

EAA Chapter 81 Meeting Minutes
September 18, 2010

Meeting was called to order by President Duane Boyd at 1000 at the Ryan Field meeting room.

Treasurer's Report: Mick Myal reports that, as of August 20, the bank balance was \$11,693.63. Of course, that was almost a month ago, and Heaven only knows what it might be by now.

Secretary's Report: Bob Miller read the minutes of the Project Meeting held on 8/21 at the hangar of Peter Xu at Marana Airpark and reviewed some of the highlights of Peter's nearly-ready-to-fly RV9-A. Bob spoke briefly about his experience at this year's Airventure Oshkosh, and also presented a description of the annual Kitfox Factory Fly-In that he attended over the Labor Day weekend. This is an annual affair at the Homedale, Idaho home of Kitfox Aircraft. Highlights of the event were a factory tour, the traditional pig-roast, lots of flying, free T-shirts, and, not one, but two Kitfox aircraft powered by the Rotec R2800 (cc, not cubic inches) 7-cylinder radial engine. The uncowed radial was seen at last year's fly-in and also at the Cactus Fly-In in Casa Grande last year, and is mounted on a Model 4 with a wide-body modification. The newer one, a Series 7, has a bump cowling that was actually molded over the valve covers of the R2800 and was done by the factory and exhibited (and won an award) at Oshkosh this year. Bob did not have the opportunity to fly the radial-engined Kitfox, but reports that it is quite powerful for this application with a rated 125 HP, and, although the R2800 is heavier than the traditional Rotax 912, it is also longitudinally shorter, so does not throw off weight and balance in this application. It is also a true radial, sounding wonderful when running, and requiring a drool bucket when parked. Bob demonstrated the validity of the radial-engined Kitfox by exhibiting a T-shirt with the uncowed specimen displayed. Duane Boyd's suggestion that this T-shirt be offered as the door prize was unceremoniously rejected by Bob. Bob did get to fly the very first Series 6 Kitfox, due to the generosity of its owner. Bob's own project is the rare swept-tail Series 5 Vixen, and the thrilling performance of this early Series 6 trigeared provided a preview of what his own plane will be like.

Old Business: There was none.

New Business: Treasurer Mick Myal is a fan of tip tanks, and has constructed prototypes of some new ones. He cites the safety of having extra fuel far from the fuselage. These will be made of fiberglass with vinylester resin, are fuel and alcohol-proof, and can replace the fiberglass wingtips already used on many designs while adding range and stability. Buck Clippard has tip tanks on his Beechcraft Super Debonaire; the added weight at the wingtips increases the polar moment of inertia and augments roll stability. Dan O'Rourke's Celerity also employs tip tanks. Mick's tip tanks hold 10 gallons each and use automotive Facet solid-state electric fuel pumps to transfer fuel to the main tanks when needed. He intends to offer the plans on-line for free and is planning an article in KitPlanes magazine.

A query was made about requirement for a pre-covering inspection before an experimental aircraft can be certified. If there is such a requirement, it must be new, as several of our present members had the sign-off as recently as two years ago, and only a final inspection was required. Many present thought that a pre-covering inspection by

a technical counselor should be adequate. Some thought that a DAR (Designated Airworthiness Representative) must be hired for the final inspection, but this was found to be not the case. Dennis Hall, who has built 6 planes, has had each of them signed off by FAA representatives; Your Tax Dollars At Work. Many do employ DARs for convenience, as the FAA inspection may take months to get scheduled, but paying for a DAR is not a requirement.

John Harlow announced that the Copperstate Fly-In will take place over three days: Thursday October 21 through Saturday October 23. Volunteers are always welcome, especially for cleanup on Sunday October 24. In addition to the usual seminars and workshops, there will be three different Wings educational credit seminars offered.

Webmaster Bruce Noon is having some difficulty mounting the prop on the flange of the Jabiru 3300 engine powering his Thorpe T-18 project. He seeks advice from those experienced with this engine. Eric Witherspoon was present, and has such experience with the same engine mounted in his Sonex, and offered to help. This is what Chapter 81 is all about!

Jerry Miel has offered to make a presentation at a future meeting on the use of diesel engines in aircraft.

Dave Schiffman let us know that the AOPA Fall Safety Seminar will be held on September 28 from 7-9 PM at the Airport Holiday Inn, on Palo Verde just South of the Tanque Verde Swap Meet. Wings program credit will be offered.

Erik Fjerstad informed us that EAA Chapter 1 (that's One, as in the very first, Flabob) in Riverside, California, will be holding a Chapter Open House on September 25. One of the featured aircraft will be the Carter Copter, a very high-speed hybrid gyroplane.

Bob Miller gave a brief (for him) comparison of two very different aircraft that he flew in the past two days, with similar configurations; that is, side-by-side two-seat very light aircraft. The first was an Ercoupe, a 1935 design that was intended to make flying available to anyone who had the skills to drive a car. This unique aircraft was originally made with the nosewheel steered by the yoke, like a car's steering wheel, a floor-mounted brake pedal for both wheel brakes, and coupled ailerons and rudders (there were no rudder pedals). Thus, uncoordinated turns could not be made, and the design lacks sufficient elevator authority to create enough angle-of-attack to stall. Trailing-link main landing gear and the tricycle configuration allowed for the crabbed landings into a crosswind to be survivable. The specimen that Bob flew is a 1946 model 415 D, restored by Bill McLearran, with an STC for rudder pedals not connected to the ailerons. In this conversion, the brake pedal is replaced with a hand-brake, and, when one is taxiing, the right hand is always on either the brake or the throttle. Ground steering is still done by turning the yoke and there is a very interesting transition between steering with the yoke and the rudder on takeoff and landing. This particular specimen is a bit of a hot-rod with a Continental O-100 electric start engine from a Cessna 150. Unlike the Cessna, the Ercoupe cruises at 110 MPH and is rather difficult to slow down. It has no flaps, and somewhat limited rudder authority for slipping, as each pedal only actuates one of the rudders on the twin tail. It pays to plan ahead on final! The other plane Bob flew was Rick Brown's Cygnet SF2-A, a very unusual plans-built design with a forward-swept shoulder wing and VW Beetle power. This is a tailwheel airplane with exceptionally good visibility forward, both on the ground and in the air, and one enters through a swing-over windshield. Whereas the Ercoupe steers with the nosewheel via the yoke, and brakes with the hand, the Cygnet steers with the tailwheel via the rudder

pedals, and brakes with the feet. Both are frugal, fun-to-fly unconventional designs, and Bob had a ball flying them.

The meeting concluded with a practical demonstration by Newsletter Editor Erik Fjerstad on the art of tubing-bending and flaring. Erik brought in specimens of the brake lines previously found on his RV6-A, which had been through several owners before being acquired by Erik, and the work of one of them left much to be desired. Two of these aluminum lines had been bent at too great an angle (too small a radius) and was weakened, so the lines had to be remade. The tube bender was of a type commonly available from Harbor Freight, can bend tubing of various diameters, and costs about \$15. The flaring tool, a Parker Rolo-Flair, can accommodate even more sizes of tubing and provides the proper 37 degree flare required of aircraft fittings, not the more common 45 degree flare of automotive fittings. This tool makes the flare by rolling and pressing the tubing and contains a fitting which properly spaces the tubing in the tool, which costs about \$60-100. Erik demonstrated how both tools worked, reminded us that it is critical to place the ferrule and the fitting on the tubing *before* making the flare (don't ask how he knows), and gave those interested the opportunity to try them out under his supervision. He will make the flaring tool, along with a tutorial, available to any Chapter 81 member in need.

The meeting adjourned at about 1115, and several of us took up Dennis Hall on his offer to see the progress of his Hatz CB-1 biplane, featured as the February 20 Project Meeting. Dennis has finished the woodwork on his wings, installed the instrument panel, both aluminum and wooden stringers, flying controls and brakes, and, in general, has a much more finished-looking airplane at this time. It even has a flip-up cover over some of the switches and radio controls and a door for the baggage compartment. Every visit to Dennis' hangar reminds one that he is a retired university professor, as he teaches a great deal about the craftsmanship, ingenuity, and fabrication employed in the construction of a plans-built project. He projects that the Hatz will be flying this winter.

The Saturday, October 16 Project Meeting will be held at 10 AM at the Foothills workshop of Ken Rice, who will be exhibiting his 2-seat Lancair project.

Respectfully Submitted by
Secretary Bob Miller