



The Beacon

The newsletter of Chapter 54
Lake Elmo, Minn.

JUNE 2004

JUNE 2004

THIS MONTH'S PROGRAM

MONDAY JUNE 14TH, 2003

- **SOCIAL HOUR AT 7 P.M.**
- **MEETING AT 7:30 P.M. CHAPTER HOUSE, ENTRANCE B, LAKE ELMO AIRPORT**
- **OUR PRESENTER WILL BE LOU ADORNATO. HIS PRESENTATION TOPIC WILL BE "SYSTEM REQUIREMENTS FOR BUILDING AND FLYING A SPACECRAFT"; A VERY TIMELY PRESENTATION CONSIDERING THE RUTAN EFFORT AT SCALED COMPOSITES TO TAKE THE X-PRIZE.**

ANTICIPATION GROWS FOR EAA AIRVENTURE OSHKOSH *FROM THE EAA E-HOT LINE*

Memorial Day weekend has past, which means there are just about two months before EAA AirVenture Oshkosh 2004 is here. Preparations continue throughout the weeks and weekends leading to July 27-August 2, when the area surrounding Wittman Regional Airport becomes the center of the aviation world. EAA AirVenture Oshkosh has always been the home of innovation, new announcements, and looking forward to what's on the horizon. That's why this year's theme, "Launching the Next Century of Flight," takes on even more meaning.



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"We're excited about launching the second century of flight this year and the many exciting things taking place," said EAA President Tom Poberezny. "This is truly going to be a significant convention. It's as much about looking forward as 2003 was looking backward to the centennial of flight."

Every year much of the anticipation focuses on innovation, technology, and what will be the "next big thing." With forums and presentations, the likes of the X Prize's \$10 million race

(Continued on page 4)



PRESIDENT'S COLUMN
BY PAUL HOVE

This month summer begins with the longest day on the 20th. June will push out the rains of May and CAVU will reign. The week started out on a bad note with two fatal accidents claiming 5 lives. We have to stay alert and not take chances with weather or maintenance of our aircraft.

Those of you who could not attend the spring banquet at Mancini's missed a very nice speech from Chuck Larson of the National EAA Organization. Chuck's message had to do with the Young Eagle Program and he stated that "the program flyers are planting the seeds for future generations of aircraft enthusiasts." And that the "program also gave old crows the parents that bring the kids to the airport a positive feeling about aviation and our activities."

EAA Awards were handed out at the banquet to last years officers and directors. I will have the certificates and lapel pins for those that didn't attend at the chapter house for the next few weeks. Stop by and pick up your award.

This reminds me that Oshkosh AirVenture is less than two months away. Those new chapter members who are not also national members will need to join the national organization to get discounted flight line passes. Stop by the chapter house and fill out the forms on a Saturday morning.

I will be retiring from my full time employment at the end of this month. I plan on spending considerably more time at the airport. Whether or not my RV project will move along faster is yet to be determined. Stop by my hanger at 41c Mooney Lane and observe the progress or lack thereof.

I received a picture from Sun n' Fun of the

Dynon Development company's new Engine Monitoring Unit. This unit is the same form factor as their EFIS and the displays are interchangeable. The rumored price is \$2495.



I bought the EFIS and have it powered up on the bench and am waiting for Dynon Development to start taking orders on the Engine Monitoring Unit.

The International Young Eagles day is on June 12. Our Chapter will be giving Young Eagle flights that morning at the Chapter House. If you know someone that has not had a Young Eagle flight please encourage them to come to the Lake Elmo Airport.

MAC has erected a fence on the West and South sides of the airport as part of the new security efforts at GA airports. Certainly is Ugly!

Don't forget the Chapter 54 Monday meeting at 7:30 on June 14th. The presentation will be on Space Systems Requirements. See you There!

YOUNG EAGLES

BY AL KUPFERSCHMIDT

ADDITIONAL CONTENT FROM: EAA CHAPTER E-GRAM

International Young Eagles Day - June 12th

Help the Young Eagles program launch the second century of flight! Mark your calendar for International Young Eagles Day (IYED) 2004 on June 12, 2004. First established in 1994, IYED is a day that focuses our attention on the Young Eagles Program. Last year, more than 10,000 Young Eagles were flown on IYED alone. That's an incredible amount of activity. As always, we need your participation on a year-round basis, but we have set aside one day to focus on the Young Eagles Program.

For information on young eagle events, visit <http://www.youngeagles.org/3000next/events.html>.

Thank you to all the people willing to help with the Young Eagle flights on Saturday June 5th. We had about 15 young and eager kids flying, two of them earned their Boy Scout aviation merit badges.

I want to remind everyone about upcoming events. I will have 7-8 boys from a Stillwater alternative education program that need to be flown on a week day which I will plan for mid June. Will need 2-3 planes and pilots. This should be a short morning session.

I am in touch with a teacher from the Forest Lake School. He is running a Flight School Camp during the summer and he would like to have these students end with a Young Eagle Flight. He is looking at June 24-25 as a possible date. There will be 14-15 students. If you can help with this PLEASE call me and volunteer.

I am also working with a Scoutmaster in Woodbury for arranging flights to earn merit badges. No date set on this yet.

We have a candidate for the Air Academy Oshkosh. Her name is Michelle Jilek, age 15. Our Chapter has donated \$400.00 and \$189.00 in YE credits toward the tuition. We look forward to hearing about her experience.

Last but not least, I would like to apologize to any one that I may have missed in asking for pilots and ground helpers. Please feel free to call or e-mail me at raeandal@msn.com, if you would like to be participating in these events. You may also contact Dale Rupp who is my assistant.



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Chapter member meet on the second Monday of every month at the Chapter House, Entrance B at Lake Elmo Airport (21D). The House is at the base of the airport beacon. The newsletter is printed on the first Monday of every month. Parts of the newsletter may be reprinted with appropriate credit.

21D RCO 118.625

21D Unicom: 122.8

TPA: 1932'

Runways: 4-22 (2497' x 75')

14-32 (2850' x 75')

Anticipation for AirVenture (Continued from page 1)

to space, Burt Rutan's leading contender SpaceShipOne homebuilt private spacecraft, and NASA's Mach 7 (soon shooting for Mach 10) aircraft X-43, there will be plenty of innovation to talk about. An expected record number of exhibitors are coming with new technology both in the cockpit and aircraft design.

But aviation's future isn't just innovation and technology. It's also about creating opportunities, and it's about people.

No regulatory initiative in aviation history holds more potential to create flying opportunities than sport pilot/light-sport aircraft. EAA expects news on the rule-making package before the start of convention, and when it comes EAA will be ready with the latest information and most learned industry and government experts at forums and the Sport Pilot Center, ready to answer questions from interested enthusiasts.

The next century of flight also launches the next level for the EAA Young Eagles program, the most successful aviation program for young people in history. "While we celebrated the significant accomplishment of one million Young Eagles late in 2003, the good news is it's going forward and we'll have some important announcements about Young Eagles and its future impact," Poberezny said. "The year 2004, one year removed from our celebration of the Wright brothers, is the year to be here as we look and learn about what will be important to aviation's future."

More than anything, that becomes the focus of this year's AirVenture theme. Come to Oshkosh and find out all about it!

SPORT PILOT RULE RETURNED TO OMB FROM THE EAA E-HOT LINE

The sport pilot/light-sport aircraft rulemaking package has been returned to the Office of Management and Budget (OMB) for final approval. OMB's website acknowledges receipt of the rule on June 1, 2004. No deadline for final action is listed on the website. However, when EAA Vice President of Government and Industry Affairs Earl Lawrence visited OMB, along with fellow ASTM Committee chairmen Phillip Lockwood and Eric Tucker, they stressed the need for swift approval of the rule.

The rule, which had been withdrawn from the Office of Management and Budget by FAA in late March, is now back at OMB for what is hoped to be the final review before publication. FAA had withdrawn the rule to answer questions presented by OMB, in a procedural move that would keep the rule on-track instead of creating a major setback if it was completely rejected by OMB. This advancement is another major step forward for the rule. Once OMB approves the rulemaking package, it will be returned to FAA for publication in the Federal Register. This year's AirVenture event will include a major focus on sport pilot as it provides an exciting opportunity for growth in many areas of the aviation community.

EAA will continue to monitor the rule's progress and report any news as soon as it's available.

EAA CHAPTER 54 MAY BANQUET

BY: BETTIE SEITZER

Chapter 54 held its annual spring banquet in May, convening at Mancini's Char House in St. Paul. The restaurant is a favorite of club members and it is easy to see why. The atmosphere was very congenial, the restaurant owner visited during the evening to ensure that everything met with our approval. The banquet offers a great occasion to socialize with friends and to get better acquainted with members. I enjoyed a long conversation with Norm Weston; he shared a few stories about his experiences in the military as well as some interesting bits of information about Lake Elmo airport. Thanks to all the members who helped to make this event a big success!

**NASA EVENING PROGRAM TO DISCUSS
THE FUTURE OF FLIGHT**
FROM THE EAA E-HOT LINE

By definition, any discussion about launching the next century of flight has to include NASA. At EAA AirVenture Oshkosh 2004 Wednesday (July 28), Theater in the Woods hosts a special NASA evening presentation that will highlight several of the agency's projects, most notably the X-43 Hyper X aircraft and its successful Mach 7 mission over the Pacific Ocean on March 27 this year. The X-43 was the first airborne test of a supersonic combustion ramjet engine (scramjet) and is scheduled to attempt a Mach 10 flight in the fall.

Cam Martin of NASA's Dryden Flight Research Center in Edwards, California, gave a glimpse of what's in store for attendees of the special evening program. "We are going to have the people who were hands-on with that (X-43) mission, including extensive video footage, and they will talk about this exciting mission," Martin said. "Then they will discuss things that are over the horizon, such as what general aviation airplanes of the future will look like to what would flight on other planets look like. Our goal is to make the evening program informative and entertaining."

Martin, whose first trip to Oshkosh was in 1989, said the EAA event is especially popular among NASA types because of the audience. "We were glad that Tom Poberezny thought of us in context of the theme, Launching the Next Century of Flight, because that's what draws people out here to the flight research center," he said. "Everyone who works here is well aware of Oshkosh. The things that we work with day to day, the things that we resonate with also resonate very much with the AirVenture audience."

Every year NASA has more people who want to tell their particular story at Oshkosh, Martin said. "It's always energizing for us to come, be-



NASA's B-52B launch aircraft cruises to a test range over the Pacific Ocean carrying the X-43 on March 27.

cause the AirVenture audience is one that understands the intricacies of the work we do, where the challenges are. When someone in one of our fabrication shops finds a new way to attack a problem, there are a lot of hands-on fabricators at Oshkosh who appreciate such elegant solutions, things that are simple." NASA and EAA embody everything from the concept to the application to actually going out and flying something, he added.

While the final roster of presenters has not been finalized, count on representatives from a variety of NASA locations, what Martin called the NASA Aeronautics Enterprise. Dryden is assembling and coordinating the program.

"When we fly the Hyper X, we are part of a team that spans the country, he explained. "That is part of the challenge: to translate the level of teamwork involved."

Martin, who is a Young Eagle flight leader (12 kids, all in sail planes), added, "It's exciting and encouraging for us when the invitations come our way. I really appreciate all the things EAA does."

SPACESHIPONE SOARS TO 212,000 FEET AND BEYOND

EXCERPTS FROM LEONARD DAVID OF SPACE.COM, THE EAA E-HOT LINE, AND PAUL HOVE

Scaled Composites' SpaceShipOne completed its most impressive test flight today (Thursday, May 13th, 2004) from Mojave Airport, California—a reported 212,000 feet! EAA received the following report from Scaled officials:



"This morning, the SpaceShipOne team completed another successful test of key systems on the SpaceShipOne reusable launch vehicle (RLV) and its carrier aircraft, White Knight. SpaceShipOne achieved 212,000 feet this morning. This flight marks an additional milestone for Paul G. Allen, Burt Rutan, and the innovative aerospace design team in their ongoing efforts to complete the first non-government manned space flight. The test is part of Scaled Composites' Tier One program, funded by Allen, Microsoft co-founder and CEO of Vulcan Inc."

The SpaceShipOne team will announce the results of this test flight once it has completed an analysis of the data. Complete results will be posted soon on Scaled's website, www.scaled.com, under the Test Updates section.

Burt Rutan is scheduled to conduct several presentations at EAA AirVenture Oshkosh 2004, including a special evening program,

"Fun at Mojave," on Thursday night, July 29, at Theater in the Woods. The program will include discussion on the White Knight/SpaceShipOne project.

The results of the flight were as follows:

Flight: 56L / 14P, Date: 13MAY04, Flight Time: 1.5 hour / 20 min 44sec, White Knight Pilot: Binnie, White Knight Copilot: Stinemetze, SpaceShipOne Pilot: Melvill, High Chase Alpha Jet Crew: Van der Schueren / Johnson Low Chase Duchess, Pilot: Siebold / Moore
Objectives:

The third powered flight of SpaceShipOne. 55 seconds motor burn time.

Handling qualities during boost and performance verification. Reaction control system use for reorientation to entry attitude. Supersonic feather stability and control.

Results:

Launch conditions were 46,000 feet and 120 knots. Motor light off occurred 10 seconds after release and the vehicle boosted smoothly to 150,000 feet and Mach 2.5. Subsequent coast to apogee of 211,400 feet.

During a portion of the boost, the flight director display was inoperative, however the pilot continued the planned trajectory referencing the external horizon. Reaction control authority was as predicted and the vehicle recovered in feather experiencing 1.9M and 3.5G's. Feather oscillations were actively damped by the pilot and the wing was de-feathered starting at 55,000 feet. The onboard avionics was rebooted and a smooth and Uneventful landing made to Mojave.

Future Flights include a June 21st mission to become the world's first commercial manned



space vehicle.

The pilot of the craft, still to be announced, will become the first person to earn astronaut wings in a non-government sponsored vehicle, and the first private civilian to fly a spaceship out of the atmosphere.

That's the word on Wednesday from Scaled Composites in the Mojave, California desert -- designer and builder of SpaceShipOne. The announcement is the first time the group has pre-announced a high-altitude run of its piloted rocketship.

Investor and philanthropist Paul Allen and aviation technologist Burt Rutan have teamed to create the program, which will attempt the first non-governmental flight to leave the Earth's atmosphere.

SpaceShipOne will rocket to 62 miles (100 kilometers) into sub-orbital space above the Mojave Civilian Aerospace Test Center, a commercial airport in the California desert. If successful, "it will signal that the space frontier is finally open to private enterprise," explained a Scaled Composites release.

Allen, founder and chairman of Vulcan Inc, is financing the project. Along with Allen, Vulcan's technology research and development team -- which takes the lead in developing high impact science and technology projects for Allen -- has been active in the project's development and management.

Today's announcement follows SpaceShipOne's successful May 13 test flight. That flight had pilot Mike Melvill hitting the engine-start button to reach a height of 211,400 feet (approximately 40 miles). That's the highest altitude ever reached by a non-government aerospace program.

Sub-orbital space flight refers to a mission that flies out of the atmosphere but does not reach the speeds needed to sustain continuous orbiting of the earth. The view from a sub-orbital flight is similar to being in orbit, but the cost and risks are far less.

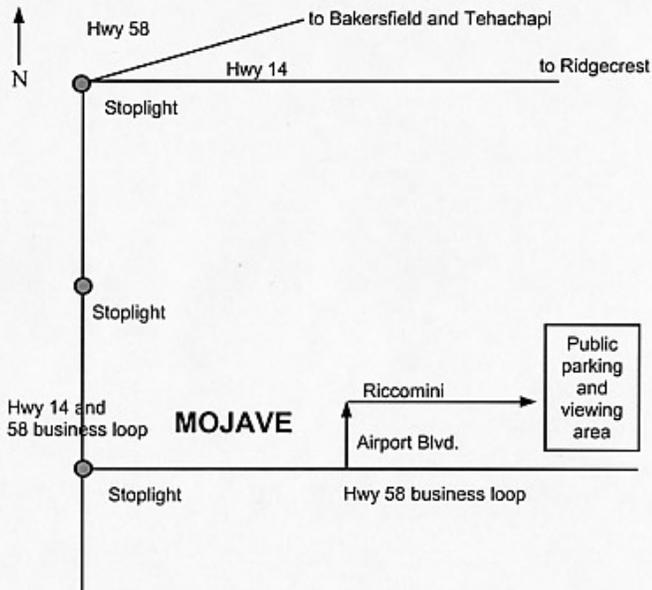
"Since Yuri Gagarin and Al Shepard's epoch flights in 1961, all space missions have been flown only under large, expensive government efforts. By contrast, our program involves a few, dedicated individuals who are focused entirely on making spaceflight affordable," said Burt Rutan in a press statement today.

"Without the entrepreneur approach, space access would continue to be out of reach for ordinary citizens. The SpaceShipOne flights will change all that and encourage others to usher in a new, low-cost era in space travel," Rutan added.

"Every time SpaceShipOne flies, we demonstrate that modest amounts of private funds can significantly increase the boundaries of commercial space technology," Allen also said in the statement.

Unlike any previous manned space mission, the June flight will allow the public to view, up close, the takeoff and landing as well as the overhead rocket boost to space. This will be an historic and unique spectator opportunity.

Directions from Southern California: North on Interstate 5 to Highway 14. North one hour to Mojave, east at first stoplight (Highway 58). Left on Airport Blvd. Right on Riccomini to the public parking and viewing area.



Information for the general public on attending the event is available at www.scaled.com.

The launch is set for June 21, with plans calling for taxi out to the runway of SpaceShipOne's carrier plane, the White Knight, at 6:30 a.m. local time.

Last December, Allen confirmed that he is the behind-the-scenes sponsor of the SpaceShipOne project. Allen has funded the effort since he and Rutan joined forces in March of 2001.

SpaceShipOne and its White Knight turbojet carrier/launch aircraft represent the first private non-government effort to demonstrate a low-cost piloted space effort. Since it was unveiled in April 2003, SpaceShipOne has undergone 14 airborne flights: capture flights hooked to the White Knight, freefall glides, and three powered high-altitude hops.

The suborbital rocket plane is a leading contender among a worldwide cadre of groups vying for the Ansari X Prize.

For anybody to claim the \$10 million cash award, they must fly a privately financed and built three-person spaceship that rockets up to 62.5 miles (100 kilometers) altitude, returns safely to Earth, and then repeats that trip within a two week period.

In a press statement last December, Allen said: "SpaceShipOne is a tangible example of continuing humankind's efforts to travel into space, effectively demonstrating that private resources can make a big difference in this field of discovery and invention."

Allen co-founded Microsoft Corporation with Bill Gates in 1975 and served as the company's executive vice president of research and new product development, the company's senior technology post, until 1983.

Today, Allen owns and invests in a suite of companies, with a portfolio focus on digital communications, new media, biotechnology, and entertainment. His primary companies include Vulcan Inc. of Seattle, Washington.

Peter Diamandis, Chairman of the X Prize, said Allen and his team stepped up to sponsoring a private-sector space endeavor at a time when few others were willing to take the risk.

"In my role as chairman of the X Prize, I had approached well over one hundred corporate chief executive officers regarding sponsorship. Few were able to grasp the importance of this new market...and those who were had great difficulty accepting the risks involved," Diamandis said.

Vulcan's financial support has clearly allowed the Scaled Composites team to take a methodical, step by step approach, Diamandis said. "The flight test program has been expanding the envelope in an incremental process. I hope that Allen's leadership will allow other wealthy industrialists to follow in his footsteps to sponsor spaceship development like they currently do with sail boats and race cars," he said

The announcement of the June 21st Flight puts even more excitement into Rutan's scheduled presentations at EAA AirVenture Oshkosh 2004, including a special evening program, "Fun at Mojave," on Thursday night, July 29, at Theater in the Woods. The program will include discussion on White Knight/SpaceShipOne. On July 30, from 11:30 a.m.-12:45 p.m., Rutan will present, "Private Manned Space Program" at the Honda Motorcycles Pavilion. He'll repeat the program at the same location on July 31, 10-11:15 a.m.

To reach space, a carrier aircraft, White Knight lifts SpaceShipOne from the runway. An hour later, after climbing to approximately 50,000 feet altitude just east of Mojave, White Knight releases the spaceship into a glide. The spaceship pilot then fires his rocket motor for about 80 seconds, reaching Mach 3 in a vertical



climb. During the pull-up and climb, the pilot encounters G-forces three to four times the gravity of the earth.

SpaceShipOne then coasts up to its goal height of 100 km (62 miles) before falling back to earth. The pilot experiences a weightless environment for more than three minutes and, like orbital space travelers, sees the black sky and the thin blue atmospheric line on the horizon. The pilot-turned-astronaut then configures the craft's wing and tail into a high-drag configura-

tion to provide a "care-free" atmospheric entry by slowing the spaceship in the upper atmosphere and automatically aligning it along the flight path. Upon re-entry, the pilot reconfigures the ship back to a normal glider, and then spends 15 to 20 minutes gliding back to earth, touching down like an airplane on the same runway from which he took off.

The Discovery Channel and Allen's Vulcan Productions are producing a program about the SpaceShipOne-White Knight project documenting the entire process of this historic effort from design to flight-testing to the actual launch and return. The working title, Rutan's Race For Space, will be broadcast later in 2004.

TREASURER'S REPORT
BY PAUL LINNEROOTH

In preparing the May Treasurer's Report, I found I had omitted \$111.98 in expenditures in April's report. These were \$100.00 for the refrigerated serving table and \$11.98 for Ground School expenses.

May's Financial Summary

Cash on hand	\$ 40.00
Checking Acct.	\$ 5,826.91
Investments	\$ 4,000.00
Total	\$ 9,866.91

Income in May consisted of \$200.00 in individual dues, \$20.00 in contributions, and \$70.00 in EAA membership rebates for a total of \$290.00.

Expenses for the same period were \$978.04 and consisted of \$180.00 for Washington County taxes, \$192.77 for our MAC lease, \$400.00 for the EAA air Academy, \$60.00 for banquet guest dinners, \$64.58 for utilities, \$66.06 for newsletter publication, and \$14.63 for Ground School expenses.



EAA CHAPTER 54
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CLASSIFIEDS

FOR SALE:

4-Channel Stereo Intercom (Panel Mount)
PS Engineering Model PM2000 w/manual
Yellow tagged - Checked out by Modern Avionics
\$100.

Bob Pittelkow
952/941-0059

FOR SALE:

1941 Piper Cub Cruiser J5-A w/Continental C90-8F.
1997 Restoration Engine and Airframe.
930 hours since 1997.
All ADs complied, logs since new.
Cleveland mains, Scott tailwheel. No elec, wired ICOM & intercom.
\$24K

info/pics on Barnstormers.com (Piper -> J-5).
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