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Chapter 81 Skywriter

EAA
Chapter
81

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!

Meeting
August 17 2019
10:00 hrs

Ryan Airfield Administration building
(Just East of Richie's Cafe)

Erik Fjerstad
Take the red or the blue pill?
Engine replacement decision matrix

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.

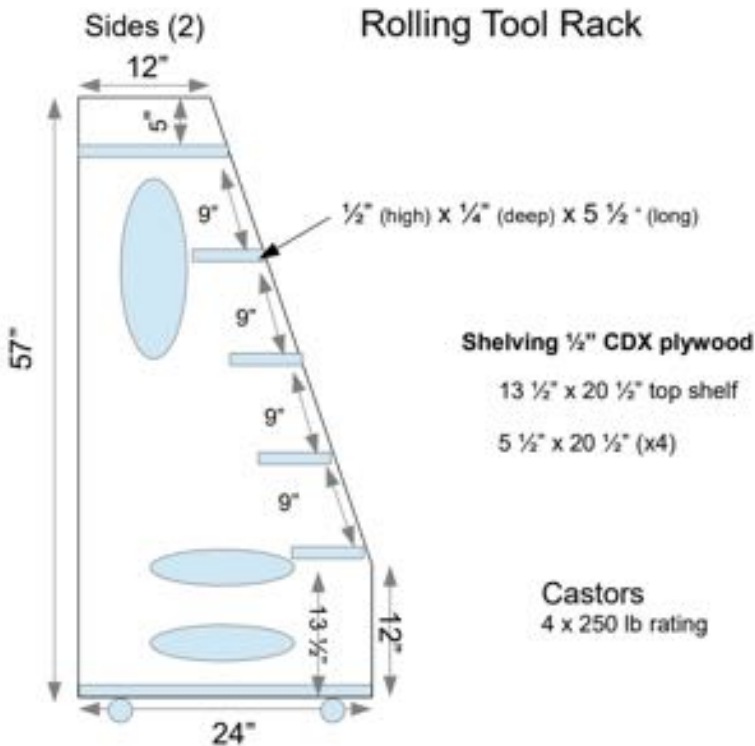
Dave Jaksha**Drop your drawers....**

Ok, except for a few of you anal retentive types (you probably refer to yourself as “organized”), I suspect that many of us have a hard time finding tools. I am a special case, as apparently many years ago, I was cursed by some dark witch so that almost every time I lay down a tool, it teleports to some other location in the shop or crawls under several layers of stuff on the workbench. So, I spend much of my time trying to find a tool I was just holding in my hand a couple of minutes ago. Also, many of my tools were located in tool stacks with multiple drawers. Not only are these stacks located on the wrong side of the project, but I’m then faced with digging around in multiple drawers trying to locate what I needed. Tools in drawers get hidden under other tools, or get pushed to the back

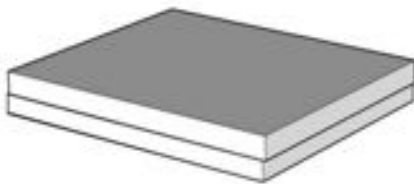
and hide. So what to do? I attempted to improve my condition by using a roll around lab cart to pile my tools on, which helped. But, it lacks any kind of organization and eventually gobs of tools end up in the cart and they become buried just like on the work bench. I bought the smallest version of a lab cart, but its still hard to maneuver to where I need it.

Pursuing Youtube (the accumulated sink hole of all human knowledge) I came across [Adam Savage's Tested](#) Adam is a consummate maker/ builder and is great fun to watch. Adam (Mythbuster fame) claimed that drawers are where tools go to die. I have come to the same conclusion. What caught my eye was Adam's idea for an easy to build, roll around vertical tool holder, that puts the majority of the tools you frequently use

right at hand. Its narrow enough the you can maneuver around the shop, and holds many of your commonly used tools. Adam doesn't include any plans for said cart, but searching Youtube finds several people that have used his idea and built there own version. The drawing is from one of those sites and gives you a basic starting point. The drawing indicates a width of about 20" and a height of 57", but those numbers can be modified to suit your yourself.



Base
2 sheets 3/4" CDX
20" x 24" (laminated)



The tool stand is like have a personal tool assistant that follows you around the shop. Yea!

The curse is broken.

Below is a link to the Adam Savage page, and the second link is version of the tool stand.

[Adam Savage tool stand](#)

[Inside The Shop](#)

Bill Hempel

This past weekend I flew my RV-7 to the monthly fly in that Casa Grande has on the last Saturday of each month. Unlike the Coolidge fly in this one is held every month, including through the hot summer months. My Daughter and I took off out of Benson (E95) and flew for about 38 minutes up to Casa Grande Airport (KCGZ). The weather was perfect with smooth air up and back, we came through Tucson Airspace and squawked the appropriate code and was sent VFR as soon as we left their airspace. Once on the ground in Casa Grande we were surprised to see about 25 planes had flown in! This is a huge turnout for a June fly in, the Terminal building and [Foxtrot Café](#) was perfect. They offered scrambled eggs, packages, bacon and biscuit and gravy as a buffet with juice or water for under \$10. After eating we walked the ramp and took some pictures, met a few pilots and talked about their planes. After about an hour we were back in the -7 and heading back home. All and all, it was a great quick trip and we will do it all again in July! See you there?

Bill Hempel



Beautiful plane on the flight line



Bill's RV-7A with a magnificent view out the windscreen

Editor note: Bill has some great pictures, and adventures at his facebook page. Heres a link:

[Bil Hempel Adventures](#)



Casa Grande cafe pancake flyin



Erik Fjerstad

Note from the president....

July and August are pretty quiet around here, with many of our members either 1) at Oshkosh; 2) have done the snowbird migration north; or 3) hunkered down to avoid the heat. I am trying to "hunker down" but I have a condition inspection to do as my RV-6A expired in July. As the aircraft has a somewhat high-time engine, and I would like more power (I have the smallest engine for the RV-6A, the 150 hp Lycoming), I am considering an upgrade. Who among you would not want more power for your airplane? More power means shorter takeoffs, better climb rate, higher service ceiling, higher available cruise speed, and the opportunity to spend more money on fuel! I am almost hoping the inspection shows a need for some overhaul activity to justify some kind of an upgrade, but the borescope / compression test / oil analysis suggest the upgrade isn't mandatory. If I had purchased a kit without an engine, I would probably have acquired an engine-prop combo from Vans on their discount program which is hard to beat. However, my kit had this engine, and my choices are complicated. These choices include: buying that engine-prop combo from Vans (one set is available to every Vans kit owner); finding a serviceable O-360; or upgrading my O-320 with some combination of higher compression pistons, electronic ignition, fuel injection, etc. My research on these options, and a "decision matrix" I am constructing shows that this upgrade cost could range from \$2,000 to \$38,000 with HP increases from about 15 to 60 and with varying impacts on the resale value of the airplane. At our next chapter meeting I will present my decision matrix, describing the options, and may even be able to identify the choice made (as of this writing, I am still undecided). Hopefully, some of the information may be of use to others when they are faced with the need for either more performance or to replace an item that is not longer serviceable (such as a carburetor, fuel servo, magneto, cylinders, etc.).

Save Flying!
Erik

And now for something completely different!

If you have access to PBS Nova's shows, check out Season 45 Episode 17 on Peregrin falcons. The World's Fastest Animal. It's a good watch with Falcons, first solo, drones, high res vision system, high G's, and dive bombing.



Helping hands....how can you loose?

Marv Kea is looking to help with a project.

He has built and flown a Kitfox Model 7 and partially built an RV7 and 12.
I'm retired and looking to be involved in a build. Contact number is
520-722-4569

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:

8/7/19

7 p.m. CDT

[I Wanna Sue Someone](#)

Qualifies for FAA WINGS and AMT credit.

Mike Busch

When airplane hardware fails prematurely necessitating costly repairs, the owner's reaction is often to call a lawyer because "this wasn't my fault and I shouldn't have to pay for it." Most of the time, however, litigation doesn't provide a feasible remedy for such situations. In this webinar, Mike Busch recounts his correspondence with one such owner that illustrates why suing someone is usually not the answer.

8/14/19

7 p.m. CDT

[Rotax 912iS Sport Engine Overview](#)

Qualifies for FAA WINGS and AMT credit.

Jorge Tavio

Rotax Flying Safety Club instructor Jorge Tavio provides an overview of the system components in the technologically advanced Rotax 912iS engine. Using detailed graphics Jorge will show how the engine differs from previous Rotax 912ULS engines.

8/20/19

8/20/19

7 p.m. CDT

[What Is Scenario-Based Training: How to Use It in Your Everyday Flying](#)
Qualifies for FAA WINGS credit.

Tom Johnson

Tom Johnson will explore how SBT, a training technique developed by the military and the airlines to help their pilots make better in-flight decisions, can be applied to your flying. He will demystify it and break it down to what it essentially is: good old hangar flying. We will introduce a basic structural model to help you be systematic in your scenario analysis. We will show you how and when you can and are required to use SBT. And finally, we will help you apply SBT to your personal aviation needs.

8/28/19

7 p.m. CDT

[Loss of Control – Root Causes and Innovation Opportunities](#)
Qualifies for FAA WINGS credit.

Loss of Control Committee Members

This webinar continues the discussion initiated at AirVenture to deeply define the root causes of Loss of Control accidents. A wide-ranging root cause model developed by the webinar panelists reveals that reducing fatalities is a very multi-dimensional problem – there is no one “silver bullet” solution, but instead a range of diverse technical, regulatory, training, culture and behavioral challenges that must work together.

This webinar, presented by the aviation and industry experts that created the root cause model, will first ground the participants in the different dimensions of it. Then, the panel will discuss the many open areas for innovation that still exist beyond those already known or proposed. This discussion intends to stimulate the innovative spirit of the EAA and broader aviation community to create novel, effective and implementable solutions to this persistent challenge of LOC accidents and fatalities.

Bob Miller

Talking Heads, VW-Style

The last time I went flying with my friend Rick Brown in his plans-built Sisler Cygnet, I noticed that we were climbing incredibly slowly, as in half-way to Marana before we were 1000 feet above ground level. OK, this might be normal in a 65-HP Champ, but the Cygnet usually does a lot better. Yes, it was a warm morning (90 degrees) and we were heavy with full fuel and my 200#-plus body, but we've never had this little power. Everything was in the green on the gauges and seemed normal otherwise, but I did not feel that it was safe to continue, so we headed back. Rick was OK with my suggestion of a compression check. The left two cylinders of the VW-derived Great Plains engine checked out OK, but the right two not-so-much. The Achilles-heel of VW air-cooled engines is the cylinder heads; especially the exhaust valves. With the valve closed, one cylinder blew audibly through the exhaust pipe. The other right cylinder had very low leak-down compression. One advantage of the VW engine over most aircraft engines is that there is one removable head for both cylinders on that side. We decided to pull off the cylinders as well, to see whether the piston clearances were good and the rings in good shape.

It turned out that the pistons and cylinders were fine, even displaying some of the hone marks, but the machine shop honed the cylinders anyway and fixed the head. They returned the parts to us in a way I had never seen before: the new rings were on the pistons and the pistons inserted into the cylinders just far enough that the wrist pin holes were fully exposed. This enabled us to oil the cylinders and slide them onto the studs, then insert the wrist pins with the plastic buttons that locate them through the small end of the connecting rods and gently tap the cylinders into place. The wrist pins can be pressed in with a thumb when correctly aligned, which does not automatically occur. Nonetheless, we fiddled and jiggled and got them in, with appropriate use of exotic vocabulary and correct mouth alignment.

The refurbished head went on next with slightly less hassle and new pushrod tubes, and we thankfully remembered to put in the copper head gaskets first! There is a very critical sequence of head-nut torquing in two stages. Then, the pushrods were inserted and the rocker assembly was replaced. This engine has the optional hydraulic lifters, so valve adjustment is made with the valves closed because the cam lobe is facing away from that cylinder, then screw down the adjuster until the rocker arm just makes contact with the valve, and then tighten 1 1/2 more turns.

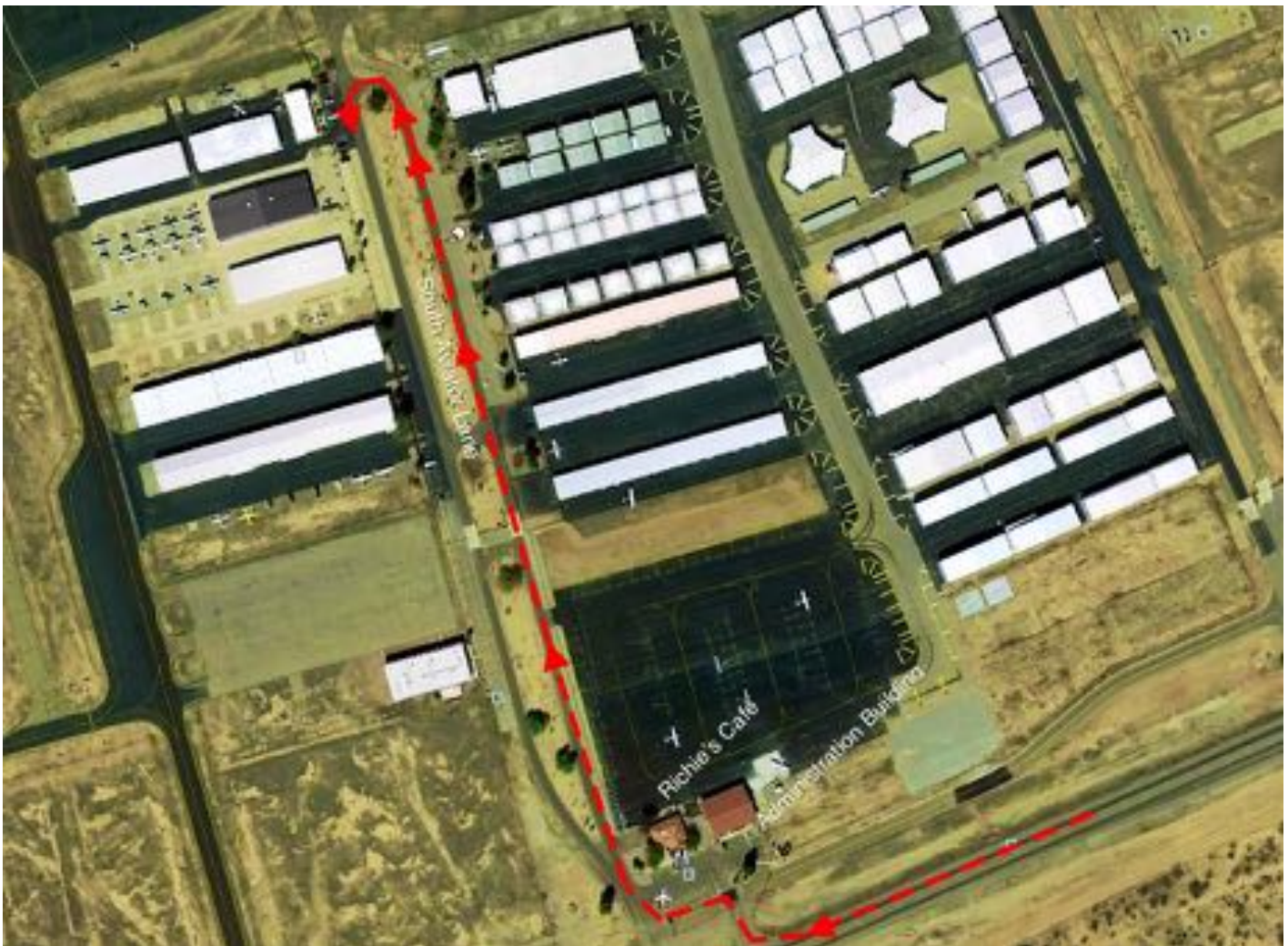
The temperature in the hangar became an issue before we got the valves adjusted, but next time, after adjusting the valves, we will just bolt on and safety-wire the valve cover, reassemble the engine accessories that had to be got out of the way, and replace the cowling. Rick will perform the Functional Check Flight and we will soon be flying again, shamelessly burning up to 3 1/2 gallons per hour!

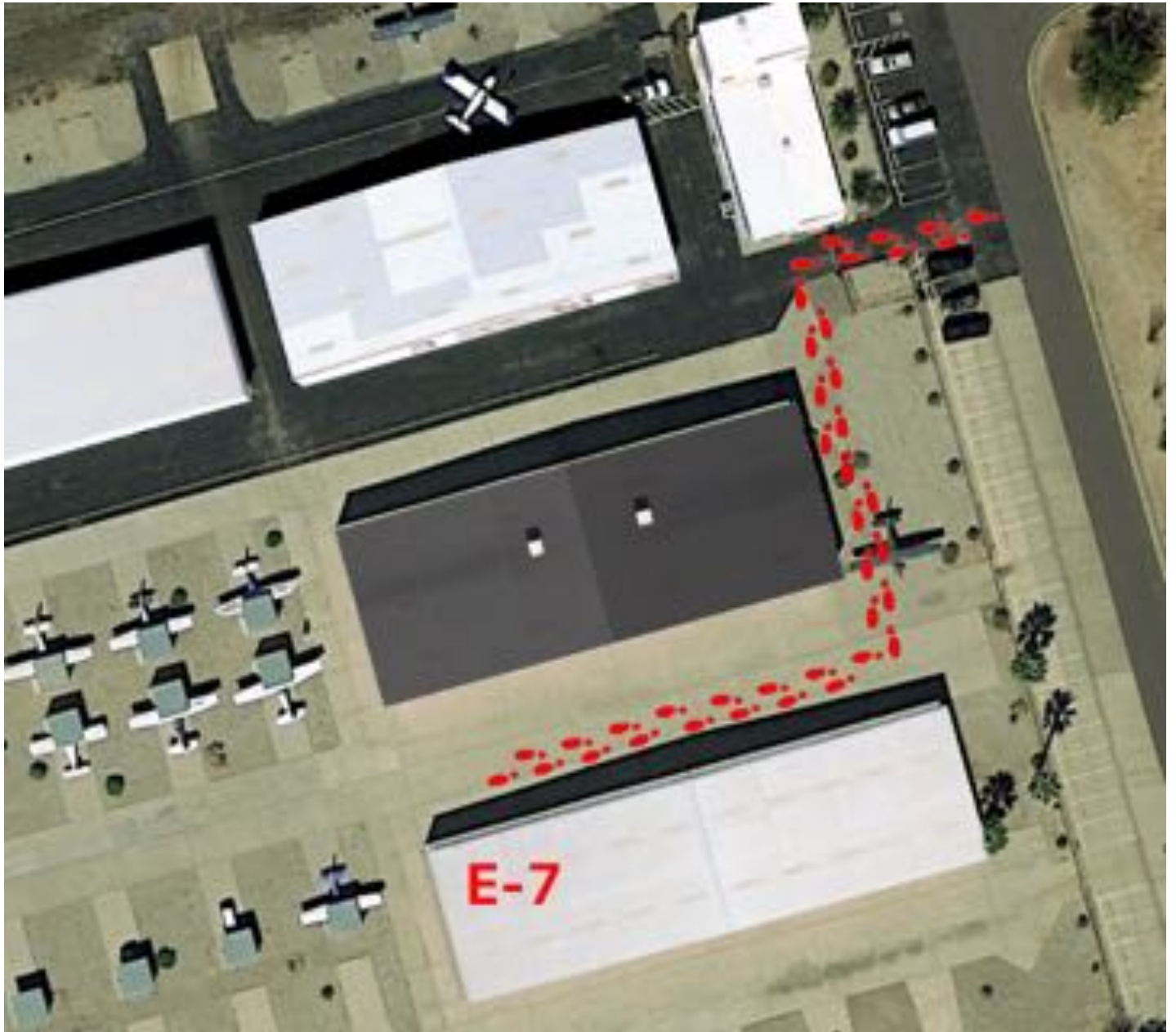
I've heard many a conservative pilot state that he would never fly behind an automotive engine, but I've done it for many years with few problems. When this engine did have a problem, it was incredibly inexpensive to fix (just ask Erik Fjerstad about the price of three new cylinders for his Cessna 150) and really not that hard. Hurray for experimental aircraft!

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

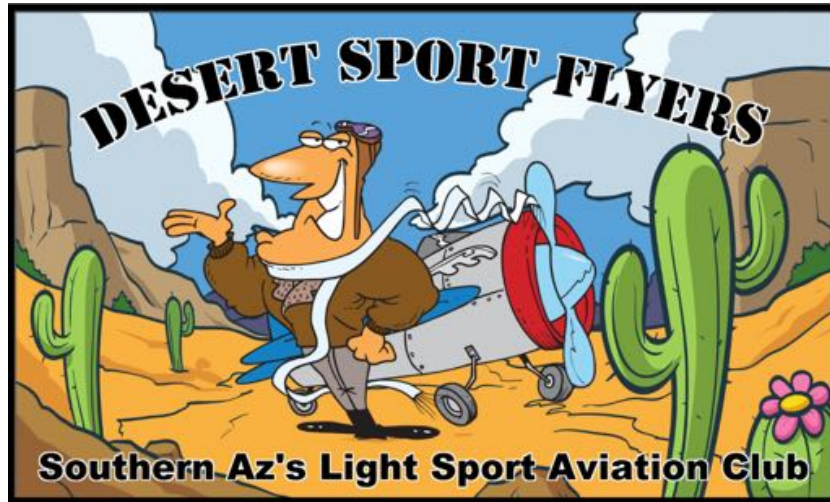
If interested, contact Jimmy
860-946-7194
jimmyg2000@att.net



Marv Kea is looking to help with a project.

He has built and flown a Kitfox Model 7 and partially built an RV7 and 12.
I'm retired and looking to be involved in a build. Contact number is
520-722-4569

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@cazador.biz



Angel Duncan

Attention Zenith Builders

We have an assortment of NEW Zenith parts at the chapter 81 hangar. If you need any of these items, please call or text Angel Duncan @ (520) 270-8076 (cell) or (520) 578-1162 (home) or e-mail aduncan6000@gmail.com

Donations to Chapter 81 for these items are appreciated. Don't forget, we are a 501c3 nonprofit!

- 1 Fiberglass Cowling for 750 firewall. (Other models have same firewall as 750)
- 1 Pitot Tube
- 2 Rudder Pedal Pivot L Brackets
- 2 Control Stick Grips
- 2 Rudder Cable Fairings

701 PARTS

- | | | |
|----|-----------|----------------|
| 2 | 7F4-3 | REAR TIE DOWNS |
| 18 | 7C6-1 | CABLE PLATES |
| 2 | 7F12-4 | GUSSETS |
| 2 | 7F15-4 | GUSSETS |
| 2 | 7F19-16C2 | NYLON BLOCKS |

801 PARTS

- | | | |
|---|---------|------------------------------|
| 1 | | DOOR LOCKS/HANDLE KIT w/keys |
| 2 | 8A2-4A | FLAPERON ROOT HINGE |
| 1 | 8C1-4 | RUDDER CABLE PULLEY BUSHING |
| 2 | 8F19-14 | NYLON BEARING |
| 1 | 8H2-15 | ELEVATOR HINGEPIN ANGLE |
| 1 | 8C8-14 | FLAP MOTOR INNER BUSHING |
| 1 | 8C8-15 | FLAP MOTOR OUTER BUSHING |

750 PARTS

1	75C4-5 (or 701# 7C5-1)	UPPER ELEVATOR CABLE FAIRLEAD
1	75C4-6	TOP SKIN ELEVATOR FAIRLEAD
1	75Z1-11	LOWER ELEVATOR CONTROL STOP

601 PARTS

1	6E6-3	OIL TANK TOP SUPPORT
36	6LAA-2	BALANCE WEIGHTS 1/8 MS
29	6LAA-3	BALANCE WEIGHTS 3/16 MS
10 inch	MS20257-5	HINGH
1	6ZU1-5	BOTTOM CAP ANGLE
3	6ZU1-5	BOTTOM CAP ANGLE (DRILLED)
2	6ZU2-4	SPAR UPRIGHTS
2	6ZU3-2	SIDE DOUBLER
3	6ZU4-2	AILERON STIP SUPPORT
1	312-185X300	RUDDER BUSHING
2	C16-14864	40 LBS. DOOR GAS STRUTS
1	65T5-2	TRAILING EDGE SKIN
1	65T5-1	LEADING EDGE SKIN
1	6T4-4/1	VERTICAL TAIL SPAR
2	6T4-5	DOUBLE ANGLES (wrapped with Vertical tail spar above)
2	6B18-5	SPAR ACCESS COVER

601 PARTS CONTINUED

1	6K2-2	CENTER CONSOLE
2	6W9-3	BELLCRANK ACCESS COVER

RIVITS

10	MS2047AD5-7
5	AD5-10
109	AD6-10
3	AD6-12 (CUT)
4	AD6-15

TOOLS

701 LEADING EDGE SLAT ASSEMBLY JIG

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

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

"After 2 years of health problems, I am back at work on my two projects, however, I can use some help. Both are shown in the attached photo.

The yellow one is a 3/4 scale Navy version of a Stearman WW2 trainer in wood construction and almost finished. Remaining work is activating the Rotec radial engine, brakes and instruments.

The other is a full-size version of a Fokker DR1, metal framed WW1 fighter with a lot of work remaining.

If you think that you, or someone you know, might be interested in gaining some hands-on construction experience, please give me a call or text me at 520.282.1523, or email me at rolden1@gmail.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.



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

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



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