



Experimental Aircraft Association Chapter 162. Serving middle Tennessee since 1966. <http://www.eaa162.org>

Left Seat: Spring ahead



I don't know about you, but I really needed Spring this year. In mid-March we were still having sleet and snow flurries in Nashville, and I think middle Tennessee was trying to compete with Pittsburgh and Seattle for the

number of steel gray overcast days. As I write this, Mother Nature is smiling with explosions of colored blossoms on trees, Easter-time flowers, and lawn care company trucks parked on seemingly every street of every residential neighborhood. We've got warmer than usual temperatures, a sure sign that thunderstorm season and the occasional threat of tornadoes can't be far behind.

EAA Chapter 162 is proud to have offered up an interesting set of evening dinner-and-presentation events, including "Flying the B-52" by Terry Daily in January, an RV-12 project visit in February, Terry Richardson's amazing South Pole experiences with Operation Deepfreeze in March, and a bonus program by John Monnett of Sonex Aircraft (see "Reality Check", this issue). We're

trying to have a variety of topics presented at our monthly meetings that are of interest to everybody who loves to fly. The 2010 programs continue in April with CarolAnn Garratt's descriptions of her experiences flying her Mooney around the world to raise money for Alzheimer's research, and then in May Brian Sutherland's adventures installing and flying an aftermarket electronic ignition system in his RV-10.

We hope you can join us on the third Wednesday of the month for chapter meetings. Everyone is welcome, and we'll do our best to nourish your body, mind and aviation spirit. The latest information on chapter events is always available online at <http://www.eaa162.org>. Enjoy the Spring weather, fly safe, and hope to see you soon!

Dan Masys
EAA chapter 162 President, 2009-10

On the Horizon: calendar of events

EAA Chapter 162 meets on Wednesday evenings--generally the third Wednesday--of each month.

Date	Topic	Location
April 21	CarolAnn Garratt: Around the World Flight	JWN
April 24	Saturday fly-in at Russellville, KY (EAA chapter 1165)	4M7
May 17	Brian Sutherland: Electronic Ignitions	JWN

For more details see www.eaa162.org.

Pilot Toys: CO Monitor

It seems there is no limit to things (often referred to as toys) pilots can spend their money on. Here are some thoughts on a device to consider adding to your wish list, a CO monitor.



Carbon Monoxide (CO) from a leaky engine exhaust is bad news in the cockpit—very bad news. You absolutely do not want to ever have the problem.

Unfortunately, even with meticulous maintenance of our exhaust system, we're still vulnerable. There is no reliable way to predict exhaust system failures. The good news is that CO detector technology has improved to the point that built-in CO monitors are becoming common in new general aviation aircraft. Another viable option is to carry one of the portable detectors.

The FAA issued Special Airworthiness Information Bulletin CE-10-19 R1 March 17, 2010 Engine Exhaust and Carbon Monoxide Detectors. It refers to a study they commissioned by Wichita State University to look at the issues and solutions for general aviation. The full report is available online at www.tc.faa.gov/its/worldpac/techrpt/ar0949.pdf and is worth reading. In a nutshell it says to avoid the low cost spot detectors available from pilot shops for around \$10 each. They have significant limitations. Plan on spending \$175 to \$200 and set the alarm threshold to 35 parts per million.

In 2007 I purchased a Safetest 90 made by Quest Technologies that sells for about \$400. My decision was guided by an article by Mike Busch in the February 2007 issue of the American Bonanza Society magazine. This unit is more expensive than most, but works really well. I feel it's worth the extra cost. It's compact, fully customizable, and uses a standard 9V alkaline battery that lasts six months of continuous duty. I leave the unit on all the time so all I have to do on my preflight is see that the display is lit. I've had it go off and it definitely gets your attention. I have the threshold

set at 20 PPM. I tried 10 PPM but found that too sensitive. I'm not against the Wichita State study recommendation of 35 PPM.

Incidentally, you can significantly reduce CO at the source by operating your engine lean of peak. With LOP there is complete combustion and no CO is produced in the exhaust. Just one of the many benefits of operating LOP.

Peter Cassidy

Reality Check

EAA chapter 162's double-header in March included a special presentation by homebuilder Hall of Fame member John Monnett. Tom Patten graciously offered his beautiful hangar-museum with his P-51 silently watching over the festivities. It was a special moment indeed.

John Monnett is the very image of the EAA spirit. An energetic, talented, creative and fiercely independent engineer with a penchant for exploring advanced technologies, his presentation covered



several of Sonex aircraft's research and development projects. These included an electric airplane,

the Subsonex jet prototype, and Onex single-person, folding wing design, five of which can fit inside a standard T hangar. (As John observed, a feasible alternative to adding more seats to one airplane is just adding more airplanes!)

A central theme of Sonex is embodied in their logo, which includes a box with a checkmark. John referred to this multiple times in his presentation as the "reality check" about how many personal resources are required to do how much flying.



sonex
The Sport Aircraft Reality Check

Citing statistics that say the average recreational pilot flies only 25 hours per year, John extends his reality check to ask that of 52 weekends in a year, how many of them are already taken up by holidays, family gatherings, and other commitments that take higher priority than going aloft. In the same spirit, he asks the rhetorical question of how many of those weekends are available to spend building a homebuilt aircraft. Recreational flyers also occasionally go on cross country trips, but their usual flight looks something like a hop over to an EAA breakfast: almost always an hour or less.

That set of usage statistics and limitations doesn't really match up very well to the investment needed to own a production aircraft. From a price-performance perspective, the current crop of Light Sport Aircraft (LSA) fielded by Cessna, Piper, and various European manufacturers seem to miss the mark, with reasonably well equipped models going out the door for \$120,000 to \$140,000 (a price range only recently vacated by the venerable Cessna 172 when it started production again in 1996, and now is offered at an price of roughly \$250,000 for a glass cockpit model). The RV-12 I am building right now cuts that investment in half, but even \$65,000 seems steep to fly 25 hours a year, about an hour at a time. Nobody's LSA is legally supposed to go faster than 138 mph at full throttle at sea level, so this is one of the few exceptions to the aviation rule that to return more function (usually in the form of going faster), you'll need to add more money.

By John Monnett's description, Sonex has aimed its products at a market niche below the ubiquitous designs created by Van's, of which more than 6700 are flying. With much less fanfare, John estimates that there are more than 3000 of his designs flying around the globe. Most RV builders put something north of \$75,000 into their two place RV6's, 7's, 8's and 9's, while a VFR equipped 2 place Sonex with a new engine (engineered by Sonex and



assembled by the builder) can be in the air with an investment of \$30,000 or less. And an engine overhaul (which John notes few builders ever need, given the many years it takes to accumulate enough flight hours to need one) is a few hundred dollars worth of parts, supplemented by one's own labor. With prices like those, owning and flying a personal aircraft that you know inside out because you assembled it, is not much different than deciding to purchase a new car, and figuring out how to finance that.

Back in 1987, when my son was 9 years old and we had a hankering to go traveling as a family, we purchased a used IFR equipped 1970 Cessna 172 for \$15,000. In a sense, that airplane had training wheels, since I used it to learn how to do owner-assisted annuals and A&P supervised maintenance and repairs. It was my magic carpet for getting an instrument rating, and for discovering that it actually was possible for a government employee to afford a personal airplane. (I was in the US Public Health Service at the time, holding down the very lowest end of the bell shaped curve for income earned by healthcare personnel in the country). The moral of the story was that you can generally find a way in life to do the things you love.

Sonex kitplanes are not the high performance cross country cruisers that Van's or Lancair sells, and they aren't aerial SUVs that will haul away anything you can shut the doors on, but they are a way to realize a dream of homebuilding and aircraft ownership at half the cost of many of the more well known kitplane designs. They fit much better in the real world constraints of time, money and functional requirements of many pilots who are currently just renting from FBO's or flying in clubs. And even for a 'repeat offender' kit builder like me, who is working on my third plane, John's presentation was an eye-opener and an engaging reality check. Check it out at www.sonexaircraft.com.

Dan Masys

If Lockheed would just release the kit version of this older design, we could have some real fun...



Experimental Aircraft Association Chapter 162

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