

Spirit of Flight

Experimental Aircraft Association

Chapter 14: San Diego, CA

February 2023



Gil Rudd prepares to fly a Young Eagle in his bigfoot Aviat Husky. Photo by Nick Candrella 1/21



Upcoming Events

Table of Contents

Page Topic/Author

2	Chapter Briefing.....Chapter 14 Members
3	President's Message.....Trinidad Lopez
4	December Young Eagles Report.....Grant Rotunda
5	RPVs in ActionSummary by Donna Ryan
6	New Member Donna Ryan
7	Building the Arion Lightning Classic – Phase 3.....Nigel Worrall
11	Marketplace
12	Upcoming Programs Kerry Powell
13	Building an Aircraft – What You Need to KnowSummary by Donna Ryan
15	Don't Delay, Renew Today Donna Ryan
16	Around Chapter 14.....Photos by Chapter 14 Members
17	EAA Chapter 14 Membership Form

February 11th—Young Eagles Rally

February 18th—Pancake Breakfast and
General Meeting: Gen. R. G. Head on US
Attack Aviation

March 3rd—Lunch at Hangar 1

March 11th—Young Eagles Rally

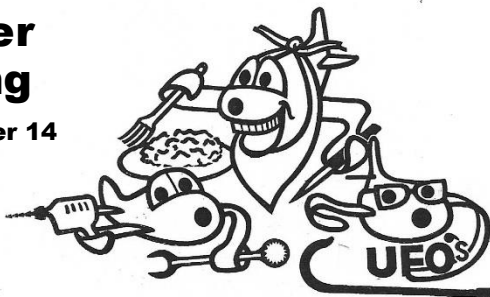
March 18st—Pancake Breakfast and General
Meeting

April 1st—Lunch at Hangar 1 (no fooling!)

April 8th—Young Eagles Rally

Chapter Briefing

EAA Chapter 14 Members



Chapter Activities: Information provided by Chapter members.

Week ending Jan 7: Rainy cold first part of the week with heavy winds. The only person down at the Chapter for the first two days of the week was Ryan making sure nothing blew away.

Things picked up as the week went along with all three Nieuport builders at the field working on their projects during the week. Jimmy Kennedy was busy covering and rib stitching his lower wings, with help from Trevor Pearson. Jim MacKinnon worked on his control stick mount and prepared to mount his engine for a weight-and-balance check. Gene Hubbard finished repairing his engine mount and re-attached his firewall. Gene also used the Chapter's big South Bend mill for some small exercises in learning machining techniques. Both Jim MacKinnon and Gary List spent considerable time cleaning and prepping for Saturday's get-together.



Kevin Roche cooks breakfast for members and visitors on Meeting Day. 1/21

With cancellation of our rescheduled fly-out to Chiriaco, Chapter activity on Saturday was anyone's guess. As it turned out, we had a pretty good turnout. Gert Lundgren was out flying his RV-12, giving a ride to Michelle, an Eagle interested in pursuing an aviation career. Both Gert and Ryan have been giving Michelle some stick time before she begins formal pilot training. After flying, both Michelle and her mother Sylvia stayed at the Chapter for lunch. Ron Shipley and Jonathan Robbins were also out flying on Saturday.

In the morning, Jimmy Kennedy and Trevor continued making progress on Jimmy's Nieuport. Ryan provided Gene Hubbard with advice on how to construct hybrid spark plug wires to connect an aviation magneto to automotive plugs while Joe Russo prepared to re-attach the aluminum leading edge skin to the Playboy project.

Gene Hubbard provided a lunch of lasagna with salad and fruit cocktail to a total of 17 diners, assisted by Duane and Pauline Shockey. After lunch, Gene, Larry Rothrock, and Trinidad Lopez discussed plans for the Chapter's lease renewal and expansion, measuring how to position new hangars to the north of Old Charlie. The Chapter will soon be looking to acquire additional T-hangars; we would appreciate any leads for available hangars in reasonable condition.

After lunch, Gene did some more work on the mill, Dion Dyer swept the dust out of Hangar 3, while Gary List retired to the Eagles' Nest for some IFR practice on the simulator." Thanks so much, Gene for a detailed and informative account- everybody, please do your part to contribute information too – our members enjoy hearing what is going on at the Chapter.

Week ending Jan 14: Sunday saw another day of good weather which brought out Jim MacKinnon and Ryan to work on their aircraft. Gert and Ryan both gave Eagle flights. Jonathan Robbins returned from a trip in the Myers. It was supposed to rain heavily on Saturday but a number of members showed up at the Chapter despite the forecast. Young Eagles flights had been cancelled, but Grant Rotunda was there to deal with any members of the community who didn't get the message. Jimmy Kennedy and Gene Hubbard worked on their projects, Jonathan Robbins and Gary List got ready for some prop maintenance on the Meyers. Nigel Worrall flew in to help Ryan load a flight chart program onto an old iPhone 6 which is the perfect fit for Ryan's Diamond. They finally got it to work and it is very useful.

Week ending Jan 21: At the beginning of the week, EAA National referred a man to Young Eagle and Eagle Coordinator Grant Rotunda about having an eagle flight. Ryan ended up giving the man a flight – he is interested in joining the Air Force. He came back on Saturday for another flight. Midweek saw activity at the Chapter as various members worked on planes and projects or Chapter chores. Nigel Worrall and Ryan moved and disposed of a lot of unneeded wood – now we can neatly stack and store the remaining sheet useful metal pieces behind the T-hangars on Old Charlie. Besides looking better, it eliminates hiding places for rabbits (and their droppings). Gert Lundgren is doing some electronic upgrades on his RV-12iS with the assistance of Jonathan Robbins. Dion Dyer is getting stick time preparing for his check ride and he and Ryan spent a couple of hours in Ryan's Diamond that should help him transition to his Tailwind experimental aircraft. We received a very welcome addition to the Chapter. A gentleman from Scottsdale, Arizona donated a Redbird TD2 G1000 simulator to the Chapter; two Chapter friends from Montgomery helped put an updated SIM card in; Grant Rotunda picked it up. President Trinidad Lopez said it is "beautiful." There appears to be an additional opportunity to receive two more Redbirds from another source – more information to follow.

We had a Super Saturday on Saturday – a combination of a Young Eagles event, plus our General Meeting and Program. That meant attendees had a chance to enjoy both

an excellent pancake breakfast plus lunch. Kevin Roche and his son David did the honors for breakfast; Trinidad and Sharon Lopez made up the hamburgers and hotdogs for lunch. Trinidad said he served 85 meals before running out of food. There was a large group for both events. A group of Boy Scouts were present for the Young Eagle event. Sam Cortezano oversaw the very busy group of Young Eagles and our very much appreciated pilots. Nick Candrella very nicely shared the great photos he took of the group. See the Young Eagles writeup later in the newsletter. Kent Casady, whose beautiful Taylorcraft appeared on the cover of last month's newsletter sent his regrets prior to the big day – he was attending DC3 ground school held by CAF at Flabob – perfectly good excuse!

Week ending Jan 28: Nigel Worrall left for Arizona to start Phase 3 of building his Arion Lightning. We're eager to hear how it all went. On Sunday, Jonathan Robbins gave returning Eagle Michelle a ride in Gert Lundgren's RV12iS, while Gert gave Michelle's mother Sylvia a ride in his yellow Corvette – we cover many transportation options here at EAA 14! During the week, Jimmy Kennedy, Jim MacKinnon, and Joe Russo worked away on their projects, while Gene Hubbard and Alan Sparkes are doing the final assembly of Gene's new VW engine that he intends to put in the Mini-Max he is building in Michigan. Saturday morning saw just a few of the hard-core builders show up after the heavy rains we had on Friday. But right at lunch time, a number of other members stopped by, including Jim Wright and Larry Rothrock, to sit and watch the action on the Field, catch up with old friends, and talk about all things aviation-related.

General Meeting: President Trinidad Lopez opened the meeting and welcomed Chapter members and guests. He encouraged people to renew their membership and invited all to remain for lunch. Kerry Powell, our Program Director, then introduced our speaker for the month, Rich Martindell. See a short overview of his presentation, "RPVs in Action," later in the newsletter.



President's Message

Hello Everyone,

I want to thank those who have participated in our membership drive by joining our Chapter or renewing their membership.

Our goal is to reach the 200+ membership level for the Chapter. We are off to a very good start and already at 70% towards reaching our goal.

New this month we are adding a family Chapter membership. For \$10 more a chapter member can add one person from their household or immediate family to their yearly membership. We want to help encourage family members to participate in our chapter activities and events.

We are also having a special membership event on the third Saturday of this month. We are giving away a Chapter coffee mug to all members, and on this day only, a new member can purchase a Chapter t-shirt for just \$5. Plan to stop by the Chapter for this event.

Our January Young Eagles day was held on the third Saturday due to weather. Once again it was a great success, with 39 kids flown and almost 80 persons attending the combined Chapter general meeting and presentation, and Young Eagles day.

We expect a large turnout this month. In March, in addition to Young Eagles day, we will also be hosting a Young Eagles STEM Workshop. These workshops are very popular and we expect a large turnout.

Last month we received the donation of a Redbird G1000 Jonathan Lampitt for his generous donation.

On the 4th Saturday of this month we are planning our long delayed fly out to Chiriaco Summit. Please contact our fly out coordinator, Francisco Munoz, for the details. See contact information on the back of the newsletter.

Clear skies,

Trinidad Lopez



Visitors congregate around Gene Hubbard's Pietenpol on meeting day. 1/21



January Young Eagles Report

Grant Rotunda

After a week delay due to rain, the Chapter hosted the first Young Eagles rally of 2023 on Saturday, January 21.

The day was a great success and we flew 35 kids, including 30 first time flights! Scouts from Troop 1194 also attended and made good progress towards completing their aviation merit badge. Thanks to pilots Greg Bradbury, Chris Constantinides, Roman Hendle, Bruce Hill, Fred Leider, Gilman Rud, Duane Shockey, Abraham Talerman and Shon Alexander. Also, a big thank you to ground volunteers Sam and Noah Cortezano for running registration, check in and the welcome/safety brief. This was the most Young Eagles flown and pilots participating since the program restarted last year and is an exciting start for the Young Eagles program in 2023! The next rally is scheduled for Saturday, February 11th, 2023, so come on out and participate in this rewarding program.

Also in January, pilots Jim Sierens and Ryan provided Eagle flights to two young men interested in pursuing aviation. The requirements from EAA to conduct Eagle flights are less stringent than Young Eagles (i.e. no Youth Protection Program, or background check required) and provide a way to introduce individuals 18 and over to the possibilities of flight. Please reach out to Grant if you have questions and/or are interested in participating in this program.

Finally, to cap off the month, the Young Eagles program was very generously donated a Redbird TD2 flight simulator from Jonathan Lampitt and facilitated by Rich and Tigre Pickett. The Redbird is an advanced flight simulator with Garmin G1000 avionics and configurable as retractable, complex and/or high performance. The simulator will be used at future Young Eagle events as participants wait for their flight as well as at upcoming STEM events the Chapter plans to host.



Chris Constantinides inspects his Turbo Arrow before loading Young Eagles for a flight. 1/21



The First Flight Champion makes a rare appearance at the Chapter flying Young Eagles. 1/21



Cessna 172 flying Young Eagles. Not clear who's flying it. 1/21



Duane Shockey taxis his Cessna 170 for a Young Eagles flight 1/21

Experience is a hard teacher. First comes the test, then the lesson.



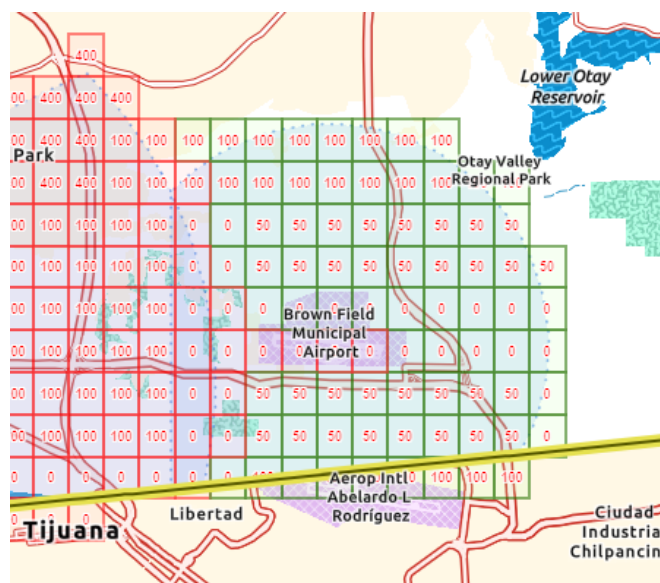
RPVs in Action

Short Summary by Donna Ryan

The following information is based on a talk given by Rich Martindell at the January 21st membership meeting.

Rich Martindell provided a very informative talk on serving as a drone pilot for an RPV (Remotely Piloted Vehicle). Rich is the Vice President of Course Development at King Schools and is a retired Air Force Lt. Colonel. Among his many career accomplishments, he flew the F4 and F-15 fighters and served as an instructor pilot for those aircraft. He has over 2,000 hours total flight time in fighter aircraft.

Rich spoke briefly about Unmanned Aircraft Systems (UAS) Facilities Maps and provided an example of one for the Brown Field area.



UAS Facility Map for the Brown Field area. All part 107 operations within the colored squares require FAA authorization. Authorization is routinely granted below the AGL altitudes shown in the squares. Authorization for operations within the green squares can be obtained on-line while operation within the red squares requires manual authorization which can take up to 90 days to obtain.

These maps show the maximum altitudes around airports where the FAA authorizes Part 107 operations without additional safety analysis. While you still need to apply to operate in the airspace, if you want to operate your drone under this height, approval is usually granted very quickly; if you want a waiver, then it will take additional time for approval.

Rich spent most of his presentation talking about operating very large RPVs in various locations around the world: Iraq, Niger, Poland, and Yuma. As a civilian employee for General Atomics, he flew the MQ-9 Reaper for the Department of Defense (DoD).



He called the Reaper incredibly reliable. He also praised the radio systems as being phenomenal. While it was a bit squirrely to land, take off was fine. Costing \$17 million, it was characterized by the following:

- TPE 331 Turboprop
- MTOW 10,500#
- Cruise 170 Kts
- Endurance 24+ hrs
- Ceiling 50,000
- 4 x AGM-114 Hellfire & 2 x GBU-12 LGBs
- 4 x GBU-38 JDAMs

As a civilian he could not be a combatant; only the military could deal with ordinance. However, when civilian pilots were flying, they had to be on constant lookout for bombs coming down from above or artillery fire. In addition, while drones could be 500 feet apart from other drones, they needed to be 1,000 feet away from manned aircraft.

There were two types of training for two different groups: 1) Launch and Recovery Element and 2) Mission Command Element. Generally Launch and Recovery personnel would get the drone in the air and then the Mission Command personnel would do the actual flying, turning operation of the craft back over to Launch and Recovery for landing.

The qualifications to begin training for Mission Command included the following:

- Current pilot
- Commercial/Instrument rated
- 500 hours PIC
- 2nd class FAA Medical
- Ability to obtain a DoD Secret Clearance

Sensor Operators needed the following:

- Training or technical school sensor experience
- 2nd Class FAA Medical
- Ability to obtain a DoD Secret Clearance

Rich spent a lot of time discussing the control offices – the place where operations actually took place. While the pilot generally sat on the left seat, and the sensor operator on the right, the seats were interchangeable if needed.



Depending on the location, his work schedule consisted of the following:

- 12 hours on, 12 off seven days a week
- Shift change at 1600 and 0400
- In the "office" 6 of the 12 hours
- Deploy for 3 months, then 3 months off

Rich spent the remainder of the talk discussing the specifics of each location and sharing many pictures of them. The Iraq base had excellent base facilities for all personnel; those in Africa were more Spartan, but personnel were able to leave the base. No matter where they were, they needed excellent long- term weather forecasts as a drone could only land at the base; if the Reaper was 1,000 miles from the base, it might take five hours to get home. Weather was different in each location as well. In Niger, there was turbulent heavy rain and then there could be huge dust storms.



In Poland, fog and icing were common.

This was an interesting and informative talk by how RPVs are used in both war and peacetime situations.

You can land anywhere once.

New Member

Donna Ryan

Welcome to **Daniel Branco**, our new member this month. Daniel owns a Flight Design CTSW and has an LSA-Repairman-Inspection certificate. He also is a student pilot. He is interested in light sport aircraft and Rotax 912 engines

Look for him at the next meeting, introduce yourself and get to know him better. We very much appreciate his support.



Cessna 172N out of Newport Beach. 1/21



A Young Eagles prepares to fly with Duane Shockey. 1/21

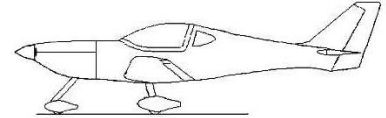


Ryan and Dominick taxi for an Eagle flight in Ryan's Katana. 1/21



Building the Arion Lightning Classic – Phase 3

By: Nigel Worrall

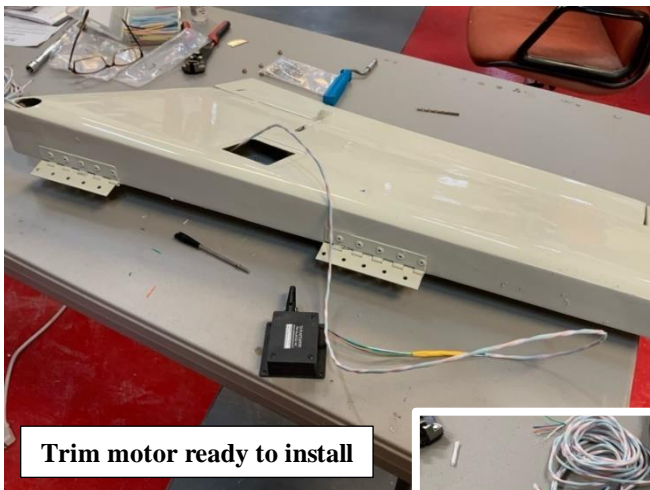


Great way to start the new year – back in Marana, AZ working on the third phase of my Arion Lightning Classic.

Temperatures were rather frigid this time around, with shop temperatures hovering somewhere between the mid-forties to mid-fifties on a nice day.

Day 1

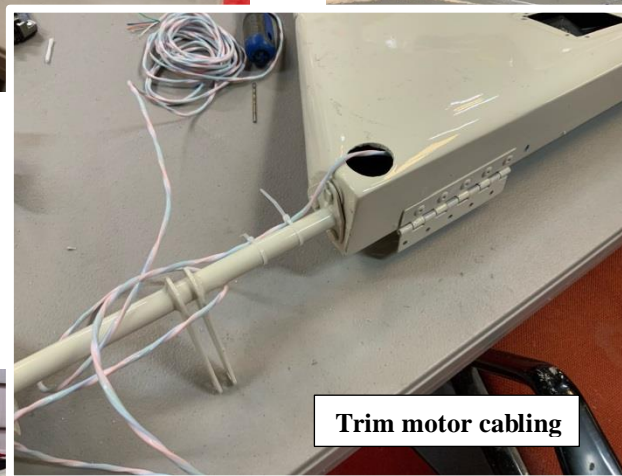
On the first of seven 10-hour days for this third week, I installed and ran the control cable for the electric trim motor. I then remounted and did the final fit of the stabilator and elevator.



Trim motor ready to install



Installed trim motor



Trim motor cabling



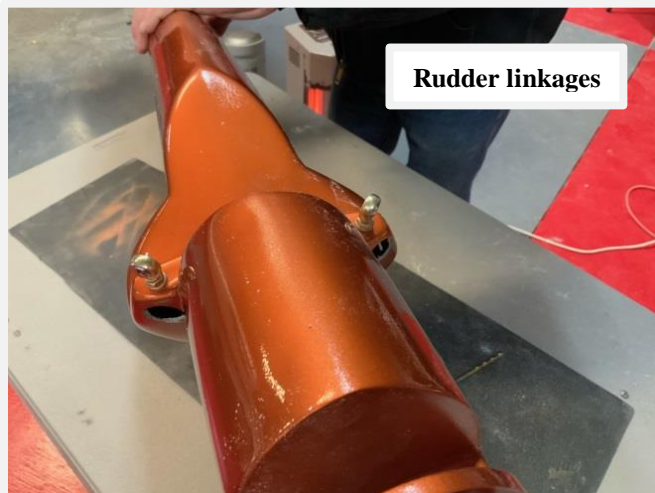
Finished elevator. Looks good.



Day 2

I fitted the rudder horn linkages. A bit messy, as I had to drill holes big enough for my fingers to get bolts and a wrench inside. I will try to find some plugs later to make this look a little more presentable.

I then moved onto installing the aileron push rods, connecting them up to the bell crank in the wings. The result for the left wing came out very nicely.



Rudder linkages



Aileron push rod



Aileron bell crank



Finished wing with aileron and flap

The aileron on the right wing wouldn't "fit", because it had been made incorrectly in the mold and did not match the left wing. I went to town, tearing it apart and rebuilding it. Here are before and after pictures. The repaired aileron will need to be prepped and painted, before final assembly.



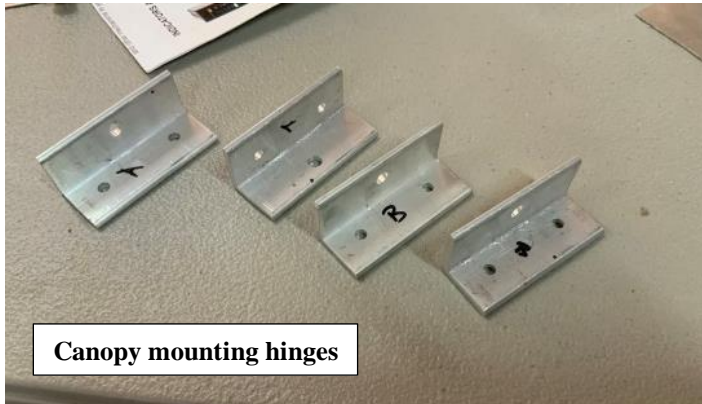
Badly positioned aileron hinge



Refitted aileron hinge

Day 3

I made up pairs of canopy mounting brackets. Then I made up inspection covers for the wings and installed nut plates. This detail work does take a long time, but has to be done. For the last task of the day, I finished up aileron bell cranks.



Canopy mounting hinges



Wing inspection panel finished up

Day 4

As you can see by cap and sweater, it's a bit cold in the hangar. But I'm getting lots of work done. I did the final fitting of the cowl halves and some necessary re-trimming. Then I fitted the nut plates to bottom half and around fuselage, as well as lots of small detail stuff. Tomorrow, I plan to work on fuel tank preparation and then install it into the wings.

The shop is full of planes right now. The grey one is a Tucano replica. A real beauty, with retractable gear, constant speed prop and a turbo charged 140 HP Rotax.



Fitting nut plates to cowl



Cowl check fit before adding nut plates



Nut plates clecoed in place



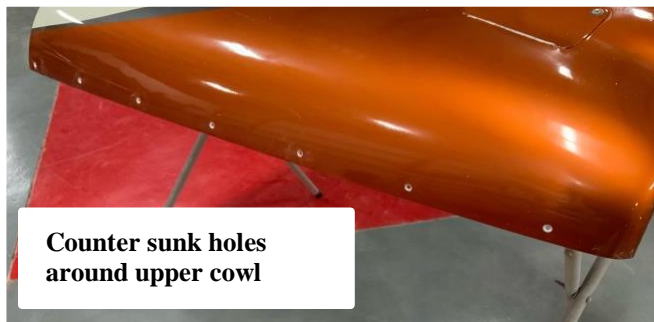
Three Lightnings. Top one is for sale.



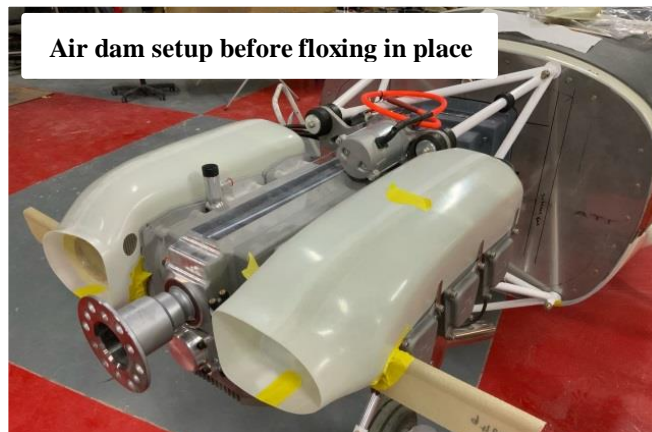
Tucano replica

Day 5

Another long, but progressive day. I prepped the upper cowl half, countersinking all the holes to make room for the Tinnerman washers. Then I finished off the inspection plates and mounted them. I started working on engine cooling ducts, fitting and internal glassing. Whilst all that was curing, I got back to preparing more inspection panels, this time for horizontal tail.



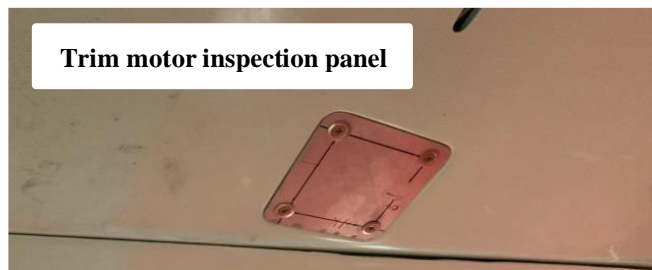
Counter sunk holes
around upper cowl



Air dam setup before flexing in place



Front cylinder air dam glass setup



Trim motor inspection panel



Tail plane inspection panel before fitting



Lower cowl half showing nut plates



RV6A out of French Valley

A couple of prospective customers, looking to build Lightnings, flew in from French Valley to find out all about it. I took some time out to explain what I was doing.

Day 6

With the previous days glass work cured, I added a layer of glass to the outsides of the cooling ducts for strengthening and an extra air dam to control the airflow through each cooling duct.

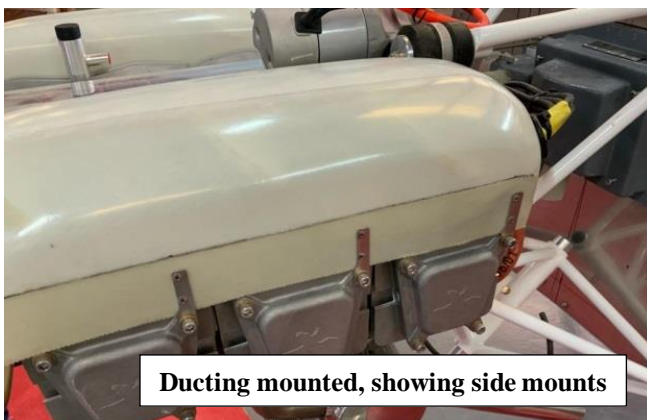


Added airflow diverter floxed in place



Adding fiber glass side strip to ducting

Here are pictures of the engine cooling ducts fitted and secured down the sides and at the front with springs.



Ducting mounted, showing side mounts



Ducting showing front securing springs

Next, the elevator inspection plates were completed and fitted



Fitted tail inspection panels

Marketplace

For Sale: Sonnerai II-L. Needs reassembly. Includes current airworthy. Donated to EAA Chapter 14. Selling for \$5,000. Email Ryan at rryan@san.rr.com for more information and photos.



Day 7

The stick mixer finally arrived on my last day. This is a new design, which now runs over the spar box instead of through, because the carbon fiber wing spars leave no room and unfortunately, it did not fit. We will have to carry out some modifications to make it work. Something to look forward to on my next visit – hopefully in February, or early March.



New stick mixer assembly.
Push rod hits spar box

To sum up the trip. I am at the stage where much time is being spent on the detail work. Unfortunately, I did not get around to sloshing the fuel tanks with sealant, so they were not installed.

Next time, I'll be fitting the glare shield, master brake cylinders, seats and installing some wiring. Big ticket items to look forward to.



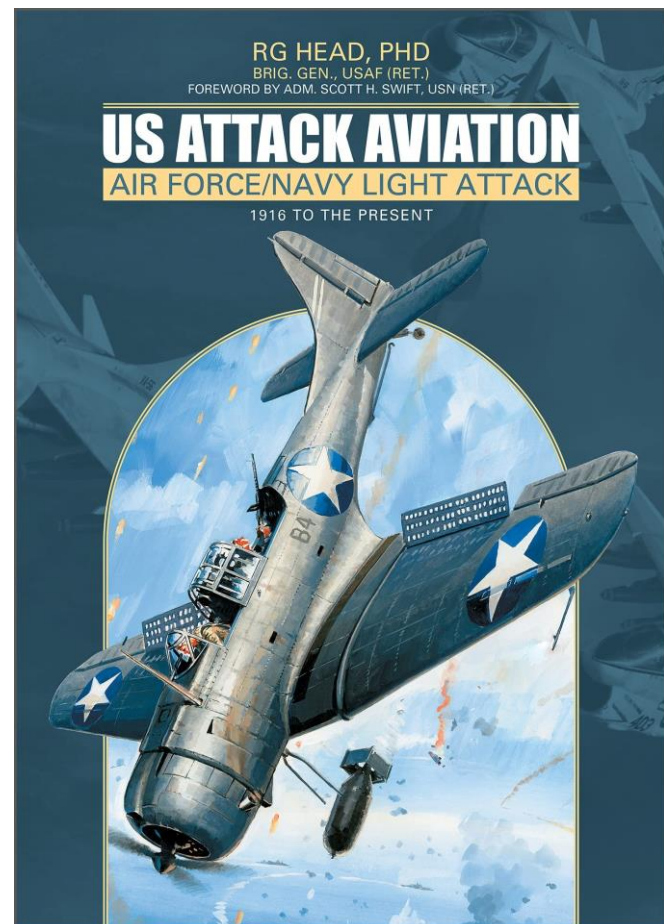
Kerry Powell, EAA-14 Program Director

February 18: R.G. Head returns to Chapter 14 to present two of the 51 stories in his new book that highlight the cultural differences between Navy attack pilots and Air Force fighter pilots.

Dr. Head began flying at the age of 15 and received his private pilot certificate at 17. He entered the Air Force Academy with its second class in 1956, graduating in 1960. During his Air Force career, he flew 325 combat missions in Vietnam, receiving the Silver Star, Distinguished Flying Cross, and Air Medal with 12 Oak Leaf Clusters.

After returning from Vietnam, Dr. Head continued his Air Force career with several flying and non-flying assignments. He received his Ph.D. in Political Science in 1969 and was selected as Brigadier General in 1983, serving as Deputy Commander, 5th Allied Tactical Air Force and at the Pentagon before retiring in 1987 after 27 years of service and 3,000 hours of flying time.

US Attack Aviation is Dr. Head's fifth book. His previous books include Oswald Boelcke: Germany's First Fighter Ace and Father of Air Combat and (with Robert McFarlane and Frisco Short) Crisis Resolution: Presidential Decision-Making in the Mayaguez and Korean Confrontations. Dr. Bolcke previously visited Chapter 14 in May 2018 to talk about his book on Oswald Boelcke.



Building an Aircraft – What You Need to Know

Short Summary by Donna Ryan

The following information is based on a webinar given by Charlie Becker

It was very appropriate for the lead webinar of EAA Homebuilders Week to be about what you need to know about building an aircraft – it definitely involves more than drilling holes or laying fiberglass. Instead, there needs to be a lot of prior decisions and dealing with outside requirements and paperwork before you get started. The webinar was presented by Charlie Becker, EAA's Director of Chapters and Communities, as well as the EAA Homebuilt Community Manager. A passionate home builder himself, he wanted those in the webinar to have the knowledge needed to make their build a success. The following summary covers just the highlights of the presentation. You can watch the entire webinar at www.EAA.org/HomebuildersWeek.

He acknowledged that building an amateur built aircraft may not be for you at the present time:

- You want to fly now – not wait
- Need to use your aircraft for commercial activities
- Won't have the time to devote to it because of work, family, outside interests
- Family against it

But if these don't apply, he stressed that you can do this! All basic shop skills can be learned and if you have the patience and commitment to take up the challenge, you'll really enjoy the process. He outlined seven general steps in the overall build process:

- Research and planning
- Selecting the design
- Building
- FAA Registration
- FAA Airworthiness Inspection
- Flight Testing
- Maintenance

Research and Planning


He began by providing an overview of the different types of Experimental Airworthiness Certificates. He discussed E-AB (Experimental Amateur Built) which is the type of aircraft this seminar discussed. FAR 21.191 (g) describes the certificate as appropriate for "an aircraft the major portion of which has been fabricated and assembled by persons who undertook the construction project solely for their own education or recreation" – hence it isn't for carrying people or property for payment.

Charlie spent time discussing the 51% rule and mentioned that multiple people can build the aircraft together in order to get the airworthy certificate. You can also pay someone to construct a portion of the aircraft. However, you need to be able to easily prove that you or your compatriots are actually assembling or fabricating more than 51%. Note:

some tasks, such as painting the aircraft, have nothing to do with the ability to fly an aircraft, so that doesn't count against you.

Charlie explained that the 51% rule is task based and showed several examples on how tasks were computed. To make it easier for the FAA inspector (and the builder), a kit manufacturer can request a 51% evaluation from the FAA in advance which would apply to all of the kits for a specific aircraft type. For example, the picture below shows a summary of all the aircraft tasks for an Onex Standard Kit. The red arrow points to the builder percentage – 66.24%, so no issue with the 51% here.

Onex - Standard Kit



FABRICATION AND ASSEMBLY SUMMARY		A	B	C	D
	Mfr Kit/Part/Component	Commercial Assistance	Am Builder Assembly	Am Builder Fabrication	
1. Total Number of Aircraft Tasks (Note 1)	(SUM#1)		117.00		
2. Total Points for Each Category. (Note 2)	39.5	0.0	60.3	17.2	
3. Total Points for Complete Aircraft Construction (SUM # 2 should equal SUM # 1 above). (Note 3)	(SUM #2) ▶		117.0		
4. Percentage of Each Category as Part of Total Aircraft Construction. (Note 4)	33.76%	0.00%	51.54%	14.70%	
5. Total Percentages for Complete Aircraft Construction (Add all percentages in row 4) Total should equal 100% (± .5%). (Note 5)			100.0%		
6. Total Builder Points – Add points in row 2, column C and D only, together. (Note 6)			77.5		
7. Total Builder Percentage – Add percentages in row 4, columns C and D only, together. (Note 7)			66.24%		

Example task checklist for Onex Standard Kit build. This builder completed 77.5 of 117 fabrication and assembly tasks for the aircraft, resulting in a "builder percentage" of 66.4%, easily meeting the 51% rule.

Charlie mentioned that these checklists are available online for specific kits. I found a list of a number of kits at www.faa.gov/aircraft/gen_av/ultralights/amateur_built/kits/nket_list

One big advantage of being the builder of your aircraft is the ability to use the parts you want – they don't have to be certificated. Example, the 2023 Wag Aero Catalog lists an FAA approved Cleveland Master Cylinder used on production aircraft for \$998. But a Matco (which is excellent product, but not certificated), costs only \$132 – a significant and safe alternative.

Speaking of money, make sure you create a realistic budget during the planning phase. Kits generally do not include an engine, propeller, or avionics – take the prices of those into account upfront before you decide on your kit.

Decide where you will build the aircraft. Being able to do it at home saves money and time; but make sure you can get it out of the garage or basement. Also, have a realistic idea of where you will store the aircraft once it is built.

In addition, ensure that you have a way to accept delivery of the kit. They generally come in very large crates and there needs to be a way to get it off the truck and into your build area. An example: a Van's RV-8 Quick-build comes in a crate weighing 880 pounds with dimensions of 16' x 4' x 4'.

Selecting a Design

Charlie encouraged builders to get the family involved in this decision. Even if they won't be able to help you with the build, they can help in selecting an aircraft (number of seats, tandem or side by side) and choosing a paint scheme and interior.

When you select your aircraft, be realistic about your building skills and your flying skills. Some other key decision points:

- Fixed or retractable gear (insurance may cost less for fixed gear and it doesn't slow you down that much)
- Tricycle gear or taildragger (tricycle gear is harder to build, but may be best if doing lots of cross country flying)
- VFR or IFR
- Aerobatic
- Sport Pilot eligible
- Comfort (try getting in and out and sitting in your choice for a while. A low-wing may be slightly harder to get in and out and if you are 6'3", some designs are just not going to fit you well.

It is very important to select the right kit company. Read up on their reputation and their longevity and what kind of support you will get during building.

Charlie spent some time discussing and showing examples of a Standard kit versus a Quick Build kit. Some key points:

Standard Kit

- Difficult parts factory made
- Need only basic shop tools
- No welding, basic fabrication only
- Best value
- Reasonable build time – maybe 1 to 2 years



Standard Kit for Van's RV-7. *Standard kits provide the best value but generally requires one to two years to complete.*

Quick Build

- Major assemblies are pre-made
- Spars often fit and drilled
- Minimal need for tools
- Basic skill level
- Most expensive – you are paying for the manufacturer's label
- Can be built in months instead of years.



Quick-Build Kit for Van's RV-7. *Quick-build kits can cost significantly more than standard kits but provide completed major assemblies, reducing build time from years to months.*

You'll also need to select your engine as part of the planning phase. Do you want an FAA "Type Certificated" engine such as a Continental, or do you want a non-certified, purpose built aircraft engine such as a Jabiru. Maybe you want to use an auto conversion like a VW. It's a good idea to first see the kit manufacturer's support for the type of engine you are considering. Charlie recommended that if you are a first time builder, go with the engine your kit manufacturer supports so you can get the engine mounts you want for instance.

Before you make your final decision, you want to think about insurance. You may want to call an insurance broker who deals with experimental aircraft to see which kit may be cheaper or has a better safety record. Falcon Insurance is EAA's broker. In addition, find out what kind of coverage you will need. Homeowners insurance will not cover your project. When you are ready to start training in your new aircraft and then flying, you will need insurance as well. For basics on insurance see www.EAA.org/Insurance or call about the EAA Insurance Plan at (866-647-4322).

Building

Besides the physical construction process, the most important point here is to have enough documentation to convince the FAA that you built the aircraft. While there is no set format, there needs to be pictures of you building it, as well as any documentation of commercial assistance. EAA offers an excellent online Builders Log. See www.EAA.org/BuildersLog.

During the build process, it is a really good idea to have an In Process Inspection by one of our EAA Technical Counselors to help ensure a well constructed, safe aircraft. The counselors are volunteers and are experienced builders who can offer a second set of eyes. EAA National recommends at least 3 visits. Our Chapter is fortunate to have two Technical Counselors: Dan Gerdes and Gene Hubbard. See their contact information on the back page of the newsletter.

Go to www.EAA.org/Hints to watch a series of weekly how-to videos called hints for Homebuilders. More than 600 of these videos are available and might supply just the information you need.

Registration

You eventually will need 4 required documents to certify your aircraft: "AROW"

- Airworthiness Certificate
- Registration
- Operation Limitations
- Weight and Balance.

EAA National offers a Step-by-Step Certification Guide that can make this process easier. Charlie recommends registering your plane at least six months before you think you will have your final inspection. The cost is \$5 and the registration is processed by FAA Oklahoma city. If you want a personalized N number, add \$10.

Be aware that once your plane is registered, the State Tax Board knows about it and will ensure you have paid the appropriate sales tax. In some cases, your kit companies pay this tax – make sure how they handle this so you don't pay it if you don't need to.

Airworthiness Inspection

FAA Inspectors may not be available to do the inspection in which case you'll want to contact an AB-DAR. Everything should be 100% complete for the inspection. Make sure you have your maintenance and builder's logbooks. The inspector will conduct the required inspections and hopefully will issue your Special Airworthiness Certificate along with your Operating Limitations.

Flight Testing

In Phase 1 of Flight Testing, you are under restricted operations. You will need 40 hours flight time (25 if you use a certificated & approved prop/engine). There are specific parameters you must establish and enter in the log book. You do not have to be the test pilot. In Phase 2, you are under normal operations. Phase 1 flight testing has to be complete before you can pay a CFI to train you in your aircraft.

Maintenance

Anyone can do the work on a homebuilt, but only an A&P mechanic or a holder of a Repairman's Certificate for the specific plane can sign off on condition inspection. If multiple people built the plane, only one gets the Repairman's Certificate. If you build multiple planes, you will need a Repairman's Certificate for each plane. Apply at the local FSDO to obtain the Certificate.



Don't Delay – Renew Today!

Donna Ryan

Thanks to all of you who have already renewed your membership for 2023. Your support enables us to help keep general aviation alive in San Diego County when there are so many pressures weighing on its future. Through your participation we are able to maintain our fine facility at Brown Field, where we can offer monthly seminars on aviation-related topics, Young Eagles flights, an extensive aviation related library, and a place to meet with like-minded aviation enthusiasts. Obviously the greatest asset of our Chapter is our members. Together, they represent years of aviation experience, ranging from gliders to helicopters to homebuilts to general aviation to jet fighters. We encourage you to remain a part of this enthusiastic and knowledgeable group. Your membership helps pay for our lease, our supplies and the facility maintenance, as well as our outreach to the community. Please help us by renewing your membership in EAA 14. It will take just a minute but it will pay dividends for your Chapter throughout the whole year.

Use the Membership form included in this newsletter and then mail it back to us, along with your payment, to EAA Chapter 14, 1409 Continental Street, San Diego, CA 92154-5707. You can also drop the form and your payment off at the Chapter; put your packet in the *Payment/Form* slot of the *Hangar or Membership Payments* lock box in front of the lunch counter inside Hangar 1 or in the mail box outside of the small door to Hangar 1.

You may prefer to renew using PayPal. To do so, follow these steps:

1. Access your personal PayPal account.
2. In the upper menu, select Tools, then at the dropdown menu, click Send Money.
3. Enter email address: Eaach14@gmail.com
4. Enter payment amount: \$25.00 (\$5 for Young Eagles)
5. At the Add a note option, enter "2020 membership for [your name]"
6. Send the payment.

We appreciate and need your support. Don't delay - renew today.



*Ed Dahlkamp's Cessna 182P
on the EAA ramp. 1/21*

Around Chapter 14

Photos by Chapter Members



Sikorsky Skycrane with firefighting equipment makes an appearance at SDM. 1/15



CalFire S2F at Brown Field. 1/27



Bruce Hill returns from a Young Eagle flight in his RV-9a. 1/21



Civilian L-39 in Navy markings. Based out of Harrisburg, PA. 1/27



Tigre Pickett presents the Chapter 14 Young Eagles with a Redbird TD2 flight simulator, donated by Jonathan Lampitt in Arizona.



Very young eagle in Gee Bee



Another SDM resident. Cute if they didn't nest in our airplanes! 1/18



Rapt attention as Rich Martindell speaks about RPV operations at the general meeting. 1/21

EAA Chapter 14 Membership Application/Renewal

Please Print Legibly

Current Member				
Name	E-mail	EAA National # /Exp Date		
Emergency Contacts (Name and Phone)				
Please check the box if there have been no other changes in your details since your last renewal. Otherwise, please update the applicable fields below. <input style="float: right; margin-left: 20px;" type="checkbox"/>				
New Member/Updates for Current Member				
Name (Mr., Mrs., Ms.) <i>Please Print</i>			Name to Use on Badge	
Street Address			E-mail	
City	State	Zip	Spouse/Partner Name	
Home Phone	Cell Phone		Work Phone	
Year of Birth	EAA National #/Exp Date	Occupation		Retired – Yes/No
Emergency Contacts (Name and Phone)				
FAA Ratings – Licenses Held	A/C Project		Aircraft Owned/Home Field	
Special Skills You Can Contribute to the Chapter				
Special Interests				
Payment Information				
New Member: \$25 <i>without</i> badge (\$13 after July 1) \$35 <i>with</i> badge (\$23 after July 1) Renewal: \$25 (due January 1 st) Youth (under 18): \$5			Make checks payable to EAA Chapter 14 Please mail this form with payment to: EAA Chapter 14 1409 Continental Street San Diego, CA 92154-5707	
Payment Enclosed: \$ 				

February 2023

Facebook

<http://www.facebook.com/pages/EAA-Chapter-14-San-Diego-CA/134162329986593>

Chapter Website

<http://www.eaa14.org>

EAA Chapter 14 Memberships

Applications are available at our Brown Field hangars and on our website.

Chapter Contacts

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Chapter Events

Open House at the Brown Field hangars: every Saturday from 10:00 am to 2:00 pm.

Pancake Breakfast: 7:30-9:30 am, third Saturday of each month

General Meeting: 10:00 am, third Saturday of each month

Hangar Phone:

619-661-6520

General Chapter Information:

Trinidad Lopez (President)
(619) 661-7117.

eaal4contact@gmail.com

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