The Official Newsletter of EAA Chapter 35, San Antonio, Texas

RUNWAY 35

EAA The Leader In Recreational Aviation

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On the Web:
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Serving San Antonio Aviation Aficionados with all the Aviation News that's fit for print.

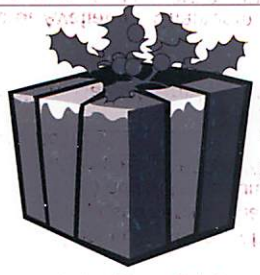
Inside this Issue:

More than 35,000 EAA member-pilots and 50,000 ground support volunteers achieve remarkable goal while introducing young people to flight.

EAA AVIATION CENTER, OSHKOSH, Wis. - (Nov. 13, 2003) - The largest youth aviation initiative ever conceived has reached its lofty objective, as the Experimental Aircraft Association's (EAA's) Young Eagles Program reached its goal of giving 1 million young people a free demonstration airplane flight by the centennial of the Wright brothers' first flight on Dec. 17, 2003.

Andrew Grant, a 15-year-old high school sophomore from German Valley, Ill., was registered as Young Eagle No. 1,000,000 this week, with the official announcement made by EAA President Tom Poberezny during a news conference today at the EAA AirVenture Museum. Grant was flown on Oct. 25, 2003, by pilot Rick Ellis (EAA #469164) of Freeport, Ill., who has flown more than 860 Young Eagles since 1995.

"It's difficult to put into context the true achievement of flying one million Young Eagles," Poberezny said. "When we announced the program in 1992, there were many people who thought flying a million kids was simply unattainable. Through the efforts of tens of thousands of dedicated EAA volunteers, both pilots and ground personnel, the dream became reality. To them we say, literally, 'Thanks a million,' and celebrate this historic achievement. The aviation community owes these people a debt of gratitude, because they have helped secure the future of flight." (Continued pg. 11)



December 13 Chapter Christmas Party. Contact Lee Carlson at 210-545-2376 or larider@sbcglobal.net for tickets.

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With the Wind

By Kris Niswonger ENL Editor

One Million Kids Flown

One of the reasons I am proud to be an EAA member is the Young Eagles program. Pilots and volunteers donate their time and planes to give kids a safe introduction to flying. What an honorable endeavor! My hat's off to all of you who participated in achieving the lofty goal of one million kids flown. This is truly a great accomplishment and everyone can be proud of their contributions. EAA has made it clear that the Young Eagles program will continue because it has really become a cornerstone of EAA's core activities. We have a Young Eagles event on December 6th, contact Brad Doppelt at 210-558-8909 or brad_doppelt@yahoo.com The last YE event of the year will be at Pleasanton airport on the morning of December 13th. If you would like to help out contact: Tommy Terry at 830-253-1441 jthomas-terry@lavernia.net

I would like to take a moment to thank all of you who have wrote to me concerning the electronic newsletter. I really appreciate your kind words, and your suggestions have made it a better newsletter. While I cherish the accolades, the credit for the newsletter really should go to the writers who donate their time and talents contributing to it. Dave and Miriam have done an incredible job with the newsletter in the past, and still contribute a lot of content. Norris received a letter from Paul Poberezny himself concerning our newsletter, (he reads it) and the credit for it has to go to Dave and Miriam. It's in the e-Letters to the Editor section. Check it out.

If you have any comments about the content of this newsletter, we would be glad to hear from you. Just send me an e-mail to kris123@tds.net and I will put it in the e-letters to the Editor section. There are some exciting things happening in aviation, let's hear from you. Drop me an line, I need content.

Last month saw a changing of the guard and this month we have new officers. Steve Carlson is at the helm and he needs your support. Feel free to call him with your ideas and suggestions. You can make a difference. Steve has a solid foundation to build on thanks to Norris Warner. Norris, you have done a wonderful job with the chapter, and we have all prospered under your leadership like never before. Thanks to Norris, Joanne and Pat Wegner, we stand a good chance at receiving tax exempt status. What this means of course is that we will be able to deduct any financial contributions made to the chapter. This should bring in a lot more capital to the general fund, and in theory could lead to a huge expansion of membership and facilities.

In this month's issue we have Lee Carlson pinch hitting for Miriam, nice job, Lee! For the technically inclined, I have included a NASA press release about their new HiPEP Ion Thruster. Amazingly efficient, it could revolutionize exploration of the solar system and beyond.

VEEP guy, Dave Baker wrote an interesting piece, very readable, and he made an appeal for more members. If you have a friend who is not a member, why not ask him or her to join? It only takes 18 bucks. Greater numbers equal a greater pool of talent and expertise to draw from, and can only lead to a more exciting, vibrant chapter. kgn

From the President's Desk

By Steve Carlson

Changing of the Guard

This month sees the changing of the guard at the chapter house. After two phenomenal years at the helm Norris Warner has stepped down from his position as president of your chapter and you have now given me that role. I am scrambling to learn just what this new role entails, so if you have any thoughts, ideas, or suggestions, don't be shy. I am going to need all the help you can give me. I am confident, based on the actions Norris took to develop the Team 35 concept, that I will get great support from everyone. This is Norris' greatest legacy. He did a fantastic job of guiding, inspiring, cajoling, and leading the chapter to its current solid state.

He began the quest for tax- exempt status for our chapter and gained the aid of Pat Wegner and Joanne Warner to craft the necessary documents and the offices of John Killian to review them. These documents are now complete and have been submitted to the IRS this past Friday. This was a mountain of work for this group of dedicated volunteers.

Norris also laid the foundation, (well, I had to say it) for the chapter building extension. He found the best talent for the job by getting Buzz Heye to volunteer to provide preliminary layouts, plans, and surveying the existing structure.
Under Norris' watch our chapter has fostered growth in many activities, from Young Eagles to Corvair Engine College to the school project sponsored by Al Almond.

I am pleased to report that one of Norris' longest running projects has now been completed and installed. That's right, the new concrete benches are ready for sitting. Norris and John Latour get the kudos for this one. It was an endless task for Norris to find and get the concrete ends made for these benches. This was fraught with false starts and blind alleys, but that was only the half of it. After he took delivery there was considerable handwork to be done, and the slats had to be made and finished. These benches will be a comfortable source of pride for our chapter for years to come. Thanks also go to the bench sponsors, Betty Day, Al Almond, and Bob Masters.

The old benches have been retired and they now need new homes. See Norris Warner about placing one of these in your yard. They only need a little touching up.

Look elsewhere in the newsletter for a recap of last month's meeting. We had a grand time with a great program and some terrific food. Don't forget to see Norris if you'd like to get a couple of those great wooden Christmas ornaments hand crafted by the De Groots. These ornaments are only $8.00 and are a real bargain for you and a benefit for our Air Academy Scholarship program. Also, don't forget to play hookie on the 100th anniversary of the birth of aviation, 17 December. We will be flying Grey Eagles out at the chapter house starting at 10am.

The chapter house has received some much needed electrical improvements thanks once again to our resident electrician, Louis Johnson. Taking out the trash at the end of the meeting just got a lot safer as Louis has installed a back door light. He has also put in a hall light and a ceiling fan in the kitchen. I could say we get a charge out of the bright ideas from Louis Johnson, but I'll just ask you to give him a pat on the back next time you see him.

The chapter has clear direction for the future. Based on our previous leadership, we will continue to pursue enlarging the clubhouse, as our funds permit. Based on input from the membership we will emphasize our core strength, which is building and learning about experimental airplanes. We have a great deal of experience in the chapter to draw on. Everyone has a unique skill, unique knowledge, and unique experience to share. Step forward and be an active part of Team 35.

Comments from the VEEP

By Dave Baker

I first joined this chapter in 1975. Over the past 28 years I have been Newsletter Editor three times, Vice President for two years and then President for two years and then a few years later I served as President again for a year. Now here it is 2003 and I find myself serving as Vice President again for a couple of years. (The VP job is a "cushy" one. The greatest responsibility the job carries is setting up the monthly Programs).

It has all been very rewarding. I have met many wonderful friends who share the same passion I have-AIRPLANES; in fact anything that can break the gravity of earth and become airborne excites me!

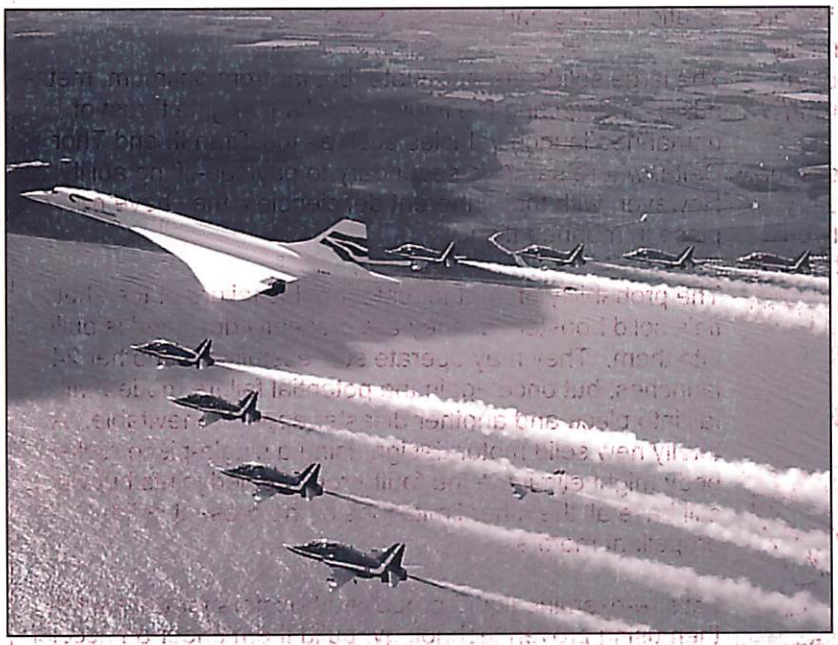
Throughout these years we have had many good leaders within our chapter. I have watched this chapter grow from about 50 members (when I first joined) to what we have today (over 140 members). The sad truth is that there are a number of people in our area that are members of EAA National but are not members of our chapter or any of the other Chapters in this area. My challenge to you is that if you know any of these people, that **YOU** get them to come to our meetings and experience the comradeship that this chapter can offer.

My next challenge for you is that YOU be involved with the monthly Programs that we will have for our meetings. I am talking to the FISDO here in SAT about getting some guest speakers and a video or two to use, BUT, we would like to have your input as well. I know that we have quite a few people in our chapter that have the knowledge and skills of aircraft design, construction, flight testing, maintenance and other areas (that will benefit all of us) that could put on a beneficial program for us. Let's change that "could" to **DID**!! I have already approached Mark Brown to put on a Program for us about aircraft design theory (or any other topic he chooses) and he has tentatively accepted. Now, what about you other knowledgeable and skillful people?

Membership Drive

A Chapter is only as successful as its members make it. It's YOUR Chapter. I am very open to your input to the type of programs that YOU want to see and be a part of. Please e-mail me your thoughts and your wants as to our programs. Also, let me know when YOU can participate. **REMEMBER, YOU CAN MAKE A DIFFERENCE.**

Dave Baker
baker.w.d@att.net



To the left: Concorde flying formation with the British Red Arrows.

Pilot Quotes...on flying

Though I fly through the valley of death, I shall fear no evil ... for I am at 80,000 Feet and Climbing. (sign over the entrance to the SR-71 operating location Kadena, Japan).

You've never been lost until you've been lost at Mach 3. (Paul F.Crickmore -test pilot)

Navy carrier pilots to Air Force pilots: Flaring is like squatting to pee.

If the wings are traveling faster than the fuselage, it's probably a helicopter -- and therefore, unsafe.

e-Letters to the Editor

Electronic Newsletter Feedback

Kris,

Your electronic newsletters are the most impressive that I have ever seen. I would love the opportunity to learn how you do this. Is that possible?

Oscar Olszewski

(Editor's note: Thanks Oscar. I can tell you what software I use and outline the general procedures I go through.

SOFTWARE

Microsoft Publisher 2003 (for the mailed hard copy)
DreamWeaver MX (for the e-newsletter and the web site that supports it)
Adobe Photo Elements 2.0 (to edit digital photos)
Microsoft Word 2003 (to edit most documents before they are copy and pasted into Publisher and DreamWeaver)
Microsoft Outlook 2003 (for email processing)
Cute FTP Pro (for uploading the files to Dave's web server)
PDF Producer (for the printable online version)
Microsoft Internet Explorer (for scouting for news stories on the internet and viewing the HTML files that I create)

What I do for the e-version is create it with DreamWeaver, save it, then I test it with Internet Explorer, then I upload the web site to Dave's server. For the email, it's just another web page with links to the web site. I copy and then I paste it into a blank email with Outlook. Then I send it to myself with a BCC (blind carbon copy), to everyone in the chapter. Works really well because most email clients support HTML, the exceptions are AOL 5.0 and lower. You can think of the newsletter e-mail as a roving salesman for the web site. I could just send a plain text message to everyone with the web address of the newsletter in a link. Chapter 35 is among the first chapters in the country to offer an electronic newsletter delivered to your desktop in an e-mail.)

Looks pretty good, Kris!

Ric Reynolds

(Editor's note: Ric works at EAA HQ and he assembles and then e-mails e-HOT LINE to thousands of EAA'ers. I asked him for his opinion of the e-version of Runway 35. Many thanks to Ric and everyone else in the chapter. While I love the accolades, it would be nice to get some thoughtful letters to the editor that deal with aviation issues or comments on the content of this newsletter. There are some exciting things happening in aviation, let's hear from you.)

Hi Kris,

I've been meaning to tell you that you all can just send us the E-newsletter so you can save the paper & postage. Sorry I am late on doing this! You all put out an awesome newsletter!! Many thanks for all of your time & effort!

We wish we could be active members, but due to time & distance & time we're trying to spend building our RV6A when able, we'll just have to drool over your newsletters!

Thanks again for everything!

Sandy & Pete Spradling

A Letter from the Top!

By Norris Warner

Every so often, we get a little boost to help keep us going. Late in October the following letter arrived.

"Dear Norris

I'm glad everything is going well with Chapter 35. I enjoy reading your newsletters and keeping abreast of the great work of not only your Chapter, but other Chapters as well, keeping aviation alive. Keep the news from around the patch going; it brings folks together to share the love of aviation. Last year I read some 2,000 newsletters and have read a great many this year. It keeps me in touch with grassroots.

If you have any suggestions that I can present to EAA's management or its directors that would be helpful to the Chapters, I would appreciate receiving them.

Our best to you and to your fine Chapter.

Sincerely

Paul Poberezny
Chairman and Founder

As we said at the November meeting, the invitation is there to weigh in with our ideas. Use the standard EAA address following Paul's name. Your chapter officers would appreciate a copy of your letter. (Editor's note: This is for, Dave and Miriam!)

News From Around the Patch

Christmas Banquet Tickets

GREETINGS!
Just a friendly reminder about tickets for the Christmas Banquet on 13 Dec 03. The tickets are $15 per person and the dinner is a choice of Yellow Fin Tuna or Prime Rib. Just let me know by email, regular mail, phone or at November's meeting what you want to eat, the number of tickets you want and a check for the tickets. I will send out your tickets when I receive the money. Hope to see you all there.
Don't wait. December is just a month away. Tickets are going fast.

Happy Holidays.
Lee Ann Carlson
210-545-2376
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Welcome New Members

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H Phone: 210.494.7194
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Thank You!

It has been a genuine privilege to serve as your chapter president, and now I want to thank all of you who have been so very supportive. Chapter 35 is blessed with a great many quality volunteers, and my hat is off to each one.

Norris Warner

Membership Renewals

By Joanne Warner

New data sheets will be mailed out in January 2004 for all of you who have not yet renewed. Again, I am asking that you fill out these data sheets in full. Remember this is a VOLUNTEER job and in order for me to try to keep information current I color code data sheets each year (this shows at a glance who has renewed) – many times information has changed—e-mail addresses, fax/cell phone additions/deletion; planes added/dropped; certs/skills added/dropped; phone numbers changed/added/deleted etc.. So please help make my volunteer job easier by taking what amounts to less than a minute (for you) to fill out these sheets

Included in this edition of Runway 35 is your 2004 chapter membership application. Each member is required to fill this form out—legibly PLEASE—and return it with your $18.00 check (made out to EAA Chapter 35) to Joanne Warner, Treasurer, 719 Oak Hills Road, Pipe Creek, TX 78063.

P.S. I won't be accepting membership renewals at the Christmas Party. (Too many distractions and nowhere to fill out the forms)

World Aviation News

Rio De Janeiro Brazil - (November 20, 2003) American born Jennifer Murray is attempting to become the first woman to circumnavigate the globe in a helicopter via the North and South poles. She stopped over in Rio De Janeiro after completing about 20% of her journey which started in New York on October 22, 2003.

Murray and co-pilot Colin Bodill hope to reach the South Pole by December 17, 2003 to commemorate the Wright Brothers Centennial. They have arranged to have barrels of fuel and supplies dropped off at key waypoints along the way. They also have a search and rescue team on standby, in case of an emergency. Still it's a relatively risky undertaking, they will have to combat high winds, snow and ice, and will be forced to fly at high altitudes over the south pole. Helicopters don't do well at high altitudes and there are some that think it's an impossible mission.

63 year old Murray holds two other world aviation records. In 1997 she became the first woman to circumnavigate the globe in a helicopter and in 2000 she became the first woman to circumnavigate the globe in a helicopter, solo. kgn

...News From Around the Patch...EAA 35 Style

NEW OFFICERS FOR 2004 – 2005

At the November meeting the membership elected the following individuals to guide our Chapter for the next two years: President, Steve Carlson; Vice President, Dave Baker; Secretary, Lee Ann Carlson; Treasurer, Joanne Warner.

Lee Ann pointed out that the by laws indicated the Secretary must listen carefully to the President and take notes. She wasn't sure she could do that. It was pointed out that since she told him what to do in the first place it didn't matter what he said. Dave Baker attempted to get nominations from the floor for the position of VP, but when he saw the futility of his effort promised a "chicken in every pot". Steve remained silent (probably he had been told to do so) and Joanne, calm as ever, merely smiled.

With our new officers encumbered with the proper attitude we should have some great leadership for the next two years. Thanks for your willingness to serve the Chapter.

A big "thank you" is due to those who have served for the last two years for their efforts. Under the leadership of Norris Warner (and largely through his hands on efforts) our Chapter has prospered as never before. Thanks Norris and to all the others who served as officers, events chairmen and women, volunteers and on the Board of Directors. Special thanks go to the members. Without your continuing support our Chapter would not continue to grow and flourish.

We look forward to working with our new officers in 2004 – 2005.

Don Staats

GHOSTS OF CHRISTMAS PAST

I seem to spend more time dwelling in the past, especially on festive occasions. I remember relatives and friends from those events that are no longer with me. Its sad in a way, but also good that I retain such fond memories and thoughts. Our Chapter Christmas party is one such event. I look forward to it each year and although the food is important I just want to be there to share the evening with others.

One of my first Christmas meetings was at the Circle K Steakhouse in Cibolo. The late Mack Kardys was VP then and arranged it. The food was good and we were all crowded into a back room where noise and laughter rang out the entire evening. Other sites included Captain Jack's Steak Loft in Helotes, arranged by George Waterman, a restaurant on loop 410 that is now a Chinese buffet, a clubhouse in a development where Ruth and Jim Herron lived and for a few years a room somewhere on St. Mary's campus. These events were pot luck suppers and BYOB (and most of us did).

The pot lucks continued until some of the ladies in the Chapter said enough! We are doing too much work to enjoy the occasion. We started catering after that and it seems to work out. We've had Bill Millers and several others including the great turkey dinners from Bandera, thanks to Norris.

Several years ago Linda Campbell started the gift exchange. Some years they are funnier than others. Dave Baker has brought a sense of fun and joy to the event and I look forward to his comments every year.

I think we have really hit a high mark in these last several years on the food. Thanks to Skip Barchfeld we get a great price from Bill & Rosa's and the food is something less common than most blue plate specials. Some years it is better than others but it is always good. I am looking forward to many more years eating food prepared by Bill and Rosa's and I stop at their place every time I drive through D'Hannis.

As I said, it's not the food that brings me, it's the company. At Christmas we share ourselves with our families. For those of us with small families our dinners at home are happy, but there is not the crowd around that we remember from Grandmother's time. For that kind of crowd and that kind of celebration I come to our Chapter gathering. After all aren't we family?

Don Staats

...News From Around the Patch...EAA 35 Style

Adrenalin Rush

By Hal Stanford

I grew up flying with my father and uncles in assorted Cessnas and Pipers but when my brother-in-law bought an American Yankee, I was in for a new type of plane and pilot. Weldon Griffin married my sister when I was just barely five years old. Over the years I slowly learned more about this man of few words. I found out that when he was a member of "The Gear Grinders" car club, his nickname was Tarzan! This let me know that there was a little James Dean under that Vic Damon exterior!

I was busy zig zagging my way through the sink holes and flash floods of adolescence, when Weldon asked me to fly with him to Eagle Pass where he had a job installing a video security system for a small business there. We took off late that morning from Southside Air Park and headed due west. About 50 miles outside of San Antonio, we were flying over some pretty desolate countryside and—out of the blue--Weldon asked me if I had ever done any acrobatics.

Saying this to a boy who thought the roller coaster at "Kiddie Park" was exciting, caused my stomach to do a quick flip flop. I tried to act confident as I replied, no. He then said that we were going to do a couple of simple stalls. I was just happy that the words loop or spin weren't used! He told me that we would do a power on stall at which point he pulled the yoke back and the wide orange nose filled the sky. After some long seconds the right wing tip (on my side) went through kind of a shiver, and a loud stall warning indicator went off in the tight little cockpit. I watched his actions closely as he pushed the yoke forward and the ground quickly was in full view and getting closer! What seemed like a minute passed and he pulled us out of the dive, leveling out under the puffy white clouds of S. W. Texas. I looked over at Weldon and gave him a little smile of reassurance that I had been alright with that level of chaos. Next he said we would do a power off stall. Any new found confidence didn't last too long as Weldon repeated the earlier procedures, but at the peak of our nose up attitude, he turned the engine off!! The sight of the prop standing dead still in front of me is a sight that I don't think I'll ever forget. Again, the shudder then the stall warning, then heading for the ground when Weldon casually reached over and turned on the ignition key. I remember thinking to myself, hurry!

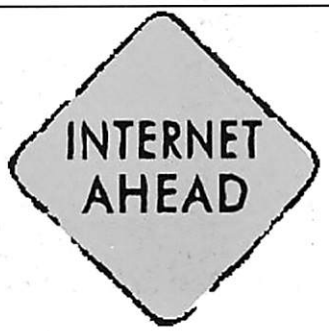
We pulled out and were again heading for the border. Weldon asked me what I had thought about the stalls. I told him that it had been interesting. Interesting in that I learned more about flying that day, more about my brother-in-law and ultimately more about myself. I wasn't the cocky self assured teen that I tried to portray. I was just a young man who liked flying among the clouds in a safe airplane with a competent pilot. I know that some of you reading this story don't find practicing stall procedures very exciting, but remember the glee and wonder on the faces of the little kids on the "Kiddie Park" roller coaster. That was me, Hal Stanford, now a proud member of EAA Chapter 35.

Power Computer Tips

The Wild West

I have a sort of love/hate relationship with the Internet. While I love to surf for news from around the world and listen to the BBC, I hate the lawlessness of the Internet. The Internet today is kind of like the Bell Phone System was in the 1950's, when party lines were common and your neighbor could listen in on your phone calls. The following are some suggestions based on years of experience, I would even call them the 10 Commandments for protecting your computer, your hard work and your privacy on the Internet. They say that knowledge is power. These tips will help you to surf the net worry free, and I hope they will empower you to work and compute with confidence

1. **Back up your hard drive on CD's**. If you ever get a virus or a Trojan that you can't identify or remove, you will need to format your hard drive and reinstall all your software. With lost updates and activations this process can take days. Now you can backup your entire hard drive with drive image software. I recommend **True Image**, or **Drive Image**. You can restore your system in a couple of hours, instead of days, with all your software, updates and activations intact.



2. **Install and update your firewall. Try Norton Personal Firewall 2004**.The good thing about Norton's software is that they do such a great job at improving and updating it. Always upgrade to the latest version.

3. **Install and update your anti-virus software**. I recommend **Norton Anti-Virus 2004**. Always get the latest and the best.

4. **Keep your Windows Operating System updated**. Windows is the most exploited OS in the world, and MS only addresses the critical exploits, not all the exploits.
(continued page18)

Safety Corner

By Bill Czervinske

SAFETY OF FLIGHT –THE FAA'S FLIGHT SERVICE STATION FUNCTIONS

PART THREE

IFR FLIGHT PLANS, EFAS, DVFR, CUSTOMS, SPECIAL FLIGHT SERVICES AND SARS

In the first two parts of the series, we discussed weather briefings, NOTAMs, and VFR flight plans, among other items. In this last part we will discuss the IFR flight planning function and other services that are provided by the FAA's Flight Service Stations (AFSS/FSS). *Note: from here on, the AFSS/FSS will be referred to as one in the same.)

IFR flight plans

What does the regulations say: Prior to departure from within, or prior to entering controlled airspace, a pilot must submit a complete flight plan and receive an air traffic clearance, if weather conditions are below VFR minimums. Instrument flight plans should be submitted to the nearest AFSS or ATC facility in person or by telephone (or by radio if no other means are available.

You should note prior to departure, that means give yourself enough time from the filing for processing the flight plan through the ATC system. Most ATC facilities will refer a pilot wishing to file an IFR flight plan to file their request to the nearest AFSS or to the controlling ARTCC (Center). Why? Due to the fact that the regulations call for them to take a complete flight plan and then file it with the AFSS, ATC facilities would rather you call them direct. If you are requesting a local area clearance, perhaps a tower will issue you a local clearance within their area of control, however, if you will be proceeding to a destination out side of their area of jurisdiction they would prefer a pilot to file with the AFSS. In any case don't expect to file a flight plan with the AFSS, jump into your aircraft and make your request for a clearance. Give yourself at least a 30 minute leeway if at all possible. It may save you precious fuel burned while you are waiting for a clearance to be routed and delivered.

IFR flight plan contents

An IFR flight plan is similar to VFR flight plan filing, except for additional information required, such as: is the aircraft TCAS equipped, if so what kind, RNAV/GPS capabilities, appropriate suffix designations, airways/jet routes/direct routes/coordinates/fixes to be utilized for the flight, and an alternate airport if required and a request (ADCUS) for advising customs. Some flight plan areas require utilization of an IFSS (International) to transit certain flight areas. (Remember it is always the pilot's responsibility for Custom notifications and arrangements, even though a Advise Customs request has been indicated in the flight plan. The same is true when flying IFR in other countries, although ICAO has some similar standards, don't always expect the same service or procedures. If you don't understand control instructions as for a repeat, better yet get a briefing prior to leaving the U.S. from pilots familiar with your destination country's procedures and uniqueness.

Changes in the route of flight, destinations or departure times

Try to plan ahead and minimize any changes in your IFR flight plan, but if you must, give yourself plenty of time to make the changes in the flight plan system. Never wait until the last minute to make a change and air filing for a clearance. Delays and available airspace may not allow ATC to assign you an IFR clearance at the last minute, especially close to busy terminal areas or in high density airspace. If filing a clearance off of a satellite airport with an RCO (remote controlled outlet) you may be asked when you will be ready to depart. If you are at the end of the runway and ready to go that is one thing, however, if you are still on the ramp, shut down, passengers to load, etc., be sure to advise them of your best estimate for departure. Many times you will be given a window for departure (release time), with a void time of the clearance if you are not off at that time. The ATC facility will provide you with a time check and a VIFNO time (clearance void if not off by), or possibly a hold for release (which means just that hold -- don't go).

If you need to depart VFR in the local area to pick up your clearance you will be given a point to enter controlled airspace. A departure heading will not be provided in those cases and pilot should refer to their Instrument Departure procedures contained in the A/Ls.

This is normally the procedures required in mountainous or sparsely populated areas, where communications, navigation capability and radar availability are limited or not available, until reaching a certain altitude or location.

Composite IFR/VFR flight plans

One more time, it is the pilot's responsibility to advise ATC when canceling IFR and also to close (continued pg, 15) a VFR flight plan. Remember to give yourself some time

To RV or not to RV

By Don Staats

Without a doubt the RV series is one of the most popular designs to ever come down the homebuilder's pike. In all its offerings it produces at both ends of the spectrum. It goes fast and lands relatively slow. What more could one ask? The real question is whether or not to build one. Assuming you have made the decision to build, should you build an RV?

I have a friend who is going through the agony of decision on this very question. About once a month we go up to Chuck Imken's in San Marcos and see his progress. It is always impressive, both in quantity produced and in quality of product. On the ride back to New Braunfels I can look in the passenger seat and see my friend imagining that he is flying his own RV. He prefers the RV-9A with the possibility of a 150 engine and a basic IFR panel.

He is getting a little more sweaty over the idea since it has been approved by his boss (spelled w-i-f-e). That solves at least 95 percent of the decision/problem process. Now he has to decide whether or not to order the empennage kit and start hammering rivets and go on from there.

I learned long ago never to discourage anyone on their ideas about building. Having unsuccessfully tried it a couple of times I know what they are going through. It is a lot of fun to speculate about the design, its performance, your presence in the cockpit, the color scheme, trips to distant lands etc. It would be extremely unkind to rain on that parade.

Lets be practical for a moment. Years ago the Pitts Special was the flavor of the month. When they came out with four ailerons and 180 hp everyone in the chapter wanted to build one. First reality check! I was having trouble landing a Champ and the thought of turning an airplane upside down left me with the further thought of turning it back to right side up. In other words, it was more plane than I could handle, or needed. Right then I needed to master my Champ. For that matter most of the builders of the 4 Aileron Pitts couldn't fly them anywhere near their limit. Do you really need more airplane than you can reasonably fly?

Over the years I have come to realize the kind of flying I do does not require much sophistication. Most of my cross country flights are under 300 miles with the occasional trip of 1,000 miles or so. About 18 months ago I left here early one morning for Urbana, Illinois, spent better than an hour at lunch and landed about 5:00 pm. Average speed about 125 mph. Average altitude about 3500 feet. Average leg about 2 to 2 ½ hours. Met a lot of ramp workers, watched a guy mowing the grass at the airport in Fredericktown MO, got a little excited about cruising slightly above the Razorback Mountains etc. I dodged a little rain to the east of St. Louis and flew under a low cloud layer into Urbana. A few days later I flew from there to Odessa and after a few days there I returned home. Aircraft used: Piper Pacer with an 150 hp Lycoming. Instruments included an Apollo Loran (no data base) and a K-Mart GPS (again no data base) My radio is a Narco with flip-flop. My transponder is also Narco, an AT 150. Never landed at a controlled airport. I have the plane that suits my flying desires and capabilities. If I were to go the RV route I would emulate Bob Cabe with a daylight VFR, lower powered version.

Back to my buddy. He has all the ratings and is an instructor. Moreover, he spends some of his time transitioning pilots who buy new Mooneys. He would be very comfortable in a complex aircraft and in instrument flying. So the question of building an RV does not get sidetracked based on the level of flying that my friend does.

That leaves consideration of time and cost vs. practical use. He can afford to build the RV-9A outfitted as described earlier. The quick build kit runs $24,000, the engine about $19,000 plus prop, Basic IFR maybe $10,000, painting $5,000, tools about $2,500 etc. Instruments, upholstery, unforeseen stuff and on and on and you total out somewhere around $70,000. Is it worth it? Yes, every penny when you consider the quality and performance of the RV series vs. the store bought stuff. As far as time goes, my friend works more than part time so would need a lot of determination and a reordering of some of his current priorities and projects. Here again you need an understanding spouse.

Is it practical? There are other designs that will put you around the pattern and on a few trips quite nicely. For example consider the Zenith Zodiac XL or for fun some of the RANS designs. You can probably think of others as well that can be built for a lot less than $70K. Go talk to Julius Junge and you can build for a whole lot less, but that is another category entirely. (continued on page 16)

One Million Young Eagles Flown!

Grant and his family, along with Ellis, have been invited to Kitty Hawk, N.C., next month to attend EAA's Countdown to Kitty Hawk, presented by Ford Motor Company, the official ceremony celebrating 100 years of powered flight. During the Dec. 17 festivities, Grant will fly with Gen. Chuck Yeager, the first person to fly faster than the speed of sound and Chairman of the Young Eagles Program since 1994. This flight will formally recognize the 1 million Young Eagles and all the volunteer pilots who participated in the program.

"It's really a big deal and I'm getting kind of nervous about it," Grant said about that upcoming flight with Gen. Yeager.

Ellis has flown Young Eagles every year since obtaining his Private Pilot's certificate eight years ago. Interestingly, his first meaningful flight experience as a teenager was at the annual EAA fly-in convention in the 1960s, then held at Rockford, Ill. Ellis flew in the open-air cockpit Breezy with EAA member Carl Unger. That airplane is currently on display at the EAA AirVenture Museum.

"I'm sure the Wright brothers had much greater vision than what we give them credit for, but even they couldn't realize how much impact their achievement would have," Ellis said. "To celebrate the 100th anniversary of flight and to do it where the Wrights had the first successful flights is going to be awesome."

The Young Eagles Program was created in 1992 after EAA members indicated that one of the most important initiatives should be introducing young people to aviation. The initial Young Eagles flights took place during the 1992 EAA fly-in convention in Oshkosh, piloted by Poberezny and Academy Award-winning actor Cliff Robertson, who was the first Honorary Chairman of the program. Poberezny's daughter, Lesley, was the first Young Eagle registered.

The program has maintained its popularity in part because of its simplicity. A pilot and each Young Eagle conduct a preflight check of an airplane, focusing on how the airplane works and how pilots prepare to fly safely. They then board the aircraft and take a brief (usually 15-20 minute) flight, where young people can discover more about the aircraft and the unique perspective from the sky. Following the flight, each Young Eagle receives a certificate signed by the pilot and Gen. Yeager, and also has his or her name entered in the "World's Largest Logbook," which is on permanent display at the EAA AirVenture Museum and through the www.youngeagles.org web site.

Since those first flights in 1992, Young Eagles flights have taken place on every continent except Antarctica and in aircraft ranging from business jets to blimps. Each year, EAA receives numerous reports of young people who have been inspired to pursue aviation as a career or as recreation because of their Young Eagles flights. Many of those early Young Eagles are now flying Young Eagles as well. Every major university aviation program and all U.S. military academies also have current students who were inspired by a Young Eagles flight.

In addition, the Young Eagles Program has reached many underprivileged young people throughout the country, such as inner-city youth and those living on tribal reservations or in remote areas. Young Eagles has also offered the wonder of flight to thousands of disabled youngsters and Special Olympians over the past 11 years.

"As we said when we introduced the program in 1992, the Young Eagles Program is planting seeds for the future of aviation," Poberezny said. "Some of those seeds sprout immediately, while others may not blossom for 10 or 20 years. This program is vitally important because it is the base for aviation's future. It makes a difference for aviation and especially for the young people who are touched by it. Those of us who have participated in it have found that we receive much more in return than what we give to the effort."

Poberezny also emphasized that the Young Eagles Program will continue after the Dec. 17 festivities. The program has become a major activity for EAA Chapters and at local airports. In the future, the program will offer additional resources for young people who are interested in discovering more about flight.

The Young Eagles Program was assisted by an initial endowment in 1992 from SC Johnson Wax. The program's overall sponsor is Jaguar Cars, with significant additional support from Phillips 66 and numerous other companies.

For more information on this exciting accomplishment go to the EAA website at: www.eaa.org

(Reprinted From EAA e-Gram From Brenda Anderson)

Scenes From the Meeting

by Lee Carlson

The meeting of 08 November was unique particularly for one reason. The Talleys weren't there! This means Scenes from the Meeting is being written by cheap imitation stand ins. Bear with us as we try to approach Miriam's work.

The meeting was preceded by a great rendition of German cookery by none other than Jeorg Thees and honorary German Bob Edwards with considerable help from Linda Edwards. This gang put together a fantastic feast of kraut and sausage; memorable long after the kitchen was cleaned.

Norris called the assembly to order with announcements of coming events. Brad filled us in on the Explorer Scout Aviation Merit Badge program on 15 November and the Boys Club Young Eagles event on 6 December.

John Latour introduced the visitors and I made some mention of the 17 December Grey Eagles event starting at 10 am and going, as per usual, until nobody wants to fly anymore. This will be a fun, easy, fly event for any chapter member that wants to fly or ride along. It's a Wednesday. Can you think of a better excuse to play hookie?

Norris had a letter from Paul Poberezny in which Paul praised our resident author Dave Talley for his "News from Around the Patch". This kind of "Who's doing what and where" reporting is one key to why our newsletter is the award winner that it has become. Keep it up, Dave.

The Warren High School plane building project is in need of more volunteers. If you can help, let Norris know.

Bob Cabe, safety advocate, had some good words for showing off good flying skills while showing off good safety habits at the same time. He related some events from Reklaw where the flyers showed good judgment in performing aerobatics well away from the pattern, but still in view of the crowd.

We welcomed Kris Kilmer back from the war. Kris was in Iraq with the 332nd Expeditionary Air Wing, which is a C-130 rescue squadron responsible for fast response to downed airmen and aerial refueling of the Blackhawk helicopters. Thanks, Kris and we're glad you're home safe.

Don Staats presented the slate of chapter officers for the next two years. As there were no nominations from the floor, the assembly voted for the slate as presented. I have no idea who won the election, but these are your officers:
President, Steve Carlson
Vice President, Dave Baker
Treasurer, Joanne Warner
Secretary, Lee Ann Carlson

The best part of our gathering, of course, was the program. I know, some of you only come for the food, and, personally, I come for homebuilder's corner, but the program is the thing and Deck Yoes did a great job of illuminating the dangerous task of Carrier Operations. Deck was on the Yorktown, an Essex class carrier as a cryptographer. He had a great deal of background knowledge of the development of carrier operations from recips through jets, from hydraulic cats to steam, from 15 wires to 4. He had a great story of exercises off the China coast where the US Navy launched the entire squadron toward the coast to get the Chinese to scramble to meet us and light up their radars to detect us, all to provide an opportunity for one lone recon to fly the coast and document the Chinese defensive capability. This was an excellent program that obviously took a lot of work to prepare and it showed.

Young Eagles and the Boy Scouts

Our Young Eagle events are still going strong with seventeen scouts earning their aviation merit badge in November and a final event planned for December.

Seventeen scouts and six scout leaders arrived at San Geronimo in the early evening of Friday, November 14th. Once the scouts arrived they put up their tents and began working on their aviation merit badge. We divided the scouts up into three groups with Norris providing information on aircraft past and present, engine operation, and job opportunities in aviation. Jim Havens brought over the L-Bird and showed another group of scouts how an airfoil generates lift, the control surfaces used for level flights and turns, and how to pre-flight an airplane. I took the third group and explained how to read an aeronautical chart along with plotting a course and correcting for winds. By 9:00 p.m. all the scouts had gone through the three groups. Rain did postpone the final group's aircraft orientation to the next day, as Jim had to put the L-Bird back into the hangar. The scouts then ate dinner and turned in for the night.

Saturday started out with an orientation of the San Geronimo airport and runway markings while waiting for the ceiling to rise. We managed to start flying Young Eagles at around 10:30
(cont. pg. 16)

Fuel Choice Doomed Shuttle

by Julius Braun

(Editors Note: Julius Braun, longtime EAA Chapter 35 member, retired from the U.S. Army as a Brigadier General following 36 years of service. During that time, he conducted extensive work in research and development of missiles and rockets, working at one point with rocketry pioneer Wernher von Braun. His remarks that follow first appeared in the Express News on April 27, 1985, following the Challenger tragedy).

The blame-fixing congressional and select-committee hearings aimed at finding a suitable scapegoat to publicly castigate for the space shuttle Challenger's unfortunate tragedy are probing in the wrong place.

There may have been faulty booster seal designs, a flawed decision tree and undue political pressure to meet a tight launch schedule. However, the true roots of the disaster go back 15 years when a very basic choice was made by non-technical legislators who mandated that NASA use large, unproven solid propellant rockets as first-stage boosters instead of tried and proven liquid propellant rockets.

Prior to the shuttle, manned space vehicles and their booster rockets could only be used for one mission. The spacecraft were usually damaged beyond repair on returning to earth and the boosters were destroyed when they fell back. Original shuttle proposals envisioned a winged, liquid-propellant, rocket powered, reusable booster about the size of a Boeing 747. It would glide to a landing after the shuttle was separated from the booster. Estimates of the cost to develop such a large liquid booster were almost as great as those for the cost for the shuttle.

Large solid-propellant booster rockets were then proposed as a cheaper solution. It was felt the program costs were increasing beyond the amount that Congress would allocate. These proposed solid boosters were to be reusable. After the propellant was consumed and the boosters separated from the shuttle, they were to be parachuted into the ocean, recovered, refurbished, reloaded and used again.

Numerous arguments were presented to influence the choice of a booster system. There were honest differences of technical judgment as to the relative merits of the two types of propellants.

The greatest support for recoverable liquid-propellant rockets was from the Wernher von Braun team at Marshall Space Flight Center in Huntsville, Ala., a team that was obsessed with reliability and safety above all for man-carrying space vehicles. They went on record in unanimous opposition to any system that couldn't undergo the intense and repetitive ground testing they felt was required before a flight system could be certified as safe for use in manned flight.

On the other hand, support for incorporating extremely large solid-propellant rocket boosters came from many quarters, primarily from an expanding and hungry solid-rocket industry that saw the shuttle as a choice opportunity to break into the manned space program. An intense lobbying campaign was mounted to convince decision makers

Fuel Choice Doomed Shuttle [continued]

by Julius Braun

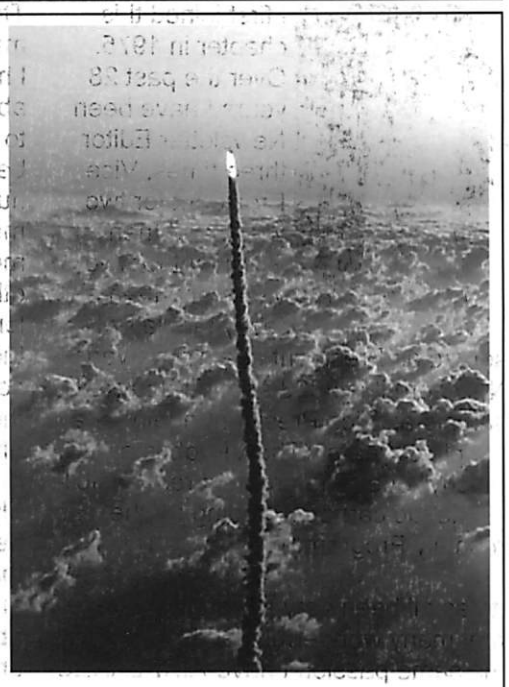
that solid rockets should be used.

Once the arguments for solids over liquids began to coalesce, systems analysis studies were conducted to prove that large solid rockets were more economical than liquids. As a basic assumption, most studies were anchored on an unrealistic 60 shuttle launches per year by 1986. Forecasts of development and operational problems with solid rockets were restated by the Huntsville advocates of liquids (who had gone through all this before) but were brushed aside as having little consequence in the overall decision-making process. Solid-rocket advocates claimed that the nation could not afford a large recoverable liquid-propellant booster development program. The decision went to the solids.

This is not to say that large solid rockets don't have their place. They are well-suited for certain military applications where response time can be critical. They are somewhat simpler and smaller than liquids but trade that off in greater demands on the rest of the vehicle system, especially in such items as precise control of thrust, lower efficiency, burning termination, excessive vibration, a mandatory uniform and benign prelaunch environment, plus other negatives.

The solid-propellant Minuteman and Poseidon missiles are stored under closely controlled temperature and humidity conditions. When handled and operated out in the open, as are the shuttle boosters, things can and do go wrong.

An overriding advantage of liquid over solid systems is that flight propulsion systems can be certified as satisfactory before flight. The shuttle's solid boosters are literally built up from sub-assemblies just prior to use. Their first hot run is always an actual launch. And once ignited they can't be shut off except by venting or by being blown open with explosive charges. Even that only diminishes thrust; burning continues to propellant exhaustion. Motors identical to those used in a shuttle launch are test-run lying horizontally. The fully loaded boosters are rarely static-tested upright in an actual launch posture, with their more than one million pounds of hard-rubber propellant flexing and sagging downwards. The internal stresses among the four separate segments of fuel that make up the total propellant charge almost guarantee erratic burning and local hot spots.



The large solids are adequate, but far from optimum, methods of augmenting the liquid propellant engine thrust of unmanned launch vehicles such as the Titan III and Thor Delta, where safety is secondary to payload-lifting ability. However, with their inherent deficiencies, they have no place in manned flight.

The probability of another catastrophic failure of the shuttle's solid boosters as they are presently designed is built into them. They may operate successfully for another 24 launches, but once again the potential failure modes will fall into place and another disaster appears inevitable. A totally new solid motor design using a single-piece rocket body might eliminate the fault-prone sealed joints but would still have all the other limitations of the present solid-propellant motors.

Let's re-examine liquid-propellant boosters for the shuttle, then using proven technology, build them under an accelerated schedule and get the program back on course.

Safety Corner [continued]

By Bill Czervinske

when a need exists to transfer from a VFR flight plan to and IFR flight plan (always have a secondary plan in mind, just in case your flight plan wasn't forwarded in time or not received by ATC.)

High Density Airports/Areas, Preferred routes, STARS, SIDS, and Flow Control

All of the above must be considered when operating into high density areas. ATC will normally assign you a preferred route (their preferred route from one point to another) and it may not be the way you filed. Be prepared for changes, if you cannot accept the routing, limitations, etc., advise the ATC facility when they deliver your clearance, or if you didn't understand or fully copy the clearance issued ask them for a repeat. If you are in an unfamiliar area/location a suggestion might be to ask a local FBO or ATC facility for some assistance prior to filing a flight plan or certainly before starting the aircraft. Once you are airborne you will be too busy to be looking for locations along a route you are unfamiliar with. Nothing like creating another distraction for yourself.

Be prepared for departure delays, particularly if weather is predominant along the route and destinations within the Center's area of responsibility. If a lengthy departure delay is to be encountered then plan your fuel accordingly. You should also expect other unforeseen delays at the arrival destination if a large airport.

The phrase "Cleared as filed' does not always mean "cleared as you may have indicated in your flight plan, but may include exceptions to allow for ATC preferred departure routings, SID (standard instrument departure), or in some cases a STAR (standard terminal arrival route) at the destination airport procedure or altitudes. Unless you specify otherwise, SIDs and STARs applications will be considered as part of your flight planning.

Departure Times

If you are departing a controlled airport you do not have to activate an IFR flight plan. When you depart an airport with an AFSS then you most likely will be told what frequency to contact the controlling facility (ARTCC or Tower). If you are in a remote area where a controlling facility does not have a communications outlet, you may be asked to contact the AFSS who delivered your clearance. Many ATC facilities now have remote outlets that allow you to contact them direct for delivering clearances and other information required.

A few of the local San Antonio ATC facility RCO's are: BAZ/SAT – 134.75, PEZ/SAT – 126.35, SSF/SAT (when the tower is closed) 121.7 and ERV/HOU ARTCC – 124.2. Of course, the AFSS frequency locally is normally 122.2, 122.3 or transmit 122.1 and receive the VOR frequency (just let them know which VOR you are listening on).

(Your arrival at your IFR destination will be automatically cancelled by the ATC facility you are working, unless you cancel with ATC prior to landing. You may be told to advise XYZ AFSS location on a certain frequency or ARTCC outlet when you have landed, or canceling IFR. Remember the cancellation advisory or landing requirement call to ATC is your responsibility.)

Other Services Provided by AFSSs

En Route Flight Advisory Service

EFAS is a service specifically designed to provide en route aircraft with timely and meaningful weather advisories pertinent to the type of flight intended, route of flight and altitude. In addition, with this service EFAS is also a central collection and distribution point for pilot reported weather information. You can contact Flight Watch by using the name of the ARTCC facility identification serving the area of your location, followed by your aircraft ID and the name of the nearest VOR to your position. This function is not intended to be utilized for filing or closing flight plans, position reporting, getting complete preflight briefings, or obtaining random weather reports and forecasts. (As a reminder the NWS has in flight weather conditions/forecast capabilities in all ARTCCs.)

SIGMETs, Convective SIGMETs bulletins, and other hazardous or dangerous weather advisories are also distributed and transmitted by all ATC facilities as received in a timely manner.

Hazardous Area reporting service

Selected AFSS provide flight monitoring where regularly traveled VFR routes cross large bodies of water, swamps and mountains. This service is provided for the purpose of expeditiously alerting Search and Rescue facilities when required. Such service is provided for: Long Island Sound, Block Island, Lake reporting Service (Great Lakes area), Everglades reporting service, and several mountainous areas in the Western part of the U.S. With the advent of technology, better communications and radar coverage, many pilots that are flying VFR utilize the services of an ARTCC or other radar ATC facilities for radar flight following. Remember that an ATC facility's first priority is to IFR aircraft and traffic volume, therefore, VFR radar advisories

Safety Corner (continued)

By Bill Czervinske

may not always be available when requested or may be terminated by the controller if traffic dictates.

Airport Advisory Service

Some airports without an air traffic control tower, but with an AFSS on the airport provides a local airport advisory service (LAA). Remember this is only information provided on known traffic and unverified reports of the aircraft utilizing the service. (AFSS Specialist, normally, does not even have a visual reference to the airport or traffic pattern.) This service is similar to a CTAF or UNICOM, except the AFSS is providing you with known information of traffic in the area.

Emergency Procedures

The AFSSs can provide emergency VOR orientation to pilots and in some location DF assistance. Emergency airport information and other such data that may be available.

Search and Rescue

FSSs play an important part in the SARS process. They perform notifications to airport operators and local law enforcement agencies in the event of overdue or missing aircraft searches, e.g.: ramp checks, coordination with ATC facilities, ARTCCs, military organizations, and CAP. Flight plan information plays a very important part in expediting SARS efforts. Your flight plan and it's information is great, cheap insurance.

Conclusion and Outlook

The AFSSs/FSSs personnel, facilities and services have played an important part in providing needed information and assistance to pilots, both VFR and IFR over the years.

Technology, service providers, other FAA ATC facilities capabilities, and funding issues have over shadowed the future of the AFSS/FSS concept in aviation. We have come along way from low frequency ranges, lighted beacons and bonfires, into the era of high technology, satellites, radar, etc., with the high cost of operations and funding issues already a problem for the FAA, the AFSS/FSS concept is in question and serious doubt.

I'm sure that all the areas of information were not fully covered, but I tried to cover what I thought were the important or pertinent parts. I hope that the above information and that contained in the other two parts of the series have been beneficial and provided enough information for you to probe further into the AFSS/FSS functions, services available, and how to utilize them. It is suggested that you ask questions, read the AIM, call your AFSS/FSS, or better yet, if able, go visit the facility and learn first hand.

Have a safe flight.

William L. Czervinske

Aviation Safety Counselor

San Antonio, TX

To RV or not to RV (continued)

Again, is it practical? Ask the same question of a golfer, a hunter, a fisherman. If we did everything that was practical we wouldn't be considering the question at all. Is it the thing to do if you have answered yes to the questions I have posed or implied? As with the golfer or the purchaser of a new SUV we ignore practicality.

I really don't know how it will turn out with my friend. He may very well decide to build the 9A. For me, however, its best to stick to the Pacer and things simpler. Sometimes though, I think back on the ride I had in Bob Cabe's RV-6 and dream a little. What about you?

Young Eagles and Boy Scouts (continued)

a.m. and had everyone flown by around noon. We had three pilots including Jim McIrvin in his Cessna 195, Bob Cabe in Dave Baker's Sundowner, and myself in Ed's Tri-Pacer. Jim was even nice enough to provide the adult scout leaders with a flight. All the scouts earned their aviation merit badge and everyone had a great time.

We still have one more Young Eagles event to be held on Saturday, December 6th. We will be flying a group of about twenty kids from the Boys and Girls Club beginning at 10:00 a.m. I think that with about four or five planes flying we will be able to fly all of the Young Eagles in a couple of hours and be done by lunch time.

Our total count for the year stands at 364 Young Eagles and we are not quite done yet. This year we had a total of twenty pilots from our chapter flying Young Eagles, the most ever. Of course we had almost forty volunteers donate their time to ensure all of our events were completed safely and successfully. With our chapter's help the national total for Young Eagles surpassed the 1,000,000 mark and now stands at 1,010,608. Thanks to everyone who helped make this year such a success. Have a Merry Christmas and a Happy New Year.

Brad Doppelt

NASA Successfully Tests Ion Engine

NASA's Project Prometheus recently reached an important milestone with the first successful test of an engine that could lead to revolutionary propulsion capabilities for space exploration missions throughout the solar system and beyond.

The test involved a High Power Electric Propulsion (HiPEP) ion engine using commercial utility electrical power. The event marked the first in a series of performance tests to demonstrate new high-velocity and high-power thrust needed for use in nuclear electric propulsion (NEP) applications.

"The initial test went extremely well," said Dr. John Foster, the primary investigator of the HiPEP ion engine at NASA's Glenn Research Center (GRC), Cleveland. "The test involved the largest microwave ion thruster ever built. The use of microwaves for ionization would enable very long-life thrusters for probing the universe," he said.

The test was conducted in a vacuum chamber at GRC. The HiPEP ion engine was operated at power levels up to 12 kilowatts and over an equivalent range of exhaust velocities from 60,000 to 80,000 meters per second. The thruster is being designed to provide seven-to-ten-year lifetimes at high fuel efficiencies of more than 6,000-seconds specific impulse; a measure of how much thrust is generated per kilogram of fuel. This is a contrast to a standard chemical rocket, which has a specific impulse on the order of 300-400 seconds.

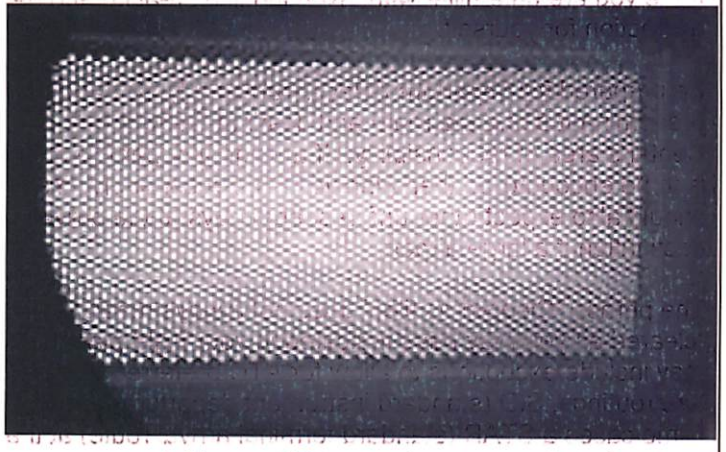
The HiPEP thruster operates by ionizing xenon gas with microwaves. At the rear of the engine is a pair of rectangular metal grids that are charged with 6,000 volts of electric potential. The force of this electric field exerts a strong electrostatic pull on the xenon ions, accelerating them and producing the thrust that propels the spacecraft.

The rectangular shape, a departure from the cylindrical ion thrusters used before, was designed to allow for an increase in engine power and performance by means of stretching the engine. The use of microwaves should provide much longer life and ion-production capability compared to current state-of-the-art technologies.

This new class of NEP thrusters will offer substantial performance advantages over the ion engine flown on Deep Space 1 in 1999. Overall improvements include up to a factor of 10 or more in power; a factor of two to three in fuel efficiency; a factor of four to five in grid voltage; a factor of five to eight in thruster lifetime; and a 30 percent improvement in overall thruster efficiency. GRC engineers will continue testing and development of this particular thruster model, culminating in performance tests at full power levels of 25 kilowatts.

"This test represents a huge leap in demonstrating the potential for advanced ion technologies, which could propel flagship space exploration missions throughout the solar system and beyond," said Alan Newhouse, Director, Project Prometheus. "We commend the work of Glenn and the other NASA Centers supporting this ambitious program."

HiPEP is one of several candidate propulsion technologies under study by Project Prometheus for possible use on the first proposed flight mission, the Jupiter Icy Moons Orbiter (JIMO). Powered by a small nuclear reactor, electric thrusters would propel the JIMO spacecraft as it conducts close-



Above: HiPEP thruster test.

range observations of Jupiter's three icy moons, Ganymede, Callisto and Europa. The three moons could contain water, and where there is water, there is the possibility of life.

Development of the HiPEP ion engine is being carried out by a team of engineers from GRC; Aerojet, Redmond, Wash.; Boeing Electron Dynamic Devices, Torrance, Calif.; Ohio Aerospace Institute, Cleveland; University of Michigan, Ann Arbor, Mich.; Colorado State University, Fort Collins, Colo.; and the University of Wisconsin, Madison, Wis.

For more information about NASA on the internet, visit: http://www.nasa.gov (Reprinted from a NASA Press Release)

LOCAL EVENTS AND HAPPENINGS

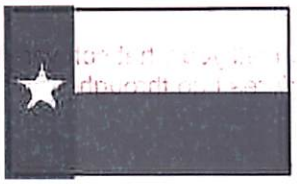
(If you know of any local aviation events or happenings we can share with the chapter, call Kris @ 608-347-9949 or send it via email to: kris123@tds.net

Open every Sunday 1-5 PM or by appointment – Shooting Star Museum, Devine, TX, Proprietor Pat Wegner, 830-931-3837

3 DEC 03—PAISA/GAPA meeting. Gathering of safety minded pilots, instructors and students. Meets 1st Wednesday of every month, 7pm, at the Hallmark Institute on Wetmore adjacent to San Antonio International. Info: Steve Carlson 545-2376.

13 DEC 03 Chapter 35 Christmas party.

6 DEC 03 Young Eagles event contact Brad Doppelt at 210-558-8909 or brad_doppelt@yahoo.com



Texas Fly-Ins

(For details in awesome websites go to www.eaa.org/avlinks/flyins.html)

12/13 - 12/13 /2003 Pleasanton, TX Young Eagles Event—Volunteers and Pilots needed. Pleasanton Airport 9:30 am Pilot Briefing. Rain Date 12/20 Contact: Tommy Terry 830-253-1441 jthomasterry@lavernia.net

Power Computer Tips

(continued)

5. **Use a secure e-mail client,** try **MS Outlook 2004** which has numerous security features built into it. Outlook prevents potentially harmful content from running by default. Better yet, avoid opening e-mail or attachments that you don't recognize or expect.

6. **Visit only reputable web sites**. If you are unsure of the web site you are about to visit, set your Internet Explorer Security settings to High, just in case. Set it to medium for big name sites that you trust.

7 **Use a separate computer dedicated for surfing the web and email,** and use your other computer for your work and private things. Avoid using wireless Local Area Networks, by default they are designed to be totally open. Use Ethernet cable instead, and isolate your work computer.

8. **Avoid buying products online**. The truth is the Internet and your computer are not a secure marketplace, and anytime you use your credit card online, you are taking an identity theft risk. Use a corded land line phone instead.

9. **Avoid free software on the Internet**, often times they have Trojans built right into them. A Trojan can render your firewall useless.

10. **Use passwords that combine letters and numbers**. Make it hard to guess.

It is everyone's hope that someday these guidelines will become obsolete, but until Microsoft makes an OS that is secure, and the Internet's infrastructure changes, we are stuck with firewalls, virus scanners and patches. There is an entire industry dedicated to computer and internet security and it is growing. The market seems to be demanding a more secure Internet experience, and with each exploit that is defeated, a more secure environment emerges. The Internet is still in it's infancy and in a way we are all pioneers in a virtual Wild West. kgn

WANTED & FOR SALE

Chapter members in search of or have items for sale, or need to post a service, may place a free (non-commercial) add in this column. Call the Editor Kris Niswonger @ 608-347-9949 or send it via email to: kris123@tds.net

"Remember...Caveat Emptor...buyers beware!"

Instructor Available. Chapter member Bob Cabe has recertified his CFI & CFII. Available to EAAers for BFR's. (210) 493-7223.

Instructor Available. Chapter member Bob Browne CFII SE ME INST Rotorcraft. Will provide free flight review for Chapter 35 members. (830) 612-2371.

For Sale: Evans VP-1 Volksplane project. Contact Danny McCormick for details: 210-872.3959 or 599.2679.

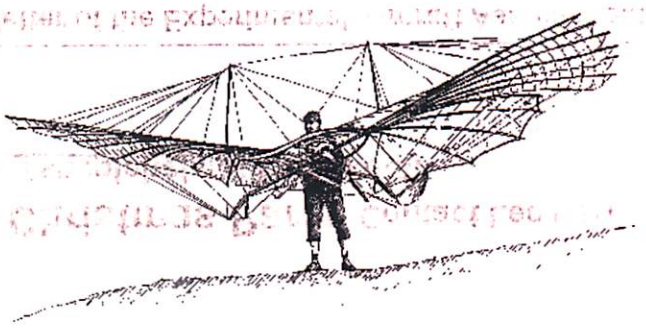
For Sale: RV-4, 180hp O-360A1A, Hartzell constant speed prop, KX155, encoding transponder, GPSMAP 195, wing leveler. Lots of fun, and good cross country too. Located SAT. $49,500.00 Bob Fodge (210) 822-5725

For Sale: 2 encoders -brand new- never used-still in boxes. model 120-15 Transcal - 14 to 28 volts- solid state -$100.00 each please cal Mel @ 210-651-5086.

For Sale: Three (3) BIG Plugs of roofing tar. Have melted together so it's heavy. FREE! Contact Al Almond 210/674-1597

WANTED: Need a LOWER Cowl for a Cessna 120/140. If you have/know of one, please contact me ASAP! Contact Jim M^{c}Irvin at 210-275-7780.

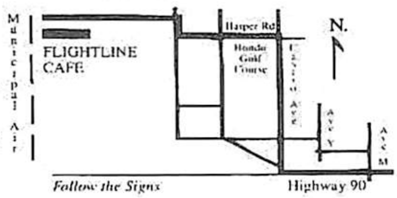
For Rent: Shop Space, Danny McCormick has approx. 2,000 sq.ft. of shop space for 4-5 folks who need a place to build their planes. Bldg is located near the main post office. 210-872-3959 or 599-2679.



For Sale After realignment of my priorities (building a new home) I will sell my Sonex project for best offer. This is Sonex #300, which was in an accident and needs to be restored. The engine has been completely restored with exception of prop hub. It is a VW Type IV 2600 cc w/ brand new SCAT crank eliminating the prop hub problems of the Type IV engine. The airframe has an excess of $4,000.00 in usable parts. The engine has an excess of $6,000.00 of new parts including dual electronic ignition w/dual plug completely overhauled heads. It would take approx. $6,000.00 to finish the airframe which has approx. 60% damage. The advantage of this project is that you have a template to work with and most of the small manufactured parts (which are the most time consuming) are reusable. It would take a lot less than the total of approx. $25,000.00 (including avionics) to complete this project, not to mention the time gained in construction. All parts needed are readily available from Sonex, or if you want to scratch build, from local vendors.I will also sell all aircraft specific tools and the new owner can assume the lease of my hangar half at San Geronimo Airfield.If interested please give me a call at:(210) 680-2757
Joerg P. Thees
San Antonio, TX

Wanted: Need used, low-cost altimeter, airspeed indicator, and compass for our Breezy. Norris Warner 830.510.4334.

For Sale - QUICKSILVER MX Hirth 2702 40 hp (62 hours TT) POWER-FIN Propeller--3 Bladed (new) $7,200 Contact Norris Warner at 830.510.4334



The Official Newsletter of EAA
Chapter 35, San Antonio, Texas

Steve Carlson, President
16411 Hornet Creek
San Antonio, Texas 78247-4429

When Do you Meet?
Second Saturday of the Month

The December 13 Meeting
Christmas Party Call Lee Carlson for
tickets @ 210.545.2376 or
carlson3@sbcglobal.net