EAA Mount Rainier Chapter 326 Newsletter

Thun Field – November 2008 119

Meeting Notice

Tuesday, November 11th, 7 PM
CAP Building, Thun Field

Program: RV-9A Canopy Fairing. Kevin Behrent's Hangar.

Refreshments: Jim Findley & Harold Stilwell

From the Secretary

Tuesday October 14, 2008
EAA Chapter 326 monthly meeting
Jeff called the meeting to order and wants us to know it's his second to last meeting as president.
Tonight's program was a group discussion on engine management.
Visitors:

Lee & Michelle Woody – Building a Bearhawk
Steve Dickensen – Interested in a RV9A
Greg Green – Building an RV9A
Paul Chamberlin – Scratch building a Luscombe
Tony – Has a Ridgerunner just in the test phase

Chapter Jackets are going to be ordered. Costs are in the $60 range for the jackets. There also are pullovers for $20 as another option. Please contact Jeff or Kevin if you are interested and have not signed up. We will finalize the list at the November meeting.
Treasurer report: $5028 in the bank. It's time for 2009 Dues to be paid. $15 is cheap entertainment for a year worth of programs and information.
It's election time for 2009: We need nominations and people willing to take positions

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Vice President :
Secretary : Andy Karmy
Treasurer : Norman Paulk
Photographer :
Young Eagles Coordinator : Dave Fritzsche
Newsletter Editor : John Brick
Chapter Biographer :
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Best Power

As a follow-up to the discussion at our last meeting, ever wonder why best power is rich of peak, instead of at peak EGT? I've seen many charts and graphs and explanations of engine performance and lean of peak operation. Again and again they say that best power is around 100 deg rich of peak EGT. But they never say why. Why? I put that question to GAMI. Here is their answer.

John,

It has mostly to do with Internal Cylinder Pressure (ICP). At a given MP and RPM, your ICP will vary in magnitude and duration with mixture changes.

As you sweep the mixture from full rich to around 100-75°F ROP EGT, the ICP will hit a real flat peak. As you continue to lean, that ICP (and thus HP) will decrease.

It's hard to explain why that happens where it does. Peak EGT is the best stoichiometric ratio of fuel to air. It isn't necessarily the fastest rate of burn though, and it doesn't necessarily generate the highest ICP.

An analogy that I once heard Walter Atkinson use has always stuck with me. He said to imagine a grass fire. If the grass is too green thick, you won't get a very good burn. If the grass is too sparse and dry, like a dry lake bed, you won't have enough fuel to keep the fire going. If the grass is just right, you have the optimum rate of burn and the fire will spread the quickest. The grass mixture that burns the quickest (highest ICP for us in an enclosed cylinder) isn't necessarily the grass mixture that burns the hottest (highest EGT for us).

I hope that helps.

Thanks,

John-Paul Townsend - Sales/Support Manager
General Aviation Modifications, Inc.

Hmm, not exactly Mr. Nye the science guy, but I'll take it. If anybody finds a better explanation, let's hear it. jb

Wind: Mag or True

I'm coming home from Green Bay with a planned fuel stop at the halfway point in Miles City, Montana. Strong winds are forecast there and the notams show one runway closed. Not good, but the weather in Wisconsin and Minnesota is IFR, and it's winter, so I'll worry about the winds if I'm still alive when I get to Montana. Besides that's five hours away and the winds may change.

One by one, other concerns vanish and decision time is at hand. Miles City is in the middle of nowhere. If I go all the way

to MLS I won't have enough gas for a decent alternate. If I stop short, I'll have to refuel twice and won't get home before dark.

The Flight Watch guy says the winds are gusting to 30. Okay, for me this is serious and I have to plot this out on paper. The map shows 12 deg E variation. True Virgins Make Dull Company. Wait, did he give me the winds in true or magnetic? All they have at MLS is AWOS, so…. Jeez Brick, you've been flying for 50 years and can't figure this out? Get a pulse oximeter. I could call him back and ask… no, that's like asking for directions. Besides, I wouldn't trust his answer anyway.

With nothing else to think about for the next hour, my mind goes into its usual pessimistic mode. I look at the worst case. Mag turns out to be worse than true. And then, winds are rounded off to nearest 10 deg, right? And runway heading could be off by how much? They're also rounded to the nearest 10. I look in the back of the green book for the actual runway heading but MLS doesn't have an airport diagram listed. Wonder how much the north pole has drifted since they last painted the runway numbers. I'm convinced a 90 deg cross is the best I can hope for. Ten years of building groundlooped into the junkpile.

As usual, get-home-itus trumps everything and I press on. Winds were down the runway when I landed. Life is good.

So as not to completely waste your time here, I looked up some mag / true wind direction info:

METAR: True
TAF: True
Winds Aloft: True
ATIS: Mag
Tower: Mag
AWOS/ASOS: Mag (by radio or telephone)
Flight Watch 122.0: True, unless they are passing along a PIREP which is mag (if the pilot uses the correct format).

Slightly befuddling is the fact that the same weather sensor gadgets are used in all types of reports. One difference is that the reports you get by radio / telephone recording give wind direction in magnetic. But if you call Flight Watch, that guy takes it off the METAR so it will be true.

So try this at home, get the METAR for KPLU from your favorite weather website, then dial up the AWOS, 253-848-2748. You should find the wind direction differs by the mag variation.

Be aware that for automated weather stations, the AWOS spits out a new report for pilots every minute, but the METAR for the same station is posted every 20 minutes. Stations with human weather observers take one observation per hour, unless weather changes abruptly… or there is an accident.

Yes, the magnetic north pole is drifting faster these days. The mag variation for our area is 17 deg E. In 1980 it was over 20 deg and in 2010 it is predicted to be 16 deg 48 min. Way, way back in geologic time they say the earth actually swapped magnetic poles north to south. Looking at a sectional in Skinner's airplane will bear this out.

More Mag Var

Question: The airport and VOR located at my airport do not have the same magnetic variation listed. How is this possible?
{mag var for airports is shown on airport diagrams in the back of the AFD (green book). mag var for vor's are found in the text of the AFD}

Answer: According to the National Aeronautical Charting Office (NACO), when a navaid is installed, it is oriented to true north, and then adjusted to slave with magnetic north. So, initially, the magnetic variation of the VOR is the same as the airport magnetic variation shown on a sectional chart. As the magnetic variation of the Earth changes, the difference between true north and magnetic north changes. Navaids are commissioned and remain online 24 hours a day, 365 days a year. Periodic maintenance is performed as needed, but a re-slaving requires a total navaid shut down, realignment, and a recertification flight check. Only when the navaid is out of tolerance by at least plus or minus 6 degrees will a re-slaving procedure be initiated, allowing the navaid and airport magnetic variation to match once again. AOPA

Judgment Against EAA, Northwest Fly-In Reversed

The Court of Appeals of the State Of Washington reversed a $10 million judgment against EAA and the Northwest Regional Fly-In in a case regarding a 1999 accident at the Northwest Fly-In at Arlington, Wash. The court directed entry of judgment in favor of EAA and the Northwest Fly-In. The court adds that NWEAA and EAA may also file a claim for costs incurred in fighting the lawsuit.

A Snohomish County Superior Court jury awarded $10.5 million to the family of Don Allen Corbitt, the pilot who died in the July 7, 1999 accident at the Northwest EAA Fly-In. The jury determined both the national Experimental Aircraft Association, as well as the regional EAA chapter, were responsible for a large percentage of the damages.

That decision flew in the face of determinations made by the National Transportation Safety Board... which ruled "the pilot's excessive climb rate, which lead to his failure to maintain an airspeed above stalling speed (Vs)" was the probable cause of the takeoff crash. "Factors include the pilot's lack of total experience in the aircraft make and model," the NTSB added.

Wrong Way Corrigan

"When I came down through the clouds I noticed I had been reading the compass needle backward."

Douglas Corrigan became a legendary aviator, not because of his accomplishments as a pilot but rather because of a supposed navigational error. In 1938, Corrigan "mistakenly" flew from New York to Ireland--when he was supposed to be flying from New York to California--because he seemingly misread his compass. For Americans, who were caught in the midst of the

Great Depression, Corrigan's antic provided a great deal of humor and uplift and he became a national folk hero.

Corrigan was born in Galveston, Texas, on January 22, 1907. Notably, Corrigan took flight lessons at the airfield where B.P. Mahoney and T.C. Ryan, a team of well-known aircraft manufacturers, were operating a small airline. It was not long before Corrigan got a job with the two men and started working in their San Diego factory.

Shortly after Corrigan began working for Mahoney and Ryan, a new customer approached them about making a special aircraft. Charles Lindbergh wanted them to design and build the Spirit of St. Louis. Corrigan assembled the aircraft's wing and installed its gas tanks and instrument panel.

When Lindbergh made his famous transatlantic flight in May 1927, Corrigan and his coworkers were thrilled, but Corrigan's excitement did not stop there. Inspired by Lindbergh's trip, he decided that he would make his own transatlantic flight someday. Being of Irish decent, he selected Ireland as his destination.

In 1933, he bought a used OX5 Robin monoplane to make the trip home. Back in California, Corrigan returned to work as an aircraft mechanic. During that period, he also began to modify his Robin for a transatlantic flight.

In 1935, Corrigan applied to the federal government for permission to make a non-stop flight from New York to Ireland. Officials denied his application, however, because they claimed that his plane was not sound enough to make a non-stop transatlantic trip. Nevertheless, they did certify it for cross-country journeys. In an attempt to get full certification, Corrigan made several modifications to his aircraft over the next two years, but each time he reapplied for permission, officials turned him down.

By 1937, Corrigan had grown tired of "red tape" and decided to try the flight without official sanction (although he never publicly acknowledged such a decision during his lifetime). His plan was to land in New York late at night, after airport officials had already left for the day, fill his gas tanks, and then leave for Ireland. But various mechanical problems while in route to New York caused him to lose his "safe weather window" over the Atlantic, and Corrigan decided not to risk the flight just then. He returned to California to wait for another opportunity the next year.

On July 8, 1938, Corrigan left California for New York. His official flight plan called for him to return to California, and on July 17, Corrigan took off from Floyd Bennett Field in Brooklyn, New York. He took off in thick fog and headed east because airport officials had told him to lift off in any direction except west since there were some buildings at the western edge of the field. They fully believed Corrigan would turn his plane around and head west toward California once he cleared the airport's airspace. To everyone's surprise, he kept flying eastward. Corrigan insisted that his visibility was so poor that he could only fly by using his compass and claimed his compass indicated he was heading west.

Approximately 26 hours into his flight, Corrigan claimed to have finally dropped down out of the clouds and noticed that he was over a large body of water. Knowing that it was too early to have reached the Pacific Ocean, Corrigan looked down at his compass--and because there was now supposedly more light to see by--suddenly noticed he "had been following the wrong end of the magnetic needle." Within a short time, Corrigan was over Ireland. He landed at Baldonnel Airport, in Dublin, after a 28-hour, 13-minute flight.

When officials questioned Corrigan about the incident, he explained that he had left New York en route to California but had then gotten mixed up in the clouds and flown the wrong way. He also explained about the fog and his mistake with the compass, but they did not believe him. As authorities continued to press him for "the truth," Corrigan finally ended the situation by replying: "That's my story." After failing to sway him from his explanation, officials released Corrigan. The only punishment he received was a brief suspension of his pilot's license, which lasted only until August 4, the day he returned to New York via steamship.

Corrigan returned to the United States a hero. People loved his audacity and spirit. They also had a great deal of fun with the obvious humor of his situation. The New York Post, for example, printed a front-page headline--"Hail to Wrong Way Corrigan!"--backwards. Corrigan also received a Broadway ticker-tape parade with more than a million people lining the street, more people than had turned out to honor Charles Lindbergh after his transatlantic flight.

Although Corrigan never admitted that his story was a ruse, most people believe that he purposely set out to bypass authorities and accomplish his dream of a transatlantic flight. Despite the humor that his story has provided, it is worth noting that Corrigan flew across the Atlantic during the early years of transoceanic flights, something that only the bravest and best aviators of the day attempted. Corrigan deserves recognition for such a daring achievement, even though he had to accomplish the task in such an unorthodox manner. Corrigan died on December 9, 1995.
Century of Flight

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