EAA 297 – KITTYHAWKERS
NEWSLETTER

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PRESIDENT SENDS

Happy New Year!

We had a great time at our recent EAA Christmas party! Thanks again to everyone who decorated the clubhouse, cooked the fantastic food, helped clean up, and generally made it another memorable occasion. The horse hinny that has graced the gift list for the past several Christmases has been permanently retired to repose in a local veterinary office. This means that you are now on notice to find a gift for next year that can fill the horse hinny niche in infamy.

The most prominent electric airplane story this month was probably the Rolls-Royce announcement of their electric plane to attack the world speed record. It will be interesting to see how this plays out with an unlimited budget and reputations on the line. The fuselage looks like it was designed to house a conventional boxer style piston engine…..what's with that?

I found this video recently: It is a cloud showing complex air motion near a mountain in China: https://twitter.com/PDChina/status/1204071959266394112

We have a really interesting speaker who will join us for our January meeting. Don't miss it!

See you then,

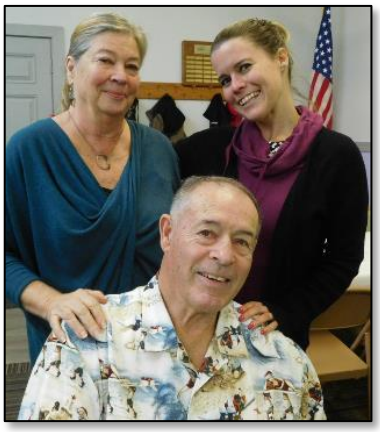
Aubrey

CHRISTMAS PARTY

STAG AIR PARK - Saturday evening was crisp, clear, and cold. It was mentioned that we have held several of our dinners when it was raining. The wet and soggy conditions made the dark walk into the clubhouse muddy and unpleasant. This year we started on a positive note with a beautiful, dry, and starlit evening.

Thanks to the efforts of Jane and Billy Johnson, Ella and Don Rhodes, Billy and Glenn Hughes, Aubrey Thompson, and Mark Thoman the clubhouse was clean, organized, and festively decorated.

As the clubhouse began to fill with our faithful members the buffet table became crowded with an assortment of appetizing creations. Thank you to Anne Goodwin who coordinated the feast. Thank you to Tom and Anne Goodwin, and Aubrey Thompson for roasting the turkeys. And thank you to Mark Thoman for roasting a pork loin.



During the social hour we enjoyed lots of boisterous conversation. Guests and spouses were introduced and several bottles of wine were shared. A bottle of locally distilled whiskey, and a mason jar of moon shine, were tasted by the bravest souls.

With the turkey and pork loin carved the buffet was ready to serve. Ken McGee gave a seasonal blessing and the hungry line formed for dinner. The feast was delicious. The din of conversation was

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almost silenced as we enjoyed the food. Many helped themselves to seconds and the rest were tempted by the homemade desserts.

Following dinner, our President Aubrey Thompson held the shortest chapter meeting on record. He called the meeting to order, announced that the nomination committee for next years officers was not present and unable to report. Ken McGee announced that Ladies Day would be held during our February meeting and that the chapter ladies were invited to enjoy a specially prepared luncheon. Without any other business to discuss Aubrey adjourned the meeting.

The meeting was followed by our annual "White Elephant Gift Exchange." Mark Thoman was the traditional emcee and he asked Gary Henderson to start the fun with a joke. Gary told his Christmas special about Santa's annual FAA check ride. We all laughed and groaned at the punchline. The cards were shuffled and dispersed. The first to select was Bob McGowan and he unwrapped the gift that contained the "Horses Arse" trophy. We have enjoyed seeing this unique statue several years in a row. Later in the evening the statue was stolen by Don Rhodes. I suspect we may see that unique trophy again. Jane Johnson, selecting for her husband Billy, unwrapped a rather unusual sculpture of a "neked" lady taking a shower. Despite his best efforts, Billy was unable to entice someone into stealing it from him. Wade Hanchey opened a gift that had a very handy all-purpose folding knife. Wade was very happy with his selection and announced that he was going to include the knife in the survival kit for his all-terrain aircraft. Later Tom Goodwin stole the knife from Wade. Wade warned Tom that he was going to feel really bad if at some point Wade really needed it. Mark Thoman opened a 2020 edition of the FAR/AIM. He will soon be making good use of it as he studies for his upcoming bi-annual review. Ken McGee was excited to open a large, nicely wrapped gift that contained an illustrated history of the German rigid airship Hindenburg. He was disappointed to learn that the book has an abrupt and fiery ending.

With the gift exchange complete our annual Christmas Dinner came to a close with happy wishes for a Merry Christmas and another successful New Year. Thank you to all for your participation, and contributions, to the continuing success of our chapter. Happy New Year!

DECEMBER MEETING MINUTES

STAG AIR PARK - As you have read in the above article, we held the shortest meeting on record in the history of our chapter. There were no topics covered, or discussions to report.

MEMBERSHIP DUES

A reminder to all that our $35.00 Membership Dues are due. Please give or send your dues to our Treasurer Bob McGowan. His address is 115 Aviator Lane, Burgaw, NC, 28425. THANK YOU for your continued support of our chapter.

HARBOUR AIR FLIES FIRST ELECTRIC BEAVER

VANCOUVER BC - David Tulis, Associate Editor Web/ePilot, reported in an AOPA article that Harbour Air Seaplanes test flew its first electric powered DHC-2 Beaver. The seaplane was retrofitted with a 750-horsepower magniX-500 "propulsion system" and flew early on the morning of December 10th in Vancouver, British Columbia.

Harbour Air uses the six passenger Beaver on mostly short-haul flights of 15 to 25 minutes. The battery driven propulsion system is designed to provide 30 minutes of flight plus a 30-minute reserve. The airline's operating schedule, appears to the designers to be well suited for the electrical propulsion system. The goal of magni-X, and the airline, is to complete the certification of the electric propulsion system, and the supplemental type certificate for the converted DHC-2 Beaver by 2021 in both the United States and Canada. Then they will complete the conversion of their fleet of aircraft and be ready to start flight operations in 2022. Greg Mcdougall, the founder and CEO of Harbour Air Seaplanes has a desire to become "the first fully carbon-neutral airline."

If you would like to read the full article, here is the link:

https://www.aopa.org/news-and-media/all-news/2019/december/10/harbour-air-flies-first-electric-beaver

Tom Goodwin sent me this article in the interest of furthering our discussion of electric powered aircraft. As I studied the article, I had several thoughts and questions that would be fun to discuss.

As an amateur engineer I was curious to know the comparative weights of the new electrical propulsion system vs. the weight of the "old" radial engine and fuel system. To be accurate this comparison would have to include the weights of the radial engine, propeller, fuel, fuel tanks, fuel lines, fuel pumps, and all required control systems versus the electric motor, propeller, batteries, electric cables, and engine controls. I wonder which has the advantage of being lighter. In my own flight experience, we would often trade the weight of unnecessary fuel for the ability to carry additional cargo. As the batteries in the electric aircraft remain at a constant weight, I wondered if they limited the cargo carrying capability of the aircraft.

I also wondered where, in the Beaver, did they store the batteries. To provide 750 horsepower for one hour is going to take a lot more than a few D-Cell batteries.

As a pilot I would be very uncomfortable with having only one hour of flight time available. The FAA requires a minimum, for VFR operations, of 30 minutes of reserve in daylight, and 45 minutes at night. This would appear to limit the electric Beaver to only a 30-minute flight during the day and only a 15-minute flight at night. And while that might satisfy the FAA's regulations, when I consider the rugged terrain, and the rapidly changing weather, found in the Pacific north west, having only one hour of "fuel" available would significantly restrict the possible decisions I might be able to make.

I have assumed that most of Harbour Air's flight operations are conducted under VFR conditions. For IFR flight operations, the minimum required fuel must

be adequate to fly from the departure point, to the planned destination, and then to an alternate, and then have a reserve of 45 minutes. It does not appear to me that the electric Beaver could be considered for IFR flight operations.

I am also curious as to whether you can operate an electrical aircraft in a manner that will "extend" the flight time of the battery. In a traditional aircraft there are different modes of flight that can significantly change the rate of fuel consumption. A pilot can adjust the altitude, airspeed, and power setting to either achieve a maximum range or a maximum endurance profile. In other words, fuel consumption can be manipulated to suit the mission requirement. Can the use of electricity consumption from the battery be adjusted in a similar manner? Or is the battery life reported as 60 minutes based on a normal flight cycle of takeoff, cruise, and then land? Will any other type of operation simply shorten the life of the battery, and the flight?

I was also curious as to how much time it will take to recharge the batteries between flights. If the original Beaver carried three to four hours of fuel, then a pilot could complete several 15 to 30-minute flights, with plenty of reserve available, before refueling. With the electric Beaver the batteries will most likely be required to recharge at every stop. I wondered how much time the recharge operation will take. It might be as simple as plugging in the aircraft as the prop stops and recharging at the same time that you are off-loading and on-loading passengers. Or it could require a significant delay between flights before the batteries are topped off for the next leg. I am sure that the engine manufacturers and airline operators have considered this problem.

The process of recharging led me to an additional series of questions. What about aircraft recovery? After one engine failed, in my CH-46 helicopter, I was forced to jettison most of my fuel. By dumping fuel, I was able to reduce my rate of descent enough to reach an open field rather than crash land in the mountainous terrain that I was flying over. But, once on the ground, I left an empty helicopter to recover. Following the required engine repairs, the mechanics simply used a galvanized bucket to transfer adequate fuel from the recovery aircraft to my aircraft. If one of these electric Beavers, running out of battery power, safely lands on a stretch of water, how do they get the batteries recharged? It appears that they will have to transport a generator to the site and then plug it into the downed aircraft. Would this generator be a small 110-volt household generator like you can purchase at the big box hardware store, or a heavy, diesel-powered monster that would be difficult to transport? Again, I am confident (hope) that the designers and operators have considered this particular situation.

My last thought on this electric powered aircraft is purely political. Harbour Air's stated goal is to become "carbon neutral." That seems a noble goal. And it also seems to satisfy the notions of the politically correct and the climate change enthusiasts. But it leaves me a bit confused. While the electric motor in the aircraft might not produce any carbon emissions, the power generating plant, that produces the electricity used to charge the batteries, certainly does. It seems to me that this part of the "carbon emissions" equation is conveniently ignored in the airlines advertised quest to be "carbon neutral." Even as a history major, I understand that it is not possible to achieve flight without expending some sort of "energy." Unless this "energy" (electricity) comes from a nuclear power plant, there will be carbon emissions created, somewhere, to enable this aircraft to escape the confines of the earth's gravity. I do not understand how flying an aircraft, or operating an airline, could ever be "carbon neutral."

BOEING STARLINER

JACKSONVILLE – At 6:36 AM on December 20th the Boeing Starliner launched from Cape Canaveral on the last unmanned test mission. The next mission will carry astronauts to the international space station.

During the launch, our chapter member Major

Gabe Glinsky was headed to a morning flight brief at MCAS New River. He took a moment to snap this picture as the rocket accelerated toward space. Gabe's camera was pointed toward the south east and the sun was just rising in the east. This would indicate that the launch trajectory was in a northerly direction. The visibility was spectacularly clear and the temperature was cold. I wonder what altitude the Starliner was passing at this point in the launch.

THE MORAL OF THE STORY

The teacher gave her fifth grade class an assignment: Get your parents to tell you a story with a moral at the end of it.

The next day the kids came back and one by one, began to tell their stories. There were all the regular types of stuff: spilled milk, and pennies saved. And finally, the teacher realized, much to her dismay, that only Janie was left.

"Janie, do you have a story to share?"

"Yes ma'am. My daddy told me a story about my Mommy. She was a Marine Aviator in Desert Storm, and her fighter got hit. She had to eject over enemy territory and all she had was a flask of whiskey, a pistol, and a big survival knife. She drank the whiskey on the way down so the bottle wouldn't break, and then her parachute landed her right in the middle of twenty Iraqi enemy. She shot fifteen of them with the pistol, until she ran out of bullets, killed four more with the knife, until the blade broke, and the she killed the last Iraqi with her bare hands."

"Good Heavens," said the horrified teacher, "What did your Daddy tell you was the moral to this horrible story?"

"Stay away from Mommy when she's been drinking."

FUTURE EVENTS

January 2020

Wednesday 1st	New Year's Day
Saturday 4th	**EAA 297 - Chapter Meeting**, 10:00 AM in the clubhouse. Lunch in the No Whining Saloon 12:00 PM
Sunday 5th	South Carolina Breakfast Club, Greenville Downtown Airport (KGMU)
Sunday 19th	South Carolina Breakfast Club, Lowcountry Regional Airport, (KRBW)
Monday 20th	Martin Luther King Day

February 2020

Saturday 1st	**EAA 297 - Chapter Meeting and LADIES DAY LUNCHEON**, 10:00 AM in the clubhouse. Lunch in the No Whining Saloon 12:00 PM
Sunday 2nd	South Carolina Breakfast Club, Grand Strand Airport, (KCRE)
Friday 14th	Valentine's Day
Sunday 16th	South Carolina Breakfast Club, Georgetown County Airport, (KGGE)
Monday 17th	Presidents' Day

HUNGRY? – **Come join us at the**

NO WHINING SALOON

Enjoy a home cooked meal prepared by our master chef.

Lunch is served promptly (not really) at 12:00 following EAA Chapter 297's business meeting the first Saturday of the month.

- Recommended Contribution -

$5.99 for fixed wing pilots.
$4.99 for rotary wing pilots.