The Bend High Desert Flyer of Chapter 1345

WEBSITE: http://1345.eaachapter.org/ ***KBDN AWOS 134.425*** **February 2016, VOL15, #2**

PREZ SEZ:

Punxsutawney Phil did not see his shadow! So that can only mean that spring, is just around the corner, right? With lots of snow (compared to recent years) in the mountains, hopefully the summer droughts and fire season will be mild this summer.

In the mean time, the cold weather means I don't have to clean any bugs off of the plane, after even a bunch of touch & goes!
The RV-12 is in process of getting a stripe added and it's cleaning up nicely. It should be finished in time for the February meeting and reassembled. We have had a few inquiries but, it's still ours.

EAA National has sent out an email for all involved with the "Young Eagles" program that requires all volunteers to go through an "on line training and a background check". This is in keeping with most other organizations that deal with minors/ young adults, and wanting to keep kids safe. I would encourage you to follow the link below, sign up, get the training and keep volunteering. And it's FREE! So please, take a few minutes, check out the web site, familiarize yourself with the program and sign up!
www.EAA.org/YouthProtection.

Honey, it's cold outside. That means we should have a "Chili Night" for our next meeting! I'll make my usual batch and hopefully other chefs out there will indulge us and bring their favorite recipe. Corn Bread, chips & salsa, desert? Whatever you want to bring, along with your favorite beverages. A small donation to the chapter is always welcome.

I am also attempting to download/ burn to a disc, EAA's monthly "Chapter Video" (wish me luck)! If I'm even close to being successful, we'll show it at the meeting and future meetings as well.

This month, we are again meeting at the "Robertson Hanger" located @ 63032, Powell Butte Highway! Meeting will be on Wednesday, February 2, 2016, starting with food @ 6 o'clock and the meeting around 6:30.

All are welcome so, bring friends & neighbors along with your better half!

Thomas Phy, *President*

Treasurer's Report

Financial: For period 01/1/16 to 1/31/16

TOTAL INCOME	$729.00
TOTAL EXPENSE	$445.00
NET INCOME (loss)	$284.00
TOTAL CASH IN BANK	**$2501.66**

Jack Watson, *Treasurer*

January Meeting Minutes

NOTE:
2016 Chapter dues in the amount of $25.00 are now due and payable and invoices were mailed to all members on January 1, 2016. Please note that our Chapter has tax-exempt status under section 501 (c) (3) of the Internal Revenue Code which means that annual dues and contributions are fully deductible to the extent provided by law. Our Federal Taxpayer ID is 30-0022467.

Meeting Minutes - *continued*

Minutes of a regular meeting of The Chapter held on January 13, 2106, at the Robertson Hangar at the Bend Municipal Airport.

ATTENDEES
There were some fifteen in attendance including: Tom Phy, Jack Watson, Dale Anderson, Mike Bond, Mike Robeetson, Ed Frederickson, Charles Brown, Henry Graham, Jeff Thompson, Forrest Seale, Mike Pederson, Mike Wissing, Jim Stone and guests Jess Young & Paul Patrick

DINNER
Guests began arriving at 5:50 pm, catching the conclusion of the Monthly Young Eagles program sponsored by the Chapter as part of its educational Charter as a 501 © (3) Charitable Organization. At 6:00 pm Mike Robertson appeared with piping hot Costco Pizza accompanied by Chef Thomas Phy's BBQed Burgers which activity concluded at 6:45 pm with the---

CALL TO ORDER
By President Phy, who initiated a round of self-introductions, followed by::

ANNOUNCEMENTS
The Redmond airport will be closing for 21 days from May 2nd to May 22nd for runway repaving, a project several years in in the planning. An interesting tidbit is that to put things in perspective, the reconstruction will use enough asphalt to pave two lanes of highway between Redmond and Madras! Followed by ---

The presentation of EAA Chapter Service Awards to all 1345 chapter officers for their service the prior year.

Followed by---
An opportunity to host a visit of the EAA historic Ford Tri Motor aircraft which, after an arduous, 12-year restoration process by EAA staff, volunteers, and Ford Tri-Motor operators nationwide, took to the air once again, where it had its official re-debut at the 1985 EAA Fly-In Convention in Oshkosh. It was displayed in the EAA AirVenture Museum until 1991 when it returned to its former role of delighting passengers on its annual tour across the U.S.

EAA chapters have been a vital part the continued success of the Ford Tri-Motor tour since 1991. If our EAA chapter is interested in hosting EAA's Ford Tri-Motor on its tour, this is our chance to get involved.

PROGRAM
At the conclusion of President Phy's remarks attendees were treated to a homemade Video of the construction, testing, and final tragic fatal flight of N65VG. Subject aircraft was a Challenger ll, kit built aircraft, which crashed on September 8, 2013, at Prineville airport, resulting in the death of Sport Pilot Murry A. Crowe, a resident of Terrebonne.

ADJOURNMENT
At the conclusion of the Video, the meeting adjourned at 8:15 pm.

John S. Watson
Secretary/Treasurer

New Materials and the Leap engine

Boeing Co.'s 787 Dreamliner drew popular attention as the first commercial plane with skin made of carbon-fiber composites. To the aviation industry, the plane's less-heralded materials underneath—including highly engineered titanium and a range of cutting-edge aluminum alloys—are equally significant.

Not long ago, passenger jets were built of familiar metals such as aluminum and steel. In 1974, European upstart Airbus pushed the technology envelope with a composite rudder on its first plane, the A300. Since then, plane makers have been steadily increasing their reliance on high-tech materials that are lighter, stronger and less prone to corrosion than the metals they replace.

"It's quite an exciting time because a lot of new material combinations are coming on line," said Ric Parker, director of research and technology at Rolls-Royce PLC, which builds engines for both planes. The British turbine-maker is developing new composites with plastics, ceramics and metals for its products.

New Materials *continued*

Materials have always been critical to aviation. In 1930, Boeing built some of the first all-metal airplanes, which boasted superior strength and aerodynamics over existing wood-and-fabric models.
Eight years later, Boeing's technology enabled it to offer the first fully-pressurized airliner, the propeller-driven 307 Stratoliner.

In the 1950s, Boeing and its engine makers tapped material technologies developed during World War II to build the first commercially successful jetliner, the 707.

Excitement about new materials is also tempered by sobering experience. Rolls-Royce Limited was financially crippled in 1971 because advanced composite fan blades it was developing for new engines failed.

Airbus, now a unit of European Aeronautic Defence & Space Co., in 2005 discovered that composites on its earliest planes didn't age well after the rudder snapped off a 14-year-old passenger jet in midair. The A310 landed safely.

Boeing and its suppliers have also struggled with the Dreamliner's carbon-fiber and polymer structures. The plane's fuselage, for example, consists of barrels made from tape wound around cylindrical molds and then baked. Mastering the process was tough, and several of the first sections produced were rejected. In 2009, Boeing conceded it had to fix wrinkles in the skin of the first 23 barrels.

Headaches with composites and their continued high cost have helped encourage metals companies to push back with new alloys. U.S. giant Alcoa Inc., for example, is supplying Airbus with A350 components that are made for the first time from a new aluminum-lithium alloy that combines benefits of traditional aluminum and composites.

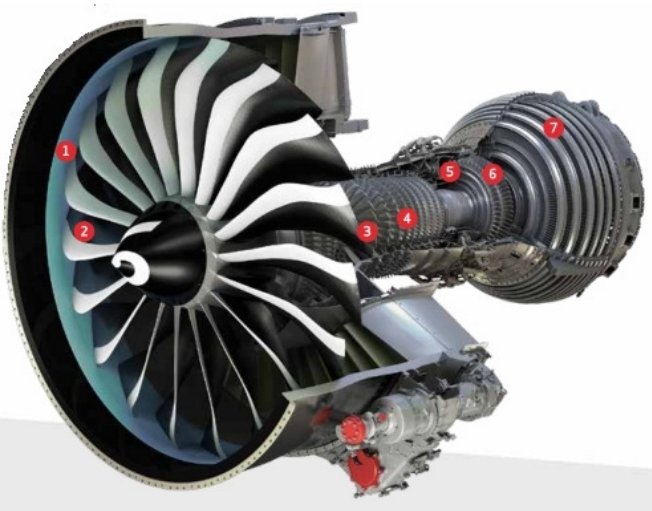
Blending material characteristics with economics yields some complex decisions. As chief engineer of the Airbus A380 superjumbo a decade ago, Mr. Champion selected a synthetic material of glass fiber and plastic, called Glare (a.k.a. glass laminate aluminum reinforced epoxy), that appeared to have big potential in aviation.

But when Airbus designed the new A350 a few years later, it dropped Glare because carbon-fiber composites were less expensive and easier to produce. However, industry officials predict the role of composites will continue expanding as engineers learn better how to produce and use them.

For example, when Boeing built the first Dreamliner model, the 787-8, designers included big safety margins on many components and later found they withstood stresses "significantly higher than could ever be experienced in even extreme cases," said Mike Sinnett, Boeing's vice president of engineering.

Despite increasing applications of advanced materials, expansion of their use will be halting. Mitsubishi Aircraft Corp. had planned to make the wings of its new MRJ small jetliner from composites, but in 2009 switched to aluminum, saying it would offer better fuel economy and be less expensive to produce.

The Leap engine



1 **High bypass ratio**
Optimum propulsive efficiency

2 **3-D woven carbon fiber composites**
Lightweight, increased durability

3 **Debris rejection system**
Airfoil protection against erosion

4 **High tech compressor**
Optimum thermal efficiency

5 **New generation combustor**
Lean burn, low emissions

6 **Ceramic composites, new cooling & 3-D aerodynamics**
Reduced weight, cooling optimization

7 **Lightweight materials & 3-D aerodynamics**
Reduced weight, increased efficiency

15% Reduction in fuel consumption and CO_2 emissions versus today's engines

50% Margin on NOx emissions versus CAEP/6 standards

99.98% Dispatch reliability

Aircraft compliance with future Chapter 14 noise regulation

Maintenance costs comparable to today's industry-leading CFM56 engines

The Leap engine - continued

Engine makers are competing to provide airlines with fuel savings, increased thrust and lower cost. GE is putting its money on advanced composite materials that promise to be more durable and weigh less than those made from the typical nickel and titanium metal alloys. The idea is to reduce maintenance costs for airlines and cut fuel consumption by lowering the weight of the engine.

Ceramic matrix composites have been considered as a new material for jet engines for decades. But the material has been dogged by cost concerns and worries about fragility.

GE says it has developed new coatings and processing techniques that can overcome concerns about the durability of ceramic composites. The company aims to expand the use of composite parts in its engines to 50% from 10% now. Most composites are carbon fiber and used in the so-called cold parts of the engine—away from where the fuel is burned. The new variety of ceramic matrix composites will be used in the hot section.

"We see this growing into other stationary components, and are even doing developments on rotating parts like turbine blades," Mr. Kauffman said.

GE has been working on the materials for two decades. In recent years, it set up a development center in Delaware and acquired a venture that produces a key raw material, silicon carbide.

To: All Young Eagles, Volunteers, Parents of Young Eagles, and all EAA members.

From: Dale Anderson, Young Eagles Coordinator, EAA Chapter 1345

A new EAA Youth Protection Program to train volunteers about youth safety has been implemented for all EAA Chapters. We will be requiring everyone connected with the Young Eagles programs and events to be trained and have a background check completed through the EAA.

This is a new policy adopted to get up to date with all other youth serving agencies regarding keeping young people safe in all of our programs, meetings, and events. The training and the background check are all on line through the EAA website and it is fairly simple and it's FREE. It took me about 30 minutes to complete it. The results of the background check will take a couple of weeks.

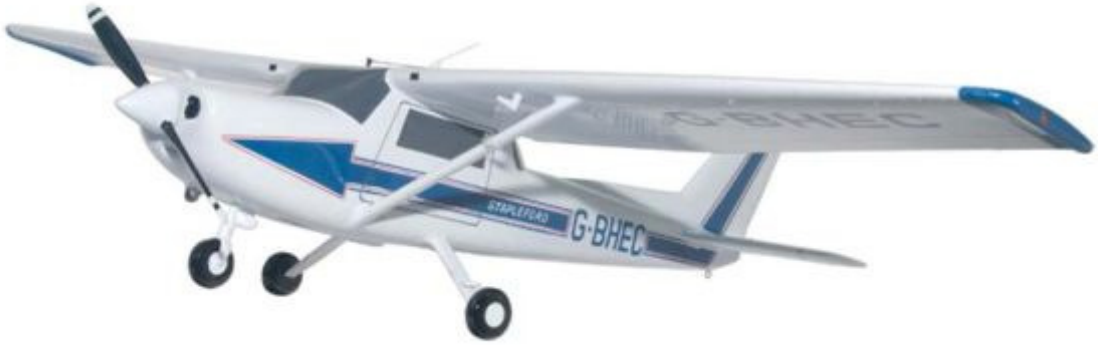
Everyone connected with Young Eagles programs and events will be required to complete the training and background check.

We will thoroughly explain this and facilitate doing these "housekeeping chores" at the next meetings. It is to help ensure that this is a teamwork effort to help keep our young pilots in a healthy, wholesome environment. Pilots for Young Eagles flights are in a one-on-one situation, which is so important to the inspiration of the experience, we need to protect that opportunity for the present and future pilots. If you would like to complete the training and background check go to www.eaa.org/youthprotection and do the training first then the bg check.

Stay tuned for more adventures.

Let's Fly!
Dale

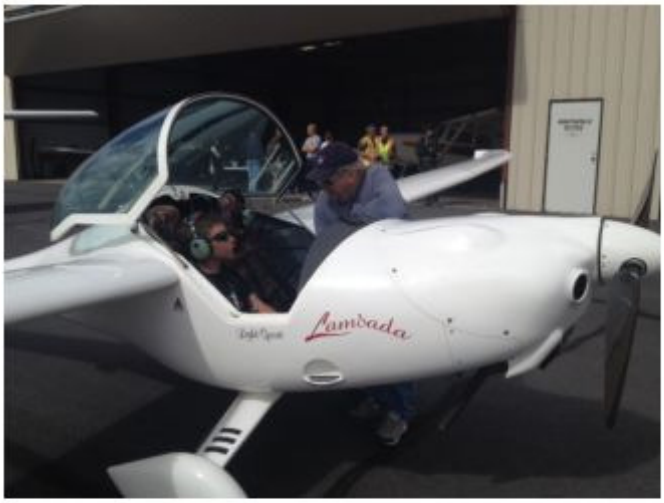
Would You Like to Be a Pilot? Have You Dreamed of Flying an Airplane?



EAA Chapter 1345 High Desert Flyers

Young Eagles Flights

What: Kids ages 8-17 fly for free to learn about being a pilot. You can learn more at this link: http://www.1345.eaachapter.org/youngeagles.htm



When: Saturday, June 13 from 8am to noon, weather pending

Where: Bend Municipal Airport, Gibson Air Service (Red Hangar)

What to bring: a parent or guardian to register/sign registration form

Contact: *Dale Anderson at 607-591-1714 or daleanderson779@gmail.com*

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