CHAPTER 42 NEWSLETTER

April, 2003 **Anchorage, Alaska**

Monthly newsletter from Chapter 42 of the Experimental Aircraft Association

FROM THE LEFT SEAT

Recently I had the good luck to be educated about Capstone by Felix Maguire. I am including excerpts from some emails Mr. Maguire and I have traded.

What I sent to Mr. Maguire:

If ignorance was/is bliss, then when it comes to Capstone, I am in nirvana.

I have always considered Capstone as some sort of far out star wars fancy gadget. Some thing made out of unobtainium. Something that most folks I know couldn't afford to put in their airplanes. So I will take the time to try and educate myself somewhat as to what Capstone has to offer the average (or maybe sub-average) pilot.

Felix's reply:

Mike, thanks for the note. Yes I agree that the Capstone Phase I and II are outside the pocket of most GA pilots. That is why we are pushing a change of direction with Phase III. We want it available on handhelds or Palm Pilots. The technology is there and it is possible.

The only drawback, as always, is the fear of litigation that exists in Garmin Industries at this time. The equipment in Phase I, as used in the Bethel area, costs $15,000 and takes up quite a bit of space in the front panel. The updated, with WAAS and Synthetic Vision equipment, version used in Southeast costs $45,000.

This was going in the wrong direction as far as AOPA and the Airmen's Association is concerned. We want Phase III to make this available to all pilots. The minimum would be an ADS/B box that would transmit the aircraft data, with no indicator in the cockpit. The next option should be a USB type of connector, from that box, where a pilot could plug in a portable "handheld" display. The third option would be to have a bigger display. We see the cost of the handheld option being about $4,000.

This may be within the range of most folk. It would take the search out of search and rescue as the location of the aircraft would be known at all times when the engine is running. It has already saved some lives due to early rescue before the crashed pilot froze overnight. It would provide GPS mapping, weather updates upon request and all the (CNS) Communication, Navigation and Surveillance necessary for safe flying either IFR or VFR.

If that comes out at $4,000 I am sure there will be a great demand from GA pilots and spouses.

I am mandated by the FAA to have TAWS and other equipment installed in the corporate jet that I fly. The Capstone equipment can do the same job and more for 5% of the cost. Capstone also provides radar-like services through the ADS/B where no radar exists. That is why so many foreign countries are coming to our International Advanced Technology Conference in April. Most of them have radar that is obsolete and they can replace it with ADS/B at 20% of the costs. It is amazing that Alaska and the experiment we started in Bethel called Capstone is such a leader in the world.

If you and your chapter would like a briefing on Capstone, I would be delighted to do one for you or have the FAA do it. It is Star Wars type stuff but all available on the market. We have just consolidated it into one system and got the FAA to buy into it. Though we do not agree with everything in the FAA, sometimes when we work together we can achieve good things. This is one. Felix M.

Blue Skies, ***Mike***

NEXT MEETING

The next meeting of EAA Chapter 42 will be Tuesday, April 27th at 7pm. Our esteemed president has recruited a speaker to talk to us about the Capstone project. See ***The Left Seat*** article to understand why this should be very, very interesting to us as builders and pilots of small planes.

The meeting will be at the UAA Aviation complex at the east end of Merrill field on the south side. For those who have not been there before, get on Airport Heights and turn west on Merrill Dr. Building is to your right. Look for room location on the board in the lobby. Invite interested guests to this one.

A FLYING WHAT? by Bob Spoo, EAA 715365

The first half of the 20th century was a wonder of experimentation, especially for aviation enthusiasts. Although the Wright Brothers are credited with being the first in successful powered flight, and the Jenny became a stalwart of barnstormers, America did not have a lock on the love of flight. Europe was also awash in the excitement. For France in particular, the 1930's would unveil a unique, simply designed and operated aircraft called the Pou de Ceil. The Pou de Ceil, translated "Louse of the Sky," was better known by the British nickname of "Flying Flea." After all, no one really wants to be referred to as a louse!


HM-14

The Flying Flea was designed and built through the perseverance of Frenchman Henri Mignet. Designated the HM-14, Henri built the Flea as a simple, tandem-winged, opened-cockpit, stick controlled aircraft, without ailerons or elevators. The aircraft was not Henri's first success. He had built a more traditional three-axis aircraft called the HM-8. He loved the sky, but was frustrated with his inherent lack of coordination, lack that made flying traditional aircraft difficult. Henri determined that this delicate interplay of reflexes and control was an unnecessary hurdle that could be avoided. He began to experiment with wing dihedral and alternative control methods that eventually became the HM-14. The HM-14 was a wonderful low-cost diminutive design, with small power requirements, and a capability for perfect banks and parachute-like decent. Henri published his design in a book entitled *Le Sport de L'air*, that chronicled his building and flight adventures. His book enabled many enthusiasts to build their own craft and take to the sky. The HM-14 had one significant draw-back: a very narrow center of gravity (CG) margin. Needless to say, the amateur building was not in rigid compliance to the plans, and accidents occurred. Unfortunately for Henri, while his dream of everyday Joes taking to the skies in docile little machines was being realized, it was just as quickly coming to a halt as people died. It seems that the early "14" design had a flaw. The sensitive CG issue, along with a tendency to nose over at high speeds, made pull-ups nearly impossible. Build a badly balanced machine, kick up the knots, and presto! The HM-14 became an instant lawn dart.

Because of Mignet's great desire to design a safe, stable machine, he immediately teamed with French aviation authorities, and through extensive wind-tunnel testing, designed out the critical flaws. The redesigned aircraft of 1936 became known as the HM-16. Amateur building continued, but never quite recovered to the initial energy when first introduced. The designing did not stop with the HM-16. Many other models ensued. The HM-19, HM-290 and 293, the HM-320, 360, 380, and the 500 and 1000 series. All viable and effective designs. The Flying Flea, with its design flaws removed, has enjoyed a design-related accident free record of approximately 60 years! No small feat, and unmatched by any other design to date.

Space, seemingly always a problem in the cramped confines of many European communities, prompted the addition of wing-folding capability. This greatly increased the storage and mobility options for the Flea, which helped retain and grow a dedicated, following of Pou die-hards. The HM-1100, or Cordovan, is a modern version. It has retained the wing-folding capability and has the addition of ailerons for higher crosswind handling. Full crosswind landings and takeoffs are challenging in a standard constructed Flea and are usually limited to 3-4 miles per hour.

I first became interested in Henri Mignet's Pou de Ciel many years back. Quite frankly, the size and unique construction is what first intrigued me. Initially, I balked at the thought of building one when I read the early accident reports of the 1933 design. Interestingly enough, Mignet never had a serious accident with this early design, although his method of trial and error testing often left him bumped and bruised. After learning about Mignet's redesign success, I decided to explore this aircraft as a possible project. Its uniqueness and simple operation were major draws. Before long my plans hit another snag. One thing you find with the early Flea designs is the limitations on pilot weight and size. Not good for a pilot over six feet and pressing the scales at 220. I was perplexed. The call went out for help. In short order, the EAA responded with information on designs offered by Chris Falconar of Falconar Avia, Inc.

Falconar has HM-293, 360, and 380 plans that accommodate larger pilots, with the HM-360 being the best choice as a single-seat aircraft. The HM-380 is a two-seat, side-by-side design. I decided to order a set of HM-360 plans from Falconar. The plans and the drawings are in metric and French. Since I don't speak, much less read French, I also made sure to request the English translation manual. This, too, leaves something to be desired, but it's certainly workable. The control inputs are the same as Mignet's original HM-14, its all in the stick. To go up, you pull back, to go down you push forward, to turn left, you push the stick left, to go right...you get the picture. You don't slip a Flea, it's hard to do without ailerons. Try to slip it and you find you are in a steeper bank.


HM-360

The Falconar HM-360 project can be completed in either a tail-wheel or tri-gear configuration. Because of the very short coupling (12 feet), the tail-wheel is quite squirrelly and takes an experienced hand to manage only a few ground loops. The tri-gear is very stable, however, and is the recommended configuration. The picture shows an unusual tail-wheel configuration, even shorter than normal. The owner is a definite candidate for Fear Factor. The HM-360 also incorporates a canopy for operations in colder climates, and includes provision for a Crossandry Flap to help decrease any problems with pitch. Ailerons are also an option for increased crosswind capability, but there has not been a lot of information on this set up. Falconar advocates its HI-PEC covering system which is highly weather

Continued page 3: **FLYING FLEA**

TREASURER'S REPORT by Rob Spoo

Chapter 42 enjoys the friendship and support of over 100 current members, and we received numerous new membership inquiries for the month of March!

I hope to see those interested in Chapter 42's activities at our upcoming meeting. Chapter President Mike Ice and the rest of the Board are keen on bringing you informative and enjoyable monthly gatherings. Be sure to let us know your various interests.

Chapter dues are used to support our monthly and special events, as well as covering operating and national chapter expenses. Here is a run down as of April 5th:

Beginning account balance:	$ 553.69
Funds received (dues, ad sales, calendar sales) :	722.00
Expenses carried (postage/printing)	54.02
Adjustments pending:	0.00
Ending account balance:	$1221.69

Chapter 42 membership dues are only $24.00 for the entire calendar year, covering January 1st through December 31st. Dues are payable in cash, check, or money order. While cash is great for in-person payments, please DON'T send it through the mail. Sorry, but the Chapter cannot process credit card payments. If paying by check or money order, please make payable to: EAA Chapter 42.

Membership renewals are paid in January of each new membership year, but they are warmly accepted at any monthly chapter meeting. See you at our next meeting!

Smooth landings!

FLYING FLEA (con't from page 2)

resistant and requires no stitching. There are a number of other plan sources available, and tons of information on two major websites, the largest of which is www.flyingflea.org, which links to many other Pou de Ciel enthusiast sites.

The only drawback to the design is its uniqueness. This means there is not the normal pool of experienced builders to kick sticks around with, or the pilots to draw from locally when the time for flight testing arrives...certainly something the EAA heartily supports doing! Any takers? There are quite a few experienced Flea pilots outside of Alaska, from France to Australia. My quest now is to get the materials ordered and the shop finally put in gear for building.

I remember being told when we first arrived in Alaska many years back, that there were no ticks and fleas here. I hope to change all that.

CHAPTER 42 OFFICERS

President	344-4401 (hm)
Mike Ice	aurbo@ak.net
Vice President	345-4554
Gale Partch	callme3@gci.net
Co-Secretary/Treasurer	384-2021
Rob Spoo	robspoo@hotmail.com
Mike Luther	278-3222
	luther@gci.net
Newsletter Editor	248-2249
Tim Rittal	tim@timrittal.com
Technical Consultant	333-2215 (hm)
Cliff Belleau	248-7070 (wk)
Tom Lawhorn	333-7849
	tomlawhorn@hotmail.com
Directors	
Jack Brown	248-1060
Jim Moss	243-5151
Monthly Meetings	4th Tuesday of most months

MARCH MEETING: RV-8 Aviator

by Mike Luther

We thank Bart Penney for hosting our March 23rd meeting. Bart is building a Van's RV 8A. When complete his airplane will be able to cruise over 200 mph with a fully loaded gross weight of 1800 lbs. The estimated cruise range at 75% power should be about 780 miles on 42 gallons of fuel. Bart will use a Lycoming O-360.

Bart has spent the last three winters working on his tricycle gear kit. He purchased the slow-build kit and has made progress in only 1300 hours. He has had occasional rivet-bucking help from his son in-law, but Van's kits are so well developed that builders are able to complete most of their riveting tasks without assistance. Two of our Chapter 42 RV builderx/members, Jerry Paterson and John Davis, have provided valuable advice and assistance. Their experience with the RV series of aircraft has saved Bart some time, money and frustration.

This project seems to be the perfect match between pilot and airplane. Keep up the good work, Bart. We are all proud to have you as one of our members. Thanks!

EAA Chapter 42 Newsletter Editor
1701 Greendale Drive
Anchorage, AK 99504

AK AIRMEN'S ASSOC EVENTS

by Jim Moss

• Only 1000 **Super Cub Raffle Tickets Left**!! Tickets are $50 each/5 for $225. Secure online purchase available at: www.alaskaairmen.com/2004supercubraffle or call the office: 907-245-1251 or 1-800-464-7030.

• **Free Water Egress Training** – Prerequisite Briefing, April 7th, 7-9pm King Career Center, Anchorage. Classes: April 8th, 9th, 10th at UAA pool. Training provided by FAA and US Coast Guard. Call FAA Flight Standards for more information: 271-2000.

• **Lake Hood Float Seminar**, Saturday, April 17th, OAS Building. 9am-5pm. Call 243-7327 (Safety Foundation) or 271-2000 (FSDO) for more information and schedule.

• **Flying Companion Seminar** - Saturday, April 24, 2004. This is designed for the spouse, friend, or frequent passenger who would like to learn more about flying to make them a more comfortable, helpful passenger, especially in an emergency. For information, call Gloria 279-1560 or Melanie 694-4571.

• **7th Alaska State Aviation Conference & Trade Show** May 15 & 16. Free Admission. FedEx Maintenance Hangar at Anchorage International Airport.