

EAA Chapter 81 Meeting Minutes  
November 20, 2010

Meeting was called to order in the Ryan Field meeting room by President Duane Boyd at 1005. He noted that there were only two planes visible on the ramp. Must be that new stealth technology. On the other hand, if those planes aren't invisible, the FAA must be achieving its goal of perfect General Aviation safety by eliminating all non-commercial flying via overregulation, so it's all good. That is, of course, unless you actually want to fly your own plane. But, I digress.

The minutes were accepted.

There was no treasurer's report.

Visitors: Steve Osborne from Rockford, Ill. has a hangar at Ryan, but no airplane, having sold his. He has been an EAA member since the '90s. Bill Dawn from northern Wisconsin is putting the wings on his RV-6A (Duane, think how good your Champ would look if it only had wings!). Steve Harris is a high school English teacher and is getting his Pilot Certificate. Phil Winterton is doing research about Controlled Flight Into Terrain and handed out surveys for us to complete. His research seems to suggest that new-technology planes are doing no better than the old-tech flying fossils in this regard. One has to wonder how many of those surveyed have flown into a mountain. Phil offers a Safety Brief to those who participate, to be distributed when he gets his paper done for a degree at Embry Riddle.

Old Business: We haven't heard from Vice President Hal Burlingame about an audio system and cabinet for the meeting room; Duane Boyd will inquire. The Copperstate Fly-In, while always highlighting the latest in Experimental Aircraft, also featured some very interesting old aircraft this year, including a North American P-51, a Boeing B-17, a full-scale replica Supermarine Spitfire with an Allison V-12, and a navy version of the Consolidated B-24, but with a conventional tail. This brought about some discussion from our antediluvian members about how most of these warbirds were sold for scrap after the war. Some were bought for the gas in their tanks! (for those who slept through that class, antediluvian refers to Before The Flood, suggesting great antiquity) John Harlow also informs us that Air Academy scholarship information can be obtained via the Copperstate website. The deadline is the end of January, and requires application and letters of recommendation. Bruce Noon noted some presenters at Copperstate, including Baja Bush Pilots, the DUATS crew, and a job-fair type presentation by Pima College. And, there were some cool pens to be had.

Other Old Business included What To Do With Our Bucks. We aren't going to qualify as a non-profit if we get too much money in the bank. Joe Seibold is suggesting that we provide teddy-bears for hospitalized children, as his other EAA chapter (234) in Traverse City, Michigan, has done. He knows that it runs

about \$2-2.50 per bear and is willing to look into it for us if the membership is agreeable. Target is known to be generous with bears and clothes, and it would be great PR for the chapter. Jerry Miehl suggested that we fund scholarships for the aviation program at Pima College. Duane Boyd will look into this. Newsletter Editor Erik Fjerstad pointed out that our meeting room is not suitable for breakfasts nor for projects. Most of us are in agreement that we need a Chapter Home, where we can Do Stuff. He is compiling info for Ryan Field and TIA, but is concerned about restrictions. He will put together a proposal with a list of options in the \$200 to \$300 per month range. The X-mas dinner will be at El Corral on River Road on Wednesday December 8 at 1800. It was suggested that we could do parties or dinners at other times of the year as well.

New Business: Tech Counselor Chuck Valade brought up some new Service Bulletins, which, more and more, are seeming to take the place of Airworthiness Directives, but do not require mandatory compliance. ANDAIR fuel selector valves are leaking INSIDE the cockpit, as 4 screws need to be staked so they cannot back out. Also, Sensenich Ground-Adjustable props on Jabiru 2200 and 3300 engines are having hub cracking problems. If the prop was bought from Sensenich, a SB was sent, but if bought from Jabiru, it was not. Interestingly, our own Webmaster, Bruce Noon, bought a wood prop from Sensenich for the Jabiru 3300 on his Thorp T-211. When he tried to fit it, the bolts did not line up with the hub. He sent it back for refitting and they resized the holes, but it STILL didn't quite fit. This time he is sending it with the hub.

At 1035, Jerry Miehl began his presentation: Do Airplanes and Diesels Go Together (or Are They Just Good Friends)? In synopsis: Thousands of hours have been flown on Certified Aircraft Diesels, which have been used since the 1930s and are more popular overseas than in the U.S. Advantages of Diesels include improved fuel economy (30-50%), not only in operation, but in that more gallons of diesel than of gasoline can be produced per barrel of crude oil. Diesel is less volatile, stores better, offers potentially better reliability (no mags required) and durability (better cylinder lubrication), and is less likely to burn in a crash. If Jet A is used as the diesel fuel, there can be one type of fuel for all aircraft. Diesels are inherently more efficient than gas engines, being immune to the knocking that limits many gas aviation engines to 6-7:1 compression (diesels run 20:1) and rich mixtures of 14-15:1 air to fuel (diesels run just fine on very lean mixtures down to 40:1). Instead of a timed spark, diesels are timed with very high pressure (2000 PSI) timed fuel injection, and are quiet and not smoky as were the automotive diesels of the past. Diesels can be in any engine configuration and can be 2-stroke or 4-stroke. As 2-strokes, they have inherently greater reliability than gasoline engines, which have marginal lubrication and must inject oil or mix it with the gasoline and burn it. Diesels are naturals for turbocharging, as they are designed for very high compression and are limited primarily by cooling, not by knocking. As they inherently make their power at lower RPM, they are naturals for direct drive, although they can use reduction drives as well. Disadvantages are few: difficulty in cold-starting, which might be a

real issue at altitude if a restart is required, necessarily stronger (heavier) construction, and stronger power pulses that can raise vibration or resonance issues. Heavier batteries and starters bring weight penalties as well, and few would want to hand-prop an engine with a 20:1 compression ratio! The fuel itself is heavier than gasoline, but has more inherent energy, so the same size tanks will give longer range; it's just like having bigger tanks, but without taking up more space. Don't want the added weight or need the extra range? Don't top off the tanks! The WAM 120 3-cylinder two-stroke diesel is already flying in the Thorp T-211 and the RV-9, and aero-diesel engines are available, some on production aircraft like the Diamond DA series singles and twins. There is even currently an STC for a diesel engine conversion for the Cessna 182. Of course, for Experimental Aircraft, any powerplant (short of nuclear) is legal. Even steam engines have been used, so, is it such a stretch to imagine a diesel aero-engine in your future?

The meeting was adjourned at 1125.

Respectfully Submitted by  
Secretary Bob Miller