parachute, a standard safety feature of the Jetpack. The parachute is part of the system, and is connected to the engine so that, if it is not performing correctly, it will deploy automatically.

Martin are developing an active parachute to get the dead-man's curve down to a very low level. Normally associated with helicopters, the dead-man's curve is the lower corner of the height/velocity chart where a power failure can be fatal. They would like the parachute to be usable down to 6 meters or so. Below that, the carbon-fiber landing gear should absorb the impact of a "fairly reasonable arrival", and the pilot is enclosed in carbon fiber for safety.
A flotation collar will provide buoyancy in a water ditching.

Perhaps the biggest barrier Martin faces is regulatory, as microlight rules prevent them flying below 500 ft. and overpopulated areas, but the first responder, their first targeted customer, does not require the aircraft to fit into the microlight box, nor do potential military customers.

Martin will work to meet the differing requirements of regulatory authorities in New Zealand and other countries, but suspect it will be a while before regulatory authorities see this as a motorbike in the sky.

2012 CHAPTER BOARD:

President	Tom Phy	541-306-1500
	maxfly55@gmail.com	
Vice-president	Henry Graham	541-383-0096
	grahamhenry44@yahoo.com	
Secretary	Jack Watson	541-408-5614
	jswatson30@cs.com	
Treasurer:	Jack Watson	541-408-5614
	jswatson30@cs.com	
Young Eagles Coordinator	open	
Newsletter Ed.	Mike Bond	541-317-8443
	mvbond@q.com	