

EAA Chapter 81 Meeting Minutes Saturday April 21, 2012

Meeting was called to order by President Duane Boyd at 1015 in the humongous hangar of Lightning Southwest, the local distributor of the Arion Lightning Light Sport aircraft.

Treasurer's Report: Treasurer Mick Myal was nowhere to be found, but he sent a report of our having \$12,717.65 in the bank. And we believe him.

Secretary's Report: Secretary Bob Miller was too busy exploring the bottom of the Caribbean Sea to bother showing up for the March meeting, but Newsletter Editor Erik Fjerstad stepped up to the plate and did an outstanding job of taking the minutes, proving once and for all that Bob is totally expendable and wasn't even missed. Said minutes were published on the website and in Sky Writer, and did not bear repeating, by unanimous vote.

As it was clear that the natives were growing restless, the business portion of the meeting was abruptly terminated and the meeting was turned over to Greg Hobbs of Lightning Southwest. Greg and Crystal Hobbs are the proprietors and distributors of this Arion Lightning facility. The Arion Lightning is a low-wing, composite light aircraft that is made in two versions: The Lightning EXP is the original fast-glass experimental concept, a very efficient design that makes a lot of speed on a little power (and fuel). In 2007, Earl Ferguson set a speed record in the Lightning from Savannah, GA to San Diego, CA for piston engine airplanes between 1102 and 2205 pounds. The other variant is an adaptation of the EXP, "dumbed down," according to Greg, to qualify as an LSA. This required lowering the Gross Weight to the LSA limit of 1320# and restricting the prop to a fixed-pitch climb prop to limit speed. Aerodynamic wheel pants are not permitted and the engine is placarded at a maximum RPM of 2850 RPM (max power is made at 3350 RPM) to limit power. Obviously, one could cheat and have a much faster plane.

Basic specifications for the LSA are: Length 20' 8", Wingspan 30' 6", 104 square feet of wing, Empty Weight 820#, Gross Weight 1320#, 22 gallons of fuel, 120 HP, Vmax 140 knots (161 MPH), Cruise 120 knots (138 MPH), Vs 38 knots (44 MPH), Vne 180 knots (207 MPH). In comparison, the EXP has Vmax 160 knots (that's 184 MPH on 120 HP, folks!), Cruise 135-140 knots, Vs 40 knots (flaps) to 45 knots (clean), climbs 1200 FPM at gross, and rolls 100 degrees per second. Gross Weight is 1425#, 105 more than the LSA, and the airplane is stressed to max load positive 5 and negative 3.6G (although it was tested to 9G without destruction). Now that's a strong airframe. Both versions employ the Jabiru 3300 opposed-six cylinder air-cooled, direct drive engine, which produces 120 HP and burns about 4.5-6 GPH. It is an evolutionary product, originating from the Lancair 320, through the Pulsar, through a Spanish experimental called the Esqual, and now, thanks to a redesign by Jabiru designers Pete Krotje, Ben Krotje, and Nick Otterback, to the Arion Lightning. The last evolution was a big one; the Esqual had a glider wing and hated to land. The Lightning is 35 MPH faster and its laminar flow wing has an abrupt stall, albeit with a warning buffet. Ironically, recently-tested wingtip extensions "made the airplane," according to Greg. They contribute to a more solid feeling, especially at altitude, and provide more dihedral.

The Shelbyville, TN factory-built SLSA version is now featuring a larger horizontal stabilizer with nearly doubled surface area, which makes the pitch feel heavier to match the roll. Those used to heavier aircraft will feel more comfortable with this change. Cost of the aircraft with a Grand Rapids glass cockpit and autopilot currently runs about \$101K. If you wish to roll your own, the kit will require 6 weeks to build in a builder-assistance program at Lightning Southwest. This consists of 2 weeks of intensive building with supervision and assistance and the loan of tools, 3 weeks off while the disassembled aircraft is prepped and painted, and then one more week of labor to get it ready for inspection. The place is set up as a bed & breakfast with several apartments available to building teams and Crystal doing the cooking. Doing it yourself at home will cost you about 600 hours. Ernie

Pritchard, an electrical engineer out of Payson AZ, provides wiring expertise, DAR Ted DeSantis from Mesa AZ does the inspections, and one can fly off the hours from the factory's own ½ mile dirt strip with a glider port, an ultralight strip, and Marana Regional airport all within short distance for landings. Currently, 158 kits have been sold, and 115 are in the air, a very high percentage of completions. Greg fields a lot of calls, admitting candidly, that the manual is "not that great." Obviously, the builders get what they need, because those planes are up and flying.

Lightning Southwest is also the site of Jabiru engine builder workshops. Greg informs us that the reported overheating problems of the Jabiru 3300 are not inherent to the design. The recently advertised water-cooled heads are unnecessary, and the problems arose from those who modified the cooling plenums. There are many firewall-forward packages, including Kitfox, Zenith, RANS S-19S, and a 4-cylinder Jabiru 2200 for the RV-12. Richard VanGrunsven frowns on non-factory engine swaps, and is undoubtedly chagrined at the Jabiru-engined RV-12 which won Grand Champion at Sun N' Fun this year.

At 1100, the crowd split into 2 groups, one following Greg and the other Crystal, for a tour of the amazing 100 X 175 foot hangar. This took 6 years to build and was done completely by the Hobbses, including pouring the foundation and placing and welding the roof beams, all insulation and finishing. Everything! They boast that total cost was under \$200K. It contains 2 kitchens, a Jacuzzi, fireplaces, 6 apartments, is completely insulated (no windows) and requires very little heating or cooling. There are even outdoor basketball and volley ball courts.

The tour finished with inspection of some of the currently-in-progress projects and the factory demo plane with its Cadillac interior and dazzling paint job. Sleek, fast, affordable, quick-build, refined, the Arion Lightning appears to be a builder and pilot-friendly 7/8 scale Lancair, and the amazing Lightning Southwest facility is in our own back yard. You could hear the gears turning in the heads of many a Chapter 81 member as the tour came to a close.

The next meeting will be at Ryan Field, with a Chapter 81 Pancake Breakfast as part of the festivities of the Arizona Centennial Celebration to be held there on Saturday May 19th.

Respectfully Submitted by
Secretary Bob Miller