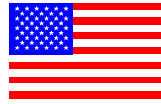




EAA CHAPTER 174

(Chartered since 1966)

MARCH 2003



TALESPINNERS

President	Tim Fry	513-793-2798
Secretary	Lee Jewell	513-471-7188

V-President	Tom Jenkins	513-244-2393
Treasurer	Dave Robertson	513-231-4997

MONTHLY MEETING: 16 MAR / 2 PM

FLY-OUT LUNCH : 22 MAR / 10:30

PROGRAM: **MORE ON ENGINES CONTINUED!**

CLERMONT COUNTY AIRPORT (I69) : At the light 3 miles east of I-275 on St. Rte. 32, turn south St. Rte. 74 (old 74) and go about 1.2 miles. Turn right onto Armstrong Blvd and go about ½ mile until it tees into Taylor Rd. Turn left on Taylor Rd. to the Airport. The old terminal Building is the red brick

building close to the road just before the runway. Rwy 4-22. Lat 39.04.42 Long 84.12.38 Web Site www.eaa174.org

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Not much flying these last few months, but the Blue Angels are looking "UP"!



FROM THE PRESIDENT

It's working. We are getting people to step forward and offer their services. We are also getting more involvement of members in aircraft building projects. Naturally, there is more to do and we need to build on this good start.

Elizabeth Szoke has stepped forward to become Treasurer after Dave Roberson resigned the position in February. We all owe Elizabeth a word of thanks because her experience as a CPA will help us work through the new accounting requirements and practices that are necessary, in part, to meet the expectations of a 501(c)3 organization. In addition to her work as our Treasurer Elizabeth is busy with Chapter 974 and nightly building on her Velocity XL. Check out the very nice website devoted to the Velocity project at www.velocityxl.com.

I received an invitation from Mark Neubauer to help him rivet the wings of his GlaStar. As some of you may remember, I wrote an article for the January 2001 newsletter that featured Mark's project. I'm very excited to

see how much progress he's made in the last two years, but I'm even more excited about being asked to help work on the plane. If any of you are building, I encourage bringing other members into your workshops and encouraging them to participate in the building process.

The February meeting was canceled because of snowy weather. The cancellation was noted in a timely manner on the web site. Thanks very much to Norm and Tom for tending to the details while I was at church. An impromptu "meeting" was held the following Saturday in lieu of the rained-out flyout at Watson Brothers across the street from the Blue Ash Airport. Those two occasions brought to the surface the need to have a formal alert system for notifying chapter members of fast changing information in a timely manner. I've had experience with phone trees in the past and it is my experience that they are not always too effective or efficient. With that in mind I have asked Norm Beaudette to develop an email alert system in conjunction with the Chapter 174 website. Both the email alert list and the web site will be the formal means through which time sensitive information will be disseminated to the membership. We will have to make phone calls to fill in the gaps for those who do not have email access. For that I suggest those without email access "partner up" with someone who does to make sure you stay informed.

Minutes From the Feb. Chapter Meeting

No meeting was held due to snow and ice. As this weather pattern continues and we have to adjust our schedules, please check the web site for any up-dates or details about fly-outs or meetings that could be re-scheduled for another time or place.

Minutes From the Feb. Board Meeting

In the absence of President Tim Fry, the February board meeting of EAA Chapter 174 was called to order by Vice President Tom Jenkins at 6:42 PM

Tom discussed the Young Builders program and his discussion with Plane & Pilot Magazine editor Lyn Freeman. Lyn would like another name rather than Young Builders. Tim Fry has donated a Glassair rudder kit to the program. Lyn Freeman would like to have some publicity photos.

Membership chairman Scott Hersha will distribute chapter rosters at the next chapter meeting. We were reminded that every chapter member must be a member of EAA national.

Young Eagles coordinator Phil Cady announced that the \$1,000,000. insurance coverage is considered adequate by most chapters and insurance people. Phil will check into the possible need for coverage for individual board members.

Tim questioned whether or not our meeting program should be presented before the actual business meeting to keep members from leaving before the program is begun.

The consensus of the board was "No".

Tim has asked for suggestions for a picnic "champion". We will ask for volunteers. Art West will coach the person as to what needs to be done in preparation for the picnic.

Mike Griffith reported that he has reservations for 7 people for the April 26-27 fabric seminar

Fund raising was discussed with the possibility of hosting a war bird visit to the area.

The board worked out the April calendar to avoid having the chapter meeting on Easter Sunday.

Art West made his recommendations for a new accounting system to be used by the treasurer.

Dave Robertson resigned as treasurer.

Attendees at the meeting included Tom Jenkins, Dave Robertson, Norm Beaudette, Art West, Mike Franzago, Mike Griffith, Scott Hersha, and Lee Jewell. President Tim Fry was ill.

Lee Jewell, Secretary



Attention Tube and Rag Builders!

We have 10 pre-registered for the Fabric Cover Seminar at Waco Field, Troy, OH on April 26/27, 2003 and have blocked 10 rooms at the Hampton Inn in Troy, OH (Ph: 937/339-7801) with room rates for Double or King at \$76.00 a night regular and AARP rate of \$68.40 a night. (Most of us are over 50)? These rooms will be held until Thursday April 10, 2003 If you plan to spend either Friday or Saturday night, please call them at the above number and ask for the Fabric Covering Seminar room block.

Arrangements are being made for lunch on Saturday and Sunday to allow you to order each morning from a local restaurant a box lunch that will be delivered for lunch each day. This way we will be able to stay on time with the Seminar agenda and get the most from our time learning about the covering process.

For those who will need to travel, I'm sure the Hampton Inn will fill your needs and they have a Continental Breakfast Bar every morning that should serve each and everyone's needs for coffee and breakfast cereals, juices and so forth. Some even have biscuits and gravy!

If anyone has any questions or needs assistance about the location or reservations, please let me know as soon as possible. I'm sure everyone will be happy to help out and should you fly in we'll have transportation to the hotel available from those who drive.

Please fill-out you form as soon as possible, as with 10 already registered this early, we may be full by late-March...

Mike Griffith 513/231-3003

FABRIC COVERING REGISTRATION FORM

April 26-27, 2002

Please print

Your Name: _____

Address: _____

City _____ State: _____ Zip: _____

Phone Number: _____ Email: _____

Send registration with check for \$200 to:

Mike Griffith, 1984 Berkshire Club Drive, Cincinnati, OH 45230-2439

WHICH ENGINE ? The April issue of *Custom Planes* carries an interesting article on choosing a VW engine. However it also discusses several general principles of hp, rpm, torque, prop size, pitch, and thrust. If you are using a setup that a number of other builders have had success with that is probably the way to go. But if you are on your own there are ways of comparing various engine and prop combinations at least in theory: Horsepower = rpm x torque, 3600 rpm x 117 foot-pounds of torque = 421,200, 5252 is the constant, so $421,200 / 5252 = 80$ hp. (/ means divided by - as in a fraction). Torque = 5252 x 80 hp = 420,160 @ 3600 rpm, $420,160 / 3600$ rpm = 116.71 foot-pounds of torque. Looking at horsepower and torque it looks like a VW engine of 76 hp and 121 ft-# of torque should easily replace a Rotax 582 which is rated at 65 hp and 53.3 ft=# torque. But the Rotax uses a 2.58:1 reduction gear and can turn a 72" prop against the VW 62". The longer prop will have about 25% more static thrust. In general a long slow turning prop is more efficient. Then there is prop pitch. A prop needs to allow the engine to turn to its maximum permitted speed to develop full available power. Prop length often governs rpm due to tip speeds. The "rule of .65 says hp x .65 equals prop pitch. As: $76 \text{ hp} \times .65 = 49$ inch pitch.

NEW TECHNOLOGY

NANOCRYSTALS are super durable particles which raise the strength of metals and plastics by as much as 300%. Purdue Univ. has developed a cheaper way to use them. Useful in all mechanical devices including airplanes.

VIBRATIONS set up in materials by high frequency sound waves can be used to diagnose problems in everything from people to machines.

ZIRCONIUM is a composite material that shrinks when heated and can be used to strengthen materials that are weakened by heat.

All the above from Kiplinger Letter 31 Jan 03.

AIRCRAFT ENGINE ENCYCLOPEDIA. The book is an international listing of 435 airplane engines designed and built, up to the 1921 date of publication. The variety of engines was surprising. Nearly every configuration one could think of was tried. Some were two stroke, some 4, and a couple 6, and don't expect me to explain 6 stroke. General configurations were many: Rotary, horizontal rotaries with right angled gear boxes, radial, in-line, V-8s and V-12s, fan types with all cylinders above the centerline as well as W types with 3 banks of in-line cylinders, Y types, X types, opposed, and a number of barrel types. Hardly any V-6s.

EXAMPLES

EDELWEISS (Swiss ?) This was a really unusual 6 cylinder radial engine. Not enough details but front and rear pictures show a round engine made up of a cylindrical case outside the cylinders. The pistons were attached to the outer casing and the cylinders moved back and forth with 2 external connecting rods to each cylinder. 6 spoke like bars front and rear of the external case held the crank centered in the case. The rear "spokes" also double as intake manifolds from the hollow crankshaft and carb. 2 models were built, a 6 cyl. 456 c.i. and a 10 cyl at 760 c.i.

WHERRY (Britain) was a barrel engine with cylinders in pairs pointing in opposite directions and parallel to the prop shaft. One crank geared to the prop shaft for each pair of cylinders. Other barrel engines used wobble plates or a plate running in grooves. Some were rotary for cooling.

SIEMENS-HALSKE (Germany). In order to reduce air resistance due to the spinning engine and to tame the gyroscopic effect, Siemens built 9 cyl rotary of 726 c.i. and 110 HP at 900 RPM. A set of bevel gears and pinions in a gear box on the front allowed the crankcase and cylinders to turn one way and the crank shaft to turn the other. Thus the propeller turned about 1/2 engine speed. There is a cutaway drawing but it is too small to see how the gears worked. Several others also. In a larger similar engine the prop was on a crankcase extension.