



# Pilots Progress

Volume 21 Issue 2

Feb., 2007



## Chili Supper This Month!

**This Months Meeting/ Chili Supper**, will be held in our hangar, on Monday Feb. 12, at 7pm. Chili, beverages and tableware will be provided. Members are asked to bring **the family or a guest**, a dish or condiment (cheese, onions, chips) to pass.

Agenda:

- Discuss having a Sat. Fly-In
- Apple Festival Participation
- Meeting Planning (speakers, demos?)
- Sign For Side of Hangar
- Flashing Arrow Sign Repairs
- Hangar Maintenance

Jan. Meeting

No business was conducted.

Board Meeting, 01/27/07

- Present: Bob Baird, Dale Neddeau, Ralph Ballard.
- Processed Chapter Renewal forms.
- Planned Feb. Meeting (see agenda).
- Discussed programs for future meetings.



### EAA IS 54 YEARS YOUNG!

On January 26, 1953, three dozen people who enjoyed a keen interest in building their own airplanes met at Curtiss-Wright Field, Milwaukee, Wisconsin, to discuss forming an organization to share their knowledge of and passion for aviation. Friday, January 26, marks the 54th anniversary of that first meeting of what would become your EAA.

EAA founder and Chairman Paul Poberezny wrote to a person inquiring about the young organization in March 1953 with words that still ring true today: "It is the intent of this Association to foster closer fellowship through the exchange of ideas of mutual interest and to aid in the reduction of cost of homebuilding and experimentation."

More about EAA's early history and chronology can be found on the [EAA website](#). Meanwhile, take a moment today to say, "Happy Birthday, EAA!"

### The EAA Finance Program

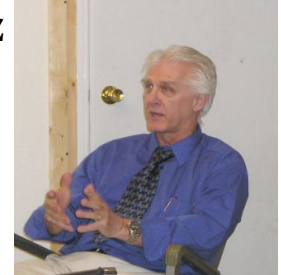
Introducing a new EAA Member Benefit launched this year-the EAA Finance Program (administered by AirFleet Capital, Inc.)

The EAA Finance Program was unveiled at Sun-N-Fun and EAA AirVenture Oshkosh during 2006. AirFleet Capital staff was on hand to meet and greet pilots in EAA's Member Village at both events, answering questions and providing information to members. The staff from AirFleet Capital also attended the 2006 NBAA convention in Orlando, Florida, assisting EAA in reaching out to the

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## The Prez Sez

By  
Bob Baird



I want to thank Doctor Thomson and Bev for hosting last month's meeting. They opened their home to us with great generosity. Jim and Bev had done this often and have done it even when it is at an inconvenient time. Special thanks to you both!

Our next monthly meeting will take place on Monday, February 12<sup>th</sup>, 7:30 PM at the hangar. It should be an interesting meeting with good food to eat and good food for thought. Each meeting of EAA Chapter 865 is like a new page in our history. Sometimes there is a point in the history of an organization where the chemistry is right, the time is right, and the circumstances are right for the beginning of a new era. I am personally inspired and I believe that the next few meetings could easily be such a time. I think this feeling is shared by others as well. For example we had a board meeting at the end of January. We

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### visit these web sites

- <http://www.eaa113.org/>
- <http://www.eaa304.com>
- <http://www.yankeeairmuseum.org/>
- <http://www.eaa221.org/>

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business aircraft market.

The EAA Finance Program provides a wide array of programs to meet the needs of our members. It's currently able to finance experimental aircraft (kit & airworthy), light-sport aircraft, piston, helicopter, and jet aircraft. With their extensive knowledge, passion, and experience in general aviation, EAA and AirFleet Capital have created a program that offers a variety of options that are constantly changing to meet the needs of members. This was evidenced by a new program launched by the EAA Finance Program that allows for financing of progress payments for the new very light jets (VLJ's) which have recently been certified. There are many pilots looking to purchase an aircraft in this new class, but who have to make payments as the aircraft progresses in its manufacturing process. The EAA Finance Program is able to help those who are in a position to order their VLJ with the progress payments. The EAA Finance Program has also been aggressively supporting the special light-sport aircraft (S-LSA) market. As this new class has developed, EAA and AirFleet Capital have been right there, rolling up their sleeves, obtaining information and research on the various aircraft, and producing financing options for these aircraft to fit the needs of the sport pilot. As the light-sport aircraft industry continues to develop and change the face of recreational aviation, the EAA Finance Program will continue to review the aircraft entering the market in order to support those aircraft that have been accepted and certified by the FAA. This is all part of EAA's mission to make aviation more attainable and affordable to its current and future members.

To obtain more information on the programs offered by the EAA Finance Program, give them a call at 866-808-6040 and a representative will be happy

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did some pragmatic things at the board meeting such as fill out some paperwork, pay hangar insurance and talk about getting all the dues current and so on. But there was a certain energy about Ralph's enthusiasm and Dale's

steadfastness for seeing the chapter expand and improve. It was the kind of meeting that was so much more than just getting done what had to be done and then getting out of there. It was a special meeting to me because there was enthusiasm to get things rolling, to build on our foundation, to make things more interesting and exciting. This enthusiasm could easily be the catalyst to trigger a new period of growth and aviation adventure for us all.

Please be at the next meeting. Make it a priority so that we have the maximum input, the maximum synergy, the maximum brain power to plan a great summer filled with aviation adventure.

See ya there, Bob Baird

### **FlyIn Restaurants of MI**

ALLEGAN, MI (PADGHAM FIELD - 35D) [The Grill House](#)  
CADILLAC, MI (WEXFORD COUNTY - CAD) [Hermann's European Cafe](#)  
CHESANING, MI (HOWARD NIXON MEMORIAL - 50G) [Burger King](#)  
CLINTON, MI (HONEY ACRES - 7N4) [McDonald's](#)  
CLINTON, MI (HONEY ACRES - 7N4) [Race Track Inn](#)  
DETROIT/GROSSE ILE, MI (GROSSE ILE MUNI - ONZ) [Airport Inn](#)  
DOWAGIAC, MI (DOWAGIAC MUNICIPAL - C91) [The Round Oak Restaurant](#)  
DOWAGIAC, MI (DOWAGIAC MUNICIPAL - C91) [Wahoo's Eatery](#)  
FLUSHING, MI (DALTON - 3DA) [Gabby's](#)  
FRANKENMUTH, MI (WM 'TINY' ZEHNDER FIELD - 66G) [Zehnder's](#)  
GAYLORD, MI (LAKES OF THE NORTH - 4Y4) [Settings](#)  
GLADWIN, MI (SUGAR SPRINGS - 0MI1) [The Hearth Restaurant & Pub](#)  
GLADWIN, MI (GLADWIN ZETTEL MEMORIAL - GDW) [The Peppermill Restaurant](#)  
HARRISON, MI (CLARE COUNTY - 80D) [Yvonne's Aero-Port Restaurant](#)  
HESSEL, MI (ALBERT J LINDBERG - 5Y1) [Hessel Bay Inn](#)  
HOUGHTON LAKE HEIGHTS, MI (HOUGHTON LAKE STATE - 5Y2) [Covles](#)  
HOUGHTON LAKE, MI (ROSCOMMON COUNTY - HTL) [Spikehorn Bar](#)  
HOWELL, MI (LIVINGSTON COUNTY - OZW) [Tomato Brothers](#)  
IRON MOUNTAIN KINGSFORD, MI (FORD - IMT) [The Blind Duck Inn](#)  
JACKSON, MI (JACKSON COUNTY-

REYNOLDS FIELD - JXN) [The Airport Restaurant & Spirits](#)  
KALAMAZOO, MI (KALAMAZOO/BATTLE CREEK INTERNATIONAL - AZO) [The Air Zoo "Kitty Hawk Cafe"](#)  
LEWISTON, MI (GARLAND - 8M8) [Garland Resort](#)  
LUDINGTON, MI (MASON COUNTY - LDM) [PM Steamers](#)  
LUZERNE, MI (LOST CREEK - 5Y4) [Lost Creek Sky Ranch](#)  
MACKINAC ISLAND, MI (MACKINAC ISLAND - MCD) [Pub & Oyster Bar](#)  
MACKINAC ISLAND, MI (MACKINAC ISLAND - MCD) [The Grand Hotel](#)  
MANISTIQUE, MI (SCHOOLCRAFT COUNTY - ISQ) [Kewadin Casino](#)  
MARQUETTE, MI (SAWYER INTERNATIONAL - SAW) [Tailwinds Grill & Bar](#)  
MARSHALL, MI (BROOKS FIELD - RMY) [Schuler's Restaurant](#)  
MARSHALL, MI (BROOKS FIELD - RMY) [Turkeyville](#)  
MECOSTA, MI (MECOSTA MORTON - 27C) [Country Lake Inn](#)  
MIDLAND, MI (JACK BARSTOW - 3BS) [Shirlene's Cuisine](#)  
MONROE, MI (CUSTER - TTF) [Cabela's - Tamarack Cafe](#)  
MOUNT PLEASANT, MI (MOUNT PLEASANT MUNI - MOP) [The Embers](#)  
MUSKEGON, MI (MUSKEGON COUNTY - MKG) [The Brownstone Restaurant](#)  
NAPOLEON, MI (NAPOLEON - 3NP) [Napoleon Cafe](#)  
NEWBERRY, MI (LUCE COUNTY - ERY) [JJ's](#)  
NEW HUDSON, MI (OAKLAND SOUTHWEST - Y47) [Chili's](#)  
NEW HUDSON, MI (OAKLAND SOUTHWEST - Y47) [New Hudson Inn](#)  
NEW HUDSON, MI (OAKLAND SOUTHWEST - Y47) [Leo's Coney Island](#)  
OWOSSO, MI (OWOSSO COMMUNITY - RNP) [Bob Evans](#)  
OWOSSO, MI (OWOSSO COMMUNITY - RNP) [Crosswind Cafe](#)  
PELLSTON, MI (PELLSTON REGIONAL AIRPORT OF EMMET COUNT - PLN) [Brass Rail](#)  
PLAINWELL, MI (PLAINWELL MUNICIPAL - 61D) [Sams's Joint](#)  
PLAINWELL, MI (PLAINWELL MUNICIPAL - 61D) [Fly Inn Again](#)  
PLYMOUTH, MI (CANTON-PLYMOUTH-METTETAL - 1D2) [Canton Coney Island](#)  
ROTHBURY, MI (DOUBLE JJ RESORT RANCH - 42N) [Sundance Bar and Steakhouse](#)  
SAGINAW, MI (MBS INTL - MBS) [MBS Grill](#)  
ST IGNACE, MI (MACKINAC COUNTY - 83D) [North Bay Inn](#)  
THREE RIVERS, MI (THREE RIVERS MUNI DR HAINES - HAI) [Fisher Lake Inn](#)  
TRAVERSE CITY, MI (CHERRY CAPITAL - TVC) [The Grand Traverse Resort](#)  
TRAVERSE CITY, MI (CHERRY CAPITAL - TVC) [Mabel's Restaurant](#)  
WHITE CLOUD, MI (WHITE CLOUD - 42C) [Charlie's Pub](#)  
WHITE CLOUD, MI (WHITE CLOUD - 42C) [Sally's](#)

## Zen and the Art of the Weld Puddle

*Budd Davissan, [EAA/Experimenter](#), October, 1993*

Back in the 60's (which really isn't all that long ago for some of us), one of the tomes that was required reading for any-one seeking spiritual enlightenment and the right to wear a tie-dyed shirt was the book, *Zen and the Art of Motorcycle Maintenance*.

The basic premise of the book was that the spirit of the Buddha (don't get me off on religion, I was raised Methodist and didn't understand THAT either), could be invested in things mechanical, like a motorcycle, just as well as it could in living, breathing organisms. The author, Robert Pirsig, viewed the motorcycle as a mechanical-spiritual organism and the repair of it as a religious experience.

Yeah, I know. What does this have to do with welding?

I had totally forgotten the book until the other day when I was chasing the front edge of a weld bead down into the metal with my trusty Smith airline torch. My world totally disappeared and was replaced by one the size of a pea that glistened and flowed at the end of the fiery blue cone of my torch. As I sat there, positively disappearing into the warmth and liquidity at the very front edge of the tiny, molten puddle, I suddenly felt as if I, too, was having a religious experience, albeit, a hot one, but still an experience. It was as if the puddle was alive and I was trying to train it to do my command. It was no longer steel and fire. It was something growing that was striving to unite two pieces of inanimate steel into something

with a soul that flies.

At the time I thought it probably was a good thing I escaped the 60's without having done drugs. If a weld puddle can send me off, LSD would probably have turned my brain into an ant farm.

I was concentrating so hard on the front 1/16 inch of that puddle that it seemed as if it was ten feet across and I was standing beside it, a tiny little conductor orchestrating the rhythm of the torch's dance. I was carefully placing the heat and rod in such a way that I could almost hear the metal begin to melt, then quietly flow together, the filler rod stepping in for just an instant to give the puddle more body and help bridge the gap.

It was at that moment I thought Pirsig may be right. I doubt if I can make a case for having seen the spirit of Buddha in a weld puddle (I'm from Nebraska, we don't have thoughts that ethereal), but I'll stand toe to toe with anyone and argue that the front 1/16 inch of the puddle actually does contain the kernel of life that we put into rag and tube flying machines.

Everything of any importance having to do with welding happens in that minuscule area at the very front of the puddle, where the metal melts and the union is forged. The strength and beauty of the weld is determined entirely by what happens in that narrow band of heat, which is another way of saying your own life and that of your aircraft is also determined by what happens in that almost immeasurable part of the airframe. Control the leading edge of the puddle and you've guaranteed yourself a lifetime of joy and happiness (in Zen words). In pilot terms, you've just written your own ticket for a hell of a lot of fun

for a long time.

What we're about to do here is take a micro, micro approach to welding. We're going to ignore the controversies of the best way to cut tubing. We're not going to get drawn into the "weld into or out of a heat sink" controversy. We're going to have nothing to do with anything that exists more than the thickness of a nickel from the weld. We're going to control the puddle.

First we probably should define exactly what it is that is supposed to be happening at the puddle edge. The short definition says the parent metal is supposed to be melting so that the weld penetrates a measurable distance into the metal. More discussion on that later.

Once the surface on both sides of the joint is melted and flowing, filler rod is supposed to be melted into the joint to help bridge the gap and to add more strength to the weld. Every farm kid knows this before he's out of kindergarten.

The real trick is knowing what the puddle is actually supposed to look like and what the welder can do to make it look that way.

The absolute first problem all welders have, but don't know they have is they don't have a clear picture in their mind of what the puddle is supposed to look like.

The second problem is they look at the puddle in general terms, rather than separating the leading edge away from it visually so they can concentrate on it.

A third problem that contributes to the situation of not concentrating on the leading edge is that their eyesight, regardless of how good they think it is, may not be strong enough to give them a clear image of the leading edge.

*Continued next month.....*

## Found on eBay



### P-51A Replica History

The P-51A, "Magnificent Obsession II", is owned by Kent Carlomagno and based at Petaluma airport in Petaluma, CA. This 1972 Marcelle Jurca French design hybrid is a scaled down ¾ scale model of the early P-51A with a 3 blade design propeller aircraft with over 66 hours on it and lots of TLC.

#### Wings/Fuselage/Tail:

- Spruce spar with mahogany covering on the wing and horizontal stabilizer/elevator. Ailerons and flaps painted with Dupont Imron (+11 -9g wing load test)
- Steel tubular inner frame
- Aluminum skin, tail and ribs
- Aluminum covering of fuselage and empennage
- Fiberglass wing, & elevator fairing
- Beechcraft laminar flow NACA wing/horizontal surface airfoils
- Lockable, steerable tailwheel
- Has a wingspan of 27 feet and a length of 22 ½ feet.

#### Engine:

- The engine was built by Ryan Falconer in 1971, the builder of the V-12 Thunder Mustang engine in 1997
- Sounds like a tuned down version of the Merlin V-12 !
- Has a V-8, liquid cooled Ford 460 C.I. engine, 430-450 hp balanced and blue-printed
- Has an RV Cam designed for more torque at lower rpm
- Bendix fuel injection
- MSD, electronic ignition, dual condenser/coils/computers, hi-performance pistons and valves
- 4 into 6 exhaust with collector tube
- The engine sits backwards, mounts to custom bell housing with Geschweinder 2.4:1 reduction unit. Weight is 114 lbs. Gear-chain-gear setup has never had a failure reported – used in many agricultural aircraft
- Lubrication from 12 qt. racing aluminum wet sump
- Fuel system 25 – 32 lbs/pressure.
- Electric Dukes pump (for starting, take off, and emergency)
- Regular mechanical 40946 aircraft hi-pressure pump with custom arm
- 3 tanks: 2 main (31 gals), 1 rear (11 gals).

#### Alternator:

- Autolite 70amp.

#### Landing gear:

- Javelin / Navion type with Prestolite hydraulic pump.

- Tail wheel is a custom design with Scott dual fork and wheel on a single shaft, with pin to lock wheel, and shimmy dampener.

#### Propeller:

- Weight 142 lbs
- Hartzel 3 blade design
- Metroliner blades with 101" diameter hydromatic # T10282
- Externally activated hub # hcb3t-4, constant speed hub, non-reversible.

#### Ignition:

- Batteries: - crystal 1300 amp; back up, 300 amp wet cell
- MSD distributor is parallel with dual coils.

#### Oil Cooling:

- Cessna p-210/ i0-540/ i0 720 oil cooler with air directed below the propeller. Similar in looks and function to the intake for a Merlin updraft carburetor inlet.

#### Liquid Cooling:

- 3.5 gallon total mix 50% antifreeze 50% H2O ducted through a tunnel ram belly scoop
- Uses NASCAR heavy duty towing aluminum radiator below and behind the pilot at a 30 angle to maximize the cooling area.
- Uses ground adjustable after-cooler door like full size P-51A.

#### Brakes:

- Bendix dual action, dual puck King air type
- Original P-51 adjustable brake pedals.

#### Miscellaneous:

- 2.6 hrs at cruise 22" – 3.6k rpm
- 14–16 gals/hr. fuel burn. Cruise 180 kts.
- Top speed 275 kts
- Rate of climb - 2500 feet/min
- Empty weight 2,850
- Gross weight 3,400
- Build time: 7,500+ man hours.

#### 2002 changes:

Engine lightened 75+ lbs. Completely rebuilt and dyno-tuned by Thunder Mustang builder Ryan Falconer including the following (weight savings):

- New Edelbrock Victor series aluminum heads (62 lbs)
- Stewart aluminum water pump and pulley spindle (10 lbs)
- Tilton lightweight hi-torque 3 hp starter (10 - 12 lbs)
- 8 probe EGT. Installed to insure proper engine performance, temperature, and mixture.

#### Airframe changes include:

- Redesigned intake scoop with decreased surface area and less vertical profile resulting in improved aerodynamics.
- Increased power of retraction system by installation of increased diameter, dual-action hydraulic cylinders.



**Pilots Progress is published each month by Experimental Aircraft Association Chapter 865, Inc., located in Niles MI. The contents are for the use, education and enjoyment of the chapter. No claim is made for the accuracy of materials presented. Editorial content is the opinion of the contributor and does not necessarily reflect the position of Chapter 865 or the EAA. Members are encouraged to submit articles for publication. Other EAA Chapters may use articles for publication, as long as credit is given. Meetings are held at our Chapter Hangar, east side of the airport on Lake St., Niles MI, unless otherwise stated in the newsletter.**

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**SEC./NEWSLETTER: Ralph Ballard (below)**

**Submit Articles to: P.O. Box 444, Niles MI 49120  
269-684-0972 - - -**

**E-Mail, raphyboi02@sbcglobal.com**

## Calendar of Events

**Feb. 12—Chapter Meeting/Chili Supper, Hangar**

**March 12—Chapter Meeting, Hangar**

**April 9—Chapter Meeting, Hangar**

**May 14—Chapter Meeting, Hangar**

**June 11—Chapter Meeting, Hangar**

**June 24—Chapter 865 Fly-In / Breakfast**

**April 17-23, 2007 Sun 'n' Fun – Lakeland, Florida**

**July 23 – 29, 2007 AirVenture – Oshkosh, Wisconsin**

**FOR DETAILS ON ABOVE EVENTS CALL  
RALPH @ 269-684-0972**