

HANGAR TALK

NEWSLETTER OF EAA CHAPTER 58, OGDEN, UT

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Chapter 58 meets monthly on the **FIRST Thursday of the month**. Meetings are held at 7:00pm at Weber State University in the Lampos Hall. Other meetings are held "on site" in members' hangars, shops, or garages. Onsite meeting locations are announced in the newsletter.

This Month's Meeting: "PRESENTATION"

LOCATION: Weber State University

Featuring: TODD PARKER

SUBJECT: AIRCRAFT COOLING

Thursday, 3 AUGUST 2006 1900 hrs, 0100Z, or 7:00pm

DIRECTIONS: Meeting is in 201 Lampros (Collett Arts)

PREZ SEZ:

This month has been a very busy one for me personally, spending two of the last four weeks on the road. Fortunately, one of those weeks was at Oshkosh. John Lewis was the only one who found me at the X-plane booth. If there were others of you who tried, I am sorry I missed you.

Osh was great, but a little warmer and much wetter than is comfortable for this desert rat. For those of you who went, I hope you will bring tales and pictures of your adventures to the meeting this week. Perhaps some of you were witnesses to the tragedy on the 23rd as the Europa crashed on the runway at Osh. Maybe you can help us understand that one as well.

Having just returned from Osh, I am scrambling to put together my presentation on aircraft cooling for the meeting. I saw many great examples of what not to do for aircraft cooling and only a couple of planes that seemed to have it right. Interestingly, I attended two forums that discussed cooling and I will fill you in on what I heard there as well.

I attended the chapter leadership forum where I was quite vocal in expressing what I think I have heard from our chapter members. Remind me to tell you about this experience as well. I missed the Ford sponsored dinner for chapter presidents, oh well.

I also met some of the writers for Sport Aviation, David Hipschmann, Amy Laboda, Barnaby Wainfan and Neal Willford. It is interesting to put a face and personality with those who write many of the articles.

See you all at the meeting!

Todd Parker, Prez

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MINUTES:

No minutes available as it was the barbecue.

FROM THE EDITOR:

The official mailing address for the chapter is:

EAA CHAPTER 58
3695 AIRPORT ROAD
OGDEN, UTAH 84405

The location of the Chapter web is www.eaa58.org,

Well I have some good news to report **DRAGONFLY N211DF PASSED ITS AIRWORTHINESS** inspection with only two squawks. I am now working towards getting my license and the final tweaking of the plane for its first flight. It will be a bit

slow as the temperatures are quite high and extensive taxiing could be an issue. But be assured that it will happen when the time is right.

WANTED ARTICLES FOR THE NEWSLETTER!!

New EAA Homebuilt Certification Kit *****
EAA's new Amateur-Built Aircraft Certification Kit includes everything you need to register and certificate a new experimental amateur-built aircraft. The 15-page, step-by-step Certification Guide walks you through the entire process-from getting an N number to the aircraft inspection - and provides samples of how to complete each required form. EAA staff member and Amateur-Built DAR Joe Norris, who reviewed all of the materials included in the kit, commented, "Whenever I inspect an aircraft for certification, the paperwork is what causes delays more often than anything on the aircraft. This guide will make a homebuilder's inspection go a lot easier." The certification kit also includes all FAA forms, Experimental sticker (in black), dataplate, and a convenient placard decal sheet. Cost for EAA members is \$12.99 plus shipping. The kit is also available for non-members for \$19.99 plus shipping. To order, call EAA Membership Services at 800/JOIN EAA, or visit <<http://shop.eaa.org>>.

EAA Aircraft Financing Program Announced
***** EAA announced the addition of a member benefit to make the dream of aircraft ownership more attainable. In partnership with AirFleet Capital, Inc., the EAA Aircraft Financing Program, the most comprehensive aircraft-loan offering in the industry, was unveiled at the Sun 'n Fun Fly-In in Lakeland, Florida on April 6th. Catering to the needs of both individuals and businesses, AirFleet Capital provides financing for new and used amateur-builts, type-certificated single and twin pistons, turboprops, jets and helicopters. This includes financing for light-sport aircraft, the new category that has cut the cost of a new, factory-built airplane in half. To learn more about the EAA Aircraft Financing Program, call AirFleet Capital at 866/808-6040 or visit <<http://www.airfleetcapital.com/>> Read the full story on the web at:
<http://www.eaa.org/communications/eaanews/060406_financing.html>

EAA Regional Fly-In Season Begins ***** Mark your calendars now for the upcoming EAA Regional Fly-In season.

For the full 2006 Regional Fly-In schedule go to:
<<http://www.eaa.org/avlinks/flyins.html>>

FEATURE: DRAGONFLY N211DF

This story starts in 1978 when I met Ken Mitchell at the University Hospital where I was employed as a Biomedical Equipment Repairman. I was working the graveyard shift with Mike Pratt. Mike first met Ken who was working as supervisor of the housekeeping department. Ken was an interesting individual and turned into a very good friend. He had a Ph.D. in Constitutional Law, and had taught at many University's. He had retired from teaching and was working at the hospital while his wife finished her career as a nurse. He had built a number of aircraft the latest of, which was a BD-4 that was finished in Guam. It was built in the bedroom and the wall was cut to the floor on either side of the window and laid down to get it out of the room. He had given Mike a ride in his airplane and Mike told me of it and introduced me to Ken. Ken offered me a ride and I took him up on it as I had once gotten a ride when I was in fourth grade in Casper Wyoming. My teacher had arranged for the class to go to the airport and we got to ride. Me being taller than the other students that went with me I got to sit up front. I never forgot the ride and always wanted to learn to fly. But I thought that because I didn't have a lot of money and could not afford to buy an airplane it would never happen. I remarked to Ken after the ride I would like to have a plane but it wasn't in my reach, as I couldn't afford to purchase one. He said well build one. I said I couldn't do that. He remarked "How do you know, have you ever tried." So at that time I started looking for a plane to build and about that time Popular Mechanics had an article on the Polliwagon which looked like a great plane. Ken was thinking about building another plane and was thinking about doing a composite aircraft and started looking at the Q2 and the Dragonfly. He went and looked at both planes and said that the Dragonfly was the better plane by far. I looked at the flyers and fell in love with the bird's look and decided to pursue the Dragonfly over the Polliwagon. I purchased the plans and got serial number 211.



FUSELAGE IN A BOX

I then started to get the materials together, as there was no kit for this design and read the plans from start to finish. Having never done any fiber-glassing I had to learn it before I

was able to start on the plane. The plans were geared to a person that had no experience with these materials and the first chapter had you build many sample pieces to learn how to do this.



LEFT SIDE READY TO GLASS, RIGHT SIDE ON WALL

In 1983, once I had enough material i.e. the foam, glass, epoxy and had built the workbench to build the plane on. This bench was two feet wide and twenty feet long I started to build the pieces for the fuselage. The fuselage is made from Clark foam, which is white urethane foam in varying thickness', one quarter, one half, and three quarter inch being the majority of the foam. It came in sheets two feet by eight feet and was glued together with micro, which is a mixture of epoxy and micro balloons. The sides consist of one sheet split on the diagonal and glued to another sheet then three-quarter inch doubler was glued around the edges. This was then glassed on the inside with staggered layers of glass from tail to front increasing in the number of plies. I wasn't sure if I could do this by myself so I incorporated the help of my brother, Charlie, who was into hang gliding at the time. After the first side I made the rest of the fuselage pieces by myself.



BOTTOM READY FOR GLASSING

I continued to build the bulkheads and hotwire the wing and canard cores for the next year. Then in 1985 I built the main wing, building the shear web myself then when it came time I enlisted the help of Charlie and a few other people to do the bottom skin. It took us about eleven to twelve hours to do the glassing on the spar and skin. At that time I was working in a single car garage that I had built from a carport and added a shop on the end. It was eleven feet wide and I knocked the wall between the garage and the shop to get a room long enough to build the wing and canard. It was very crowded and I had the fuselage pieces hanging on the wall and supported beneath the bench.



WING CORE WITH SHEAR WEB note jig blocks for glassing.

When the wing was done I built a bracket to hang the wing on the wall and started to build the canard, about this time they came out with the inboard gear, but it was not available for a period of time so I put the canard away. I purchased the materials for the inboard gear when they became available. This included a piece of aluminum channel,

quarter inch plywood, and two molded gear legs. In the fall I built the canard and then started putting the fuselage together still collecting bits and pieces and when an instrument became available on sale I would purchase it.



CANARD, WING GLASSED FUSELAGE pieces on wall and hanging from ceiling.

By the end of 1986 I had the fuselage assembled and glassed on the outside. I then spent the next year putting in the controls and starting on the panel work. The panel has gone about three iterations before the current panel came to be. The last part of that year I designed the electronics for the switches and the dimming circuits.



MOLD FOR REAR DECK READY FOR GLASS INSIDE.

The label for the switches light up when the master is turned on with BI-color LED's behind them. They are red when off and green when on and they are dimmable.



ASSEMBLING THE FUSELAGE

In 1987 I had visions of GRANDURE thinking that I would be flying very soon I applied for the N211DF registration number. I continued this work and completed and installed the control surfaces through the next years. Started filling and sanding the fuselage in the garage, then about mid 1990 I rented a hanger and moved it out to the airport. I filled and sanded the wing outside that summer, and started on the canard in the fall. Wet sanding with cold water I had to call it quits for the rest of the winter. At that time I had a chance to get a hanger by putting in cash and sweat labor, but could not pull it off by myself so I asked Charlie if he would be interested in going in on the hanger. That winter and next spring we built the hanger that we are in. Once we had the interior finished I moved the plane to the new hanger and started filling and sanding. Charlie also moved his boat in and repaired it then I painted it to learn how to paint. My sanding and filling went on until about 1996 when I painted it. I then started to complete the engine installation and during the next three years I figured out that the alternator did not put out enough juice for all the electronics that I had installed. I installed dual electronic ignition; HAPI split heads, geared reduction starter motor, Geo Metro alternator, vacuum pump.



FUSELAGE ABOUT 1987

Then decided to Fuel inject the engine. I just about had it ready to install on the plane again when in the end of 1998 my position went away at the hospital. This was disastrous as my salary took a nosedive.



STARTING THE LONG PROCESS OF FILLING AND SANDING

I received an offer from Fuji Film Medical, which I accepted but it put all work on the airplane on hold. In 2003 that job went away but I was in better shape and went back to the University at a lower salary but this allowed me time to work on the plane. I spent about two years learning about fuel injection trying to adapt a GM controller to run on the engine. I purchased components from C B Performance, which was a little better but still not good enough. I finally came to my senses and took Justin Mace's advice and purchased SDS controller out of Canada and was able to get it to run as well as I wanted it to.

After finally getting all of the little details completed I had my Airworthiness inspection on 18 July 2006 and passed with two squawks. I had my name on the nameplate first last and it should be last, first; and a couple of wires that he wanted isolated from the engine

mount. As soon as I get the nameplate engraved I will send him a notarized letter and will have my Airworthiness in hand.



DRAGONFLY N211DF COMPLETED

GOTS and WANTS

We are adding this section and if you will send the information in will post want ads.

Rick Rohler
High Rohler Engineering
3062N 1150E
Ogden, UT 84414
801-782-4791 voice 801-786-0215 fax
scorecard@juno.com

For Sale

AIRCRAFT EXTRUDED PIANO HINGE MS-20001-6 for \$40.00 each. Brand new 6 foot long by 2 inch wide by .051" thick extruded aluminum aircraft piano hinge with two hinge pins. This anodized aluminum hinge is extruded so the closed hinge loops cannot be pulled apart. Being 2 inches wide gives it more area for bonding to the fiberglass on RV (Vans aircraft) type engine cowlings. This is the same hinge that sells for \$50.95 in the Aircraft Spruce 2002/2003 page 70 parts catalogs. This is the hinge that Van calls "The good stuff."

For Sale

"SCORE-A-CARD" scoring tools for \$8.00 to \$10.00 each. Five different sizes. The SCOREACARD is a tool made by High Rohler Engineering to score card stock for a perfect fold down the middle of your home made greeting cards. A great tool for helping you turn out a professional looking card. It eliminates that yucky edge when the grain of

the paper is the wrong direction to fold. Very popular with Rubber Stamping Stores all over the country.

K. W. Sorensen
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Provo, UT. 84606
KandCSoren@aol.com

I am 71 years old with severe medical problems and will never use them. Some of this stuff may not be of use to you, but I don't want to sell them one at a time, I'm too old. Make offer. The first six items are worth \$2860.00. I will ship C.O.D. FedEx. I'll pay the shipping.

GYRO 3 1/8", DIRECTIONAL GYRO 3 1/8", ALTIMETER BARBER POLE,
KOLLSMAN 20K, AIRSPEED PIONEER 160 MPH, RATE OF CLIMB, TURN &
BANK 12 VOLT, OIL PRESSURE 2 1/4, OIL TEMP 2 1/4, AMP/VOLT W/SHUNT,
MANIFOLD PRESSURE 2 1/4, MECHANICAL TACHOMETER, EGT LEFT &
RIGHT 2 1/4, QUARTZ CLOCK 2 1/4, AND MISC ITEMS.
REPLACEMENT COST AS OF JUNE 2003 \$4838.00

Dan Blumel site is: www.XeVision.com
You can get information about his products there.