



Sonex Workshop Review

Written by Stan Stewart, New Waix Builder
June 7, 2013

I had to miss the Rio Linda Sonex event (Rio Linda is about a 15 minute drive from my home in Sacramento) to attend the recent Builders' Workshop. I highly recommend the Builders' Workshops, and with the incentives Sonex offers to the attendees, there is no reason not to attend one if you are seriously considering building a Sonex Aircraft airplane. I flew from Sacramento to Milwaukee on Southwest airlines and rented a car for the 90 minute drive to Oshkosh. (You can get good car rental rates at www.breezenet.com , no financial interest)

This was my second workshop; I attended one in February two years ago. I recommend going more than once, I learned significant information that somehow got by me during the first workshop. For example, the need to de-burr every edge of every piece of aluminum, I had thought de-burring was for holes only. The fact that a rough edge gives stress risers that weaken the part, all edges need to be smooth.

I can't speak highly enough about John and Jeremy Monnett, and the entire staff at Sonex. Everyone was helpful and seemed truly motivated to give customers a good experience. Actually, it seemed like one of those ideal organizations where everyone is having just too much fun! John's presentations were chock full of building hints, from a guy who has built who knows how many airplanes! For one little example, drilling holes in your workbench and clecoing the piece you are working on to the bench if needed! They recommend using some of the pallet wood to make a workbench, I already have a good bench so I'm planning to add a top to it with the pallet wood and drill away into it when I need to.

The other thing is the new flight transition training; you can schedule a flight in a Sonex airplane with an instructor. I did this during the workshop and I'll detail the flight below, I needed to fly a taildragger so as to be able to make the decision whether to build a tail dragger or nose gear version. I got a ride in a nose gear Sonex at Rio Linda a couple years ago, so I knew what that looked like. Thanks, again, Mike. My mission for the completed airplane includes being able to continue to fly formation with my formation flying buddies, so I need to be able to fly 120 knots and have some smash (the ability to accelerate to stay in position and to climb and go a little faster when on the outside of a turn), so the 120 horsepower Jabiru will fill that need. Another concern was the stability of the tail dragger in takeoff and landing, and the visibility over the nose in takeoff and landing considering the need to look at the lead when performing an element takeoff and stay on my side of the runway.

The transition training flight in a tail dragger Waix with the AeroVee engine was good, actually wonderful. The ground handling with the tail dragger is a piece of cake, not at all squirrely, in ground operations and takeoff and landing, it just goes where you point it with very positive steering with the rudder pedals, very stable with no tendency to spin out or wanting to turn. However, the visibility over the nose in ground operations was not what I expected, I could see over the middle of the nose out to the horizon on the ground, but could not see the ground near the front of the airplane, so I ordered a –



nose gear version, for two reasons. (not because of any directional control issues with the tail dragger, it steers easily and is very stable) One, for element take offs and landings in formation flying, to see better over the nose when looking primarily at a lead airplane when a wingman, and to be able to look at the wingman when a lead without so much concentration on seeing out the front; and two, my 13 year old grandson is not going to be a tall guy at all, he would have trouble seeing over the nose, and he may end up with the airplane someday. (He doesn't know this, but he loves to pilot the Debonair which I fly from the right seat with him, and he plans to get a pilot's license) If I enjoy building this as much as I think I will, I may build a OneX later. I would love to assemble an AeroVee engine. But I ordered a Waix with the 3300 Jabiru engine so as to have plenty of smash when formation flying. I also opted for center engine, mixture, brake and flap controls, and hydraulic brakes. Also I ordered the full list of pre punched, machined parts and wing spars riveted up. The brakes on the Waix I flew were mechanical and were strong, but I braked too heavily on the landing roll out (not used to the brakes, you don't have to pull very hard on the handle) and with hard braking, that particular airplane pulled to the right. I assume that could be adjusted.

The Waix also has a lot of rudder authority in flight with smooth positive yawing with the rudder only, apparently both the Sonex and Waix have a lot of rudder authority, and everyone says they fly the same. The controls are very light and well balanced with each other, with no slack or friction. The Waix I flew had the AeroVee engine which ran nicely and flew well with two guys who I would estimate weigh 180 with clothes (me, that is accurate) and the instructor probably a heavier guy than me. I did not feel crowded in the airplane, never thought about it until someone asked about it or mentioned it after the flight. There seemed to be plenty of room for the two of us since I never noticed any particular closeness or feeling crowded. The takeoff was kind of a non-event, I just slowly put in the throttle, held the stick without any fore or aft pressure, easily steered it down the center line with the rudder pedals, gradually adding a little left rudder pressure as the AeroVee turns backwards compared to most aircraft engines, and it flew off without a change in pitch from on all three wheels, and started climbing. The climb speed was 80 MPH, easy to maintain the speed accurately (within ~2-3 MPH + or -) and I think it was climbing around 500 FPM. The flight controls in flight can only be described as delightful! At first I missed the artificial horizon and HSI that I think I may be looking at too much when flying the Debonair, but after losing ~200 feet in a 180 degree steep turn (45 degrees) the first time, got used to the sight picture and maintained altitude while maneuvering the Waix around seeing how it flew, we were flying at 2,500'. (When flying, I like to decide what altitude to fly at and then maintain it) Coming back, the downwind, base and final were easy to maintain airspeed. The landing was OK, I set it down a little firmly and it bounced a little for a second touchdown, demonstrating that the titanium gear legs really do absorb energy!

Bottom line, attend a builders' workshop! I ordered the Waix kit and I'm really excited about it and looking forward to the building process.

Stan