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June Fly-Out Info

Father's Day Weekend
Friday, Saturday &
Sunday
June 16, 17, 18th
Camp or Motel
Columbia Fly-In
Tower Frequency: 127.9
Flight Leader: Terri
Gorman
(408) 828-6707

Flying Gourmets
Wednesday, June 14th
Meet at Noon at the
Sellini Grille
Santa Rosa Airport
If you have an empty
seat, please share the
flight.
Flight Leader: Terri
Gorman
(408) 828-6707



President's Corner - Terri Gorman

Finally, it's Summer. There are several ways to mark the beginning of summer, but for me, it's the return of the airshows. Airplanes begin to congregate at traditional spots around the country.

The largest aviation event is Air Venture, at Oshkosh, which is just around the corner. How many times have you heard the words, "Are you going to Oshkosh this year?" Mary Anne Dal Porto, daughter of Paulette and

Brian Dal Porto and last year's Air Academy Recipient, will be flying out to Oshkosh with her Dad in their Marquart Charger. The survival gear will accompany her Mom on American Airlines as luggage space for a teenage girl is sparse in a biplane. Mary Anne will be the envy of every teenager as she climbs out of her Dad's plane at Air Venture.

Summer is also a time when the fly-ins multiply like kittens. Check out your favorite aviation magazine's calendar for a complete listing and on any weekend this summer you will find at least one airplane event, and perhaps multiple events. Our Webmaster, Wolfgang Polak, keeps our EAA 62 website calendar up-to-date, so check it out.

Returning to our chapter and attending the May meeting was Bruce Frank. Bruce will be bringing the raffles back to our General Meetings. Dave Saylor, owner of Aircrafters at Watsonville, gave an exciting talk and showed slides on the problems most builders have with homebuilts.

Our mid-month flyouts are attracting many homebuilders. In May, we flew to Petaluma and had lunch at the 29-er Diner. Three Glastars and a Lancair flew in for lunch, along with a Piper, Cessna and Bonanza. While the men talked about their homebuilding, I talked to Gina O'Sullivan whose husband, Bill, is building a Bearhawk. See you at an airshow.

HOLIDAY PARTY

A few members have expressed a desire to change the Holiday Party from Vern's Hangar to a restaurant. You can let us know what you want to do by going to our Chapter Website and entering your choice for a restaurant, a room in a community center or returning to Vern's Hangar with the heat turned on. If you do not have access to a computer, please call me and leave a message. Terri Gorman 408-356-7443

Newsletter Info
Newsletter contributions are welcome, so send your news items, cartoons, photos and articles to the Editor, Paulette Dal Porto at pdalporto@sbcglobal.net
Newsletter Deadline is the 20th of each month.

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Meeting Minutes

Ron Carmichael
GENERAL MEETING



President Terri Gorman opened the meeting at 7:30 PM and guests were introduced. Upcoming events were noted. These were posted on the Chapter Bulletin Board and were available for members to view during the coffee break. Terri announced that a "traveling space museum" needs a pilot/space enthusiast to speak at Daves Avenue School in Los Gatos. One Chapter member is needed to go for the day. A "greeter" will make \$100 for the Chapter. The Chapter representative for the Air Academy was announced. He is Lawrence Lee, a member of Larry Reed's Ground School this year. Larry Reed, the B-17 Coordinator, gave a summary of the successful "Aluminum Overcast" visit last weekend. NASA and the EAA Headquarters were very happy with how things were done. Thanks to Larry and all the volunteers for making this happen in spite of great challenges. Larry read a letter from T.J. Forsythe, NASA Operations, to EAA Oshkosh. Mr. Forsythe expressed his great satisfaction with the whole operation. Much applause followed for Larry and the volunteers. Terri reported over 18 flight jackets were sold at \$175 each.

Next up was Allen Roark, Young Eagle Coordinator, who announced details for the Open House at South County Airport. A signup sheet for pilots and ground crew was passed around. Set up will begin on Friday, May 12 starting at 3pm. Those who volunteer will be fed AFTER the work is done.

Jon Garliepp, Membership Chairman, announced that Robert Kindlund signed on as a new member tonight. Welcome to Robert. Jon also distributed the badges for other new members and encouraged those who need to pay dues to see him and get checked off the list.

Vice President Jim Manley announced an upcoming helicopter flyin near Pine Mountain Lake in the central Sierra. See Jim for details. Jim hopes this will become an annual event.

Rolland LaPelle, Aircraft Building Chairman, gave a run down on a new tool he has developed for removing rivets. He also encouraged all to share with him any new ideas they might have so that he can get them published in the Newsletter. Rolland also plans to submit an article on "magnetos and alternators" in an upcoming issue.

The Minutes that were published in the last Newsletter were approved by those members in attendance tonight.

Treasurer, Randy Wilde, gave the financial report and pointed out that the Board has now renamed the education fund as the Nick Nilmeyer Education Fund in honor of a promising young aerobatic pilot and Air Academy Scholar from EAA 62 who was lost in a tragic accident recently. Randy also announced proudly that after a year and 7 months he now has been approved to again take a 3rd class medical. Congratulations to Randy. Now he can start on his building "project". The Financial Report was approved unanimously.

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Shop & Swap — OPEN

Calendar of Events

JUNE

06/01 General Meeting
7:30 pm
Vern Miller Aviation
Reid-Hillview Airport
Speaker: TBD

06/02 – 03 Merced Antique
Fly In
The 49th Annual Event

06/08 Mustang Roundup,
Reno
Expect up to 100 flyable
North American P-51
Mustang fighters to
assemble in Reno.

06/08 Board Meeting
7:30 pm
Reid-Hillview Airport
Terminal Building

Meeting Minutes (continued)

Terri Gorman announced that Wednesday May 10 there will be a “flying gourmets” flyout/lunch at Petaluma and to meet there at 11:30 AM. She also thanked Rusty Wells, Randy Wilde, and Jon Garliepp for working on the dinner tonight. In addition she thanked Ralph Reichold for supplying the donuts and coffee. . This evening’s speaker was Dave Saylor, owner of Aircrafters in Watsonville, who spoke on the subject of “problems people have when building an airplane”. A “Q & A” session followed.

Meeting adjourned at 9:15 pm

Officers and Board Members present were: Jon Garliepp, Terri Gorman, Randy Wilde, Ron Carmichael, Rolland La Pelle, Wolfgang Polak, Rusty Wells, Jim Manley, Jack Bowlus, Larry Reed and Allen Roark

Minutes submitted by Ron Carmichael

BOARD MEETING MINUTES

President Gorman called the meeting to order at 7:32 pm.

The General Meeting Notes were given and approved with minor corrections. Treasurer, Randy Wilde, distributed the Financial Report. The Ed fund has been renamed the “Nilmeyer Education Fund” – to fit the space in the computer program, “QuickBooks”. This has moved the position of the Ed Fund in the statements so as to be in alphabetical order. Cash received from the B-17 Event consisted of \$57 from water sold. Since all water we sell elsewhere goes into the Ed fund, it was proposed to put this money there as well. The Raffle raised \$100 net from the sale of tickets. Randy asked if we will receive money from EAA. Larry Reed, B-17 Coordinator, responded that they will be giving us 25 percent of the “ground tour” admissions, 15 percent for trailer sales (minus flight jacket sales) and \$30 from the cost of each ticket purchased to ride. Larry said it takes about 6-8 weeks for EAA to “settle up”. Randy asked if we want a special B-17 account and the answer was “affirmative”. Significant checks this month were to Terri Gorman (\$384) for reimbursement for YE Pizza and new YE T-Shirts. Reimbursement was also made to Larry Reed (\$379.75) for signs, rope and Porta Potty rental. A motion was made to “pay the bills”. This was approved unanimously as was the Treasurer’s Report.

Vice President, Jim Manley, reported that he has two speakers lined up for future meetings and that he represented the Chapter last week at a helicopter flyin 50 mi. southeast of Pine Mountain Lake. Hopefully it will become an annual event. Jim will be glad to provide the details.

Membership Chairman, Jon Garliepp, reported that we are getting dues paid at a nice rate. He also suggested that we might send a cover letter with our next Newsletter to be mailed out to old members to encourage them to rejoin us. Jon said that he’d get together with Wolfgang to get labels for the cover letter and see about sending out some emails. Jon suggested that maybe we should also send out a Newsletter to past members to encourage them to come back and so that they can see what we are doing.

Brian Dal Porto spoke for Paulette concerning the Newsletter. He said that

**06/17 – 18 Father's Day
Weekend at Columbia**

**06/24 Young Eagles Event
at Reid-Hillview Airport**

JULY

**07/05 -09 Arlington NW
EAA Fly in
Arlington Municipal (KAWO),
detail at
<http://www.nweaa.org>**

**07/06 General Meeting
7:30 pm
Vern Miller Aviation
Reid-Hillview Airport
Speaker: TBD**

**07/13 Board Meeting
7:30 pm
Reid-Hillview Airport
Terminal Building**

**07/15 Chapter Poker Run
Tentatively the event will
happen at the museum at
South County. Mark your
calendar and stay tuned for
details.**

**07/24 30 AirVenture 2006
OSH
Mark your calendars**

AUGUST

**08/10 General Meeting
7:30 pm
Vern Miller Aviation
Reid-Hillview Airport
Speaker: TBD**

**08/17 Board Meeting
7:30 pm
Reid-Hillview Airport
Terminal Building**

**08/18 – 20 NW Antique
Airplane Club Fly-In and
Show**

**08/19 – 20 Wings Over
Wine Country**

SEPTEMBER

**09/02 Young Eagles at Palo
Alto Airport**

**09/07 General Meeting
7:30 pm
Vern Miller Aviation
Reid-View Airport
Speaker: TBD**

09/13 – 17 Reno Air Races

**09/14 Board Meeting
7:30 pm
Reid-Hillview Airport
Terminal Building**

Meeting Minutes (continued)

Paulette felt she needed a "vote of confidence" to continue as Newsletter Editor. The vote was unanimous from all officers and board members to support Paulette. It included a great deal of praise for all she has done in taking on this difficult job. Jack Bowlus spoke up to say that any major changes in the layout of how something is done should be decided via the Board.

Allen Roark, Young Eagles Coordinator, spoke on the Young Eagles Event

that is happening this Saturday at South County. Many schools have been contacted in the area. The number of volunteer pilots seems adequate so far. A question was raised as to whether a handicapped child should be able to have a parent ride with the child. It was agreed that this would work fine, but on a case by case basis. SCAPA will provide lunch tickets for the pilots and ground crew. Logistics for needed equipment and setup was discussed including wing rib building. Brian Dal Porto emphasized the importance of recognizing the efforts of the Ground Crew during Young Eagles – a very important job.

Rolland LaPelle, Homebuilder's Coordinator, requested that more programs be slanted toward building aircraft. Suggestions included getting videos on particular aspects of building. Rolland has videos – one on carburetion and one on setting up a Bendix Fuel Injection System. He also suggested setting up a "Q & A" session for homebuilders to "stump the experts".

It was decided that the Poker Run and July Picnic will be at the same time – like we did last year.

Meeting Adjourned at 8:45 PM

Officers and Board Members present were: Terri Gorman, Jon Garliepp, Brian Dal Porto, Rolland LaPelle, Ron Carmichael, Allen Roark, Rusty Wells, Jack Bowlus, Jim Manley, Larry Reed and Randy Wilde

Minutes submitted by Ron Carmichael

Membership Corner – Jon Garliepp



Guests are welcome at all of our events. I would like to encourage each member to bring a friend/guest with them to all of our events. At this point it is quiet in the membership corner. Most members have renewed for 2006, we have a strong returning membership. We are also having some past members, who have been gone for a while, returning to the chapter. Welcome back to those who have returned.

When you are attending the meetings or events and you see someone new, please introduce yourself and make them feel at home. We need to work harder at this and make everyone feel welcome at all of our events. Badges, If you need a badge please let me know, new members get their 1st badge free, after that replacement badges are \$6.00. See you at the next meeting. Jon

09/30 – 10/01 Salinas
Air Show

OCTOBER

10/05 General Meeting
7:30 pm
Vern Miller Aviation
Reid-Hillview Airport
Speaker: TBD

10/5 -6 San Francisco Fleet
Week

10/5 – 16 Albuquerque
Balloon Festival

10/12 Board Meeting
7:30pm
Reid-Hillview Airport
Terminal Building

10/21 Young Eagles at
South County Airport

10/26 – 29 Copperstate,
Casa Grandem AZ

NOVEMBER

11/2 General Meeting
7:30pm
Vern Miller Aviation
Reid-Hillview Airport
Speaker: TBD

11/9 Board Meeting
7:30pm
Reid-Hillview Airport
Terminal Building

DECEMBER

12/7 General Meeting and
Holiday Party
Stay tuned for details.
Suggestions for venue and
program are welcome.

12/14 Board Meeting
7:30 pm
Reid-Hillview Airport
Terminal Building

Swap -n- Shop

**FOR SALE: 1/2 share of
C182A Skylane**

1/2 share partnership available
in 1958 C182A
Beautiful new paint (August
2005) Annual completed in Feb
06. All ADs complied with. New
fuel bladders and fuel senders.
Basic IFR panel: KX-170B with
glideslope; Narco 12D with
localizer; transponder with
mode C. ADF. Micromesh oil
filter. Two cabin covers TT:
4410; SMOH: 1320;

Homebuilder's Corner

Rolland LaPelle- coordinator

This month I am beginning a series of articles which originally wrote back in 1982 and am using them as a basis on which I will discuss the changes and where I believe ignition systems are going.



BASIC MAGNETO THEORY

The Magneto is basically a small AC generator constructed so that the voltage wave produced reaches a peak at a certain rotation position. When coupled to an engine crankshaft, this feature can be used to fire a spark plug. By adding a breaker to it set to open just after the peak voltage makes for a very rapid decay of the voltage which causes a very high voltage in the spark coil or auto transformer to be generated. This energy potential wants to return to ground and will jump the gap in the spark plug making a hot spark which will ignite the fuel mixture. Of course most aircraft engines have more than one cylinder, which means that a spark voltage must be delivered to each cylinder in turn. In order to do this the speed of the magneto crankshaft must be controlled precisely. The ratio of the magneto shaft speed to the engine crankshaft speed is represented by the formula. Ratio=# C divided by 2 times # P. Where C= number of cylinders and P= the number of Poles in the AC generator of the magneto. The 2 comes from the fact that the crankshaft goes around twice for each firing.

Utilizing this formula for a 12 cylinder, 4 cycle engine with a 4 pole magneto with an uncompensated cam, (Typical) then the ratio of magneto shaft speed to crankshaft speed becomes:

$\frac{12 \text{ cylinders}}{2 \times 4 \text{ poles}} = \frac{12}{8} = 1.5$ Thus, the magneto shaft must turn 1.5 times the crankshaft speed

A typical 4 cylinder 4 cycle engine with a Bendix mag 2 pole uncompensated cam becomes:

$\frac{4 \text{ cylinders}}{2 \times 2 \text{ poles}} = \frac{4}{4} = 1.0$ The magneto shaft speed is the same as crankshaft speed

Typical flat six:

$\frac{6 \text{ cylinders}}{2 \times 2 \text{ Poles}} = \frac{6}{4} = 1.5$ Mag shaft must be 1.5 time the crankshaft speed

2 x 2 Poles 4

When using standard, certified engines, this critical item is taken care

of by the manufacturer of both the engine and the mags. A non-standard engine might present a problem to the unformed.

ENGINE TIMING

When the magneto becomes aligned with the pickup poles there occurs what is commonly called the "E gap" or neutral position. The current causes the flux to build up in the ignition coil. (This is commonly referred to as "charging the coil."). At the "E" Gap position there is no longer a

compression in high 70's on all cylinders. We have owned and babied this classic squaretail for 16 years. Runs and flies great. Logbooks & maintenance records carefully maintained. Can base at Byron, Livermore, or Tracy (will consider other locations)

Contact: Key Dismukes at (408) 938-0455 or (650) 604-0150



Our web site: www.eaa62.org dominated by



HURRICANE ELECTRIC
INTERNET SERVICES

Homebuilder's Corner (continued)

current available. Due to hysteresis the breaker, points, are set to open just after that point is reached. The Magneto manufacturer determines this angle for each model, in order to obtain the hottest spark. The secondary sees the rapid decay of the flux and develops a very high voltage, which is in turn delivered by the distributor rotor to the cylinder to be fired. The foregoing description is essentially the action of a high tension magneto system typical of those found on today's light aircraft. Due to high altitude some aircraft have too much leakage to provide an adequate spark.

One cure for this problem would be to modify the spark plug and use larger barrels. Another is to somehow pressurize the wiring system and another common way was to shorten the high tension lead by putting the spark coils closer to the sparkplug. The main disadvantage of this system has to have a coil for each plug.

IGNITION STARTING SYSTEMS

One of the biggest problems with magneto system is at slow rotational speeds the magneto cannot produce much voltage and the generator part of the magi has to spin rapidly to produce enough voltage to make a spark.

In order to start a Magneto equipped engine there are two versions commonly in use.

IMPULSE SYSTEM

The first system and the most common is the use of impulse couplings. This is a mechanism in the coupling which holds back the magneto from rotating until a spring is wound up. At a predetermined the pawl is tripped and the spring quickly spins the magneto fast enough to produce a spark. As the engine gains speed the pawls are pulled back by centrifugal force so they stop engaging the stop pin. This happens between 600 and 800 rpm. This is why engines need to always idle at 1000 or above. If you hear a clanking when the engine is idling the engine is too slow. Continued operation at that slow a speed will result in the coupling being quickly being damaged. And they are very expensive to replace.

"SHOWER OF SPARKS SYSTEMS"

Another system is the "Shower of Sparks Systems. In this system a vibrator is used to produce an AC voltage. When the starter is energized it also energizes the vibrator which is connected to the primary coil thru the points. This system works very well providing you have enough of a battery to crank the engine. It is however very difficult to prop the engine if the battery is dead unlike the Impulse system.

"Conventional Ignition Systems"

Unfortunately if you are working with an amphibian aircraft the necessity for a slow idle is needed. Planes on floats often had one of the ignition systems the same as a car system. This allow very slow idles which made docking much easier. A common engine in the early years on Waco's and Fairchild's and others on floats was the Jobs engine which was a 7 cylinder radial which shook a lot when running on the auto ignition system hence the name "Shaking Jake".

Next month I will discuss the installation of ignition systems on various engines.



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Supporting Young Eagle Pilots with discounted fuel during Young Eagle Flights at Reid Hillview Airport

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Young Eagles Corner *Allen Roark*

With 15 pilots and many ground volunteers, the Young Eagles Event that occurred during the Wings of History Museum Open House at South County Airport was very successful. There were 105 kids that became Young Eagles. Thanks for all the help. Our next Young Eagles Event will be at RHV on June 24th. Please mark your calendars and plan on volunteering.

Taking Control *by Jamie Miller*

Sitting in the cockpit of a small airplane is a surreal experience, particularly when one is the pilot of said small airplane. For as long as I can remember, I've been flying. I was a whopping nine days old when I took my first flight in my dad's Cessna 180, and I've been going strong ever since then.

I grew up surrounded by airplanes, and even now I am still amazed by them. My dad is both a pilot and an aircraft mechanic and I have spent countless summer days with him fixing engines or replacing tires among other things. Every summer I become a mechanic, and sometimes it shocks me that airplanes are able to break the hold of gravity.

But it wasn't until the summer of my junior year in high school that my dad asked me if I wanted to learn how to fly. I was a bit skeptical at first, because learning how to fly is very time-consuming and expensive. However, I didn't have to pay for a plane rental because I could use the little Citabria that my dad kept in his old hangar. I also did not have to pay for an instructor; my dad was old friends with an instructor, a guy named Mike Gustafson who was willing to instruct me, and instead of charging me, he worked out an agreement with my dad. This left me with the prospect of paying for gas, and though it was expensive, it was well worth the price. And so a pilot was born as I began learning how to fly.

What's funny is that flying in itself is really not difficult at all, and neither is taking off once you know the sequence of events. Landing, however, is another story. Landing became the bane of my existence. There are two many things going on, too many things to keep track of. How fast is the plane going and how high it is over the ground? Do you have the right amount of power to get it on the ground where you want it? You have to listen to the control tower and make sure that you are cleared to land. You have to listen to your instructor ask what your speed and altitude is compared to how far you are from the runway, and if something isn't right you hear the inevitable, "Well, fix it! Reduce your rpm! Bring down some flaps or this is going to be more exciting than you want it to be!" Ah, Mike, I couldn't do this without him. (to be continued in the July newsletter)

Send New & Renewal Memberships to:
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11690 Regnart Canyon Drive
Cupertino, CA 95014
(408) 253-3769

- \$30.00 Annually
- National membership is required

June's Speaker
Bob Briggs
Small Gas Turbine Engines

General Meeting: Thursday, June 1, 2006 7:30 PM
Board Meeting: Thursday, June 8, 2006 7:30 PM

Our meetings are open to the public. EAA members, their GUESTS, AND VISITORS ARE ALWAYS WELCOME. Chapter 62 usually meets on the 1st Thursday of each month (the 2nd Thursday in August), at 7:30 PM. at Vern Miller Aviation, 2635 Cunningham Avenue, Reid Hillview Airport (main entrance, on Cunningham Avenue right side of the road).

Hangar Hour Come meet your Fellow EAAer's, make new friends, have some food, and enjoy the camaraderie. Food will be sold from 6:30: to 7:25, during which time you can "hangar fly" or view various 'How To' videos. The meeting will start promptly at 7:30 PM, with 10 minutes of announcements, 10 minutes of "open mike," and 10 minutes for the coffee break. The program starts promptly at 8:00 PM