



# Spirit of Flight

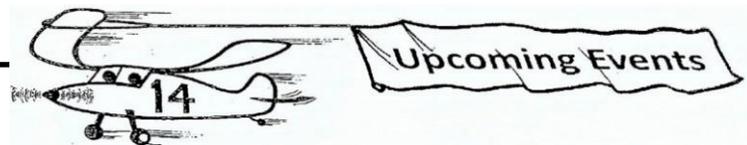
**Experimental Aircraft Association  
Chapter 14: San Diego, CA**

**August 2022**



*Jonathan Robbins taxis the Meyers during on International Young Eagles Day, June 11<sup>th</sup>.*

## Table of Contents



**Page Topic/Author**

2	Chapter Briefing .....	Chapter 14 Members
4	President's Message .....	Trinidad Lopez
4	Pete Grootendorst Honored as Life Member	
5	Change in Homeland (HDF) VOR .....	Dan McCarthy
6	27 Years of Determination – NX115RX .....	Rich Brazell
9	Thorp S-18 Photo Gallery .....	Rich Brazell
11	LRSAT Meeting Overview .....	Donna Ryan
12	Upcoming Programs .....	Kerry Powell
13	Mini-Maxims .....	Gene Hubbard
14	International Young Eagles Day at EAA-14	
15	Jim McCollum Gone West	
15	New Members .....	Donna Ryan

- August 13<sup>th</sup>**—Young Eagles Rally
- August 20<sup>th</sup>**—Pancake Breakfast & Membership Meeting—Desiree Ekstein on Safe UAV Operation
- August 27<sup>th</sup>**—Flyout to Hesperia. Contact Francisco Munoz for details
- September 10<sup>th</sup>**—Young Eagles Rally
- September 17<sup>th</sup>**—Gary Wigdahl on Loss of Control
- October 8<sup>th</sup>**—Young Eagles Rally
- October 15<sup>th</sup>**—Rob Reddig on ATC Pilot Outreach

# Chapter Briefing

EAA Chapter 14 Members



**Chapter Activities:** Information provided by Chapter members.

*Week ending July 2:* Great weather meant a number of flights from the Chapter. Gary List and his wife Pam took the Meyers out for a trip, and Jonathan Robbins got some flight time in as well. Ryan provided flights in the Diamond to two visitors who had heard about our Eagles program. Both were excited to continue in their quest to learn to fly – one even said it solidified his intent to go into the Air Force. Gert Lundgren is back from his trip to Sweden and is making preparations for his annual on his RV-12. Mark Albert is providing helpful advice. Speaking of trips, Dion Dyer sent a postcard from Nice, France. On it was a picture from an aviation meet in April 1910 in France. Dion asked “How is this for a bugs in your face, open cockpit, radial cylindered monoplane?”

The Chapter received a donation of a Falco project and plans. See the ad later in the newsletter. The donation also included some miscellaneous metal from a Hummelbird project – this will go into the Chapter’s metal stock. Member Stephen Larew volunteered to do lunch on the first Saturday of the month under the Chapter’s new lunch schedule. It was his first time preparing and serving lunch and he did a great job, grilling hot dogs and hamburgers, and providing chips, potato salad and ice cream sandwiches on



*Postcard from Nice, France, sent by Chapter member Dion Dyer.*

Eagles, parents, pilots, and volunteer ground crew – all enjoying the good weather and the chance to take to the skies. Young Eagles Coordinator, Hermes Hernandez, had everything well in hand, thanks to his trusty group of ground crew volunteers. And we really appreciate the following pilots who flew the Young Eagles: Chris Constantinides (PA28A), Roman Hendle (PA28), Marty Jansen (PA32), Fred Lieder (C120), Trevor Pearson (PA20), Jonathan Robbins (Meyers 200), and Abraham Talerman (C182). Ryan flew two late arrival Eagles in the Diamond, as well as Nigel Worrall, who is back from a cruise to Alaska. As usual, Trinidad Lopez and his wife Sharon put on a filling meal of hot dogs and hamburgers – very popular with all present.

*Week ending July 16:* A variety of Chapter members worked on projects and aircraft. Mark Albert and Gert Lundgren continued making progress on checking out the RV-12 and Trevor Pearson continued helping Jimmy Kennedy with covering his Nieuport. Joe Russo was busy on the Stits project. Nigel Worrall provided much needed assistance on replacing the master cylinders on the co-pilot side of Ryan’s Diamond. Later in the week, Gert decided to verify the integrity of the landing gear on his aircraft – always a good idea to check this periodically on any plane. Ryan suggested using an inclinometer to compare the left



*Stephen Larew takes a break from preparing lunch for members on July 2<sup>nd</sup>.*

the side. Everyone enjoyed the meal and the chance to get together. Thanks, Stephen!

*Week ending July 9:* Another really successful Young Eagles Day – the Chapter was packed with Young Eagles,

and right main gear to each other. Both gears checked out the same so a good result.

*Week ending July 23:* Gary List and his wife Pam took off for a short trip in the Meyers. A group of Chapter members headed off to Oshkosh on Saturday: Jimmy Kennedy, Kevin Roche, Joe Russo, Ron Shipley, Alan Sparkes, and Nigel Worrall – all will be volunteering in the WarBirds area. Other Chapter members may be making the trek as well. Looking forward to hearing all about it.

*Week ending July 30:* Quiet week with a number of members at Oshkosh. Gert Lundgren and Ryan did some work on Gert's RV-12 as he gets ready for his annual. President Trinidad Lopez just returned from a trip to Canada to attend a wedding – glad to have him back.

*General Meeting:* Program Director Kerry Powell opened the meeting and welcomed Chapter members and guests. First, Kerry Powell introduced John Schaper, FAAST Manager (Maintenance) at the San Diego FSO. He reminded pilots to watch their density altitude, especially if flying up to Big Bear right now as temperatures are higher than normal and this can significantly impact the performance of your aircraft. Later, one member shared the following link which may be helpful:

[www.bigbearcityairport.com/mountain-flying/density-altitude-youre-higher-than-you-think/](http://www.bigbearcityairport.com/mountain-flying/density-altitude-youre-higher-than-you-think/)

John also mentioned that in the last month, in the Western Service Area, there had been 8 fatal accidents: two were in ultralights and two were in amateur built aircraft. Kerry then introduced our speaker for the month: Bill Brick. Bill has an MS degree in Meteorology and is a certified consulting meteorologist. Besides working for years in air pollution meteorology, he has been an instrument rated commercial, single-and multi-engine land pilot for decades. In his talk, he provided an excellent overview of the earth's atmosphere, atmospheric stability and winds, and general Southern California weather. He provided a variety of graphs and pictures explaining weather patterns in the San Diego area and mentioned that one of the biggest weather problems here is our marine layer. From above, our marine layer is flat looking, as shown in this excellent picture taken at San Miguel.



*View of cloudtops from San Miguel Mountain, northeast of Brown Field.*

He also showed a number of the National Weather Service screens available from the internet; these can be customized for San Diego. One of the most useful is the Area Forecast Discussion, especially the section dealing with aviation.

```
.AVIATION...
160800Z...Coast/Valleys...Low clouds with bases 700-1000 feet MSL
will continue to spread into the western valleys this morning.
Ceilings could briefly lower to around 500 feet MSL from 10-14Z.
Reduced vis of 3-5 miles expected on higher coastal terrain and in
the western valleys. Scatter out for most areas 16-18Z, though some
clouds could stick along the beaches into the afternoon.

Mountains/Deserts... Isolated TSRA possible from the mtn crests to
the desert slopes this afternoon and early evening. Strong
up/downdrafts and local gusty surface winds over 30 knots possible
near any storm that develops.
```

*Area Forecast Discussion, available on the Internet at*  
[www.aviationweather.gov/fcstdisc](http://www.aviationweather.gov/fcstdisc)

This was an interesting and useful presentation and we appreciate Mr. Brick's answering many climate change related questions after the meeting – he was well qualified to answer them.



*Busy day at the Young Eagles' rally, July 9<sup>th</sup>.*



## President's Message

Hello Everyone,

The summer weather has brought a definite increase in the level of activity at our Chapter events.

Last month we had a very successful Young Eagles event hosting almost 40 kids. I want to thank our Young Eagles coordinator Hermes Hernandez for all his efforts, along with the many pilots and volunteers who make our Young Eagles program so successful.

I also want to thank our Flyout Coordinator Francisco Munoz for his efforts giving our Chapter members many interesting places to visit. He is currently planning a Chapter fly out to Hesperia Airport on the fourth Saturday of this month.

Next month along with our normal activities, we are planning a Chapter barbecue and fly-in.

Later this year we will be hosting an Open House along with a swap meet and a Young Eagles activities day.

I would like to encourage all of our Chapter members to participate, volunteer, or help to host at one of these events. All those interested can contact me directly at 619-661-7117. Clear skies,

*Trinidad Lopez*



*Safety briefing at the well-attended July Young Eagles Rally 7/9*

## Pete Grootendorst Honored as Life Member

At the June membership meeting, Chapter 14 honored Pete Grootendorst as a Life Member. The September 2020 issue of the Spirit includes several articles describing Pete's contributions to the Chapter and the local aviation community. Even though Pete passed away in August 2020, the Board felt it appropriate to recognize and honor his contributions with Chapter 14's highest award.



*Pete's wife Janeth and daughter Linda Sorensen display a poster of Pete's activities at Chapter 14*



*Linda and Janeth show the Life Membership plaque honoring Pete's contributions to the Chapter, now on permanent display on the North wall of Hangar 1*



*Linda and Janeth pose with the Grumman Traveler co-owned by Pete and other Chapter members*

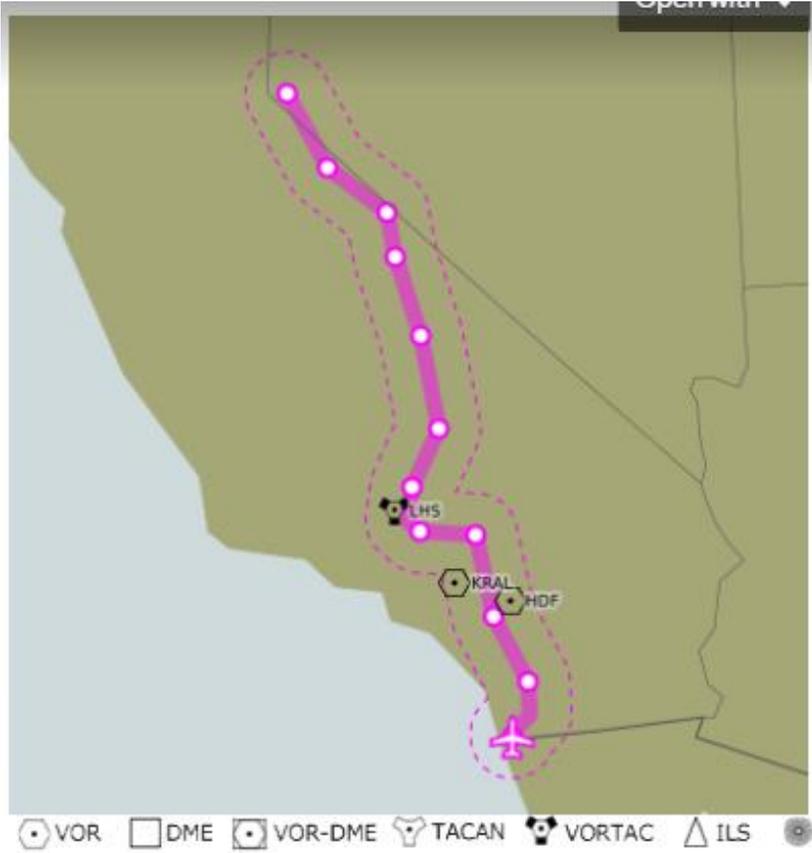
# Change in Homeland (HDF) VOR

By Dan McCarthy

In preparation for a flight I was planning on, I noticed an unexpected change in the Homeland (HDF) VOR frequency number. Below is the actual excerpt from the Leidos flight service flight plan briefing I received with the NOTAM. As you will see, it states that the Homeland VOR is 113.4.

I thought it was odd, because the online TAC and Sectional charts from both SkyVector and Leidos Flight Service show Homeland (HDF) VOR frequency as 112.05, but it is actually 113.4.

Any pilot who is looking at the map thinking they are going to use Homeland VOR on channel 112.05 may get an unexpected surprise - no signal!



Dan's flight plan to the Reno area showing an unexpected frequency for the Homeland VOR ▶

IRAL 05/017 Homeland, Riverside, CA (HDF) Navigation VOR now 113.4 May 5, 2022 2337Z to Aug 26, 2022 2000Z  
 IRAL 06/071 Riverside Municipal, Riverside, CA (RAL) Navigation VOR not monitor Jun 20, 2022 1825Z to Jul 28, 2022 2000Z Estimated  
 IHHR 11/071 Lake Hughes, Lake Hughes, CA (LHS) Navigation VORTAC unserviceable Nov 19, 2021 1826Z to Jan 30, 2023 2359Z Estimated

Leidos Flight Service flight plan showing Homeland VOR at 113.4 MHz until August 26<sup>th</sup>.



Clip of Los Angeles TAC from SkyVector, showing Homeland VOR frequency as 112.05

# 27 Years of Determination - NX115RX

By Rich Brazell



*Rick Brazell's Thorp T-18 after 27 years of determination!*

I knew when I fully retired, if there is such a thing, that I wanted an airplane to occupy my spare time with its infinite joy, experiences and occasional troubleshooting challenges, but first I needed to find that airplane. Early in 1984, I happened upon an aviation article describing a folding wing aircraft that could be trailered to and from the airport: Gus Gordon's Thorp S-18. It had everything I wanted: speed, 2 place, held a reasonable amount of baggage and with a standard fuel load, about 3-hour legs – and, of course, I could keep it at home. I don't recall what hangar rent was going for in the San Diego area at the time, but I knew by the time I had the aircraft built, that rent was going to be very expensive, so the Thorp S-18 with folding wings seemed to be the logical choice for me.

It takes approx. 20 minutes to unfold the wings and off load the aircraft from the trailer. A 12-volt winch is used to pull the aircraft back onto the trailer...much easier than a manual boat winch! The entire set-up was designed to be a one-man operation and when loaded on the trailer the aircraft is road legal for towing.



*Wings folded and road-legal, the Thorp arrives at SDM on its trailer.*

So from the information in the article, I ordered a set of plans in September of 1984, not knowing it would take me 27 years until the aircraft would have its first flight on the 3<sup>rd</sup> of April 2011 at Brown Field in San Diego, California. At about this same time I joined the T-18 Mutual Aid Society, a group of Thorp builders that shared building ideas/challenges and posted items for sale in their want ad section. This is where I happened upon a partially completed S-18 project. The basic fuselage was done, and it came with an assortment of formed ribs, beams, brackets and several rolls of .032 aluminum skins and a list of other miscellaneous items. The only problem was this "project" was located in Addison, Texas and I was in San Diego, California.

So, I boarded a commercial flight to KDFW and rented a U-Haul truck and drove to Addison to pick up the project from Dick Cavin. Once loaded, I headed west and figured it was an approximate 27-hour drive, stopping only for fuel, food and an occasional pit stop. This journey across the Texas pan handle and through New Mexico and Arizona would have been a little easier if the U-Haul truck had air conditioning and an automatic transmission, but that would have made it a vacation and not an adventure! All was going well until I reached the Arizona and California border and had to stop at the agricultural station for inspection. The young lady at the check point asked me what I had in the back of the truck. I replied: "An airplane Ma'am!" It was obvious to her that I had something in the back of the truck other than an airplane and she smartly asked me to open the back of the truck. The expression on her face (much like a politician's) did not change and seeing that I did not have any contraband or other "illegal cargo" she told me I was free to go. I was on the home stretch now and *exactly* 27 hours after leaving Addison I was in my driveway. Now the real work was just beginning...

No one can begin to tell you how big a challenge it is to build an airplane. It would be akin to your first arrested landing on an aircraft carrier, in my case CV-16 in 1977. There are no words to explain the process other than it is a lot of hard work to get there. I had a partial project with a bunch of unassembled parts, a set of plans, a large



*20 minutes later, wings spread, ready to roll off the trailer and fly.*

workshop, and plenty of tools; now all I needed was *time* to put it all together. The only obstacles in my way were the U.S. Navy, being a new hire at the Airlines, and moving to a new house. Once off active duty, I immediately joined a Naval Reserve squadron (the same one I had been with as an active-duty pilot) and now faced having to divide my time between the airlines (commuting to my East Coast base from San Diego) and giving at least 3-4 days per month to the Reserve Squadron. This left virtually zero time to work on the project and almost no time to do house related projects. The only available time to do aircraft related stuff was “vacation time” and that was not nearly enough.

When I did find some valuable time to “bend metal and buck rivets” it was suggested that I start with the rudder as it was purported to be the most complicated part on the aircraft to construct due to its series of bends the skins required and also the difficulty in riveting the entire control surface together, so I started there. The Thorp was designed using “machined hole tooling” which meant no jigs were required and if proper placement of the rivet hole locations were made, one could simply drill holes at the proper locations, and it would all line up correctly when clecoed together. For the most part this was true, but it still was a learning curve, especially with me using (new to me) metal working tools like a brake, drill motor, a rivet gun and bucking bars. Mistakes came along with the learning curve, and I am sure every new home builder has a “pile” of them: misdrilled holes, incorrect bend lines, improper rivet setting and a list of four-letter words I cannot use. In spite of several of these afore mentioned setbacks the rudder was finally completed, and it was time to move on to another section of the aircraft.

There were days when assembly of the aircraft went very smoothly and then there were days when I should have not gone in the workshop but have just stayed home and watched the San Diego Chargers on TV! A true case of two steps forward and one step back. For reasons unknown to me, a rather simple building procedure (making a small bracket) would turn into an all-day process, whereas a more



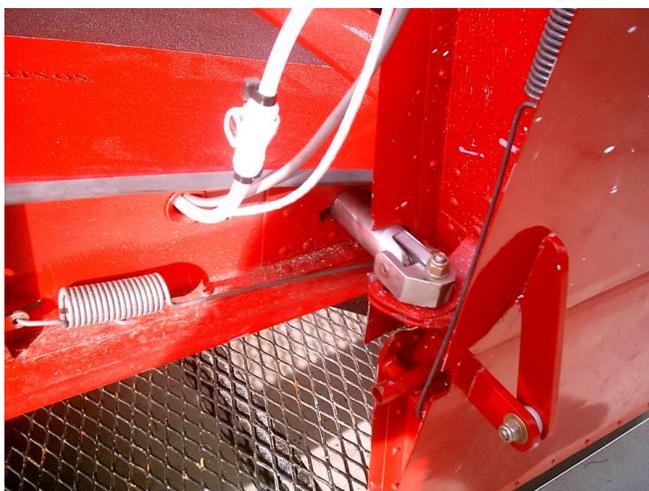
*Two steel fittings that mate with a single steel fitting on the outer wing. Also shown is one of the two mating bell cranks. There is a bell crank on the outer wing.*

complicated assembly or part making process would zip right along; a good example of this is the folding wing mechanism. The heart of the S-18 is this system of double bell cranks (one on the inner wing that mates with one on the outer wing when in the flight position) and hardened steel wing fittings along with a swivel U-joint at the rear of the wing.

This system makes this aircraft a good investment as I can just trailer the aircraft home and store it in the garage. In San Diego a hangar can run \$500 month...\$6,000/yr! Rather than spend thousands of dollars a year on hangar rent, that chunk of change pays for a lot of fuel, maintenance, and insurance.

During the build process, it was a battle to stay focused and maintain quality control even if it meant making four of the same part until I got the “just right” part called for by John Thorp on his drawings. This might be a good time to touch on JT’s (John Thorp’s) hand drawn engineering prints. Yes, I said hand drawn, not computer generated. Remember this aircraft design was developed back in the early 60’s and there was no such thing as CAD (Computer Assisted Drawing) so all the nearly 200 + drawings were done on a drafting table with a T-Square and pencil. It took a little work and with the help of a good friend at Gillespie Field (Mr. John Kerr who has built three T-18’s!), I was able to sift through a few problem areas on the drawings. What also helped was that most of the drawings were either “full size” or half scale. Using the full-size drawings (for example a flap hinge) meant I could make a copy at KINKO’s, cut the drawing to the line and then transfer the template to the raw stock. Using a metal band saw, I could cut the part and shape it (as required) with a disc/belt sander.

The basic plans-built A/C was pretty bare on the inside, meaning it had no creature comforts other than seats. There were no upholstered side panels, no carpet and just a basic instrument panel. Heat and fresh air sources were also optional. This would not do as I was accustomed to the creature comforts of larger aircraft I have flown over the



*U-Joint at the rear of the wing allowing it to rotate 90 degrees and then fold*

years. Adding these “extras” would, of course, add time to the building process, as well as requiring more money in the budget. It was felt that adding these “extras” now during the building process would in the long run save both time and money. The first consideration was the panel and what to put in it. As I will be a VFR machine, I chose an all-electric panel, meaning no vacuum pump, regulator, hoses and filter, saving weight and space. The ADI, DG and T & B are electric. The Micro Air “package” was used (Radio/transponder/intercom) all prewired with a plug and play harness. A TruTrak two-axis autopilot was also installed. All engine gauges are electric, meaning no fluid/pressure lines in the cockpit, the only exception to this being the fuel tank to fuel valve to firewall fuel line. The only other additions to the panel were the remote ELT test/reset switch, RAC trim indicators, HOBBS meter and a cigarette plug adapter (for warming in-flight meals)!



*Final all-electric instrument panel optimized for VFR operation.*

Now that the panel was pretty much complete, it was time to work on what I call the fuel management and environmental control console. I did not like the idea of using three different push/pull controls (Vernier type) for the engine. Having started my training in a Piper Cherokee with a throttle quadrant and having a quadrant in the larger transport aircraft I flew, I felt more comfortable having that type of setup. But the only problem was I could not find a small enough unit commercially. So I needed to build one to fit the space and my requirements. I knew the basic design I wanted and after about two months of R & D and several prototypes, I ended up carving the housing out of a block of solid acrylic. The three levers one for the throttle (black), one for the mixture (red) and one for carb heat (silver). It took several more weeks to get the right length, bend and throw. I also designed the quadrant to use the same part number control cables of the same length. The unit fits nicely on top of a housing that also holds the Andair fuel valve, guarded switch for the primer solenoid and the two push/pull controls for cockpit fresh air and heat and the rocker switch for the electric rudder trim. It is a lot of “monkey motion” installed in a small space, but it enables me to control everything with the right hand (while keeping the left hand on the stick). Speaking of the stick, it has

aileron, elevator, PTT, radio freq. flip/flop and auto pilot CWS (control wheel steering) switches in the grip.

I then dressed up the interior with some marine grade carpet (over insulation), S/S skid plates on the floor and covered some panels with vinyl to install on the sides of the cockpit. A baggage compartment was also installed to carry the necessary RON items. The day came when 99.9% of the construction was finally complete and it was time to trailer the A/C to Brown Field for the first flight. As you can imagine, there were a few turned heads and puzzled looks on the road as I headed to the Field. The first flight went as advertised and the aircraft returned safely to Earth after 45 minutes with all its parts and the test pilot (me) satisfied that 27 years of building had come to a well-deserved conclusion.



*First Flight – 03 April 2011, Brown Field, San Diego, CA, USA.*

The Thorp S-18/T-18 is a great airplane and performs as well as the other homebuilts in its class for about half the cost. For additional information, visit the T-18 forum at <http://thorp18.com/thorpforum/> and find comparison performance information on the Thorp, RV and Mustang II aircraft. The Forum site also has a photo album and a great reference library should you have any questions. Now it's time for flying to points east for some \$300 hamburgers and start my next project: restoring my 1969 MGB that I bought in 1970.



*Sheriff's helo over SDM, 7/30*

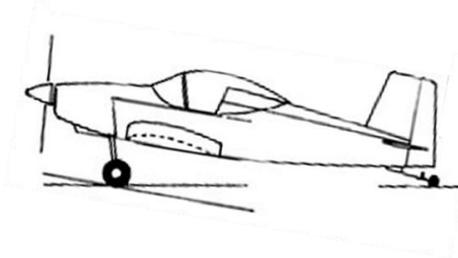
## Thorp S-18 Photo Gallery



**Painting the Thorp in the driveway!** *Single stage acrylic urethane paint was used (after applying an ISO free high build primer) and applied with a HF \$20.00 gun. I give the paint job a B+ for a first time painter...maybe an A- ? Several areas had to be redone, but it sure beat paying thousands of dollars for a commercial paint job. Total cost for the paint job less than \$500.00...alumi-prep, alodine, primer, tape, paper, tarps, gun and paint (TCP Global Restoration Shop Paint). After the color coat had dried, it was color sanded with 1500/2000 wet dry sand paper (wet sanded) and then buffed to a high gloss.*



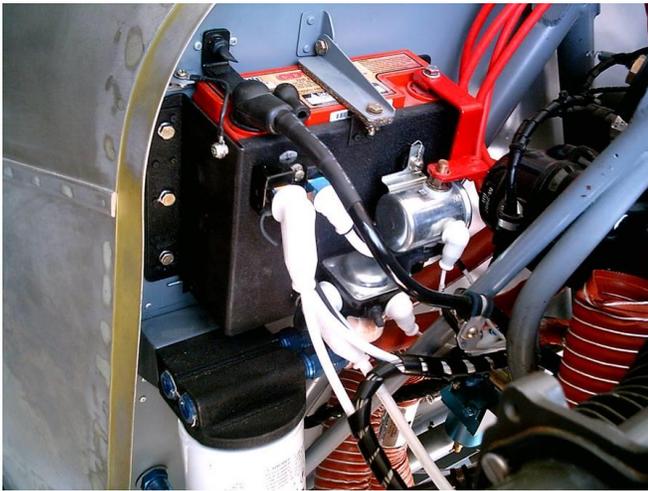
**Tail feathers installed.** *Looking more like an airplane! Here you can see the series of bends required in the rudder skin, making it one of the more difficult control surfaces to make.*



**Hanging the Aero Sport Power 0-360**



**Custom shoulder harness attach points** *Not chrome, polished aluminum! Here you can see the quality of the paint after the color sanding and buffing!*



**PC-680 battery relocated from behind co-pilot's seat to firewall to ease maintenance.** This also removed the large gauge wires from running through the cockpit to the starter. Remote oil filter also installed to accommodate the longer Champion oil filter. Yes, I know there is a nut missing on top of the Master Solenoid!



**Early look at the cockpit** Still waiting to install the insulation, carpet, side panels and seats. The plywood will be replaced with real seats. The co-pilot may get a plywood seat depending on how much he chips in for fuel!

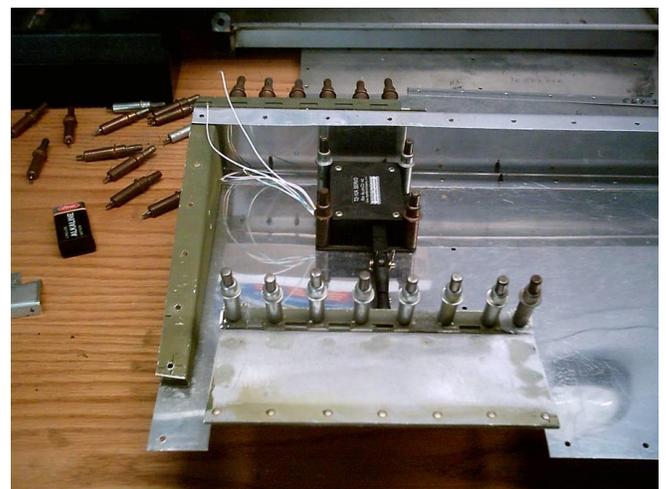


**A better look at the cockpit layout.** This picture shows the RAC stick grips, throttle quadrant, fuel valve, electric rudder trim switch and cockpit air controls. Also installed is a GPS wired to the panel (via a DIN plug) to provide 12 volts and auto pilot NMEA input. The manual flap handle may be replaced with electric flaps at a later date.



**Building up the center wing section.** No...it was not always this "inspection ready" in the workshop!

**Installation of RAC servo in the left aileron for trim.** Very effective. ►



# LRSAT Meeting Overview

By: Donna Ryan

On June 30, 2022, the annual Local Runway Safety Action Team (LRSAT) meeting for Brown Field was held via Zoom. The meeting's purpose was for all those involved with Brown Field (tower, airport operations, users, pilots, etc.) to discuss past surface risks and update the Runway Safety Action Plan (RSAP) to continue safe operations and improve surface safety in the coming year. Present were a variety of FAA personnel, as well as Air Traffic Manager, Mark Demetris, Deputy Director of Airports, Jorge Rubio, and Brown Field Airport Manager, Andy Schwartz. The meeting facilitator provided a slide presentation; information from this article is taken from the presentation, and comments made by various attendees.

The discussion centered around movement areas on the airport. In general, these are taxiways and runways, and can be any area where operations require permission from ATC. The meeting opened with a review of signage on typical runway safety areas (RSA) and hold short markings.

Discussion then focused on the three types of runway issues:

- Runway Incursion (RI): Any occurrence involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designed for the landing and take-off of aircraft.
- Surface Incident (SI): An unauthorized or unapproved movement within the designated movement area (excluding runway incursions) or an occurrence in that same area associated with the operation of an aircraft that affects or could affect the safety of flight.
- Runway excursion (RE) A veer off or overrun from the runway surface that occurs while an aircraft is taking off or landing. Contributing factors may include unstable approaches, cross wind components, tailwind, mechanical issues, runway conditions.

The facilitator pointed out that the FAA classifies Runway Incursions according to severity as defined in the graphic. Category A events, in which a collision is narrowly avoided, are the most serious.

Surface incidents are classed into four areas:

- Operational Incident (OI): a surface event attributed to ATC action or inaction
- Pilot Deviations (PD): A surface event caused by a pilot operating an aircraft under its own power.
- Vehicle or Pedestrian Deviation (V/PD): A surface event caused by a vehicle driver (including a vehicle towing an aircraft), a non-pilot operating an aircraft under its own power, or a pedestrian.
- Other: Surface events which cannot clearly be attributed to incorrect action/s by an air traffic controller, pilot, driver, or pedestrian. These include incursions caused by equipment failure or other factors.

The meeting facilitator shared a number of statistics dealing with runway safety. Nationwide, over 66% of runway incursions were caused by pilot deviations. In addition, 508 of 550 events were caused by an aircraft or vehicle entering a taxiway incorrectly or without authorization.

“Wrong Surface” operations have become a focus for the FAA as there continue to be issues in takeoffs and landings:

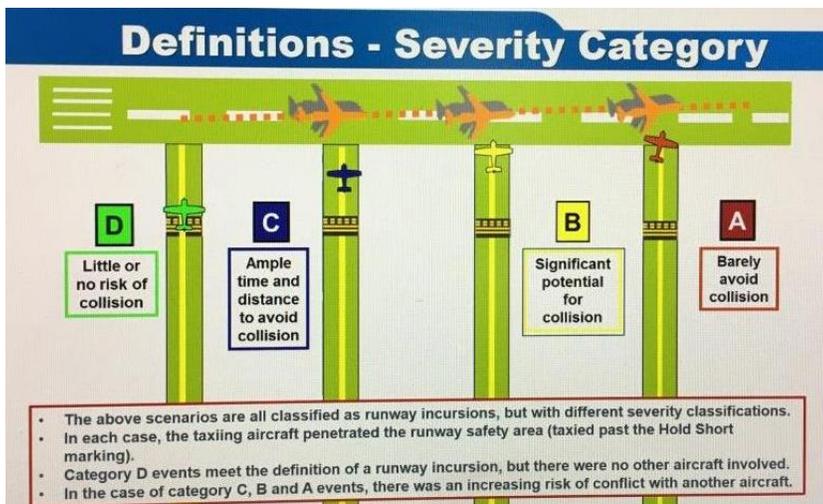
- Landing risks include landing on the wrong runway, landing on a taxiway or landing at the wrong airport.
- Takeoff risks include departing from the wrong runway (or the wrong direction from an intersection) or from a taxiway.

At SDM, we face 3 of the following Wrong Surface risks:

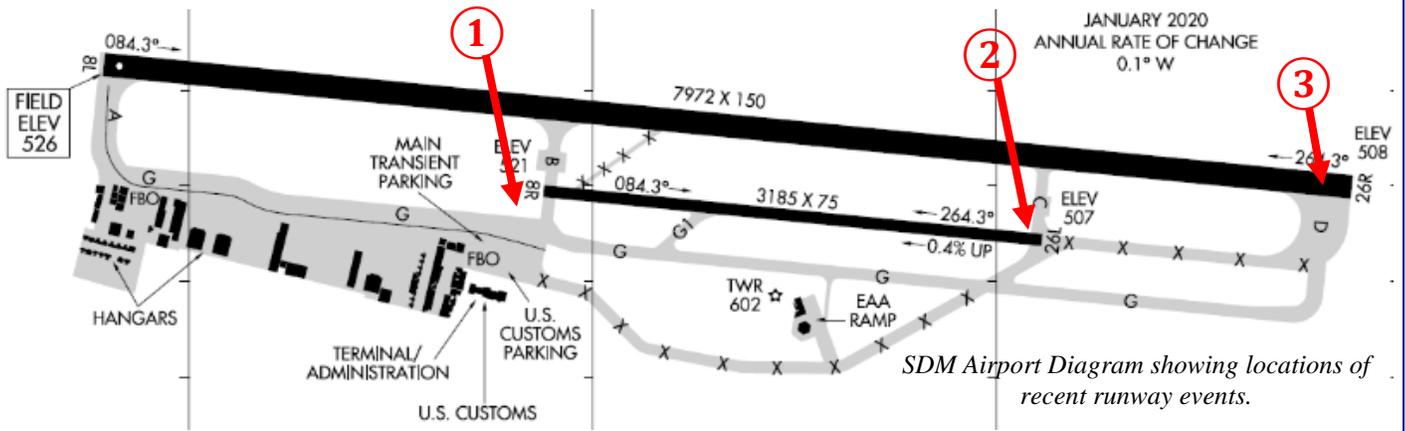
- Parallel runways, especially those with offset thresholds or irregular spacing.
- Closely aligned runway ends.
- Parallel taxiways resembling the runway.
- Nearby airports with similar runway configurations

To avoid these risks, know the following and stay vigilant:

- Be familiar with the airport diagram and keep a copy on-hand for reference.
- Check out a satellite image of the airport for a realistic picture of what to expect.
- Confirm your compass heading matches your assigned runway.



The FAA tracks four classes of runway incursion, ranging from Class D presenting little risk of collision to Class A where a collision is narrowly avoided



The facilitator discussed three events that took place at Brown Field since the last meeting.

- 1) Surface Incident – V/PD: an unauthorized pedestrian was observed within the movement area. He crossed Taxiway Golf and proceeded into the infield area west of Taxiway Bravo. He was a seasoned pilot who wanted a better picture of an F18. Ground Control staff and Airport Operations removed him from the area.
- 2) Runway Incursion – PD, Category C: Aircraft 1/C172 landed Runway 26R and was instructed to turn left at Taxiway Charlie hold short Runway 26L. The pilot read back was correct. But then he crossed Runway 26L at Taxiway Charlie without an ATC authorization. Aircraft 2/Bonanza A36 on .75 mile final Runway 26L was sent around.
- 3) Runway Incursion – PD, Category D: Aircraft 1/P68 entered Runway 26R without ATC authorization. Aircraft 1/P68 was cleared to hold short of Runway 26R. The pilot read back was correct. LC cleared Aircraft 2/C172 for takeoff Runway 26R. Aircraft 1 then entered Runway 26R at Taxiway D without a clearance. LC advised Aircraft 1 they were not cleared for takeoff and issued runway exit instructions. LC cancelled the takeoff clearance for Aircraft 2. Aircraft 2 held short of the runway at all times. The issue here seemed to be a language barrier for Aircraft 1. The pilot heard the word “clearance” and thought it was for him.

Participants shared the following information:

- The Tower is still unable to give tours because of health restrictions and staffing issues.
- The Navy air drops have not started yet. There are still ongoing concerns with high altitude free fall training and there is not a Letter of Agreement at this time. Jorge Rubio, Deputy Director San Diego Airports noted that while we want to accommodate and support Navy operations, Brown Field is a public airport and we want to maintain the safety of the airport. However, the City is only an observer; the FAA determines safety issues.
- There has been a resurgence of coyotes and an aircraft hit one on the runway – be observant.

- An airport Hot Spot is a location on the movement area with a history or risk of collision or runway incursions or where pilots/drivers need to pay extra attention. Brown Field no longer has designated “hot spots.”

The meeting facilitator shared information on several training and safety tools.

### Runway Safety Action Team Educational Videos

An effort the FAA is undertaking to raise awareness and combat wrong surface errors is the new “From the Flight Deck” video series.

All videos are also available on the FAA [YouTube](#) channel. Just search “FAA From the Flight Deck.”



**Desiree “Drone Diva Desi” Ekstein**

**August 20: Desiree “Drone Diva Desi” Ekstein**, speaking about safe UAS operation. Desi is an Adjunct Instructor of Unmanned Aerial Systems (UAS) at TCI MiraCosta College, in Carlsbad California. She has over 7 years of remote piloting experience, is an FAA Certified 107 Remote Pilot in Command (RPIC), and an AUVTI TOP Level 3 instructor/pilot

status. She is also a Lead Representative FAA UAS/DronePro in San Diego California, and a UAS Safety Advisor for Women and Drones. She is an international public speaker and published author for UAS safety.

**September 17: Gary Wigdahl**, ATP, CFI, CFII, MEI, USAF flight instructor, speaking on loss of control.

**October 15: Rob Reddeg** from the SoCal Tracon, speaking on ATC pilot outreach.

# Mini-Maxims

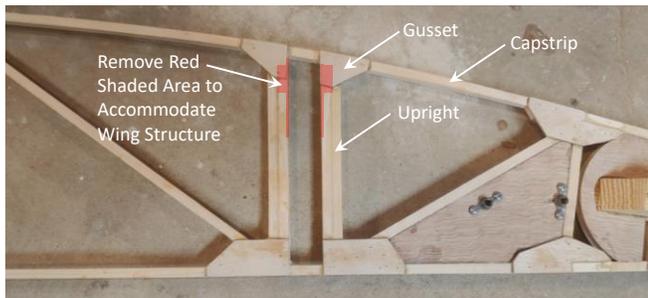
## A Log of Progress, Mistakes, and Corrections

Gene Hubbard

As I reported a couple of months ago, I started on a Mini-Max project to work on while I'm in Michigan. I've been making pretty good progress: ribs are done and I'm working on the spars in preparation for assembling the wings. Along the way, I've made and corrected my share of mistakes—they say it's not how many mistakes you make, only that they all get fixed before you try to fly the plane. Fixing one of them required me to remove a couple of gussets that I had epoxied to the two ribs at each wing root.

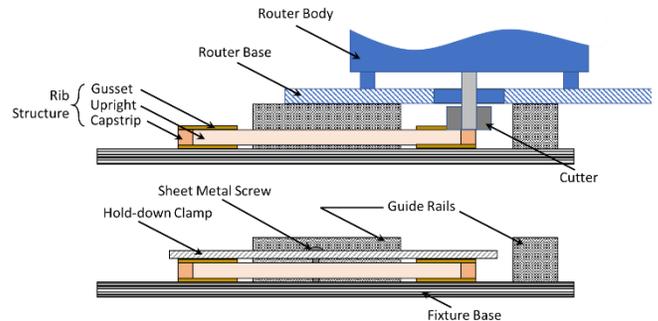
Figure 1 shows the problem with the root ribs. To accommodate the 3/16" 2024T3 wing attach fittings, I had to double the quarter-inch uprights adjacent to both the front and rear spars. I then noticed that I would have to cut away almost the entire gusset at those locations (red shaded area), severely compromising the strength of the rib. The obvious answer is to replace those gussets with larger ones, but that meant removing the original gussets. Obviously it wasn't going to come off intact, but I could think of several possible ways to chew it off so I could make replacements:

- 1) **Chisel it off.** With a sharp chisel and a steady hand, this could work pretty well. I would probably split the 1/16" plywood gusset, leaving the bottom ply and a layer of epoxy on the rib to sand off. The problem is that I don't have any halfway-decent chisels here, and I wasn't excited about getting and sharpening a chisel just for this task. Besides, sanding off that last layer of epoxy would be a pain and overall, I would risk damaging the rib.
- 2) **Sand it off.** This would be hard to do by machine, since there are other nearby gussets that I want to preserve, and sanding it off by hand would take forever. Also, there's a risk of damaging the rib while doing vigorous hand work adjacent to a fragile structure.
- 3) **Use a router.** Hmm, this might work. I have a reasonably OK plunge router. I'd have to make sure everything was jugged and adjusted, because I only get one chance. Let's try it.



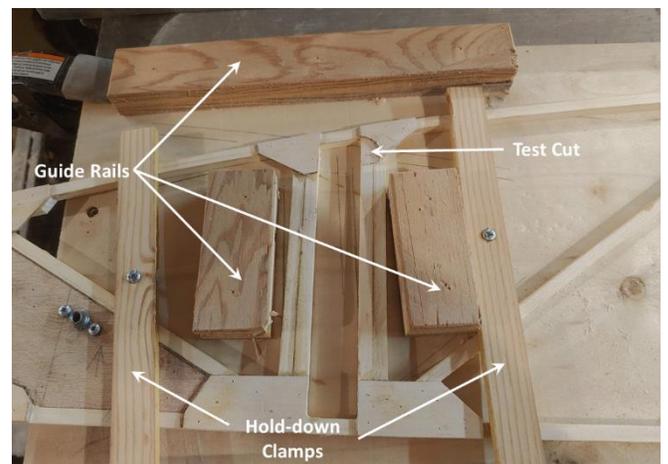
**Figure 1. The Problem.** Notching the root rib to accommodate wing attachment hardware would compromise rib integrity. I need to remove the gussets and replace them with something beefier.

Figure 2 shows the cross-section of the jig I had in mind. The rib is clamped down in two places, each with a crossbar and a single sheet metal screw, and the router rides on rails made of 3/4" plywood to be independent of the rib structure. I'll use the router plunge mechanism to adjust the depth of the cut to go through the gusset and just graze the rib structure itself.



**Figure 2. Imagining the Solution.** If I clamp down the wing rib and provide a platform to hold a router, I can trim off the bad gussets without depending on the rib to hold up the router. The top view shows how the router trims off the gusset while the bottom view focuses on the hold-down mechanism for the rib.

Figure 3 shows the fixture, rib, and clamp in real life and Figure 4 shows the fixture in use with the router in place. Before starting to cut, I moved the router over the rib structure away from any gusset and with power off, plunged so that the cutter just touched the structure. Then I locked the depth. Don't put any pressure on the rib structure while doing this or you'll cut too deep and gouge the structure. I then made a tiny test cut on the gusset I'm removing to check the adjustment. From this point, I made small differential adjustments to the cutting depth with the router's depth gauge. After a successful cut, almost the entire gusset is gone, with only a thin transparent film of epoxy and stray wood fiber remaining. I removed this residue with a Perma-Grit sanding block, resulting in the gusset-free structure in Figure 5.



**Figure 3. Router Fixture in Real Life.** Fabricated from scrap and clamped to my table saw, the fixture is ready for use



**Figure 4. Router Fixture in Action.** In use, the router base rides on the fixture guide rails, floating above the clamps and rib structure. This feature eliminates interference from rib structure and hold-down clamps.



**Figure 5. Gussets Completely Removed.** After sanding with a Perma-Grit sanding block, the rib surface is smooth with just a trace of the old gusset remaining.

Finally, I glued and stapled the new gussets to the rib frame as shown in Figure 7, making the rib look the way I should have built it in the first place. All of this took maybe an hour to construct and another hour or so to use—about the same time it took to write this article.



**Figure 6. New Gussets Installed.** This new gusset design was suggested by Dave Cooper, owner of Team Mini-Max in Niles, Michigan.

My next task is making the fittings that attach the wings to the struts and fuselage. I'll let you know how that goes and maybe write about it next time.

*Gene*

## International Young Eagles Day at EAA-14

*Editor's Note: These photos, taken during International Young Eagles Day on June 11, should have appeared in the July Spirit, but were misplaced at publication time. Better late than never.*



*A group of Young Eagles listen intently to the pre-flight safety briefing.*



*Another group of Young Eagles build gliders in Hangar 3 while waiting for their flights.*



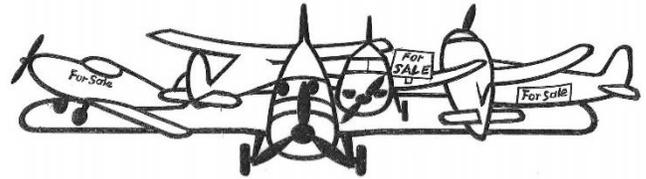
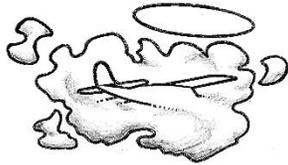
*Reg Finch explains wind tunnel operation to a Young Eagle in Hangar 3.*

*Even the San Diego Fire Department showed up for the event.*



## Jim McCollum Gone West

We were saddened to hear of the death of long-time member Jim McCollum on June 27. He had been an active EAA 14 member for over 16 years and many of our members enjoyed the benefit of his aviation knowledge and love of flying. He was commercial and instrument rated and was a CFI, and an A&P with IA. He loved flying his beloved V35A Bonanza which was hangered at Gillespie. His wife Laurie mentioned that on August 4, 2021, at 75 years of age, he landed at Gillespie Field after completing a solo plane trip that took him to Texas, Michigan, and Oshkosh – a great trip for any pilot. Jim actively volunteered at the Chapter and was a frequent visitor for pancake breakfast, and our general meeting talks. We will miss him.



## Marketplace

**For Sale:** Falco parts and plans. Donated to EAA Chapter 14. Asking \$1,000 or make an offer. Text Ryan at 858-229-4875 for more information.



**For Sale:** Brand new RV-10 empennage. Purchased for \$4,500 in February 2021. All parts, tools, and paperwork available; can be registered at Vans. Donated to EAA Chapter 14. Selling for \$1,500. Text Ryan at 858-229-4875 for more information and pictures.



## New Members

### Donna Ryan

Welcome to our new members. The information below comes from their membership application. Some people just include the essentials; others expand a bit on their experience and we always appreciate that.



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

**Rich Brazell** is the proud owner of a Thorp S-18 (folding wing) aircraft, completed after 27 years. When we sent him a welcome letter and mentioned we are always looking for articles for the newsletter, he immediately shared an article about building his S-18. See the story of the build on pp 6-10 of this newsletter. We really appreciate his immediately volunteering to be involved in Chapter activities. Rich holds the following FAA ratings: ground instructor, ATP for type: DC9/737, FE 727 (not many of those around the Chapter!). His application also noted an unusual skill that he can contribute: magic tricks. Obviously he will be one of the first ones we will call for any upcoming Chapter parties. He looks forward to getting to know our Chapter members – and we're looking forward to getting to know Rich better as well.

**Marty Kaufman** holds the following ratings: Private, Single, Multi. Lucky man owns two planes – a Cessna 340A and a Cirrus SR22GTS. He likes fishing and golf, and says he has the following skills to contribute to the Chapter: creative thinking and fund raising, both very much appreciated and useful skills. Thanks, Marty for joining!



*Young Eagles and parents walk out for a flight. 7/9*

# August 2022

## 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.

#### General Chapter Information:

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[eaal4contact@gmail.com](mailto:eaal4contact@gmail.com)

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Stu Strebog	(619) 346-9788	trail2texas@yahoo.com

EAA Chapter 14 (with answer machine) (619) 661-6520

### 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

Experimental Aircraft Association  
San Diego Chapter 14  
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San Diego, Ca 92154-5707