



Dave Jaksha
Ch81 Newsletter Editor
1648 N Horseshoe TRL, Tucson, AZ
(520) 400-8896
newsletter81@eaa81.org



Chapter 81 Skywriter

Annual Dues \$20

Checks should be made payable to EAA Chapter 81 and brought to a chapter meeting or sent to the Treasurer:

Eric Nelson
10270 N. Krauswood Ln
Oro Valley AZ 85737

Do not send payment to the newsletter editor!

EAA Chapter 81 Meeting May 16, 2020 will take place at Bob Olden's hangar at Ryan airfield.

Instructions for getting to the hangar are directly below on the next page.



Click on the link below to see aviation events around Arizona

[Arizona Aviation Events](#)

These handsome chapter 81 patches are available from Eric Nelson when you cough up money for your dues.

EAA Chapter 81 Meeting May 16, 2020 10:00 hrs will take place at Bob Olden's hangar at Ryan airfield

From Ajo Way, make a U-turn at the second cut in the median of Airfield Drive, the easterly Ryan access road, straight off of Valencia, and go to the gate on your right. The sign says "6250 Waco Way". Follow the signs to hangar C-6

The walk is about 200 yards, and will be signed for the meeting. Individuals requiring help can let us know and we can have someone pick them up at the pedestrian gate by 6250 Airfield drive.

We will review material available for donation to chapter. This will include the Stearman replica that Bob constructed. Other items include tools, materials, documents, videos, etc. With expected lifting of strict stay-at-home direction from AZ Governor on 15 May, the 16 May meeting should be feasible. The hangar is large, and with the door open, adequate "distancing" should be possible, provided people bring masks and utilize sanitizer on frequently touched surfaces.

Members are urged to check the website the evening of the 15th prior to attending for any last minute updates, including potential cancellation.



Dave Jaksha

Deep Blue.....

Ultraviolet lights have many uses. They are great fun when wandering around the desert at night looking for fluorescent scorpions.



The introduction of UV LEDs has made UV lamps in flashlight form, are inexpensive and available typically in two wavelength 365 nm (nanometers) and 395 nm. Power levels range from about 0.5 W to 10W. Cost range from under \$10 to \$30 for the higher power lights.



Two applications are of interest to homebuilders. The first is the location of leaks in fluid systems on aircraft. Low cost dyes that fluoresce under UV light can be introduced in low concentrations to oil, water and hydraulic systems. By looking for the fluorescent response of the dyes you can pinpoint the location of a leak. A leak will typical show itself by glowing bright orange against the background. It is important that you clean the engine prior to introduction of the dye, since other things in the engine compartment will also glow and could mislead you. I would recommend the shorter wavelength UV led (365 nm) and the more powerful lamps. They will give a much stronger response. However, the 395 nm lamps will work also, and are cheaper.

I have been using a Alonefire SV003 10W 365nm UV Flashlight Portable Rechargeable Blacklight Flashlight. It's on Amazon for about \$25.



The second useful application of your UV flashlight is light curing resin and cyanoacrylate glues. This is similar to what your dentist does when he sticks a UV lamp in your mouth to cure a filling or bonding agent. These UV LEDs quickly cure Loctite & Henkel light-cure adhesives, like 4306 Flashcure. A quick search on Amazon will turn up many UV cure adhesives. These are really handy when doing fixturing.

Apply some adhesive, hold it in position. A few seconds of UV and the parts is stuck! I have use this to glue difficult to grab parts on the front of my lathe chuck.

Keep looking for those aggressive scorpions. Some can jump 4 ft!

Bob Miller

Bob and Rick and the Mystery of the Missing Power

It was a dark and stormy night; well, actually, no. It was a clear and bumpless morning sky and I couldn't figure out why we were a third of the way to Marana Airport and still not at 3,500 feet. And the takeoff run had been a lot longer than I remembered. Now, the Sisler Cygnet SF-2A, powered by a Great Plains VW (Beetle) conversion, is rated at 76 HP, and is not a rocket in either power nor speed, but it normally gets to our usual cruising altitude within a couple of miles from the airport. And, compared to the 65 HP Champ I used to fly, it's a real hot-rod. Why 3,500 feet? Because it's high enough to be legal and low enough to see the sights, and why waste gas going higher, unless you are going to do some maneuvers, which we inevitably do. But, just for cruising to Marana for breakfast at Sky Rider, 3,500 feet is all we need.

The Great Plains VW engine has more in common with a Lycoming or Continental than one might think. They are all air-cooled, overhead-valve, over-square (bore greater than stroke) opposed 4-cylinder aircraft engines with vertically-split light-alloy crank cases and finned steel cylinders. All drive the prop directly off the crankshaft and use magneto ignition. Great Plains re-engineered the VW Beetle engine to make it suitable for aircraft use: It has a special long-stroke, forged-steel crankshaft and the cases are modified with an oversized 5th main bearing to carry prop loads. It uses a special camshaft to lower the RPM of its torque peak, and over-bored cylinders to increase displacement. Now for the differences: The Great Plains engine is much smaller, with a displacement of 2180 cc (133 cubic inches).

The power is about the same as a Continental C-75 (O-290) of 290 cubic inches and 220#, but the VW is physically smaller and lighter (165#) and makes its power at 3,200 to 3,600 RPM vs the Continental's 2,275 maximum permissible RPM. The Great Plains engine has a Diehl accessory case, which does away with the need for an alternator, and it carries a single Slick magneto. Instead of having the cylinder heads individually screwed onto the cylinders, the VW-derived engine has a single head per side that covers two cylinders and is easily removable. Oh, and because it drives the prop from the end of the engine that used to spin the generator, the prop turns counter-clockwise as seen from the pilot's seat. That's right, it requires *left* rudder on takeoff to compensate for P-factor. Because the Cygnet is rigged for a left-turning engine, a VW-derived engine is required, and generally does a fine job. Advantages (for Experimental Aircraft use): price, size, easy access to inexpensive parts. Disadvantages: must use a wooden prop, limited to 62" diameter to prevent trans-sonic tip speeds. Must learn to use left rudder for full power.

But I digress.

So, even though all the engine gauges read normal, we turned back to Ryan, waited for the engine to cool, and did a leak-down compression test, which revealed low-compression (really, air leakage) in the #1 cylinder. Off came the head to a local VW hot-rod shop for a valve job. Back on the airplane and another flight still showed poor performance. Now #3 cylinder had a low reading on leak-down and, hey, the magneto timing was off by an estimated 10 degrees. Research of records showed that it was just past its 500 hour TBO, so worn and/or eroded points could account for some of our problem. Fuel flow to the Ellison throttle body injector was more than adequate, the spark plug wires had normal resistance, and the plugs looked fine. Oh, and by the time that we had done all this trouble-shooting, it was time for the Condition Inspection.

After opening up the airplane for the inspection and covering everything on the maintenance list, including installing and timing the rebuilt magneto, we buttoned her back up and did a compression test. #3, with a fresh valve job, failed again! These are the times that try men's souls. This time both heads came off and were replaced with brand-new heads, and now, compression was good in all four. With the Condition Inspection signed off, it was time to fly again.

When Rick did the Functional Check Flight, alone of course, it seemed to be back to normal, but that was without my rather dense bod in the other seat. The next day, with me in the right seat and Rick in the left, I'm happy to report that the Cygnet took off and climbed like a slightly-underpowered homesick angel, reaching pattern altitude shortly after turning downwind, which is normal. Negatives? Months of down-time while we figured out what the heck was wrong with the engine. Positives? Inexpensive repairs, and I now consider myself an experienced mechanic on the VW engine, or at least, the Great Plains version of it.

Stay tuned for the next thrilling episode of Bob and Rick, Aircraft Detectives!

Bob

EAA webinars are free to all aviation enthusiasts. Pre-registration is recommended since space is limited to the first 1,000 registrants. Upcoming webinars include the following topics and presenters:

5/6/20

7 p.m. CDT

Is it Legal to Install? – **FULL**

Qualifies for FAA WINGS and AMT credit.

Mike Busch

What if you want to install something in your certified aircraft (e.g., an automotive seat heater), but the thing you want to install isn't STC'd, PMA'd, TSO'd, or otherwise FAA-approved? Is it legal to do that? Do you need a field approval? In this webinar, Mike Busch, A&P/IA, explains exactly when it's okay to install nonapproved equipment in a certified aircraft and when it isn't.

5/7/20

7 p.m. CDT

Critical RV Flying Skills

Qualifies for FAA WINGS credit.

Rian Johnson and Mike Seager

In this session, Rian Johnson and Mike Seager from Vans Aircraft will focus on safety as they cover the importance of transition training prior to flying an RV. They will review the skills that all pilots should be practicing, refining, and perfecting throughout their flying careers.

5/12/20

12 p.m. CDT

[Chapter Chat: Chapter Websites Tips and Q&A](#)

Charlie Becker and Megan Hart

This webinar is for chapter web editors using the new Sitecore website platform recently put in place for chapters. Charlie Becker and Megan Hart will provide an update new features available, some suggestions on improving a site and answer questions.

5/12/20

7 p.m. CDT

[ATC and You: Don't Let That Cloud Mislead You](#)

Qualifies for FAA WINGS credit.

Richard Kennington and Bob Obma

Who has a more accurate weather picture, ATC or pilots? Both have pieces to the weather puzzle, but both have their limitations. NATCA air traffic controllers Bob Obma and Richard Kennington will discuss what pilots can expect from ATC. Controllers can help pilots avoid inclement weather; join this webinar and learn how.

5/13/20

7 p.m. CDT

[Operation at Towered Airports](#)

Qualifies for FAA WINGS credit.

Prof. H. Paul Shuch

It's not uncommon for aviators to achieve a pilot certificate without ever having operated in any kind of tower-controlled airspace. Even for those who have flown in them before, a towered environment can be rather intimidating. This FAA WINGS webinar will help you to relax and enjoy the interaction with Air Traffic Control. Remember, ATC is there to help!

5/19/20

7 p.m. CDT

Understanding Hypoxia in Aviation

Qualifies for FAA WINGS credit.

Steve Martin

Hypoxia in aviation is widely recognized as a potential threat, but poorly understood and under-respected by most aviators as a contributor to other accidents. Aerospace physiologist Steve Martin will discuss the facts and fallacies regarding the different types of hypoxia, recognition, causal and influencing factors, and mitigation techniques necessary to avoid this pervasive issue.

5/20/20

7 p.m. CDT

Getting to Know the Rotax 915 iS Engine

Qualifies for FAA WINGS and AMT credit.

Jorge Tavo

Tune in to this FAA WINGS and AMT qualifying webinar and learn about the newest Rotax aircraft engine. Rotax Flying and Safety Club (RFSC) instructor Jorge Tavo will provide an overview of the Rotax 915 iS. Special focus is on the differences of this fuel-injected, turbocharged engine, compared to other popular Rotax 9-series engines. Special emphasis will be on proper installation, maintenance, and inspection.

-built airplane. Vic has completed hundreds of condition inspections and will be showing many of his findings, including where to look for maintenance wear items. Vic is owner/operator of Base Leg Aviation, a DAR, has built 11 airplanes, is a member of the EAA Homebuilt Aircraft Council, and additionally writes Checkpoints, a column in EAA's own Sport Aviation Magazine.

5/27/20

7 p.m. CDT

Amateur-Built Condition Inspections

Qualifies for FAA WINGS and AMT credit.

Vic Syracuse

Vic Syracuse will help educate builders and non-builders on the nuances of performing a condition inspection on an amateur-built airplane. Vic has completed hundreds of condition inspections and will be showing many of his findings, including where to look for maintenance wear items. Vic is owner/operator of Base Leg Aviation, a DAR, has built 11 airplanes, is a member of the EAA Homebuilt Aircraft Council, and additionally writes Checkpoints, a column in EAA's own Sport Aviation Magazine.

6/3/20

7 p.m. CDT

Predictive Maintenance

Qualifies for FAA WINGS and AMT credit.

Mike Busch

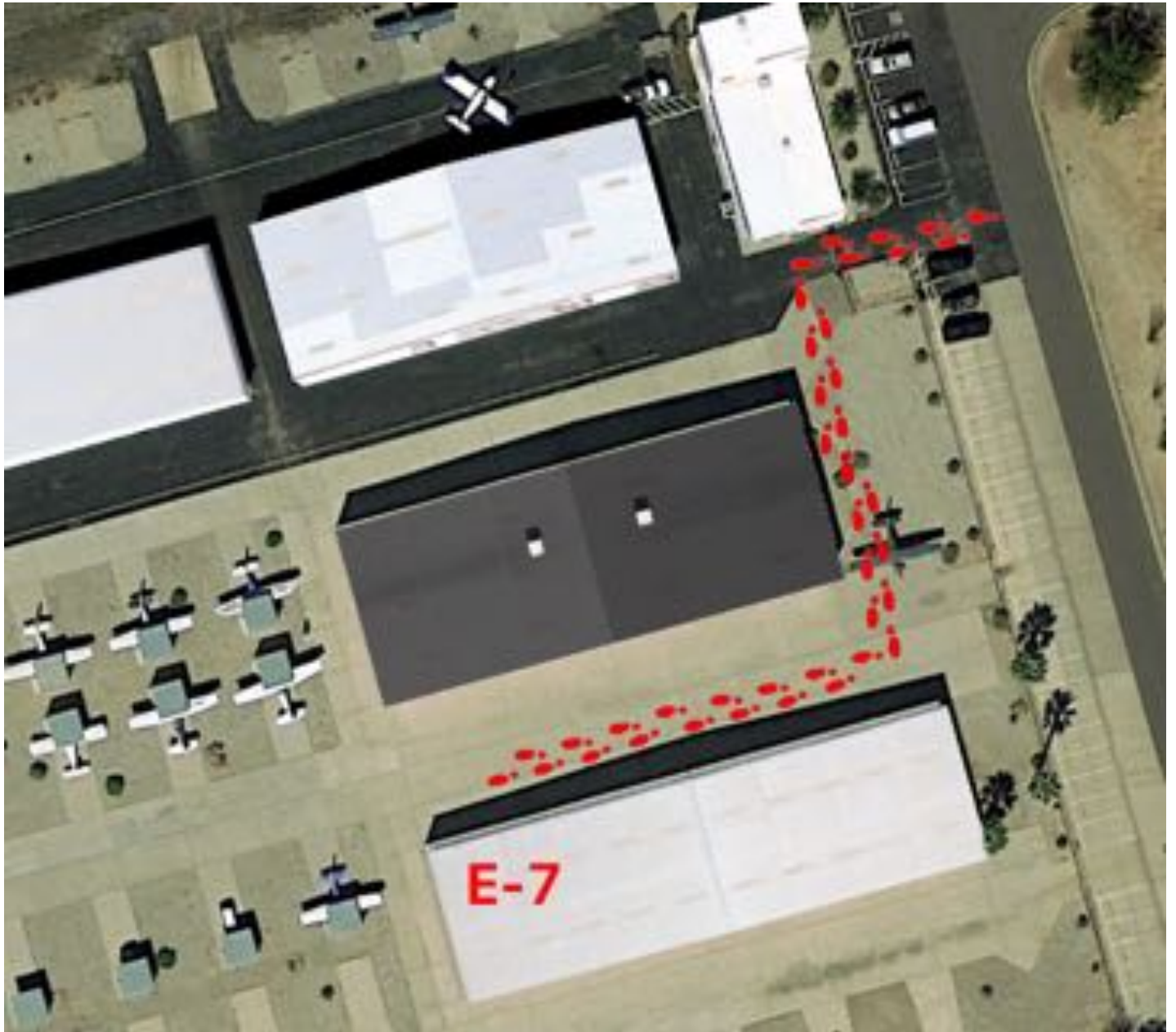
Manufacturers of aircraft, engines, propellers, and appliances have traditionally called for performing preventive maintenance on a fixed timetable. A prime example is engine and propeller TBOs. More recently, this time-based approach has given way to condition-based preventive maintenance based on regular repetitive inspections. Now we're beginning to see this inspection-driven approach giving way to predictive maintenance based on analysis of data from sensors installed on the aircraft and engine. In this webinar, Mike Busch A&P/IA discusses this latest trend and how it's starting to trickle down to owner-flown piston GA.

Location of the EAA Chap 81 hanger

Drive down South Aviator Lane to the end. Park just south of AirWest. There is a walk in gate just south of the auto gate. It is not locked. Walk through the gate, and turn left. Walk past the first hanger on your right. The EAA hanger is on the Northwest corner of the second hanger, E-7 Chairs are available or Bring your own chair

See the two images below!





Classifieds

Remember that you can place an add in the newsletter (it will appear on the Chapter 81 web site also) to sell those items in your hangar. Then, you can buy more shiny stuff to put in your hangar! Send email to newsletter81@eaa81.org with a pic, description and contact information.

011 Zenith Zodiac 601XL w/B modifications. EXTREMELY nice looking plane. 158 hrs, Jabiru 3300, MGL Glass panel plus a mounted tablet, autopilot, plus all the other stuff. \$44,500

If interested, contact Jimmy
860-946-7194
jimmyg2000@att.net



Important updated information!



Lyndell Taylor
ltaylor017@yahoo.com

Desert Sport Flyers suffered a setback in March when during the annual inspection a crack was discovered in the top cap of the center section main spar of the club's aircraft. The manager elected to disband the club at that time. However, some of the club members felt that the club should be continued with new organization documents and new management. Since that time, the new organization has been formed and will operate under the same name (Desert Sport Flyers). There are some options available for obtaining an aircraft and the club will soon make its decision as to what aircraft it will choose. The new managers are: Jessica Cox, President; Mark Gregory, Secretary; Steve Hulland, Treasurer; Jerry Witt, Maintenance Officer; And Bob Rill, Director at Large. If anyone is interested in membership in the new club, please contact one of the new officers.

Lyndell D Taylor

Stephen Zigelstein

Stephen has been building these aircraft for some time. Perfect for anyone that has small children or grandchildren. Easy build! Some parts are available prefabricated from Harbor Freight Aircraft Supply! To save on engine cost, the prop is hand cranked. From the photo it seems that the prop could use a little more pitch, and elevator and rudder authority is limited! Larger size Chap81 pilots may substitute a bigger barrel for some cheap stick time.

Stephen has some complimentary simple plans and instructions available if you are interested.

stephen_zigelstein@msn.com 308-383-9786



EAA BIPLANE FOR SALE

\$19,500



125 hp Lycoming O-290-G,
New brakes & tires
417 252-0332 OR 417 252-1750
WILLOW SPRINGS, MISSOURI
More photos available on request

2007 Johnston Tiger Cub, Single Seat LSA, Rotax 503 DCDI, TT ACFT/ENG 70hrs, Basic VFR instruments, Custom 9 gal aluminum tank, Cleveland Brakes, Custom cargo storage compartment behind seat, Folding wings, Can be flown with Doors open or Off , Stall 27 - Cruise 75 MPH

Asking \$9K

Stephen Zigelstein. **Best way to contact me is Cell Phone**
[308-383-9786](tel:308-383-9786)



Best Prices on Dynon for EAA Members

Marc Edmonds, the owner of Light Sport USA in Sisters Oregon and a premier Dynon independent dealer, is offering to all EAA chapter members what he believes to be the lowest pricing in the USA on new Dynon avionics available on Dynon's website, (www.dynonstore.com), shipped directly from Dynon in Woodinville, WA. to the purchaser with full warranty.

For a firm quote contact Marc Edmonds at Light Sport USA, www.lightsportusa.com 541-719-1245 vtails@yahoo.com

Due to circumstances I am forced to sell my Rv9a sliding canopy kit. Chapter 81 has viewed my project twice, Craftsmanship is excellent. Tail, wing, and fuselage are complete. Electric elevator, electric aileron, electric flaps. Ray Allen stick grips, Dual brakes. landing lights kit, Position light kit, Whelen strobe kit. Finish kit is included. Plane is on gear temporarily. Air plane has had wings installed and tail and wings measured and drilled for correct angles. Stewart system primer. Lift reserve indicator. Tanks sealed. External steps. Gray and blue leather seating. No engine or prop, It has the fuel injection cowl so a 360 will also fit, besides 320.

Neil Cubbon
520 373 3909
Neilc@icloud.com

1948 Swift airframe TT 2250 hours, engine 345 SMOH, New prop. many approved mods including 210HP continental IO-360 engine, stick flight controls, 50 gallon fuel upgrade, sliding canopy and more. \$60,000.00. based at Ryan Field. contact George Snyder [520-661-2127](tel:520-661-2127) for more info.



Long Ez Project for sale

I will no longer be able to get my pilot's license due to medical issues. The URL below will take you to my website that shows most of the components included in the sale. The price is \$2500, but I am open to partial or complete trades(looking for enclosed trailer or SCCA project car), open to all offers, the worst I can do is say no. I can store this project until spring if needed. Please email with any questions, or use the reply box on the website.

<https://longezforsale.godaddysites.com/>

Thank You,
Allen (aabebay@everttek.net)

Larry Wilson

I am about done with my work table and would like to sell it. I am getting ready to put my Zenith CH 701 on its gear. Here is the description:

SOLD
4'x12' very heavy duty table with 2' folding/removable ends on casters. two shelves. 36" high. 4' butcher paper roller on end. covered with two layers of cardboard while building aircraft. can deliver for costs. Asking \$400.

Larry Wilson

larryflickwilson@hotmail.com

In July 2018, I purchased the Empennage/ Tailcone and Wing Kits from Van's Aircraft for a RV12iS (see attached). In October 2018, under the supervision of Synergy Air (Eugene, Oregon), I completed the Empennage. I have now completed the Tailcone, but have not done anything on the Wing Kit, except sorting and labeling all the parts and fittings. The cost of all the items that I have purchased from Van's Aircraft amounts to \$11,400. The cost today from Van's for these same parts would be about \$12,000. I also have the complete tool kit for the RV-12iS which I purchased from Aircraft Tool Supply at a cost of about \$1,600 plus a pneumatic squeezer (3" yoke) costing \$500.00. I have attached a few pictures of the Empennage and Tailcone.

The Empennage, Tailcone, and Wing Kit are available for the price that I paid for them, namely \$11,400 or best offer. The RV12iS Tool Kit is available at no extra cost and there is no tax applicable.

If interested, please contact John Twyman at:

Tel: 520.207.5002 (voice only) or



Check out our Chapter Facebook Page!
<https://www.facebook.com/ea81.org>

**Please send items of interest, classifieds, etc
to
Dave Jaksha – Newsletter Editor
(newsletter81@ea81.org)
or to Dave’s address on front page.**



Chapter Officers & Staff

President - Erik Fjerstad (520) 345-6621
president81@ea81.org

Vice President - Steve Horton (520) 704-1660
aplaneguy2@outlook.com

Secretary - Bob Miller (520) 322-0677
rmiller88@msn.com

Treasurer - Eric Nelson (520) 222-4878
nelsoe123@gmail.com

Director - Lynn Wesley (520) 883-8588
lwesley7@hughes.net

Director - Phil Peery (520) 241-1135
peeryphil225@gmail.com

Chapter 81 Young Eagles Coordinator - Eric Nelson
(520) 222-4878
nelsoe123@gmail.com

Webmaster and Newsletter Editor
Dave Jaksha (520) 400-8896
Webmaster_81@ea81.org
newsletter81@ea81.org

Hangar Managers – Angela and Greg Duncan
aduncan6000@gmail.com (520) 270-8076

Tech Counselors

Gil Alexander (520) 544-8191
gilalex@q.com

Norm Radtke (920) 539-9270
redbarn82@gmail.com

Chuck Valade (586) 707-4032
bd4flyer@netzero.net