AUX TANK

NEWSLETTER OF THE SAN FERNANDO VALLEY CHAPTER OF
THE NINETY-NINES
INTERNATIONAL ORGANIZATION OF WOMEN PILOTS

OUR MISSION:

The Ninety-Nines is the international organization of women pilots that promotes the advancement of aviation through education, scholarships and mutual support while honoring our unique history and sharing our passion for flight, and to quote the 99s first elected president Amelia Earhart, "TO FLY FOR THE FUN OF IT."

Originally established in 1929 by 99 women pilots, the members of The Ninety-Nines, Inc. are now represented in every area of aviation today.

SFV 99s
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From the Chairman...

May 2015 Newsletter

Greeting to All!!

What a terrific time we had at the Southwest Section weekend in Temecula, CA hosted by the Coyote Country, Palomar & San Diego chapters!! Such a great locale and so much fun interacting with our fellow sisters from another chapter!! Our humble chapter left a lasting impression- we represent wherever we go!!

We are busting with pride that two of our members were recognized and given scholarships this month! Go girls!!!

Plus, we have a lot of great events coming up: The AOPA fly in in Salinas-let's get an armada of SFV 99 planes going!!; our Awards Banquet at the Smoke-House on June 6th!! –Yum!!; and a summer full of fly ins, fly outs and hangar parties! All of these events are in lockstep with our mission statement!!! ;)

Summer is always a time of hot days of flying, so hydrate and keep your engines cool! Let's get together and do some fun flying and some fun flight planning to new locations! Take the bull by the horns and initiate a fun trip, there are so many people that want to go, want to fly!!! Tell us where you want to go!!! Let's do it!!

Cheers,

Anne Marie
SFV99s Chapter Chair

May Food For Thought Statement:

"Abundance is not a state of finances or wealth, it is a state of inner health. Wherever there is joy, appreciation, gratitude, giving, caring, creativity, vision, inspiration, love, patience and playfulness, there is abundance."

-Author Unknown

"Meet A Chapter Sister"

Name: Anne Marie Radel

Home town: Midland, Texas

Airport I fly out of: Whiteman Airport (KWHP) and Van Nuys Airport (KVNY)

Favorite aircraft: in order, Gulfstream American Tiger AA5B, B17, F4U Corsair

When and where did you get your license? KVNY, September 5, 2004. My examiner was Commander Adam Berg

Where did you fly for your cross country: KVNY –KBFL- KSMX - KVNY

Do you own an airplane, if so, what type?: Gulfstream American Tiger AA5B

Where is your favorite fly-in spot?: A toss up between Oshkosh, WI (during Airventure), Henderson, NV (Vegas, baby!!!) and Tucson (just kidding!! not so much…too friggin hot!!)

Hobbies: All things with Music, DJ-ing, Dancing and Rock-climbing**.**

What skill do you have or factoid about you would surprise most people?: I've finished the Los Angeles Marathon twice (cuz' I guess I'm just a glutton for punishment!) and I've summited The Grand Teton and Irene's Arete in Wyoming.

What will you be doing in five years?: Hopefully, working my way to Broadway!

ATTA GIRLS & BOYS!

Gabriella De Asis

Alisa Liley

Both for receiving the "Fly Now Scholarship"

From the SFV99s

Thank you for Your Support!

Anniversary

05/1946 Irma "Babe" Story
05/1969 Helene Krongold
05/1983 Bertie Duffy
05/2011 Alyce Stevens Rohrer

05/20 Charlotte Kaber
05/25 Anne Marie Radel
05/28 Claudia Ferguson

Explorers

Thank you to SFV99s! Your generous donations led to a fun, fantastic, and profitable pancake breakfast for our aviation explorers. We served about 150 breakfasts. Forty-five kids received Young Eagle flights, and for many of them it was their first flight in a plane. Smiles all around.
Currently there are seventeen young people registered in SFV99s Aviation Explorer Post 747. Seven of the seventeen are girls! It's the most we have ever had. Four explorers have started flight lessons; Eddie Perkins, Adam Miller, Moises Robles, and Simon Nold. Eddie has soloed and all 4 have passed the FAA written exam. Sean and Gabriella De Asis are about to start lessons also. Gabriella won the 99s "Fly Now" scholarship. It's really exciting to have so many young people interested in learning to fly. My crystal ball sees a lot more pancake flipping.

Thanks!

Ruth Logan

After much ado about everything, we are ready to PARTAAAYYY!

Make a note on your Calendar for Saturday, June 6. We'll be enjoying our SPRING SOIREE at the Smokehouse restaurant: fine food, great awards, fabulous friends.

Festivities start at 11:30, lunch will be served at 12:00. The restaurant bar will be open for adult beverages and all the good feelings that ensue. Come join the fun! It wouldn't be the same without you.

We have three luncheon choices (or a vegie dish) for your pleasure:

Tri Tip Beef
Chicken Buena Vista
Prime Rib Sandwich

Chicken and beef entrees include salad and dessert plus ice tea, hot tea or coffee. The Sandwich includes soup of the day and dessert, etc. Each table will also have a serving of their famous garlic toast! Wine will be available for purchase. All meals $31.50 per person.

Please email Charlotte Kaber-- ckaber613@yahoo.com -- with your name, number of guests you will be bringing, and the meal choices for each. Because of the lateness of this announcement, for which we and the Board apologize, it is important that you get your info to Charlotte within the next two or three weeks, because we must give a number to the restaurant. If you are not sure of the number by then, call me or Charlotte and let us know.

Also, please send your checks to our inTrepid Treasurer Jeanne Fenimore. If you don't, she will be waiting at the door...and you don't want that!!!

Michele
Banqueter-in-Chief

SMOKEHOUSE RESTAURANT
4420 West Lakeside Drive
Burbank, CA 91505

Rhonda McNeil came to visit at our meeting; with Anne Marie Radel

Ballooning & SWS Conference in Temecula

All pictures are courtesy of Lilian Darling Holt . To see the entire album, follow the link: http://share.shutterfly.com

Flight training and academic scholarships

Here is AOPA's listing of several flight training and academic scholarships. Some are open for applications right now, others will become available this summer. AOPA's scholarship applications will be open May 22.

http://www.aopa.org/Pilot-Resources/Learn-to-Fly/aviation-scholarships.aspx

Be sure to click on all the scholarships or organizations listed. You'd be surprised at the number available! Most of these are for flight training rather than advanced training.

I'm willing to help any applicant who wants to apply for any scholarship. AOPA's application is online and it's easiest to copy or write down the questions and answer them ahead of time, rather than answer them directly online without thinking about the questions and planning your answers.

Note: Girls With Wings is no longer in existence

Here's some more information on scholarships from the Ventura County 99s.

http://www.vc99s.com/Scholarships.html

As you can see, some are for 99s or student pilot 99s from OTHER CHAPTERS. Take note of the Endorsement Scholarship, a new one, applications due May 31. (At our meeting last Monday I mistakenly said it was part of their lottery - it's not. You must submit a paragraph saying why you want the scholarship).

Be sure to sign up for their lottery scholarships. I believe the deadline is May 31 also.

Take a look at their Tips - one on How to Write an Essay (by moi) and another on the 99s Fly Now Scholarships.

Ceci Stratford

King Schools Offers Free Online Crosswind Landings Course

The King Schools has released a second free online offering, “Crosswind Landings Made Easy,” as John and Martha King team up to help pilots improve their crosswind landing skills. John demonstrates the proper techniques on how to stay aligned with the runway centerline with zero sideways drift when facing a stiff crosswind, while Martha provides the explanation.

Crosswind Landings and the earlier released “Non-Towered Airport Communications” are the first two installments of what John said will be a library of free online video courses http://www.kingschools.com/free-pilot-training-courses

“We hope pilots enjoy these courses with our compliments,” he said. The videos run on any Web browser - PC, Mac, or mobile devices. They also run on the King Companion App for iOS devices allowing for downloading and offline viewing.

These courses should be good!

Ceci Stratford

NIFA

NIFA - National Intercollegiate Flying Association, Region 2, will hold its annual Competition at Brackett Field in Pomona from Nov 3 - 7, 2015. Virginia Harmer needs volunteer judges to assist in all aspects of judging. This includes proctoring written tests as well as judging flying competitions. Typically 5-7 schools participate in navigation competitions, landing competitions, safety tests, airplane pre-flight, etc. It is a high-energy event with students who are very serious about prepping for flying careers. Please contact Virginia if you would like to assist. Ninety-Nines provide the foundation for judging this competition, so your participation is both needed and appreciated.

Virginia can be reached at dvharmer@gmail.com

Maureen Kenney
The Ninety-Nines, Inc. Director
FAAST Team Representative, SoCal area

Endowment Fund - Who Knew?

The Ninety-Nines Inc. endowment fund has passed the 1 million mark and is continuing to grow as the investments increase in value. This is excellent. It means that some operating costs and emergency funding can be funded through the proceeds from the Endowment Fund.

But there is another piece of the puzzle. When the organization applies for grants to fund special projects, the grant agencies look at how much money is in the Endowment Fund and they look at how many members have donated to the fund. Not how many chapters or sections, but how many individual 99s have donated ANY amount to the organization. At this point, fewer than 20% of the membership has donated to the fund and has her name on the list of donors. Please consider donating if you have not already done so. $10 will go a long way to improve our position in the eyes of grant organizations. And if you donate $500 or more, you will be listed on the perpetual plaque at Headquarters.

Go to: https://www.ninety-nines.org//index.cfm/donation.htm?

and select Endowment Fund. Donate whatever amount you can. It would be great to see a big increase in the number of members who have donated to the Endowment Fund.

"Confession of an Aviatrix"

For June meeting, the question is:

"Where was your trickiest place to land? **"**

GPS – How Does It Work?

GPS, or Global Positioning System, is an idea that has been around for a long time now and just about everybody uses it – in their aircraft, cars, and smart phones. Most people are aware that it works by communicating with a bunch of satellites in space, but not too many folks know much more than that. This article is for those of you who are curious and would like to know a little bit more about GPS. So, here's an overview of how it really works in (hopefully) plain English.

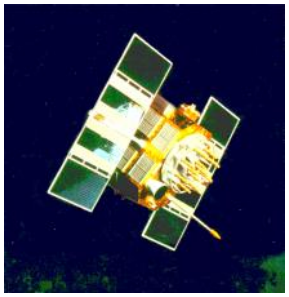
GPS was actually started in the '70s and it took quite a number of years to launch and position the "constellation" of 24 satellites needed for world-wide coverage. Actually, now there are 27 (3 spares) and from any place on the planet, your receiver should be able to communicate with a minimum of 4. Originally it was controlled by the U.S. Department of Defense and could be switched over for use only by the military. As of December 2004, per Presidential direction, GPS is governed by the National Executive Committee for Space-Based Positioning, Navigation, and Timing (PNT), co-chaired by the Deputy Secretaries of Defense and Transportation. http://www.gps.gov/governance/excom/. By the way, some of you may know that the Europeans have their own satellite navigation system, Galileo. See: http://www.esa.int/esaNA/GGGMX650NDC_index_0.html for more info. The Russians also have their own constellation, called "Glonass" (Russian translation NOT included here!).

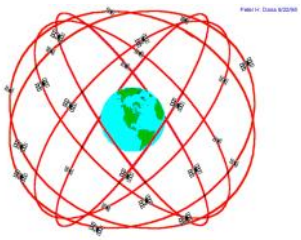
GPS has now made its way into an incredible number of devices that lots of us are using all the time. Moving map displays are in our smart phones, cars, airplanes, hiking backpacks and boats. For the US National Airspace NEXTGEN System, there are now 2 extra GPS-enhancing systems being developed that will make the GPS signals more accurate for air navigation: Wide Area Augmentation System (WAAS) and Ground Based Augmentation System (GBAS). Then there's the proposed ADS-B systems the FAA is getting ready to require in a few years. It probably won't be too much longer before flying with GPS is mandatory. While GPS isn't infallible, and its signals can be jammed, with WAAS & GBAS, it can be extremely accurate. For more info, see: http://gps.faa.gov/.

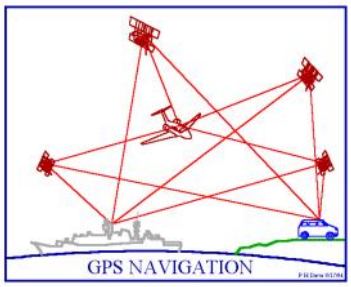
There are 27 satellites in the GPS "constellation" – the baseline 24 plus 3 spares. It took several years to get them all in their places, and now some of them have aged to the point where they are being retired and replaced. Here's some photos of what they look like, how they are placed in space, and how they are used.

OK, so enough of the preliminaries. Here's how GPS works in 4 steps:

The basis of the system is "triangulation" from satellites which transmit certain radio signals. (More about triangulation below…) To "triangulate", a GPS receiver measures the distance to each satellite using the travel time of radio signals.







To measure travel time, GPS needs very accurate timing which it achieves with some interesting tricks.

Along with distance, it's necessary to know exactly where the satellites are in space. GPS satellites fly in medium Earth orbit (MEO) at an altitude of approximately 20,200 km (12,550 miles). Each satellite circles the Earth twice a day. They are carefully monitored for position.

Finally, you must correct for any delays the signal experiences as it travels through the atmosphere.

The computers in your GPS receiver, the satellites, and the GPS Master Control facility do all this for you, of course, so all you have to do is turn on your receiver and tell it where you want to go. Whew! For those who want more explanation for each step, please keep reading!

Step 1) The basis for how the system works is called "triangulation". In order to triangulate, a GPS receiver measures the distance between you and 3 of the satellites using the time it takes a coded radio signal to get from the satellite to you. Signal speed is the same as the speed of light! Each satellite has its own unique coded signal message, so there is no confusion as to which satellite's signal is being received. This code sequence repeats over and over (kind of like the ATIS loop at a tower airport) at known intervals. Since there is a time delay between when the signal is sent and when it is received, all the GPS receiver has to do is measure the time between when it knows the signal was sent, and when the signal actually got to it. From there, it's just simple math: (signal travel time) x (radio signal speed) = distance. Are you with me so far?

Step 2) There are some more engineering details about those coded messages that I won't go into here, but I will say that in order to measure them properly, GPS has to have some extremely accurate timing (because the speed of light is so fast), and it does that with some tricks. The timing on board the satellite is nearly perfect. It's done with those really accurate atomic clocks. The way your GPS receiver synchs itself up with these satellite clocks without having an atomic clock itself (prohibitively expensive!), is to use a fourth satellite. The receiver grabs time from all four satellites at once (so it actually needs 4 internal receivers), calculates a correction factor with which to update its own clock, and voilà! Super accurate time!

Step 3) To know the time and distance to the satellites, the GPS needs to know exactly where in space those satellites are (it would make no sense to try to find how far you are from something else that is wandering randomly about). To do this, the satellites are placed in orbit with great precision. The GPS receivers then are given the "almanac" information of where each satellite will be and when. They orbit the earth every 12 hours. However accurate this position is, there are always some little deviations (called "ephemeris errors" for those who want to know). There is a Master Control facility, which sends orbital (or ephemeris) data and time corrections to the satellites. The satellites can then add position correction data to the radio signals they send out. When your GPS gets these signals and puts them together with its almanac database, it then knows exactly where in space each satellite is. By the way, the database updates for your GPS receiver include new almanac data, which is why it's important to get regular updates!

Step 4) The last step, correcting a wide variety of possible signal interference errors, is pretty complex. There are lots of things that can alter those precise time and distance calculations. There are bunches of brainy people who've thought about these for years, and I'm not going to go into lots of details here, but a partial list of things that have been compensated for includes: atmospheric effects on the signals, signals bouncing off of the ground (kind of like echoes), satellite problems, and signal angle from the satellites that have been picked by the receiver. And intentional errors. Intentional? Yep. There was an initially implemented feature called "SA", or Selective Availability. Position information had some specially coded "noise" put into the GPS signal to keep us civilians from getting "too accurate". This makes some sense if you remember that the system was originally set up for the exclusive use of the military. The military GPS receivers had the ability to filter out the noise, but anybody else would have diminished accuracy. That capability still exists, but since GPS has become such a standard for everyone, and since there are at least 2 other satellite navigation systems that exist, in May 2000, the "Selective Availability" noise was removed. Since then, GPS receivers can be highly accurate. See: http://www.gps.gov/systems/gps/performance/accuracy/

Now if all this is as clear as mud, please let me direct your attention to a few very informative web sites, from which I pulled a lot of this information (and my thanks to them):

http://www.gps.gov/systems/gps/
http://www.colorado.Edu/geography/gcraft/notes/gps/gps_f.html
http://www.garmin.com/aboutGPS/

Have a SAFE flight!

Claudia Ferguson
San Fernando Valley 99s, Safety Chairman
Aviation Safety Counselor

MEETINGS:

May 16, 2015 (Sat) Salinas, CA, AOPA Fly-in
May 18, 2015 (Mon) SFV 99s BOD Meeting, Airtel Restaurant
June 1, 2015 (Mon) 7pm, Chapter Business Meeting, Airtel Hotel, Earhart Room
June 6, 2015 (Sat) SFV 99s Awards Banquet – Smokehouse Restaurant
July 6, 2015 - No meeting - No Newsletter
Aug 3, 2015 (Mon) 7pm, Chapter Business Meeting, Airtel Hotel, Earhart Room
Aug 31, 2015 (For Sept Meeting) (Mon) 7pm, Chapter Business Meeting, Airtel Hotel, Earhart Room
Oct 5, 2015 (Mon) 7pm, Chapter Business Meeting, Airtel Hotel, Earhart Room
Nov 2, 2015 (Mon) 7pm, Chapter Business Meeting, Airtel Hotel, Earhart Room
Nov 22, 2015 (Sun) 9am -Doo Dah Parade, Pasadena, CA
Dec 5, 2015 (Sat) 9:30am Cookies To The Tower – Airtel Hotel
Dec 7, 2015 (Mon) 7pm, Chapter Business Meeting, Airtel Hotel, Earhart Room

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