



Spirit of Flight

Experimental Aircraft Association

Chapter 14: San Diego, CA

March 2021



An SDM airport heron demonstrates low flight just south of Taxiway Alpha. Photo by Jim MacKinnon. 2/1

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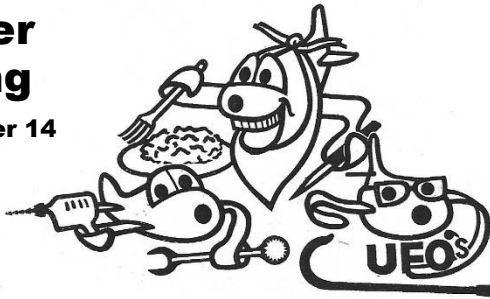


UPCOMING EVENT

March 10—IMC Club Meeting on Zoom, 1830. Mastering the Art of Instrument Navigation. Registration info on faasafety.gov.

Chapter Briefing

EAA Chapter 14
Members



Chapter Activities: Information provided by Chapter members.

Week ending Feb 6: The Chapter regulars were out in full force all week: Mark Albert, Craig Cornford, Jimmy Kennedy, Gary List, Gert Lundgren, Jim MacKinnon, Trevor Pearson, Ryan. New member Patrick Cooley had some spare time and wanted to help on a project. Ryan had been planning to get his EOS running again and figured this would be a good project for Patrick to help with. This plane is almost 50 years old and there are a number of areas to look at before the engine can be fired up. First off, they took a look at one of the gas tanks. Ryan was concerned about contamination from rain water as it had water in the tanks when he bought the plane. Patrick had to take out almost 100 rivets to get it removed from the plane. Once it was off and cleaned up, it didn't look too bad, but they need to pressure test it for leaks. Ryan also began a brake job on the Dragonfly, replacing the master cylinders and repositioning the pedals.

Week ending Feb 13: While the weather was cool, most days were sunny and clear and a number of members took to the skies, including the Serendipity Club airplane, Jonathan Robbins, Chris Constantinides, and Ryan. Ryan began working on the brakes on the EOS. These were Harley-Davidson brakes, 50 years old. The piston on the first brake was frozen and it took almost an hour to get one brake out and cleaned up. The metal disc was also rusty and the rust had to be ground off. However, once everything was cleaned, and put back in, the brakes seemed to be



Testing out the main gear retract system in Ryan's EOS project. At nearly 50 years old, this plane takes a lot of work to get back in the air.

mechanically fine. But all was not as it seemed. Ryan used aviation brake fluid, but Harley Davidson brake seals don't like aviation fluid: the O rings swelled up and deteriorated. It seemed like no one in San Diego had the O-rings needed to start over. Finally, some Harley-Davidson rings ordered on eBay came in. This time Ryan used automotive brake fluid and all went well. Both brakes are holding pressure. On Saturday, good weather brought out some visitors, including Kevin Roche and his son David. The Serendipity Club had a Club meeting, Ben Balanag showed up in his new electric 3-wheel motorcycle, and Hangar 3 was full of conversation.

Week ending Feb 20: Gary List traveled to Arizona to look at a possible aircraft purchase. Stay tuned. Program Director Kerry Powell hosted a Zoom General Meeting featuring John Schafer of the San Diego FSDO. John gave a quick FSDO overview and then talked about some regulations covering light sport aircraft. See a writeup on the talk elsewhere in the newsletter and see the slides from the presentation on the Chapter website. Craig Cornford dealt with alternator issues; Trevor Pearson continued prep work and painting of his plane. Jim MacKinnon is making great progress on his Nieuport.

Week ending Feb 27: Beautiful weather this week – warm, sunny, with a nice breeze. It meant lots of aircraft in the skies either visiting, practicing, or just enjoying the beautiful flying weather. Ryan worked some more on the EOS, this time trying to get the nose gear lubricated and functional again. He had to attach a servo spring. He'll also need to buy one new tire. He next turned his attention to the main gear. He inspected the brake pads, and lubricated the brake cylinder. They had been inoperative from years of oxidation; now they work freely. Member Nigel Worrall offered to help with some of the other work that needs to be done prior to turning over the engine.

A number of members stopped by on Saturday to visit and talk airplanes. Gary List is waiting on pre-inspection results on the plane he went to look at in Arizona. Trevor Pearson



Jim MacKinnon works on the upper wing of his Nieuport 11 project.



Ben Balanag takes Lynn Madden for a spin down the EAA ramp in his new 3-wheel electric motorcycle. 2/13

suggested that if the inspection looks good it might be a good idea to have the annual done at the same time – save time and money. Gene Hubbard and John Collins visited their planes and helped out with various Chapter projects. Jimmy Kennedy is making the final touches to some rib covering. Richard West stopped by to bake a pie in the Chapter oven – we all look forward to being able to have lunch at the Chapter again and enjoy Richard’s creations. Since there might be some movement of planes in hangar 3, Ryan decided that the donated end mill needed to be moved closer to the center of the hangar (it was close to one of the door openings previously). The mill literally weighs a ton. It took at least 6 members almost 1 ½ hours to move it 20 feet.



Jimmy Kennedy works on root rib bracing in preparation for covering his Nieuport 11 wing.



President's Message

Gene Hubbard



Lots of activity at the Chapter this month—see the Chapter Briefing. Please send photos and let us know what you’ve been doing so we can feature your work too.

In February, I attended a Zoom meeting of our IMC club. Six-thirty on Second Wednesdays. Each month the IMC Club Coordinator presents a real-world predicament involving flight in Instrument conditions, giving the group an opportunity to discuss what happened, how the pilot recovered, and how the situation might have been avoided. About fifty people attended the February meeting, which discussed a scenario in which a pilot suddenly found himself in a stall-spin situation due to icing. Discussion ranged from how to recognize the problem (the plane was nowhere near the normal stall speed), whether the pilot was too slow to declare an emergency (in Class B airspace the controller told him to maintain altitude), and the wisdom of attempting to make the flight at all. The session was a good reinforcement for the IFR training that I’ve had, and I got a couple of new perspectives. Next meeting is March 10th and the topic is Instrument Navigation. Check faasafety.gov for details. Select “Seminars & Webinars,” and search on Region “WP-09 (San Diego).” You’ll have to pre-register and they will send you a Zoom invitation for the event.

Gene Hubbard



South Bend Mill in its new position by the tool crib in Hangar 3.

FSDO Update/LSA Regs

Summary by Donna Ryan

The following information is based on the program talk given by John Schaper.

John Schaper, the FAA Team Program Manager at the San Diego Flight Standards District Office (FSDO), gave a detailed and informative presentation via ZOOM to EAA 14 Chapter members and other interested guests. He began the session with an update on accident/incident statistics so far this year. He then went on to discuss Light-Sport Aircraft (LSA), especially as regards to regulations, inspections, and maintenance. With over 50 years involvement with aircraft maintenance and engineering, John was well positioned to give out accurate and specific information regarding this fast growing portion of general aviation.

John gave us a lot of information in this talk; this summary only covers his comments on ASELs (Aircraft, Single-Engine Land), not float planes, gliders, gyroplanes, etc. This summary also just scratches the surface of the government requirements and may not apply to your specific situation, so be sure to look at the actual regulations. See the references at the end of this article for more information. Our Chapter website contains the slides that went along with John's presentation.

FSDO Update: John provided a local FSDO report.

- If you are an IA, you will be receiving a packet to tell you how to renew this year, even with COVID Restrictions.

- There have been a number of personnel changes during COVID, but two new hires should help with the workload; he encouraged attendees to call and make an appointment.

- Accident/Incident Overview:

- One collapsed nose gear
- Two military aircraft with low fuel (one engine shut down)
- Two ground loops; one experimental lost control and went into the infield
- At least two open doors during takeoffs. John mentioned that it isn't just flight schools with this problem; it happens to experienced pilots who are not doing a complete preflight check.
- Up to 20 laser strikes and 5 drone issues.

Light-Sport Aircraft (LSA): John began the talk with a short history of the idea behind light-sport aircraft. The FAA had decided they wanted more people flying and in airplanes. They realized that one way to do this was to have less expensive planes out there. The Cessna Skycatcher, for instance, was supposed to be less expensive than it eventually became. Overall, the American aircraft industry didn't achieve the FAA's vision, although Europe made some significant strides in producing reasonably priced aircraft. At this time, the FAA has just a "seat at the table" in terms of LSAs which remain in the control of industry.

John shared the FAA's definition of a light-sport aircraft, drawn from regulation 14 CFR 1.1. An LSA is an aircraft, other than a helicopter or powered-lift that, since its original certification, has continued to meet the following:

- 1,320 pounds for an aircraft not intended for operation on water
- A maximum airspeed of 120 knots in level flight
- A Velocity Not to Exceed (VNE) of 120 knots
- 45 knots stall speed
- Seating capacity of 2, including the pilot
- Single engine
- Fixed or ground adjustable propeller
- A nonpressurized cabin
- Fixed landing gear

14 CFR § 21.190 is the rule covering the certification of Special Category Light-Sport Aircraft (SLSA). He listed 4 specific items that must be in place for this category:

- Must issue a Pilot's Operating Handbook (POH) or equivalent;
- Must issue maintenance and inspection procedures;
- Must have a data plate with make, model, serial number, class, date of manufacture and consensus standard used;
- The manufacturer will issue Safety Directives and Safety Alerts to correct unsafe conditions and have a continued airworthiness system that meets the current consensus standard.

John provided additional information on consensus standards. These are established by the American Society for Testing and Materials (ASTM) and accepted by the FAA. Each standard is given a designation and the designation is changed from time to time. Each standard is published in a FAA Notice of Availability (NOA). He noted that they cover all aspects of the aircraft and each section is covered by a separate standard. One of his slides listed some of these standards.

John spent some time discussing Airworthiness Directives (AD). Yes, they do apply to LSA, and you must also comply with Safety Directives (SD) and Safety Alerts (SA). An SD is the equivalent of an AD and addresses safety concerns. They are established by the industry consensus standard and the manufacturers. An SA is used for unsafe conditions that require immediate action. Note: If the aircraft has a certificated engine, certificated propeller or certificated appliances, then ADs do apply. There is nothing to stop the FAA from issuing an AD against an LSA. If owners want to keep their airworthiness certificate valid, they must comply with any AD/SD/SA that apply.

Next up for discussion were the responsibilities of an owner or operator. John noted that no person may operate an

aircraft that has a special airworthiness certificate in the light-sport category unless the following have occurred:

- Maintained applicable provision of Part 43 and maintenance and inspection procedures developed by the manufacturer or a person acceptable to the FAA.
- Performed a condition inspection every 12 months.
- Complied with all applicable ADs, SDs and SAs
- Each alteration, after the aircraft's date of manufacture, must meet the applicable and current consensus standard and have been authorized by either the manufacturer or a person acceptable to the FAA. If it is a major alteration produced under a consensus standard, then it also has to be performed and inspected in accordance with requirements. And if it is performed on a type certificated product, then it also has to be recorded in accordance with § 43.9 and retention requirements in 14 CFR § 91.417.

If you as an owner don't want to accomplish these ADs, SDs, or SAs, then you'll lose your special airworthiness certificate and become eligible to apply for an Experimental Light Sport Aircraft (ELSA) registration, which will bring additional operating limitations. But if you continue to fly – then you are in violation of the FARs and you'll be subject to legal action.

If you are a pilot on a LSA, you must have a POH and the aircraft's equipment list to determine the necessary equipment to operate the aircraft. You must also brief the passengers that the aircraft doesn't meet the airworthiness standards of an aircraft certificated with a standard airworthiness certificate.

Next up was a discussion of inspection and maintenance of an LSA. John noted that the inspection and maintenance of a light-sport aircraft can be done by a repair station, an A&P mechanic or a repairman. For an ELSA, holders of a light-sport aircraft inspection rating may perform the annual condition inspection that is owned by the holder, is an experimental aircraft and is the same class of aircraft for which they received training. Anybody can perform the maintenance on an ELSA, although it is obviously wise to utilize someone well-versed in aircraft maintenance.

Mechanics face some special challenges. You must have a method of getting current manufacturer's data. Because of the process for certification of the LSA, the manufacturer controls the inspection, maintenance and repair of the aircraft. The current consensus standard applies. John suggested subscribing to the data, as they change and can cost hundreds of dollars. And what if the manufacturer is no longer in business? The continued airworthiness operation can't be maintained as the operation no longer exists and thus the LSA is no longer eligible for LSA status. The aircraft may be eligible for experimental certification (with limitations) though.

Some other things that mechanics need to think about:

- You are responsible for the maintenance of the aircraft in accordance with the manufacturers' data,

not appendix D of part 43, not Advisor Circulars, etc. The manufacturers though may refer you to appendix D.

- You are responsible for compliance with the data on the operation limitations.
- If no repair data is available because the manufacture went out of business, you must go to the Manufacturing Inspection District Office (MIDO) or FSDO for help.
- You must have access to the manufacturer's web site to receive your inspection, maintenance, and repair data.
- You must make a logbook entry when accomplishing an AD note on a certificated product, or Safety Directives, just as you would for a standard category aircraft. § 91.417(2)(v).
- You must perform a 337 if you make a major modification or repair to a certificated product. 43.1(d)(1)(2)(3)

During an annual condition inspection, John noted some of the requirements:

- Review the Operation Limitations for the aircraft you are inspecting
- The notation "Light-Sport" should appear in 2 to 6 inch letters
- Inspect all placards and markings to ensure they appear as required by 14 CFR § 91.9 and the associated system. As always, they need to function in accordance with the manufacturer's specifications and the FAA-accepted consensus standards.
- Obtain a current equipment list to ensure an appropriate and accurate check is made of all ADs, SAs and SDs that may apply.
- Must have manufacturer's data applicable to current consensus standards.
- Aircraft instrument and equipment installed and used under 14 CFR § 91.205 must be inspected and maintained in accordance with requirements.
- Noncompliance with the operating limitations will render the airworthiness certificate invalid. In addition, any change alteration or repair not in accordance with the manufacturer's written instruction will render the airworthiness certificate invalid.
- The annual condition inspection should be signed off in a statement that is worded "I certify that this aircraft has been inspected on (insert date) in accordance with the manufacturer's maintenance and inspection procedures and was found to be in a condition for safe operation." Record the aircraft total time in service and name, signature, certificate number and type of certificate held by the person performing the inspection.

- The aircraft must be continuously maintained in compliance with 14 CFR § 91.327 (b), which includes compliance with all ADs, SAs, and SDs that are applicable to the aircraft.

John noted that EAA National website contains excellent information on light-sport aircraft. See

<https://www.eaa.org/eaaviation-interests/light-sport-aircraft>

He also provided helpful links to applicable FAA websites:

https://www.faa.gov/aircraft/gen_av/light_sport/

and

https://www.faa.gov/aircraft/gen_av/light_sport/media/LSA_Buyers_Guide_2019.pdf

John also provided a list of various FAR for the light-sport category

References:

37 various FAR for the Light Sport:

43.3, 43.7

45.23, 45.29

65.107, 65.103, 65.85, 65.87, 65.101

61.303, 61.423, 61.327, 61.321, 61.415, 61.45, 61.303, 61.325, 61.417, 61.419, 61.409, 61.311, 61.429, 61.5, 61.305, 61.315, 61.317, 61.403, 61.313, 61.101

21.190, 21.181, 21.193, 21.191, 21.182, 21.175

91.327

141.39

At the end of the talk, John answered a variety of questions from the audience. In response to one question, he said it is possible for an LSA to go down to an ELSA, and then go back up to an LSA if a Designated Engineering Representative (DER) will sign off on the aircraft. He also said he hasn't heard of any new information from the group that controls maximum weight restrictions for LSAs. Several people were interested in electric motor VTOL aircraft (Vertical Takeoff and Landing). He mentioned what a fast moving field it was, with lots of government interest. One recent test involved a Big Mac being delivered from a local McDonalds to SDSU. John said there were close to 100 drone industry people there for the test, along with at least 20 FAA personnel. He stated there were weekly webinars on drones through the FAA Safety program.



Trevor Pierson works on his Piper Pacer

Nominations Open for 2021 Ray Aviation Foundation Scholarship

Trinidad Lopez

EAA Chapter 14 has been awarded a \$10,000 Ray Aviation Foundation scholarship for 2021. All Chapter members are encouraged to submit nominations for our EAA-14 Ray Aviation Foundation scholar. The application period is open from March 15th through April 15th.

Ray Scholarship Candidates must meet the following criteria:

- Minimum of age 15 for glider training.
- Age 16-19 for powered flight training.
- Possess a student pilot certificate.
- Possess an FAA medical certificate. (private pilot students)
- Be able to begin their flight training within 60 days of receiving the award.

Nominations are open to 15-to-19-year olds, with preference given to those who have participated in our chapter's Young Eagle events. The successful candidate will be expected to contribute two hours of Chapter volunteer service a month, submit regular progress reports, and reach the training milestones outlined by EAA's training timeline. Ray Scholars are typically required to complete flight training within 12 months of their start date.

Eligible candidates with the enthusiasm to participate in our EAA-14 community are encouraged to apply.

The full requirements can be found at the following link:

<https://www.eaa.org/eaaviation-interests/light-sport-aircraft>

Please contact: Trinidad Lopez at bajaassy@aol.com for the application form. We expect to announce our chapter selection around the end of April.

Regards,

Trinidad Lopez

619-661-7117.



Instructor Paul Chapman cuts off 2020 Ray Scholar Ryan Flores' shirttail after Ryan's successful solo in August 2020.

Marketplace

SONEX-A KIT. Firewall aft with empennage. Has VW engine mount and assembly manuals; no wings. Asking \$2,500 or make offer. Text Ryan at 858-229-4875 for more information and additional pictures. (3/21)



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HANGAR AVAILABLE AT RIVERSIDE AIRPORT. Port a Port Exec 1, 42' wide. For sale for \$16,500. Ground rent is \$256/mo. Includes elec/trash/portaloo/security-lighting. Available March 1, 2021. Excellent condition. Contact mikerox2500@gmail.com (2/21)



March 2021

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.

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

Chapter Events

Open House at the Brown Field hangars:
every Saturday from 9:00 am to 2:00 p. Lunch at 11:30

Young Eagles Flights:
9:00-1:00 am, second Saturday of the month

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

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

Directors Meeting: after lunch in the library. 3rd Saturday

Hangar Phone:

619-661-6520

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