

TAILWINDS



**EAA CHAPTER
974
NEWSLETTER
APRIL 2016**



Butler County Regional Airport
Hamilton, Ohio



IN THIS ISSUE:

MEETING PHOTOS

DAVE GALLAGHER'S A320 NEO FLIGHT

PREZ SEZ AND CHAPTER CONTACTS LIST

MINUTES

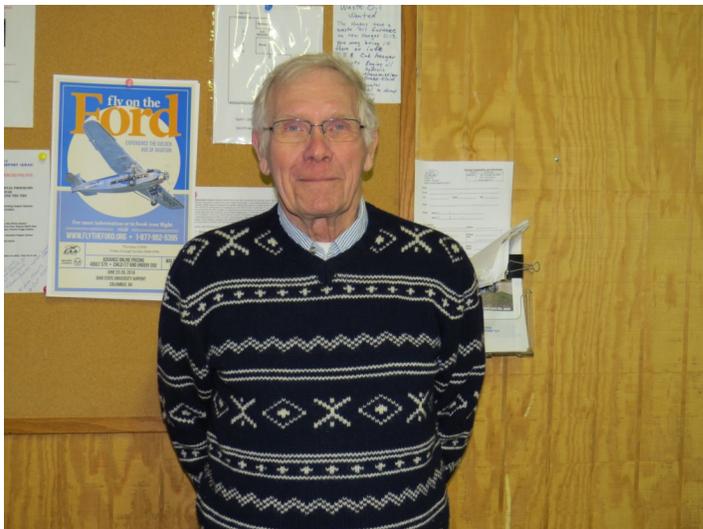
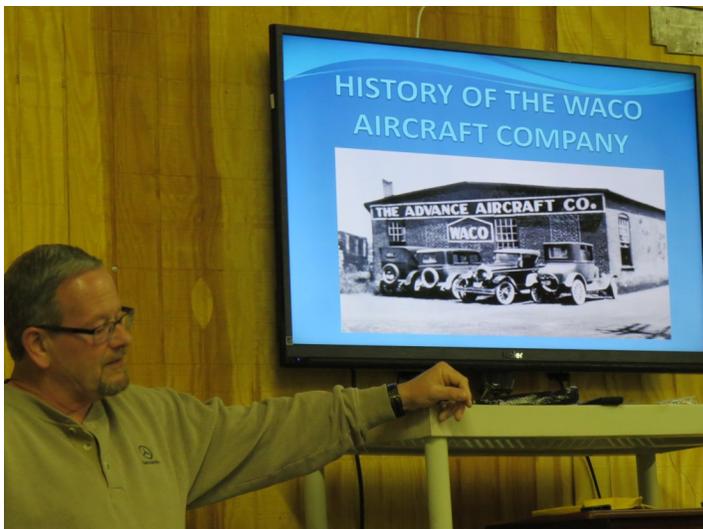
EVENTS CALENDAR

TOLEDO R/C EXPO PHOTOS

IN THE NEST—A TALE OF TWO TAILWHEELS

APRIL MEETING PHOTOS

Andy Heim, president of the National WACO Club and Curator of the WACO Aviation Museum in Troy, Ohio presented a terrific program describing the history of the WACO Aircraft Company. Since it's founding, WACO produced dozens of models for the civilian and military aircraft markets. This was truly a fascinating story! Thanks Andy!



Above: Visitors from Chapter 9, OSU Airport
Josh Fisher, Jon Ginley, Rich Hunt, Chapter
President Darlene Ford , Charles Deal.

Right Lower: Ken Hagen, Chapter 27,
Delaware, Ohio, KDLZ

Top Left, Top Right and Center: Andy Heim
All Photos: Ed.

A320neo Cincinnati Flyover Mission By David Gallagher

I recently had the unique opportunity to participate in a PR mission on an experimental commercial airliner. CFM International has been a partnership between GE and a French engine company, Snecma, supplying commercial jet engines for over 40 years now. CFM has spent several years working to supply the newly designed LEAP-1A engine for the Airbus A320neo in the 24,000-35,000 Lb thrust class. The A320neo, or new engine option, is meant to replace the longstanding and very reliable CFM56-5B engine with a more fuel efficient engine on this 30 year old single-aisle airliner design. The Airbus company was gracious enough to offer a fly-over mission to Cincinnati so the GE employees could see the fruits of their labor. Flyovers like this are a rare occurrence. In my 27 years with the company, I only recall there being four PR related flyovers: B-2 Bomber, A380, B-777 and the Beluga Airlifter.

Since the aircraft was to be based in Milwaukee for a week long natural icing campaign, it would not be far from the Cincy area. It was also the first time the new aircraft has flown to US soil. During the icing test campaign, Airbus flew to several areas of the US and Canada, seeking out convective weather to complete aircraft certification requirements. A few weeks ahead of the Milwaukee flight test campaign, I supplied Airbus with printouts of sectional charts and Google Maps images of the GE facilities to aid them in their planning of a GE flyover. I was not scheduled to be in Milwaukee for the test campaign, so I was only expecting to be watching the flyover from the ground in Cincinnati. Little did I know that I was destined to end up on the other side of the vantage point!

Fast-forward to Sunday morning March 6. The A320neo aircraft had arrived in Milwaukee and was preparing for icing flights. A fellow CFM employee supporting the on-site effort had a family emergency in France and needed to return. I drew the long straw as his replacement and was on a flight to the land of Cheese Heads in less than 7 hours. While I quickly came up to speed with the routine of flight testing, the topic of the planned flyover came up. I sat down with the Airbus pilots and went over my previously supplied planning documents along with a regular sectional chart I brought from home. As I explained the landmarks required to ensure the proper facilities were located, the Airbus pilots quickly decided I was needed as an essential crewmember onboard to help with local navigation.

Tuesday, March 8 was chosen as the Cincinnati over flight date. There was no promising convective weather expected until the afternoon so we departed in the morning for clear blue skies over Cincinnati. The crew selected the MIZZA reporting point near Middletown Airport as the initial navigation fix. Enroute, they requested Indy Center for an IFR cancellation, but continued VFR flight following under 18,000' feet NW of Dayton. Indy Center was a little confused why an airline-sized aircraft would cancel IFR, but they honored the request and handed us off to Columbus Approach. We signed into Columbus as VFR with flight following, and got the same quizzical response to our request. Columbus later handed us off to Cincinnati Approach, and for the third time, got a "you want to do what?" question. It was all legal, just not the norm for a large aircraft such as the A320 to do VFR airwork at low altitudes.

I was seated in the right front jump seat behind the co-pilot, and the biggest fear was that I would not be able to see recognizable landmarks from there, thereby letting the crew and GE employees down. When we crossed right over Richmond, IN Airport (KRID) and could see Brookville Lake in the distance, I settled down and knew it would be OK. We passed over the north end of Hamilton low enough that I was not able to see KHAO due to the hill north of the field so I don't know if any EAA974 members on field that morning were able to see us off in the distance or not. We crossed over I-75 just south of Middletown to fly two clock-wise oval racetrack patterns over both the Evendale plant and the North Pointe engineering offices in West Chester. They set the radar altimeter to provide callouts at 1000 feet to keep them from going any lower over these congested areas. Although I had flown this area many times in my own airplane on sightseeing flights, this particular flight will remain as a lifetime highpoint for me. Watching the land pass below this close to me and seeing my fellow GE employees waving back at us in the cockpit of an airliner will likely never be repeated. All too soon the fly-overs were complete and we headed back to altitude for an IFR pick-up back to Milwaukee. WHAT A HIGH!!!

Left: Airbus NEO flight test aircraft on the ramp at Milwaukee's Mitchell Field

Photo: Dave Gallagher

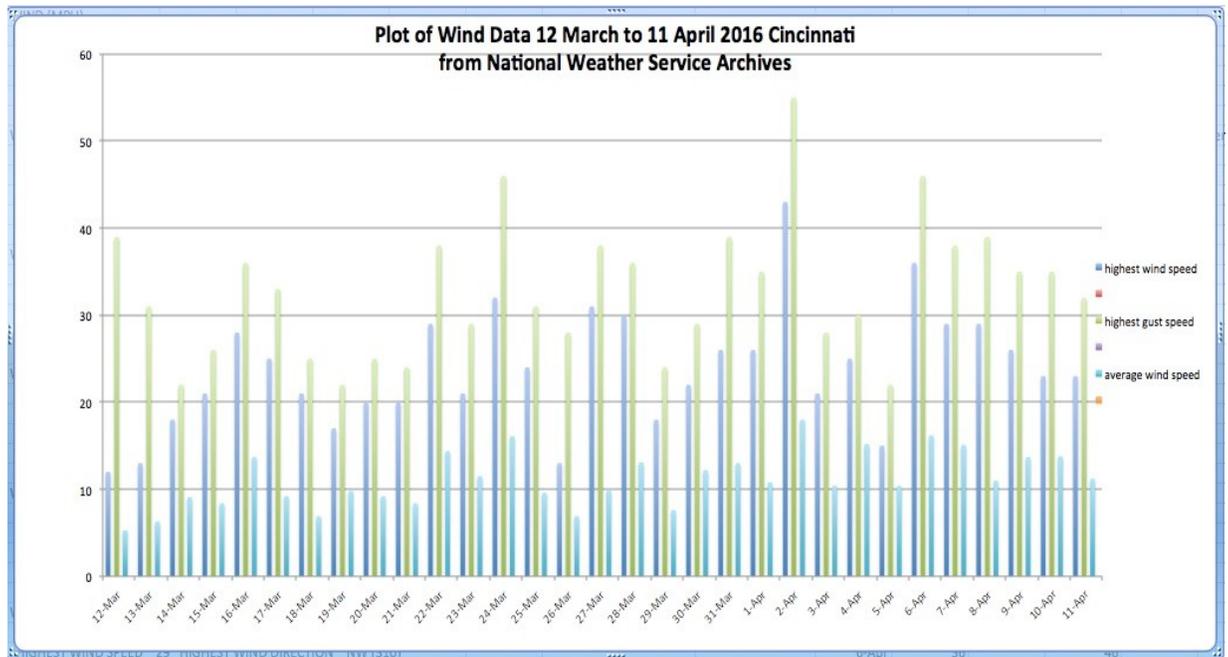


A shout out to Al Kunkel for another fine program. I always wondered what the UPF and YMF designations stood for on the Waco aircraft.

It has been a bit quiet at KHAO the last few weeks and only the very hardy have been out flying. It has been unusually cold and windy...not just windy but very windy. Check out the graph below compiled from National Weather Service Archive Data. I knew the numbers were high but when inputting the data for the chart, I was quite surprised at magnitude of some of the speeds.

Looking forward to calmer and warmer days. And by the way, Al and I have scheduled the first Saturday Cookout for May 21st.

Mark Wyss



CHAPTER CONTACTS

officers@eaa974.org — will reach president, vice president, treasurer, secretary as a group

president@eaa974.org— will reach chapter president (Mark Wyss)

newsletters@eaa974.org — will reach newsletter editor (Bob Dombek)

youngeagles@eaa974.org— will reach Young Eagles Coordinator (Bob Burkhardt)

techcounselor@eaa974.org— will reach technical counselor (Ray Parker)

general@lists.eaa974.org — group e-mail to all chapter members

list.admin@eaa974.org — to be added or removed from the group email list



EAA Chapter 974 Monthly Meeting Sunday, April 3, 2016

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Call To Order & Pledge of Allegiance: 2:00pm

- **New Members:** None

Guests:

Michael Longworth - Home from Afghanistan, owner of Mustang-2 yet to fly
Darlene Ford, President of EAA Chapter 9 in Columbus
Josh Fisher, Vice President of EAA Chapter 9
Rick Hunt
Andy Hines, EAA Chapter 48 in Moraine, President of National Waco Club
Ken Hagan, EAA Chapter 27 in Delaware OH
Joe LaBarre

Secretary's Report: Minutes from March accepted.

Treasurer's Report:

+\$210 income (hangar rental, dues, split the pot), -\$69.58 expenses = +\$140.42 for March
\$3307.57 currently in the bank account

Historian/Librarian/Newsletters (Bob Dombek): Phase 1 of library is done, most duplicates removed. Still looking for more books rather than magazines. Don't think we need a check-in/out system. Thin newsletter for March. Still unofficially planning on taking a new group photo after Funday Sunday next month.

Young Eagles Report (Bob Burkhardt): Bob is in Florida. Reminder that the EAA Youth Protection Policy training is due May 1.

Hangar Master Report: Hangar is still around, despite the windstorms.

Tech Counselor Report (Ray Parker): Nothing of note

Project Reports:

Mark Wyss: Came back from a road trip to pick up his wing kit and cowling for his 750. Loves his Catto prop, now after 5 hours.

Bill Schweinberg: Working on the wings of his RV-14. Will be seal-testing his fuel tanks soon.
Slow and steady build progress.

Ray: On his Long-EZ, had prop redone, ran engine last weekend. In process of making new hoses.

Scott B: Buried in wiring. Successfully powered up EFIS without things smoking.

MARCH MEETING MINUTES, CONTINUED

Chapter Business:

Still planning a work session to finish the north wall. Plywood has been procured. Watch for upcoming email for work session scheduling.

Mark previously donated 4x20lb shot bags. They were previously misplaced. Please check out the chapter equipment!!!

Still looking for hanging propane heater for the hangar

Scheduling coming up for a chapter cookout

Ray's working on scheduling Pete for anyone who needs a 2yr transponder test. At least 3 needed to make it worthwhile.

Adjourned: 2:25pm

Presentation afterwards by Andy Hines on the history of the Waco Aircraft Company.

Submitted,

Scott Balmos – Secretary

EVENTS CALENDAR

- SUNDAY MAY 1 FUNDAY SUNDAY, MORAINÉ AIRPARK, CHAPTER 48***
- SUNDAY MAY 1 EAA CHAPTER 974 MEETING 2PM HANGAR T5J***
- SATURDAY MAY 7 CHAPTER LEADERSHIP BOOTCAMP URBANA GRIMES FIELD HOSTED BY EAA CHAPTER 9, TAUGHT BY EAA HQ STAFF***
- SATURDAY, MAY 21 EAA CHAPTER 974 COOKOUT AT CHAPTER HANGAR***

ANNUAL TOLEDO WEAK SIGNALS R/C EXPO

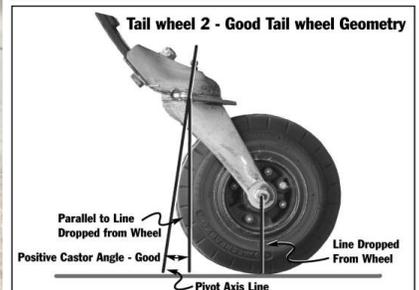
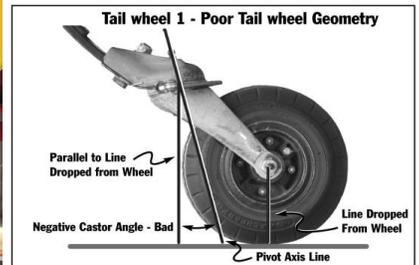
All you have to do is walk by my hangar to see where some of my aviation heart lies. For me this event is the Oshkosh of the model airplane kingdom! It's put on by the Weak Signals RC Club of Toledo and has been going on since the early 1960's. It's currently held in early April at the Seagate Convention Center in downtown Toledo, and it fills the entire venue, including the upstairs corridors and meeting rooms. The Academy of Model Aeronautics is the parent organization for aviation modelers. In recent years the AMA and EAA have experienced a closer relationship. The AMA is always well represented at Airventure. You may remember the formation flights of a full scale and a 43% scale RC aircraft during the airshow at Oshkosh. The AMA also establishes an exhibit in the museum during the convention. For me, the satisfaction of creating a model and seeing it fly goes deep. There's something very satisfying about watching something fly, as deep as actually flying myself. The RC Expo is Oshkosh in miniature! The pictures are a small sample of the models on exhibit.

Photos: Ed



IN THE NEST, A TALE OF TWO TAILWHEELS

Here's a little something I was going to share in a project report at a chapter meeting but then decided to use it as a newsletter article. A few years ago I discovered that my Rans tailwheel spring was beginning to flatten out. (fig 1) I was afraid that a hard landing would send the tailwheel into the bottom of the rudder. I purchased a new spring with a nice arch which also changed the caster angle of the wheel causing it to lean aft a few degrees. (fig 2) What I discovered was that it made the steering much easier and that I did not have to use brake to make a nice pivot turn in place. After doing a little research I learned that the aft or positive caster angle not only helps steering but also helps to control wheel shimmy. A forward caster angle is referred to as negative caster while aft is positive caster, which is a little confusing but apparently is the established convention. When installing my Tiger Moth tailwheel, it initially had a forward or negative caster. (fig 3) Bill Johns came to my rescue by having access to a big press. A 25 degree bend in the end of the spring where the tailwheel assembly attaches yielded a nice aft or positive caster. (fig 4) On one forum I saw a comment that this might apply to castering nosewheels as well. The diagram below, found on the Pierce Aero website, shows a nice description of tailwheel geometry. The diagram was developed by Gilbert Pierce, Technical Counselor for EAA Chapter 182. The next time you push a supermarket cart with wheel shimmy (most of them shimmy like crazy!) tell the manager he needs to add positive caster to his carts! Maybe you'll get free groceries! Ha! Photos : Ed Diagram: Gilbert Pierce



Tail wheel with positive and negative castor angles—exaggerated. The terms positive and negative are simply the naming convention I choose to use, as they agree with my textbook references.