



EAA Chapter 648

Longmont, Colorado 80503

Unfortunately, because of every one's concerns regarding the Corona virus, there will be no scheduled general membership meeting this month.



Thanks to all of you for reading our newsletter and I will keep on working to increase our readership and don't forget to patronize our advertisers if an aviation purchase is in your future.

Remember, "Nothing happens until somebody sells something"

Chuckle of the Month:

Law of Mechanical Repair - After your hands become coated with grease, your nose will begin to itch and you'll have to pee.

Presidents message

This came in, I think it's something to consider even though many chapter members don't fly much, if at all. If the award was large enough, suspect we could garner additional membership from other chapters?

Pick and choose any of the following, or none at all, just my thoughts:

- 1) Place all Colorado airport identifiers in a hat, pull 10-15 as criteria.
- 2) Airports need to be paved, and somewhat long, else Canard types are pounding salt ;)
- 3) Airports **HAVE** to be in CO, and **SHOULD** be public use (unless private

airport owners agree. Parkland for example)

4) Winning entry receives a bundle of micro-fiber towels and two cans of Plexus at contest end.

5) Entry requirements are you have to be a paid up chapter member. New members can only log airports from the time they became a member.

6) The challenge runs for one 'fiscal' year.

7) Flying to an airport with a future pilot (student/Young Eagle candidate) worth bonus points.

Rick

January is membership dues renewal time

by Treasurer Dan Berry

The chapter's most critical source of income is our dues. Your \$20 membership dues are used to pay facilities expenses, offset the cost of chapter projects, our newsletter, and various other things like our EAA National Chapter dues and insurance policy.

NEW: "Join or Renew via PayPal" simply by going to EAA648.org, on the left side of the screen, and pay for your membership with a credit card or PayPal account. The link is on the front page of this newsletter.

You may also pay by cash or check by including your email address, EAA number, and phone number with your form of payment and sending it to our Chapter Treasurer; Dan Berry, 930 Champion Circle, Longmont CO 80503

Also New this year we will have many meetings at the Saint Vrain Valley Schools Districts Innovation Center with the Aeronautics Program.

EAA Chapter 648 is all about people, bringing together individuals interested in learning more about aviation as well as sharing their own knowledge.

We are a local chapter involved in grassroots aviation in your own backyard. Longmont aviators experience a mix of business jets, skydiving, summer food with a neighborhood atmosphere for people who are in aviation for business and the pure joy of it.

And don't forget the other great benefits of being an EAA Chapter 648 member:

- ★ Commitment to your safety per State and Boulder County Covid restrictions
- ★ Monthly newsletter
- ★ Commitment to meaningful meetings
- ★ Expanded tool loan program
- ★ Technical Counselor and Flight Advisor support
- ★ Exciting new programs with the Students at the Innovation Center RV12iS build
- ★ Access to our exceptional diverse membership of aviation knowledge and skills
- ★ A great group of fun people

Thank you for your support over the last challenging year. We are eager to have your participation this year; please reach out with questions or ideas so your officers can better serve you.

Fly'em and Fix'em Tech Tip

by Dan Berry

I am not an A&P, rather an EAA Technical Counselor and I am simply sharing some information I use. Always research the needed resources for your brand of equipment.

New Brakes - Discs and Pads

Last summer, with my hangar door open, Dean Hollenbaugh stopped in and asked me how often I replace my brake discs/rotors.

Hmmmm, have not in the 22 years my plane has been flying. I asked how often he does. With Dean's "fast glass" Glassair (low wing, taildragger), he mentioned he has replaced his many times because they were at the minimum thickness.

Hmmmm, again. What is the minimum thickness requirement? I do visually inspect my discs every year and they seem to be in good condition. With this new point of curiosity, I decided to go ahead and purchase new discs. I use Rapco brake linings so decided on Rapco discs to go with my Cleveland Wheels and Brakes. Rapco had all the information I needed on their website. They even list the RV series of airplanes in their limits tables. My discs have a minimum thickness of 0.167 inches. I could only achieve this measurement by deflating the tire, removing the disc, and measuring with micrometers. Dial calipers will not measure past the small ridge near the disc outside diameter, erroneously resulting in a satisfactory number, and not where the brake lining interfaces and does its work. My discs were well under the limit with small ridges. On with the new discs and new organic brake linings.



Added to my Conditional Checklist is to now measure the disc thickness every time I install new tires or rotate my tires.

With fresh brakes, packed bearings, new bolts, nuts, everything safetied, torqued, torque stripped, wheels and calipers moving freely, inflated tires, it is time to break-in the new brakes. I saved an article from the Flying Apache Association, December 1995, that Mike Gugeler published in our July 1996 Chapter 648 newsletter. The key

takeaway is there are different procedures for Organic vs Metallic Brake linings.

Organic linings are designed for use mostly on single engine aircraft and are made from a semi metallic mix combining brass, copper, iron, Kevlar with a high temperature phenolic compound. They are attached to the back plates and pressure plates of a brake assembly using rivets. (rapcoinc.com FAQ's)

Metallic linings are designed for heavier and faster aircraft that develop higher kinetic energy in the braking process. To handle the high temperatures and associated wear, metallic linings are made by fusing small metal particles to a steel carrier plate in a process called sintering. (rapcoinc.com FAQ's)



The goal of the break-in procedure is to give your linings the proper conditioning adding many hours to their useful service life. This creates a thin layer of glazed material, like a skin, on the lining surface. The glaze is (or should be) maintained throughout the life of the linings by normal brake

usage. If brake usage is very light, then you may wear off the glaze and you will need to repeat the procedure. Metallic linings are a different animal. If these are not broken in correctly, you will not only lose lining life, but severely score your brake discs as well. (Flying Apache Association December 1995)

Rapco service Letter RASL-004 dated 5/14/2009 declares the two procedures below with this warning:

CAUTION: DUE TO THE EFFICIENCY OF THE BRAKES, EXCESSIVELY HARD BRAKING ON CONVENTIONAL GEAR AIRCRAFT COULD RESULT IN LIFTING THE TAIL WHEEL FROM THE GROUND.

Rapco, Inc. Organic Brake Linings with Rapco, Inc. Brake Discs:

1. Taxi aircraft for 500 yards with the engine operating at 1500-1800 RPM's while applying sufficient brake pedal force to keep the taxi speed between 4 and 9 knots.
2. Allow the brakes to cool for 10 to 15 minutes.
3. Apply brakes and run the aircraft engines at a high RPM. If brakes hold aircraft stationary, break-in is complete.
4. If brakes don't hold the aircraft stationary, repeat steps 1 through 3.

Author Note: The distance between KLMO Taxiways A2 and A3 is about 500 yards

Rapco, Inc. Metallic Brake Linings with Rapco, Inc. Brake Discs:

1. Complete two consecutive full stop brake applications with aircraft in motion from 30 to 35 knots. DO NOT allow the brake discs to cool between stops.
2. Allow the brakes to cool for 10 to 15 minutes.
3. Apply brakes and run the aircraft engines at a high RPM. If brakes hold aircraft stationary, break-in is complete.
4. If brakes don't hold the aircraft stationary, repeat steps 1 through 3.

Cleveland Wheels and Brakes Manual AWBCMM0001-12/USA is a phenomenal resource full of bearing, grease, wheel, tire, tube, cleaning and assembly details. This is available on-line as a downloadable file.

For our projects under construction, be sure to add Brake Break-in to your list of items to be accomplished. I did this on my first taxi tests with my RV6 and Legend Cub.



Wing Rotisserie for Free

(wing shown not included :)

Contact Mike Duggan email - dugganboulder@msn.com

Call or Text - 303-912-9038

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648 or the Experimental Aircraft Association. Submission of articles, comments, or inquiries for publication in the newsletter is encouraged. Meetings are normally held on the second Monday of each month at 7:00 P.M. The place is determined each month.