



EAA Chapter 691 Newsletter

April 2022

On the Web @ www.eaa691.org



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EAA 691 is:

President: Will Fox

Vice President: Marc Bonem

Secretary: Jared Haney

Treasurer: David Young

Web Editor: Brian O'Neil

Newsletter Editor: April Fox

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Experimental Aircraft Association
Green Chile Chapter 691
Meeting: April 16, 2022, 10:00 am
Location: Santa Fe Airport, Jet Center

Speakers: Jeremy Frick
(Program Director) and David
Ortiz of the CNM Aviation
Maintenance (A&P
Certification Program)

For questions or additional information: email
Marc at mbonem7@gmail.com. All are
welcome.



Upcoming Events

- **Central New Mexico A&P school talk:** Saturday, April 16th @ Santa Fe Jet Center. 10:00AM
- **Dragonfly Work Sessions** every Wednesday and Saturday @ 2:00pm @ KLAM. Contact Will Fox for more information
- **Building Skills training** May 21, 2022
- **KLAM Open House:** June 4th, 2022 (tentatively)

Letter from the editor

by April Fox



Hi folks,

The **dragonfly project** is in full swing, and there's lots of things to do. Stop by one of the work sessions and check out the progress. Work sessions are every Wednesday and Saturday @ 2:00pm @ KLAM.

Chapter Library: Marc Bonem has rescued a bookshelf that has been placed in the KLAM terminal. Contributions of books and/or videos welcome. Not sure if VHS videos are welcome. Let me check with the 1990's- click [here](#) for the Obituary.

The chapter is also planning some **technical workshops** to get members some hands-on practice in building. Keep an eye out for upcoming workshops. If you need a workshop regarding Zoom, ask a millennial, or click [here](#).

The chapter has set a (tentative) date for an **Open House** at KLAM.

Looking forward to seeing folks at the **upcoming talk** presented by CNM's A&P certification program directors.



Spring is here, good for flying kites and watching crosswind landings.

President's Report

by Will Fox



“The focus and the concentration and the attention to detail that flying takes is a kind of meditation. I find it restful and engaging, and other things slip away.”

Harrison Ford

The Flyout Brunch to Questa was really fun. The weather was brisk but nice, the snow covered mountains were beautiful, and the camaraderie was great. About fifteen people showed up in a half dozen airplanes so we set our camping chairs in a circle, opened up our homemade brunches and enjoyed the pilot talk and the morning in the wide open spaces.

We hope to do a couple more flyouts this year so join us next time if you can. We can always find a ride for someone if they don't have access to a plane.

Our April meeting will be held this Saturday at 10:00am in the Jet Center hangar in Santa Fe. Thanks to Troy and Ron for hosting us. We will have a presentation by Jeremy Frick and David Ortiz from CNM about their A&P Program. That will be followed by a regular meeting where we can welcome new members and talk about upcoming activities. With Covid-19 at another lull, we will be following the CDC guidance in regard to indoor meetings. People may choose to mask at any time. People with symptoms, a positive test, or exposure to someone with COVID-19 should wear a mask.

The Dragoners have been building fixtures and organizing the hangar space for the Electric Dragonfly project. We meet every Saturday afternoon at 2:00 to work on the project. Drop by and see what is happening and join in.

The Chapter 691 Library in the Los Alamos airport terminal is starting to fill up with aviation books and videos. Check it out and feel free to borrow a book or drop one off that you think others might enjoy.

We have a Building Skills training class coming up next month where you can learn a new aircraft building skill. Anything from how to make a composite structure, to how to safety wire a turnbuckle. More on this in the coming month.

In June, KLAM will have an open house and Chapter 691 will have the opportunity to show off our airplanes and the Electric Dragonfly project. I'm also looking for volunteers to man a table to talk to folks about the EAA and our Chapter. Please let me know if you are interested. Happy flying.





Questa Fly-Out Photos

Photo credit: Will Fox







Tech Corner

by Will Fox



Killer Aircraft

One of the best looking high performance piston aircraft that I have had the opportunity to fly is the Lancair IV-P. It was also **one of the worst** when it came to stall behavior and recovery. I'll tell you a little story. One day many years ago, a friend of mine asked me to do a flight review with him in his Lancair IV-P. I had no experience in a Lancair of any type and suggested he find an instructor experienced in the aircraft instead. He said he had tried to but wasn't having any luck, and he really wanted me to do the flight review with him if I could. I said I'd call the factory and talk to one of their pilots about its flight characteristics and get back to him. I called the factory and got a hold of their test pilot and told him the situation. The conversation started off like this. He asked, "Do you have any military flight experience?". I said "No". He said, "Do you have any jet experience?". I said "No". Then he said, "Tell your friend to get another flight instructor". I said, "I did, but it didn't work, and I really could use your help". He said the Lancair IV-P was a pretty "hot" airplane. I told him "Well, I have flown some pretty "warm" airplanes, in my time". He laughed and said "Ok, what do you want to know?".

We talked about the plane's flight characteristics and the subject of stalls came up. He asked me if we planned to do any stalls, and I said yes, that was normal procedure for me on a flight review. He said that they didn't recommend doing stalls in the IV-P. I asked him why, and he said the stall behavior was a little unpredictable in the IV-P. Then he said, "*If you are going to do them, make sure your CG is in the front half of the envelope and be sure to get as high as you can, 10,000' AGL would be good. Put the gear down ahead of time, otherwise the aircraft will over speed before you can make a recovery. Do a power off stall. There is no buffet and the break is abrupt and the aircraft will roll sharply in one direction or the other and it's hard to predict which way. Use full opposite rudder to stop the roll and neutralize the stick. It takes awhile for the rudder to become effective. As soon as the rotation stops, start pulling out of the dive because the plane will accelerate pretty fast and try not to go over the 165 kt maximum gear speed. You will probably lose around 2000' in altitude if you do everything right*". I said, "That sounds like a spin entry." He said, "That is the way a IV-P stalls".

I told my buddy about the conversation with the Lancair test pilot and asked him if he had ever done a stall in the IV-P. He said he hadn't. I said "What about during your factory transition training?". He said "No, not then either".



Lancair IV-P on approach to landing.

I said, “ The test pilot said the stall behavior is abrupt with a pronounced roll, but in a power off stall with the gear down it is recoverable”. We decided to try one during the flight review. The day of the flight review, my buddy told me that he had gone out and practiced some stalls in his IV-P the day before, and that they were no big deal. That seemed strange, and I wondered if he got the nose high enough to get a stall.



We started the flight review by climbing to attitude and doing clearing turns followed by some steep turns and slow flight. Then we decided to try a power off stall. We climbed to 14,000’ MSL and since my buddy had done a couple “stalls” the previous day, I asked him to demonstrate one for me. As is common with pilots who don’t do stalls very often, he didn’t get the nose high enough to actually stall the aircraft before he relaxed the pressure on the stick and executed a recovery. I said let’s try another one, but get the nose a little higher. I got ready for the rodeo ride. This time the IV-P stalled, flipped on its back, the nose came down, and it started to rotate. We both applied opposite rudder right away and I noticed there was no resistance. There wasn’t much air going over the rudder. There wasn’t much rudder response either for the first half turn, but then I began to feel some pressure on the pedal and the rotation began to slow. By now the nose seemed to be pointing straight down. Into the second turn, the rotation stopped, and we began the pull up. I glanced at the airspeed indicator and the needle was winding up fast like you see in the movies, so I pulled a little harder. We leveled out right at maximum gear speed. We had lost around 1800 feet. I looked over at my buddy, and in as steady a voice as I could muster, said, “ Do you want to do another one?”. He said “No, I don’t think so, one is enough”. He passed the flight review with flying colors. We both left knowing that a stall in the IV-P was dangerous and it would certainly kill you if you were anywhere near pattern altitude when it happened.



RDD Enterprises LX-7 has improved upon the stall characteristics of the Lancair IV-P and added a whole aircraft parachute system.

A 2016 [LOBO White Paper](#) on Lancair Safety notes that the Lancair IV-P fatal accident rate from 2011 to 2015 was **104 fatal accidents per 100,000** hours. That is 10 times greater than the average fatal accident rate for the Lancair fleet and about **100 times greater than the General Aviation fleet**. The high fatality rate for the IV-P results from a number of factors, but the combination of a high stall speed and poor stall behavior is a big one. The IV-P has a high wing loading and did not initially incorporate any aerodynamic devices to mitigate its abrupt and asymmetric stall tendencies. This almost guaranteed a spin entry followed by a significant loss of altitude should the aircraft stall. NASA has shown that stall strips, stall fences, and drooped outboard leading edges can tame stall behavior even on high performance aircraft with high wing loadings. The Questair Venture is one example and the Cirrus is another. A new version of the Lancair IV-P has recently been developed by RDD Enterprises called the LX-7 that appears to have much better stall behavior. The modification adds a new wing with better [stall behavior](#) and a lower stall speed. It also includes a [whole aircraft parachute system](#) as well.

Beware of aircraft with unpredictable stall behavior; they can be killers.



Chapter 691 Electric Aircraft Project



- Initiate a project to build and race a totally electric amateur built aircraft to participate in the Pulitzer Electric Aircraft Race.
- Integrate a Science, Technology, Engineering, and Math (STEM) program into the project.
- Solicit and attract participation from local schools and youth organizations.
- Use the expertise and knowledge base of Chapter 691 members and others to educate, design, construct, and test the aircraft.
- Attract Sponsorship from Businesses and Patrons.



EAA Chapter 691 Membership Application/Renewal Form



Please mail this form along with \$25 to our Chapter Treasurer, Checks can be made out to EAA Chapter 691:

David Young
819 Gonzales Rd
Santa Fe, NM 87501

Name: _____

Spouse/partner's Name: _____

EAA #: _____ Expiration Date (MM/YY) ____ / ____

Address: _____ City: _____ State: _____ ZIP: _____

E-mail: _____

Home phone: _____

Work phone: _____

Cell phone: _____

Please list your currently flying A/C and any finished or in-progress projects: