



HIGH SIERRA FLYER

Newsletter of Sierra Chapter 403

2500 East College Parkway, Carson City, NV 89706

+1-858-774-1060 | contact@eaa403.us | eaa403.us

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PRESIDENT'S CORNER

Chapter Leadership Training

Note: When Robert Grant was temporarily unavailable, I pulled some content from EAA's national website for his column. – Editor

Chapter leadership training sessions are designed to help you become a better chapter leader. EAA offers three opportunities to help you increase your knowledge and attending them will grant Chapter Recognition credit to your chapter.

- Chapter Leadership Academy
- Chapter Leadership Boot Camp
- Chapters & Young Eagles Webinars
- Virtual Chapter Leadership Boot Camp

If you are unable to attend an in-person chapter leadership training event, there is a virtual online boot camp on March 3rd and 4th.

FROM THE VICE PRESIDENT

Journey to a Homebuilt: Part 3

In the last article, I left off in 2001 when life events had squashed my hopes of building a Barracuda airplane. By 2011 I had not flown in years. I decided to get a flight review to see if I still wanted to go forward with a homebuilt project.

I was signed up to fly a ratty rented Cessna 150. Up to this point I had only flown Cessna 150s and Piper Cherokees. As I pulled up to the ramp at the Ramona airport, I saw a beautiful Van's airplane. It turned out to be an RV-7A. The owner, Bill, was nearby and was only too happy to let me look over his pride and joy.

Thanks to our Volunteers!

He invited me to climb into the cockpit. Man, this thing was cool! Bill answered all my questions and said we could take his plane up sometime. About a week later I saw another Van's RV. This one was a tail dragger RV-7 with a custom paint job.

Talking to the owner Ken, I learned that this RV-7 had a 200 hp engine and a constant speed prop. Ken invited me for a ride if I agreed to buy breakfast in Hemet Ca. Sounded like a good deal to me!

I was pushed back into the seat as we accelerated down the runway. This was no Cessna or Piper trainer! We did a zoom climb and pulled 2 Gs as we entered a 2000 feet per minute climb. We arrived at Hemet in about 17 minutes (45 nautical miles away).

After breakfast we took off behind an RV-8. Ken contacted the pilot, who happens to be a friend of his, and asked if we could "join up". This was my introduction to formation flying. I was having the time of my life flying at a whole new level!

Ken soon contacted Ramona tower as we were 10 miles out for landing. The tower controller asked if we wanted the "overhead". Ken responded in the affirmative. I understood the overhead maneuver to be a high speed straight-in approach with a steep turn at midfield to

set up a downwind for landing. I had seen F-18s do this at nearby Miramar. We were soon in our own 60 degree bank, 2 G turn 1000 feet over the runway!

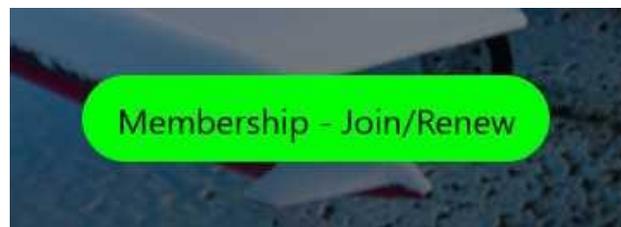
Within the next few days, I scheduled tailwheel endorsement training in a Citabria with a local instructor. After 1.8 hours of tailwheel training, I decided not to finish the endorsement at this time but concluded that my new aircraft build project would be a taildragger! That same day I ordered a set of Van's RV-7 preview plans.

To be continued...

FROM THE SECRETARY

Membership Renewal

At our FEB General Meeting, our new Secretary, Randy Vogelgesang, reminded those of us who haven't renewed our annual membership to do so. This can be accomplished by using the button at our homepage.



Webmaster Mike Zieba reminded us that even if you select the check / cash payment option rather than debit card, credit card or PayPal, we still request

that you complete the renewal form so we will have up-to-date contact information for all of our members.

Select Payment Method:

- Debit / Credit Card thru PayPal
- Check / Cash

FROM THE TREASURER

Treasurer's Report

Significant Transactions & Activity, excerpted from Treasurer Report for January 2026

- a. Treasurer paid Mountain West Aviation for the remainder of this year's lease (Feb - Dec 2026) for Chapter House grounds: \$2,200.
- b. Treasurer renewed Chapter's Non-Profit Nevada Business License: \$256.25.
- c. Patricia Jones made the second donation of \$1,000 for the Zodiac.
- d. January 10 Pancake Breakfast served 19 adults and 3 children to gross \$214*.
- e. January 24 Lunch served 38 adults and 3 children to gross \$404*.

*Note: Our Saturday benefit meal events are proving to be well-attended and profitable!

- f. Chapter purchased a second projector and mounts for the simulator room: \$515.32.

We also added the following new members. Please welcome them when you see them at the chapter house!

- Ho, Tina – Regular
- Kartman, Bob – Friend
- Radcliffe, Steven – Regular
- Rauscher, Jack – Student

I had the chance to talk with Bob & Rebekah Kartman and to welcome them to Nevada from their home base at EAA Chapter 2 in Fort Wayne, Indiana. They are spending a few months in our area, so we will see them again. – Editor

Balances as of 31 January 2026:

- 1. Wells Fargo Savings: \$70,372.06
- 2. Wells Fargo Checking: \$2,669.61
- 3. PayPal: \$636.20

Total cash accounts: \$73,677.87 (\$2,085 restricted for Ray Scholarship)



Thanks to our Volunteers!

TECH TALK

Red Neck Ignition Solution (RNIS)

Larry Grant gave us a nice technical presentation of the aircraft ignition system that he has been developing. His system replaces the more expensive (and lower output voltage) magneto with an electronic system that supplies much higher voltage to the spark plugs.

Assuming a 4 cylinder engine, the system uses a conventional automotive “wasted spark” coil with four terminals to supply high voltage to the spark plugs.

Note: A “wasted spark” system fires a pair of spark plugs simultaneously:

- a. one at the “set advance” before Top Dead Center (TDC) at the end of the compression stroke (just before the power stroke); and
- b. one near the end of the exhaust stroke of the cylinder(s) that is (are) 180 degrees opposite the compression stroke (this spark is wasted).

Wasted spark coils are divided into two spark plug segments – whether 4, 6 or 8 cylinder. For a 4 cylinder engine, the ignition coil used incorporates two separate halves that fire paired cylinders (1 & 2, and 3 & 4) simultaneously



Triggering features on ring gear

Larry uses Ford coils, but any equivalent wasted spark coil can be used in place of the Ford units. Amazingly, the deciding factor of choice of coil is whether or not the coil has a flat mounting service – not all do.

A separate Ford module called the “EDIS4” (Electronic Distributorless Ignition System, 4-Cylinder) creates the properly-timed electrical (12 V) impulses that are sent to each half of the ignition coil.

The coils use induction to act as a step-up transformer to increase the voltage from 12 V to 40,000 V or higher, allowing the spark plug gaps to be increased from ~0.018” for a typical magneto application up to a much wider 0.054” (or more), for a BIG spark and more complete combustion! In the magneto system, a single coil fires all four plugs. So, the dwell time is ½ of the dwell time available to the wasted spark system. Hence, a much more robust spark.

The EDIS4 module is triggered by equally-spaced ferrous “teeth” on a trigger wheel – in this case the starter ring gear. The module receives the variable reluctance (or, alternatively, hall effect) signals through shielded cables and then makes sense out of them.

Considering the initial crankshaft movement at engine startup, the ignition system is not calibrated, but with two revolutions the EDIS module has decoded the signals and matched the electronic instructions to the firing order and begins firing the coil(s).

EDIS4 decoding is simply making sense out of the 35 continuous signals and then the missing signal on the 36th tooth. These signals are generated by the passing of a ferrous tooth in close proximity to the sensor tip.

So, on a 360 degree circle, the ferrous objects (teeth) are placed every 10 degrees with 1 tooth missing to indicate the start of a new revolution.

The EDIS4 module isn’t as “smart” as a full-featured ECU (currently, there is no feature to vary the spark advance based on RPM and manifold vacuum), but it is MUCH more robust than a magneto-breaker points application.

Just as with a magneto, the timing of Larry’s system is static and is set by the operator-builder. It includes a

combination of "limp home" digital advance (10 degrees before TDC) and the physical advance that the operator-builder can index into the positioning of the trigger wheel (recommended to be anywhere between an additional 10 degrees up to 15 degrees).

Example: If the operator-builder indexes to a physical advance of 15 degrees before TDC, the total advance for all engine speeds (after the engine reaches 400 RPM) would be 25 degrees, which is a very common magneto setting. Below 400 RPM, the digital advance has not kicked in, and the advance is, therefore, the indexed advance of 15 degrees.

Because there is no communication with an ECU, the EDIS4, when engine RPM exceeds 400, is always running in limp-home mode (10 degrees of digital advance).

One advantage that the magneto has over all electronic ignition systems is that it will continue to fire the plugs when the rest of the electrical system is lost. But the trend is toward electronic ignition and, to compensate for this negative feature, aircraft operator-builders have embraced backup batteries and crowbar protections from cooking the primary battery.

It’s a beautiful thing when one can get a better system at a lesser cost. Users should see more power, better fuel

economy, better idle and, for the high fliers, the elimination of high altitude flashover (arching inside the magneto).

Per Larry,

“...The magneto does an “acceptable” job for operations at 1500 to 2700 RPM, at moderate altitudes. But when I got this system running on one set of plugs, the engine idle dramatically smoothed out...”



GUEST SPEAKER

Julia Williams' Checkride Journey

At our well-attended February General Meeting, Julia shared details of her checkride experience.

Just as with the old ABC Wide World of Sports, her long and winding path swung between the “thrill of victory and the agony of defeat.”

Along the way, she encountered multiple unanticipated delays and even a seasonal allergy-induced self-grounding event on her flight to the checkride on the actual day that the checkride was scheduled!



A few youngsters were present for Julia's presentation, and they were quite engaged with her story. They will be our future pilots!

In addition to receiving scholarship assistance from EAA, Julia also had significant help from Civil Air Patrol, and she thanked her most influential CAP mentors and helpers, listed below.



August Laine: Army Warrant Officer and Aeromedical Blackhawk pilot. CAP CFI. Soaring NV Manager and CFI-G. Fly Reno CFI (multi-engine).

Ruth Ann Van Vranken: Dispatcher for Horizon, Soaring NV Manager and CFI-G. Advanced and Instrument Ground Instructor. CAP Pilot and Flight Release Officer.

Jerry Hancock: CAP Aviation Maintenance Officer. CAP Pilot.

Russ Smith: CAP Nevada Wing Stan/Eval Officer. CAP CFI. CAP Flight Release

Officer. (Smith was present for Julia's presentation).

EVENT ANNOUNCEMENT

Elko Skyfair



Jairus Duncan attended our FEB General Meeting to invite our EAA chapter to participate in the Elko Skyfair on 26SEB2026.

We are currently in the discovery phase and are communicating with event managers to find out how we may be able to participate in the event.

<https://elkoskyfair.com/>

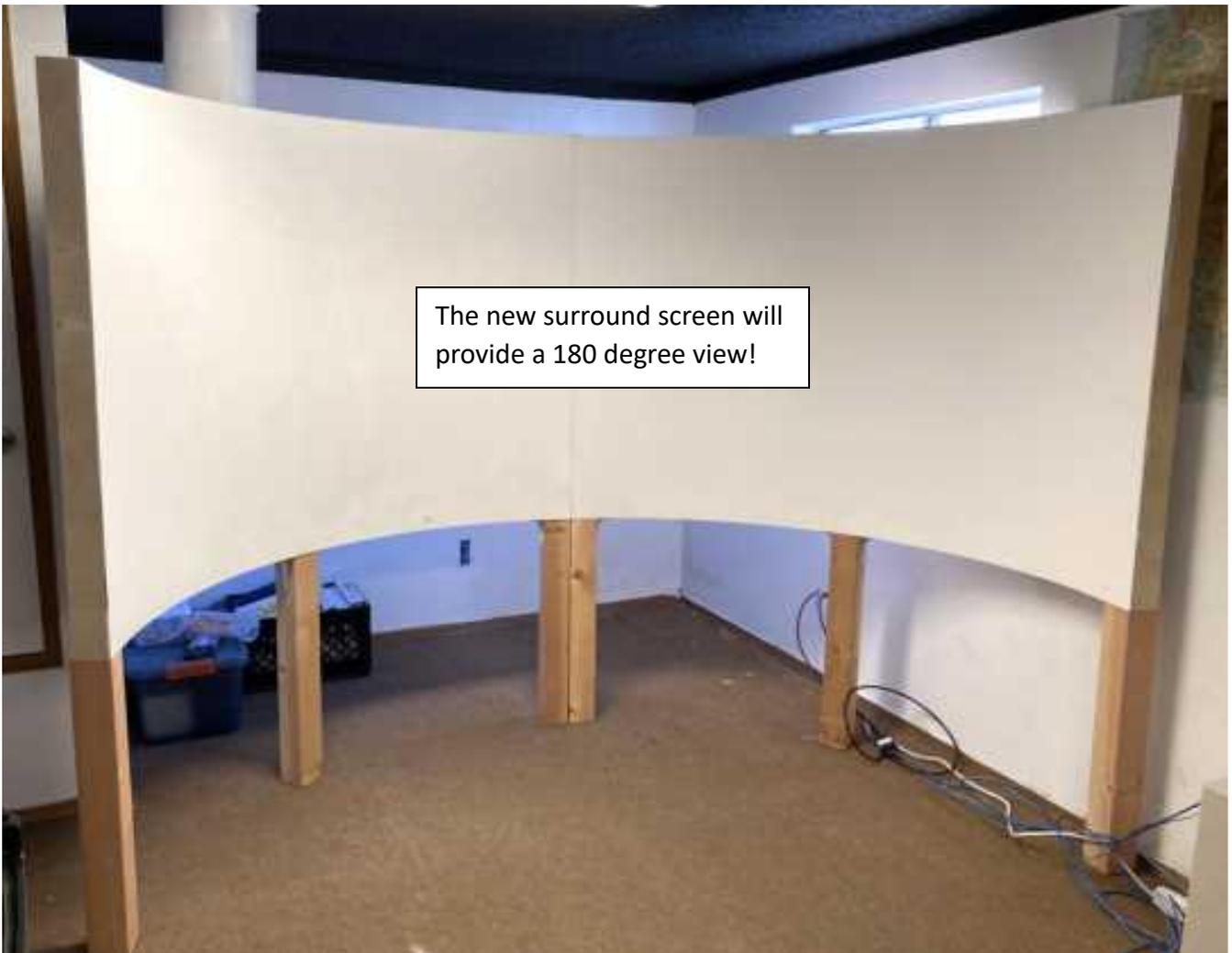


Thanks to our Volunteers!

Eli flies our MS Flight Simulator one last time using the original small computer monitor screens.



The new surround screen will provide a 180 degree view!





Two digital projectors provide the images on the new surround screen.

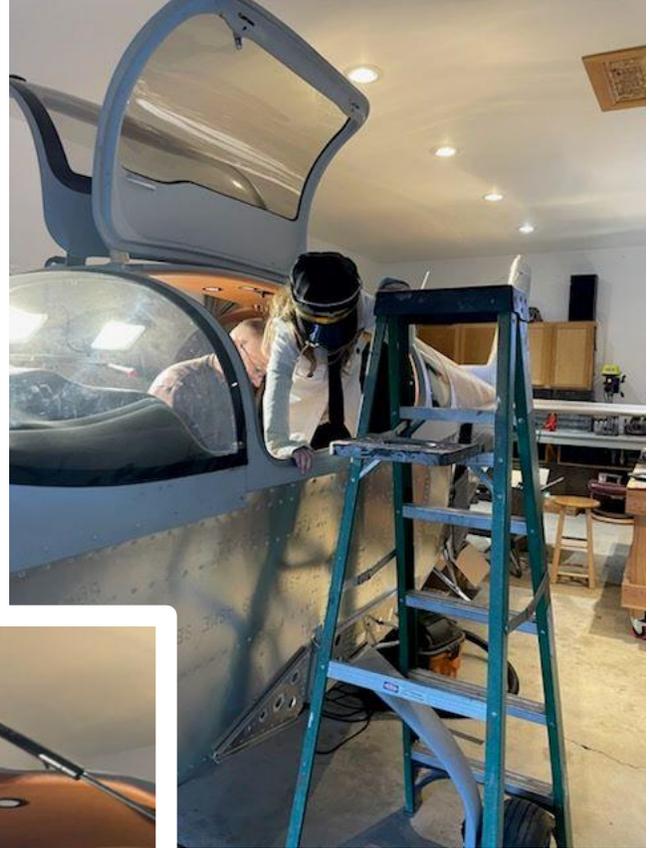
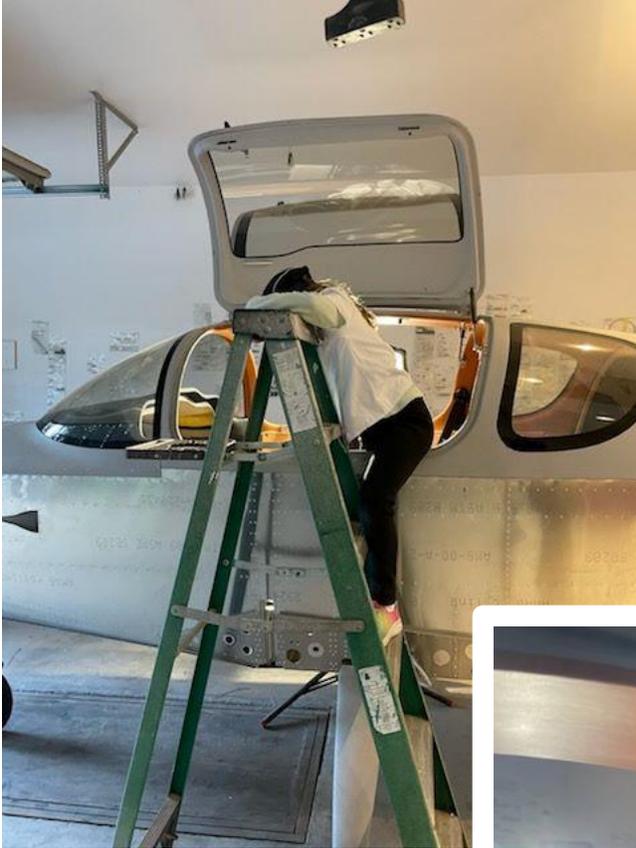


Software calibrates the two projectors to work together.

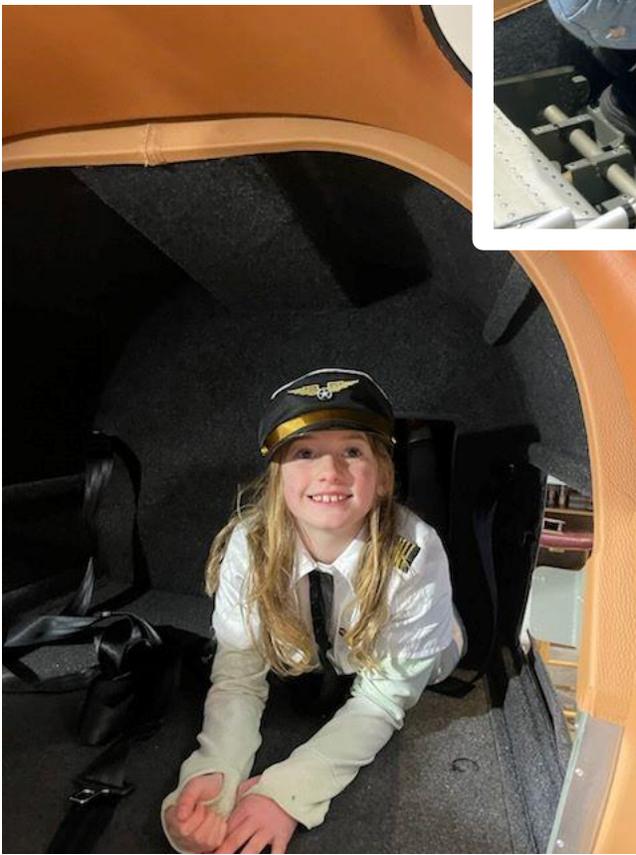


Flying our simulator is a privilege of chapter membership, so if you are interested in taking advantage of this resource, let us know!

Thanks to our Volunteers!



Abby took the opportunity to inspect MikeZ's Sling airplane inside and out!





VMC CLUB

The VMC Club meets on the fourth Thursday of every month at 1800 in the Chapter House. Dale Smith leads the group.



IMC CLUB

The IMC Club meets on the third Thursday of every month at 1800 in the Chapter House. Tim Rowe leads the group.



MEMBER CLASSIFIEDS

WANTED: Wooden propeller to fit the old Continental A65 engine that Jim Nunelee's three young students are assembling. Any condition, any diameter, and any pitch is OK.

FOR SALE: Rotax 914 MQ1 Predator Engine. \$17,500.

2016 Drone Conversion by the U.S. Government. 135 to 140hp. Log Book shows 362 hours.

For more information, please call Ev Young at his home phone.
775-434-7424

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FROM THE EDITOR

I attended the FEB board meeting and listened to the discussion about inviting new board members to take over running our chapter next year as most of our current members move on.

With all of my planned travel to support the Gyroplane community, I'm thinking that "At-Large" member would probably be my best fit for the next couple years.

If you are interested in keeping Sierra Chapter 403 up and running, please consider stepping up to take a board position in 2027. The best way to come up to speed is to pick a board member to "shadow" this year to gain experience.

CHAPTER OFFICERS

President
Robert Grant, 915-241-1330

Vice President
Mike Hardison, 858-774-1060

Secretary
Randy Vogelgesang, 530-545-1876

Treasurer

Mike Zieba, 775-343-5948

Board at Large

David Baird, 785-648-0141

Board at Large

Dayton Murdock, 775-721-9476

Board at Large

Larry Jones, 661-810-5272

Young Eagles Coordinator

Larry Crapo, 775-853-9049

Ray Scholarship Coordinator

Marlys Pryor, 914-498-1731

IMC Club

Tim Rowe, 775-233-8008

Technical Counselor

Jim Nunnelee, 775-790-1396

Pancake Breakfast Coordinator

Larry Grant, 775-842-0493

IT / Web

Mike Zieba, 775-343-5948

Simulator Coordinator

To Be Determined.

Newsleter

Gary B Swif, 775-790-6723