

## Radio Licenses

John Nogatch

All radio transmissions originating in the United States are regulated by the Federal Communications Commission. Garage door openers, cell phones, wireless networking for home computers, Family Radio Service, and Citizens Band radios are type approved. They may not be modified, and do not require an operator license. Most other radio transmitters require two licenses: an operator license and a station license.

An aircraft's Airworthiness Certificate is a station license, and the call sign is the N-number. A pilot's license is also the radio operator license. It is not legal to use an aircraft band handheld transceiver while not aboard an airplane. Radio transmissions must be identified and without a station license one has no call sign to use for identification. FBOs are supposed to apply for a station license, if they want to operate an aircraft band transmitter.

Commercial broadcast radios also have two licenses. The station license is expensive, requires complex site approval, and is usually held by a corporation such as CBS or NBC. The Radio-telephone Operator license is held by the engineer who is hired to maintain the transmitter, and is not required to be continuously present while it is operated. Until just a few years ago, licensed Radio-telegraph Operators were required on US registered ships, and are still found on many non-US commercial ships.

Amateur Radio (commonly called ham radio) licenses are unusual in that the licensee has operator privileges, and may set up multiple stations without any site approval. Prior to World War II, hams operated in cooperation with the Navy and commercial shipping. After the war, it became recreational. Hams also practice for and provide volunteer communications assistance during emergencies.

On the High Frequency bands (1.6, 3.5, 7, 10, 14, 18, 21, 24, and 28 MHz), hams communicate worldwide.



The ionospheric conditions which make this possible vary from day to night, by season of the year, and are greatly influenced by the 11 year sunspot cycle. Hams are always looking for new "countries", which are recognized by their unique call sign prefix.

The Very High Frequency bands (50, 144, and 220 MHz) bands, and the Ultra High Frequency bands (440 MHz and up) are convenient for reliable local communications, especially from small 5-watt handheld radios and 50-watt radios in automobiles. Unlike the Aircraft band (117-136 MHz), where Amplitude Modulation is used, most ham VHF transmission uses Frequency Modulation, which is often less noisy.

In hilly terrain such as the Santa Cruz mountains, VHF communications suffers from shadows and reflections. This is overcome by using repeater stations sited on hilltops, that listen on one channel and retransmit on another. These repeaters also serve as a common meeting place where one can ask questions like, "Why is the traffic stopped on Highway 17?"

An entry-level ham license permits communications on the VHF bands, and requires the applicant to pass a 35-question multiple choice exam. An example question: What is the usual bandwidth of a frequency-modulated amateur signal?

- A. Less than 5 kHz
- B. Between 5 and 10 kHz
- C. Between 10 and 20 kHz
- D. Greater than 20 kHz

(The correct answer is A. Similar to aircraft radios, VHF FM ham transmissions must be narrower than the channel spacing, which is 5 kHz.)

More information on becoming a ham can be found at: <http://www.hello-radio.org/doityourself.html>. The Web site of the national ham radio organization is: <http://www.arrl.org>.



## President's Corner

Hello Everyone,

When this is being read it will be almost time for our next chapter meeting and it should be the highlight meeting of the year. It will be September, everyone should be back from tripping, vacations, and we have Mr. Alan Brown!

Mr. Brown has presented twice before at our meetings, once on designing the "F-117 Stealth Fighter" and then again on "Stealth Technology". His subject at this meeting will be "The History of the Skunk Works". Please be on time because we expect to do the business meeting last so Mr. Brown can start his presentation right at 7:30.

For the October meeting we have Officer Randy Pesce from the Watsonville Police Dept. Randy will present on airport security issues as well as telling us how his detective work brought the burglars that were ripping off our hangars earlier this year to justice.

An added wrinkle for the October meeting. In Reno, Nevada, they have "Hot August Nights". In Watsonville we are going to have "A Cool October Evening!" A little departure from airplanes for a night. We are asking everyone who has a fun vehicle tucked away in the back of their hangar or garage at home to bring it out and let us look at it. Street rods, antique cars or motorcycles, sports cars and I think we even have one member who has a motorcycle powered by a Corvair engine. Let's have some fun! If you have something different, don't be shy. Bring it to the meeting. If you can get it to the airport by 6:30 or no later than 7:00, we can have an area closed off for your fun vehicle to be on display. We can all kick tires, ooh and aah at the fun stuff that you are bringing for us to drool over.

In November, we are going to be treated to "Part #2" of Aircraft Propeller Balancing! Our very own Jeremy Macdonald, who owns an aircraft propeller balancing business will present his second part on the subject. If any of you are disbelievers, your President will gladly take you flying in his RV with the newly balanced prop and then we will remove the balancing weights and fly again. You can not believe the difference. This is not "snake oil", it is science and Jeremy can do wonders for your airplane.

We are now up December. The past two years we have had a social Christmas party. No presentation, just invite the wives and girl friends, have some treats, visit and enjoy the season. We expect the same this year. Don't get too excited, but we may have live entertainment.

One more subject to think about. Due to the efforts of Don French, Juan Carlos, and (I think) Dan White, the chapter owns a hot air balloon. Not airworthy but, none the less, quite a valuable property. Now there is a second balloon being offered to us. We think that with it and the other, we could have a serviceable, flyable balloon. So, what are we going to do? Are there folks in the Chapter interested? Anyone ready to step up and take charge? There are limitless possibilities but we need someone to work on this. This balloon put together would be something special but it needs someone to take it on. I'm waiting to hear from you.

In October we expect to start our fall "Model Building Program" for youngsters at our hangar on Saturdays. A really big thanks to Neil Brooks for once again stepping in and taking on another really big job. He has gathered volunteers, coordinated with the "RC Bees Modeling Club" and is making this program work. Thank You Neil!

Looking forward to seeing everyone at our next meeting. In the mean time, please, Fly Safe.

Dennis

## 2005 Chapter 119 Officers and Position Holders

President	Dennis Thomas	831-479-7986
VP & Program Chairman	Jerry Olsen	
Secretary	Neil Brooks	831-338-3543
Treasurer	Mary Doherty	
Director & Hangar Boss	Jack Hill	831-426-3979
Director	Thad Fenton	831-722-2274
Young Eagles Coordinator	Bob Sliter <rasliter@cruzio.com>	831-724-6904
Young Eagles Ground Instructors	Russ Moody Bill Normandin	831-475-9374 831-462-1194
Membership Chairman	Neil Brooks	831-338-3543
Flight Advisor/ Technical Counselor	Jack Hill	831-426-3979
Fly-In and Air Show Reps	Hank Wempe Dan White	831-724-5591 831-688-9260
Chapter Webmaster	Ron Shannon	831-724-6904
PVAviation Academy Reps	John Davi Bob Sliter Dan White	831-688-2809 831-724-6904 831-688-9260
Newsletter Editor	Brian Moffet <editor@eaa119.org>	831-459-9294
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## Chapter News EAA Chapter Minutes



MINUTES OF THE EAA  
CHAPTER 119 MEET-  
ING OF AUGUST 1, 2006

38 Member and Guests  
present.

Guests: Kendra and Scott  
Pugmire, Larry Taylor,  
Charles Adkins, Dwayne

Irons, Phil Hebner, David Silier, Ryan and Josh Por-  
ter.

Motion to approve the minutes of the last meeting:  
Jerry Olsen, 2nd Richard Thomas- Passed.

Treas Report: Motion: John Davi- Send \$3000 to our  
Vanguard Fund. 2nd J. Carter. Passed.

### Announcements;

1. Don French has received his LSA Jiberoo Kit.
2. The next picnic at the Tom Hoyt Park will be on the 19th of Aug. Alex Solano will provide strawberries.
3. Aug 4th will be a YE Day (48 kids were flown on 8/4) and the next YE Day will be 9/2/2006.
4. Leslie Grate gave a report on their group constructing the Sonerai airplane. John Davi commented on the procedure to transfer ownership of the donated parts.
5. Bill DeRouchys' RV 10 is awaiting FAA inspection. (It was completed and successfully flown on 8/3).
6. Ron Shannon gave a report on his experience at Oshkosh.
7. Bob Sliter wishes to resign as the Chapter website manager. Ron Shannon has volunteered to replace him.
8. A letter of resignation from current Treasurer, Neil Brooks, was read. Motion: Jim Carter-Mary Doherty to be elected to become the new Chapter Treasurer. 2nd J. Davi.- Passed Mary was elected unanimously.
9. Mary Doherty- a rolling bone yard to be set up. 3 or 4 people are needed to brainstorm the idea. This to become a Chapter project.

### Old Business:

1. Tool room, Hangar use and User Agreements are being developed and will be presented to the Chapter for approval in the near future.
2. The Model Airplane class will be resumed starting in October. This will be in cooperation with the RC Bee's. Volunteers are: Jim Doherty, Jerry Olsen, Neil Brooks, Dan White, Thad Fenton and Leslie Grate.
3. The Pajaro School District class that is to start in August was discussed by John Davi. They will use the WAEC 0900 to 1200 Monday thru Friday. The facility is theirs at this time. It is important we not enter the WAEC during class. They are paying the rent!

Meeting adjourned.

A program was presented by Jeanne Anson and Tom Sharpee. The subject was Hot Air Ballooning.

Submitted by Neil Brooks, Sec.



Bill's RV-10 shown prior to the meeting in July.

***Life is an ongoing tug –***

***Take what is given;  
Use what we got;  
Give what we can.***

***The Rolling Boneyard Tug  
Call Jim at 251-3610  
with your ideas.***

## Are You Looking for Trouble? by J.R. Warmkessel

When you complete your preflight (you do preflight your aircraft don't you?), are you looking for any possible excuse to cancel your flight? How many times have you taxied out to the run-up area and called the tower to return to your parking spot because something wasn't right? How many times have you thrown the throttle to the firewall, obtained  $V_r$  and then aborted your take-off? Done an in-flight magneto check? Are you looking for trouble, or are you waiting for it to find you?

My faith has been shaken. I don't want any maintenance performed on my aircraft unless I'm there to see it done, understand what's going on, and order the parts to fix it. What's that famous line from the Strange Days? "The issue's not whether you're paranoid, the issue is whether you're paranoid enough." Let me pause for a moment and clearly say that I do not believe that most mechanics out there are trying to do shoddy work or that they don't believe that the craft is safe. But on the other hand, it's you trying to keep your shorts clean when the world goes quiet and you search for that emergency procedures checklist. The mechanic never leaves the ground. How many issues will they defer for next year without telling you there is an issue? I've seen this happen. Nightmares of "The owner won't / can't / doesn't want to pay for IT" dance through their heads. Or they put some part in/on my craft that isn't the correct part just so that it can get back in service sooner, figuring it works well enough until it can be fixed later. Are they looking for trouble?

How about telling your mechanic that you've got a big trip scheduled for just after your annual and that you need your bird back on line? Will he fix every little thing that is wrong, defer it, or not even find it in the rush? Is he looking for trouble?

Maybe you built it and do your own inspections. Do you know what to look for? Are you sure? Do you have a plan to make sure that you look at everything? Will you know a problem that is staring you right in your face, or are you blinded by your familiarity with the plane? Are you looking for trouble?

How about the preflight? It was fine last year and I've only flown it X times. It doesn't need a good going over. I've flown it every day for the last month and there wasn't anything wrong. Right? How about the bird's

nest in your gear well? Familiarity leads to assumptions and false confidence. A friend of mine who owns a P210 and I were about to take off, from Southern California, when his dad asked what was the three-inch crack in the spinner. We both are CFI's and we both did the preflight, however, we were not looking for trouble.



Regardless of who looks at your craft, I'm not talking about some ink in the logs. I'm talking about having lots of experienced eyeballs looking, over and over for something. Knowing that there must be something wrong, and to keep looking until you find it. And then look some more just to be sure that IT is all that's wrong. Only then will you have looked for trouble.

And then when you have found IT, you must FIX IT. Little things have a way of becoming large things especially when you are in hard IMC.

I use the following checklist to know that I'm not doing something wrong. All of these questions are based off of mistakes that I, or someone close to me, has made in the past.

### Warning Checklist:

- Are you sure that everything is going to be okay?
- Are you sure that there is no water in the fuel?
- Do you trust your mechanic with your life? How about with your wife's life and your children's lives?
- Are you talking on your cell phone when you do your preflight?
- Did you get the weather brief? Not while doing your preflight?
- When was the last time you checked your Brake reservoir? Brake pads? Tire pressure?
- Do you know specifically what each outstanding AD issue is? What about each applicable recurring AD for the aircraft, and when that is next due?
- How long has it been since the last time you looked at the Service Bulletins/Service Letters pertaining to your aircraft?
- Changed your oil?
- Changed the air in the tires? Just checking to see if you're paying attention.

(J.R. flees from said soap, no longer in box, but instead flying through the air.)

## Chapter Members' Project Updates

### Sonerai - Leslie Grate

The Sonerai project is still moving along. With 2/3 of the fuselage fabric glued on, the emphasis the past few weeks has been the engine and cowling. Thanks to the many people who have looked at the engine and given their opinions on the condition. The consensus was that it looked to be in fine shape (no rust on crank, cam lifters etc, the cylinder walls were freshly honed and usable, the head and valves also in newly overhauled condition). We have commenced re-assembly, and by the time of the meeting the cylinders should be fully reinstalled.

One of the things you have to decide while mounting the cylinders is the compression ratio, which sets the gasoline octane rating. This engine was put together 30 years ago, and I measured a mechanical compression ratio of about 8.1:1. That requires 100LL avgas. We will lower the compression ratio to about 7.2:1, so it can use auto gas.

Of course the next step after rebuild is to set it up and run it. This requires a proper propeller load. Do any of you have a small WOOD prop that is in good enough shape to use for engine testing?

The cowling is a very close fit to the engine. Which means it must be worked on with the engine mounted in the proper place. After many hours of thinking, looking, and adjusting things by 1/4 inches, I called the fit good and drilled mounting holes. I was kind of shocked at the current price of camloc fasteners, and

### Indy Aircraft T-bird - Bob Carr

Bob is busy creating plans for the fuselage and cockpit of the 3-place T-bird. The current manufacturer doesn't



have any plans for this version, but Bob should be able to make some from the skin and parts he purchased. He's looking at using the Jaiburu engine for his project rather than the Rotax, and managed to obtain a full instrument panel for his "Stretched T-bird".

have adjusted my plans accordingly.

There are still jobs to do. We have no wheel pants and small light ones would be a great addition to the project. The engine cooling baffling needs to be planned and done. We've also had the idea of remaking the canopy, but that project has been stalled.

Are there any volunteers out there?



Odyssey - Jim Doherty

Jim is moving along with the cooling experimentation on the Odyssey. He's creating a NACA scoop to control the flow of the air to the twin oil-coolers for his engine. When he is done, he'll be able to monitor cooling from ducts below the wing as well as above. Anyone willing to share a hangar should contact him.

### For Sale

**Partial Long-EZ kit, \$800.00**  
**Paid 1400.00 for kit, purchased 15**  
**years ago. Contact: Robert Barton**  
**Carmel Valley**  
**831-659-4515**  
**rbar@netpipe.com**

**1964 C-172E 2927-TTAF, 1560-SMOH,**  
**157-STOH, IFR, new annual, complete**  
**logs, Garmin XL300 GPS moving map,**  
**4-place intercom, alternator upgrade,**  
**wing tip vortex generators. NEW: bat-**  
**tery, mags, tires, new ELT battery.**  
**Cont. O-300, good compression, paint-**  
**10, interior-10 (leather), \$49,995, 831-**  
**809-6668. Lance McBride**

Watsonville Municipal Airport  
 60 Aviation Way  
 Watsonville CA 95076

## Upcoming Topics and Events:

Date	Topics
Sept 2	Young Eagles Rally, EAA Chapter 119. EAA Hangar, be careful of construction around the airport. 10 - 2
Sept 5	EAA Chapter 119 Meeting, 7:30 EAA Hangar
Sept 13 - Sept 17	National Championship Air Races and Air Show, Reno Stead Field, Reno, NV, USA
Sept 30	Day in the Sky! Hayward Executive Airport in Hayward California with EAA Chapter 29. <a href="http://www.takeflightforkids.org">http://www.takeflightforkids.org</a>
Nov 4	WRAP-PAC Dinner - Ed Rosiak, President of the California Pilots Association will be the speaker. Dinner at 6:00 p.m. Green Valley Grill banquet room, Watsonville. Reservations are \$50.00 per dinner contribution. Checks should made out to: "WRAP" and send to: Dan Chauvet, 147 Mesa Verde Drive, Watsonville, CA 95076-0949

## Back Page Notes:

Watsonville is now experiencing our familiar weather pattern of stratus night and morning covering the airport and indeed the whole valley. It usually burns off by noon, sometimes earlier. On occasion it burns off to just south of the airport and hangs around all day.

What's the solution? Watsonville Airport is in Class G airspace. Communication is the key to safety. Another is looking carefully for traffic both on the ground (taxiing) and in the air. It is the responsibility of the pilot to see and be seen. In stratus situations we have an excellent alternative here at WVI, runway 8-26. Why don't more pilots use it? Remember the old saying that if you don't use it you'll lose it? The powers-that-be downtown are working on just that. Let's go flying and see and be seen.

Sarah Chauvet