

EAA Chapter 81 Meeting Minutes
March 16, 2019

Meeting was called to order by President Erik Fjerstad at 1000 at the Chapter Hangar.

Secretary's Report: Bob Miller brandished a copy of the Meeting Minutes from February 16. Before he could utter a word, Chuck Valade, moving with amazing speed for one of his, ahem, experience, made a motion that the Minutes be accepted as published in Sky Writer and on the website. I wouldn't say that Chuck is actually old, and he clearly has the enthusiasm and energy of a 5-year old, but it is rumored that his high-school swim team swam in the Primordial Pool. David Schiffman was quick to second the motion and it passed unanimously.

Treasurer's report: Our Secretary payed no attention whatsoever to Treasurer Eric Nelson when he gave his report, because Eric usually slips a copy to Bob; however, when it came time to write the Minutes, Bob could not find the report. He could have easily just summarized the report from the February 16 meeting and very few would be any the wiser, but, being pathologically honest, he would rather just fess-up and take his lumps. You all have Eric's email address if you want the Treasurer's report that somehow evaded Bob. Anyway, he is pretty sure that we still have some money.

Old Business: Having obtained authorization at the last Chapter Meeting to spend up to \$300 for new tires for the Chapter 81 Pancake Breakfast Trailer, Bob Miller is going once again to risk life-and-limb and take the trailer wheels off today to get new tires.

New Business: The Davis-Monthan air show will be next weekend. General aviation light aircraft will be represented by a Van's RV-4, a Bellanca Cruisair, and a Globe Swift, all from Ryan Field. Erik Fjerstad will be manning the FFAST Team table at least one day, promoting Chapter 81 and Tito Sanchez promoting Southern Arizona Teen Aviation. Also, EAA will provide 2 free passes to Airventure 2019 to any chapter which holds a get-started-in-aviation event by May. The Collings Foundation will be bringing its classic warbirds (usually a Boeing B-17 Flying Fortress, a North American P-51C Mustang, and a Consolidated B-24 Liberator) to Marana at the pad located at the east end of of the airport on March 29, 30, and 31. On Saturday, April 13, Southern Arizona Teen Aviation will hold a Young Eagles flight for its students at Ryan Field at 8 AM. Angel Duncan says that we may have a hangar tenant next week.

Featured Presentation: Chuck Valade provided a multifarious (look it up, you low-life) presentation about sheet metal tools and other useful tips. He started with a pneumatic-hydraulic rivet puller such as can be found at Horrible Freight. These are flat on the bottom and are generally stored sitting upright. This, however, explained Chuck, would be a mistake. The hydraulic reservoir is up in the grip above the canister and the fluid, which is just jack fluid, seeps down past the seal and accumulates at the base. This diminishes the amount of fluid in the reservoir and weakens the pull. Most users simply dial up the air pressure, but that is not the best solution. The base can be easily unscrewed, the oil drained, the piston removed, and the oil replaced into the reservoir with the tool inverted. Then, replace the piston and screw the bottom back on. The correct way to store the tool is hanging upside down, which Chuck does by placing the narrow top down between two work benches. Many of us have been using these rivet pullers for years and were unaware of this important information.

Next: Chuck apprised us that there is a special mandrel for the Avex rivets used by Zenith. You send your conventional mandrel to Zenith to have it cut and hardened for use with the Avex rivets.

Next: a demonstration of putting a bead into sheet aluminum using the Chapter 81 beader, free for use by all members. Adding a bead considerably stiffens a sheet of aluminum, and this technique is routinely used by the big manufacturers to save weight. If you have a steel battery tray in your car, it is likely beaded with the convex part downward, so that thinner, lighter metal can be used. Beading is also used to stiffen fuel tanks and other areas with long runs of sheet aluminum. The beader can also be a flanger for making offset flanges. Chuck obviously has experience working with aluminum and shared some of his wisdom regarding welding it: 5052 “welds like butter”, which we assume means that it welds easily, rather than melts and burns. 6061 “welds OK”, and 2024 not so much. Good to know.

Next: a demonstration of the Chapter 81 sheet metal shrinker/stretcher. Chuck’s advice is to use it like an English wheel, meaning not a lot of pressure. Instead, make multiple light strikes. “If you really reef on it, it’ll crack it.” Shrinking the metal causes it to curve, or it can be used to straighten a curve. The tool actually pinches the metal together, causing it to shorten and thicken. A rivet gun with a rubber, countersunk head can be used for the same purpose.

Next: The Olfa Pro Heavy-Duty scorer. The Olfa PCL 1090486 is marketed for cutting counter-top formica, but is also great for sheet aluminum. It comes with 3 curved tungsten carbide blades. Cutting aluminum or Plexiglass (acrylic) or Lexan (polycarbonate), “it lasts forever.” It’s made in Japan, costs about \$15 with shipping, and you can buy 5 more blades for \$5.75, in case you plan to use it into the next century. For \$10 at Harbor Freight, you can get a giant T-square which works great as a guide for scoring large sheets of aluminum. If you are going to score plastic, do both sides so that it breaks evenly.

Next: a demonstration of how to glue acrylic using acetone. Acetone, or dimethyl carbonyl, the simplest and smallest ketone, has the formula C_3H_6O , but, of course, you already knew that. While the price of bulk acetone has increased lately, a more affordable alternative can be found in the form of nail-polish remover, which is 99% acetone and costs \$1.08 for a small bottle (a lifetime supply) at Dollar General. Chuck demonstrated gluing together two small blocks of acrylic with acetone and advised not clamping too tightly, as it can cause crazing. After only a few minutes, he passed the glued acrylic around the room and several he-men tried unsuccessfully to separate them. Chuck advises us to give it 2 hours to set up before using. He made a very effective mount for his GPS and iPad using a Ram-Mount from Aircraft Spruce, a small sheet of acrylic, some Velcro, and \$5.79 worth of 12V computer-cooling fan from Office Depot. Chuck learned about using acetone to weld acrylic when he used to patch bullet holes for jet fighter canopies; he cut out plugs, sanded them down to fit, and glued them into the holes. Afterward, the pilots could not find where the repair had been made! He advises that, when you cut acrylic, you sand the edges to prevent cracking.

Next: A cigarette lighter socket/power outlet for your homebuilt. \$350 for your Cirrus, \$30 from Aircraft Spruce, and \$1.75 online. As cheap as 89 cents for motorcycles. Some reduce voltage from 12 to 5. Be sure to check for RF (radio frequency) interference before installing.

Finally, Whelen replacement strobe tubes cost \$114. Chuck found a nearly identical tube that can be adapted easily, for \$12.95.

Let's hear it for Chuck Valade, King of the Scroungers and an incredible asset to Chapter 81!

The meeting was adjourned at 1120. The next meeting will be at the Ryan Field meeting room on Saturday, April 20 at 1000. Jerry Miel will present: "What To Expect When You Are Inspected". As this is an aviation group, and not a medical one, this probably will not refer to Short Arm Inspections.

Respectfully Submitted By

Secretary Bob Miller