



HSS is the oldest AMA chartered R/C Soaring Club
in the USA. Founded 1964
Silver Leader Club since 2009
Gold Leader Club since 2011

September 2012

Volume 49

THIS MONTH'S HEADLINES

Apologies for this month's issue of Plane Rap.
Your editor is out of town, and the rest of the crew is making good
as best they can. Better issue next month. – Ed.

Plane Rap Index

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Coming Events and Soaring Competitions

September – October 2012

- Tuesday Sept 4th. HSS monthly meeting, Round Table Pizza, 11095 Warner Ave. General meeting, 7 PM. Exec meeting, 6:15. See P.5.
- Fri-Sun Sept 14-16. Victor Valley RC fun fly. Hosted by VVRC. Details at www.vvrcf.org and on P.4.
- Sunday Sept 23. Seventh SC-2 soaring competition. Hosted by TPG at Encenitas field, San Diego. Details on web site: www.torreypinesgulls.org or <http://site.sc2soaring.com>.
- Tuesday Oct 2nd. HSS monthly meeting, Round Table Pizza, 11095 Warner Ave. General meeting, 7 PM. Exec meeting, 6:15. See P.5.
- Sat-Sun Oct. 6-7. Visalia Fall Fest. Hosted by CVRC. Details at www.cvrcoaring.com.

General and Business Meeting Minutes for 7 August 2012

I. Business Session: Meeting was held at Round Table Pizza in Fountain Valley, and was called to order at 6:15 p.m. by Executive Director Henry Smith III. Other Officers in attendance were Vice President Erv Szego, Executive Director Henry Smith III, Treasurer Dennis Anderson, and Secretary Ted Broberg. Also attending, Joni Whitsitt and Randy Wilbur.

A. John Rittenhouse brought up the future use of the Lighter Than Air Base; at a meeting he had at the AMA show at Oshkosh regarding this, he spoke with a Mr. Matthewson, and spoke with him about what our people are doing. He mentioned a presentation Henry 3 had at the hangar with County officials. He did a flight demo, and several of the group also flew his indoor plane. They were favorably impressed. The AMA has offered to assist us, in part by sending a follow-up letter to Mark Denny, indicating that we are a bona fide organization with a history of community service.

1. Who shall send the formal request? John R. was chosen. Joni suggests keeping Larry Tougas and Tim Johnson informed. John will work with Henry on drafting the letter.

2. AMA would like to know how wide an area of flying clubs we should include in our publicity/involvement. Consensus: District X membership, AMA contact persons. (See notes further during General Session.)

-- Note: Larry Tougas, Area X Vice President, has previously said he is interested in developing a West Coast AMA flying facility.

3. The County plans to get a new consultant for the next plan. Henry: "We need to get on that plan right away."

-- Henry mentioned that Mr. Denny has expressed his interest in model airplanes being included in the use of the Hangar.

-- We need to have a person in Community Outreach who works effectively with the powers that be.

-- John R.: We all must be together, on the same page; consensus of all the board.

4. Perhaps we might have interim activities to show the level of interest, such as an event like the R/CX or AMA convention.

B. Henry recommends that we install a permanent safety fence. Henry also suggested possibly resurfacing the runway with DG. (Tabled until the General Meeting.)

II. General Session: Called to order at 7:00 p.m. by President Walt Cloer. In addition to those named above, in attendance were Ross Thomas, Bob Voss, Mike Fox, Jesse Calleros, Karl V. Hawley, Sylvestra Whittington, Bruce and Linda Ellyson, Jim Sonnenmeier, Henry Smith 3, Greg and Nathan Stone (from OCRCC), and Jeff Greene.

A. Joni Whitsitt thanked all who participated in staffing the SCALE SQUADRON/AMA/HSS booth. The Fair management was very pleased with the booth, and want us back again. She suggests that we let our community officials know how our hobby is supporting community activities. The more they know of us, the better it will be. For example, Costa Mesa has a little booklet that tells about many of the opportunities for people to take part in interesting activities, and we would do well to have a place in it.

B. Henry Smith III: We have received a thank-you letter for our support in purchasing a brick in the AMA Walk Of Fame in their headquarters in Muncie, Ind. Included with the letter is a photo of our brick, with its caption and our club name.

C. Karl Hawley told about his work on the charging station. He ordered the waterproof steel box for the station. Alan McCarthy is the electrician who will do the installation.

D. Karl also mentioned the safety fence he had set up for the Fun Fly in May. It has since been removed. There was considerable discussion about this, and a possible future safety fence.



General and Business Meeting Minutes for 7 August 2012 (Continued)

- E. Welcome to Greg Stone, president of the OCRCC flying club, who brought greetings from them. He'd like to have more "together" events. He and several of his members participated in our May Fun Fly and 3D demonstration. He mentioned some of the safety rules and features they have implemented. He gave a summary of their program. They require a Wings Certification for full flight qualification to join. Fire extinguishers and a Field Marshall must be present for anyone to fly.
- F. Karl told a bit about his work and experiences at the OCRCC Fun Fly last Saturday. He cooked hamburgers and hot dogs, and flew his Easter Basket/Homer Simpson plane! It was the delight of the show.
- He also gave thanks to a flier named Victor and his friends, who groomed our runway.
- G. Walt suggested that any safety fence should be better-done. There was some discussion. We should have signs that state our rules. Henry 4 urged Walt to talk to the bench-fliers about their take-offs.
- **ACTION:** Motion from Henry 3: Moved that we get bids from a fence contractor to put in a safety fence that meets the substance of the AMA safety regulations. He is willing to work on it. Seconded and Passed. This would require approval by the membership for a proposal.
- H. John R.: Regarding our effort to secure access to the Tustin Lighter than Air Base: The South hangar will be demolished. The north hangar is to be remodeled for multiple use. He and others have been working with the Or. Co. Parks and Recreation to articulate our hopes to be included in the proposal. John also met some of the higher-ups in AMA at the Oshkosh air-show, in Wisconsin... and laid some ground work toward getting AMA support for model flying here. John asked that any of us who have items of historic nature about our club forward information to the Club officers. (Please see the Business Session notes, above.) Contact Henry 3 or Walt.
- I. Joni Whitsitt: We want to contact all the District X AMA clubs of our aim. Jim Sonnenmeier recommends that we reach beyond District X, stating that Free Flight fliers are spread so thin, with so few places to fly indoors, that world-wide publicity is needed. World Free Flight records have been set in that hangar! R/C Groups should be informed.
- Joni asked, "How many of you go to the AMA District X website? " (Very few.) "District X is the largest section of AMA. We should plug into this. "
- J. Ross announced that one of our older members, Don Ramsay, passed away this past Thursday. Don's been a member in HSS since the '80's. He succumbed to kidney failure. Born in Canada, he served in U.S. forces in Korea. Henry suggested that the club send condolences and flowers to the family. Ross will let his friends know when services will be held.
- K. Show and Tell:
1. Erv Szego showed his 3 meter CRUSADER that broke up at that last RES contest. He's rebuilding it from the crash. It's his first build, and he's gaining skills and enjoying it .
 2. Henry III showed his De Havilland. "It's a Foamie, but not an ARF." He plans to fly it this weekend.
- III. Raffle:** The Secretary has no more donations for raffle prizes. Have you anything to contribute? Tonight's winners were: Ace DIGIPACE 1 charger/discharger, chosen by Jim Sonnenmeier.; 41" Messerschmitt (donated by Bruce "Taz" Eillyson): won by Dennis Anderson.

Meeting adjourned at 8:35 p.m. Respectfully submitted, Ted Broberg, Secretary

HSS Web Site Administrator

Don Knight has been our web site administrator for nearly a year, and has done the best job of any in the position. Unfortunately, Don is leaving the area, and will no longer be able to fill the position. Therefore, we are looking for someone to take over. We have gone to extra effort to set up our site so that it can be managed by most anyone. That means experience in Hyper Text Markup Language (HTML) is not required. We have a simple seven page procedures manual for the site, and a separate two page manual for managing all the photos. Anyone that would like to entertain the idea will be provided with the manuals so as they can see how simple the task is, before taking on the position. All guidance and training will be provided. Contact Fred Hesse at a meeting, or fhesse@socal.rr.com , or 714-963-5838.

September Fun Fly at Victor Valley RC Flyers

VVRCF is planning to host a fun fly in September covering the 14th, 15th and 16th. Here are their details.

This would coincide with "Hesperia Days" which is a celebration the town holds every year on the 15th with fireworks at Hesperia Lakes and a parade down through the middle of town. Because of our flying field location we can really enjoy the fireworks from our field.

This fun fly will include full access to our facilities including the Soaring area, a 550 foot paved RC runway and helicopter area. We encourage all types of aircraft except rockets and fuel burning jets (turbines). Ducted fans are OK. Detail on the facilities can be found at the Websites; vvrcef.org and nomotorflyer.com

Ronnie Espolt and myself will be staying at the field Friday and Saturday nights and we plan to have a barbeque available if people wish to bring things too cook. We have room for all sorts of self contained RV's and Andy-Gump's are on site. No potable water is available however.

We can make the Soaring facilities open to any level of operation we wish to pursue.

Rick Pearson, AMA# 9369, phone: 951-240-9704

Downers Grove, IL

Meeting Minutes for Tustin Blimp Hangar

Over the past several years, HSS has conducted fun fly indoor flying events in the Tustin Blimp hangar. The U.S. Navy has had control over the facility, but is now considering the transfer of the property to the City of Tustin, to be converted into a regional park. The north hangar has been identified as a national monument which means it will be preserved. HSS has formed an action committee to look into the possibility of obtaining non-exclusive access to the Tustin Blimp Hangar for indoor model aircraft flying events. The committee is presently made up of John Rittenhouse, Henry Smith III, John Anderson, and Fred Hesse.

The action committee sees this as a possible opportunity to secure access for a variety of activities including future fun fly's, but more significantly, AMA regional and national competitions and ultimately maybe a world F1B event. An initial plan has been drafted that outlines our goal of placing model event planning of this facility in the hands of the Academy of Model Aeronautics (AMA) and/or the National Free Flight Society (NFFS).

The committee members were invited to a special on-site meeting with Orange County Parks Department Director Mark Denny on Friday July 20. The meeting was intended to outline the county's initial plans for land and hangar usage. It is recognized that the county plans can take many years to materialize, but we feel now is the time to propose our goals. Beyond completion of these plans, the facility could be used at present for indoor model flying, as no improvements are needed.

The following minutes resulted from the meeting.



Meeting Minutes for Tustin Blimp Hangar (Continued)**Orange County Parks Department Meeting Minutes for 20 July 2012**

Rev: 29 July 2012

On Friday July 20th at 2 PM a special meeting was called by Mark Denny, Director of Orange County Parks Department. The subject was county usage plans for an 85 acre park and the north hangar at the Tustin Blimp Facility. The meeting was held outside and inside the hangar, and was attended by about 22 concerned individuals loosely associated with Friends of Harbors, Beaches and Parks (FHBP) a Newport concerned citizens group that assisted in organizing the meeting. Henry Smith III and Fred Hesse represented Harbor Soaring Society (HSS).

Attendees introduced themselves prior to the very excellent presentation by Director Mark Denny. Our feeling was that a majority of interests were centered on outdoor park planning, Not hangar use. One person asked about possible movie set use. Most others appeared to be concerned about jogging, walking, biking, Segway, and horse trail planning, and children's play areas.

Mark Denny then presented about six illustrated boards showing initial planning. These are available at <http://www.ocparks.com/designprojects/default.asp?Show=TustinBlimpHangar%28FormerMCAS%29> . Mark described about 6 – 8 areas outside the hangar that were being considered. These began with a possible Olympic swimming facility and practice ice rink for the Anaheim Ducks hockey organization. These would be situated south west of the hangar near the south boundary of the park. Other areas were being considered for a lake, blimp landing apron north east of the hangar, children's play area, open areas for sports activities, jogging/bike trails around and through the park, picnic areas beside the hangar, and paved parking areas. Henry Smith brought up the possibility of an outdoor model aircraft flying area, reserved for small aircraft that would not exceed the 400 foot altitude limit imposed by John Wayne airport flight patterns.

Mark then discussed hangar usage. His comments were quite enlightening. He explicitly emphasized a variety of non-exclusive uses ranging from Rock concerts to catered club meetings to indoor model aircraft events. The hangar may be divided into about three areas, one for commercial blimps, and two for other activities. Any partitions inside the hangar would be moveable or removable to allow use of part or the entire interior. He commented that the present operations by AeroCraft (the company using the curtained area of the hangar) will continue for several more months which nets the Navy \$30,000 rent per month. There is also interest by Goodyear to use the area for annual flight certification inspections of the blimp located in Southern California.

After Mark's initial presentation, the group was invited into the hangar which was, of course, suitably impressive. Mark discussed details and fielded questions. Next, Henry Smith provided a flying demonstration with his electric powered Night Vapor model plane. Henry was quite charismatic and enjoined at least three of the group members to fly his plane. This made quite a hit. Fred Hesse provided a show and tell of a microfilm type rubber powered model. Model flying was warmly received by most everyone, who took photo and video images of Henry's plane.

Mr. Denny fielded questions about other ongoing projects at the Parks Department. Most of this centered on wildlife and use of trails and other park assets.

As Fred Hesse exited the facility, he stopped to speak with Mark Denny about what we might do next. He was very complementary to our goals, and agreed that our next step to develop AMA and local support would be proper. Henry spoke with Mr. Denny and explained the model aircraft community did not need anything from the Parks Department except access to the space. We don't need any improvements to the hangar. Water and electricity would be nice but not absolutely necessary.

Submitted by Fred Hesse, editor for HSS newsletter.

Reviewed and revised by Henry Smith, 23 July, 2012.



2012 HSS Membership

Our 2012 HSS membership enrollment season is in full swing. A membership application and optional member survey is included in the last pages of this newsletter. These can be mailed in to our post office box shown on the last page, or given to a club officer. Alternately, HSS and AMA membership applications can be obtained from any club officer, or available on our club web site at www.1hss.org. Applicants must be members of the AMA prior to joining HSS. **AMA and HSS applications received during October – December 2012 are good for all of 2013 as well.** AMA Membership applications can also be obtained at the AMA web site www.modelaircraft.org, download document No. 902 from the publications page. Or you can apply on line. If you renew your AMA membership online, be sure to print the receipt that they provide as proof that you paid. And, don't forget your City of Costa Mesa Flying Permit. Details are shown on pages 8 of this newsletter.

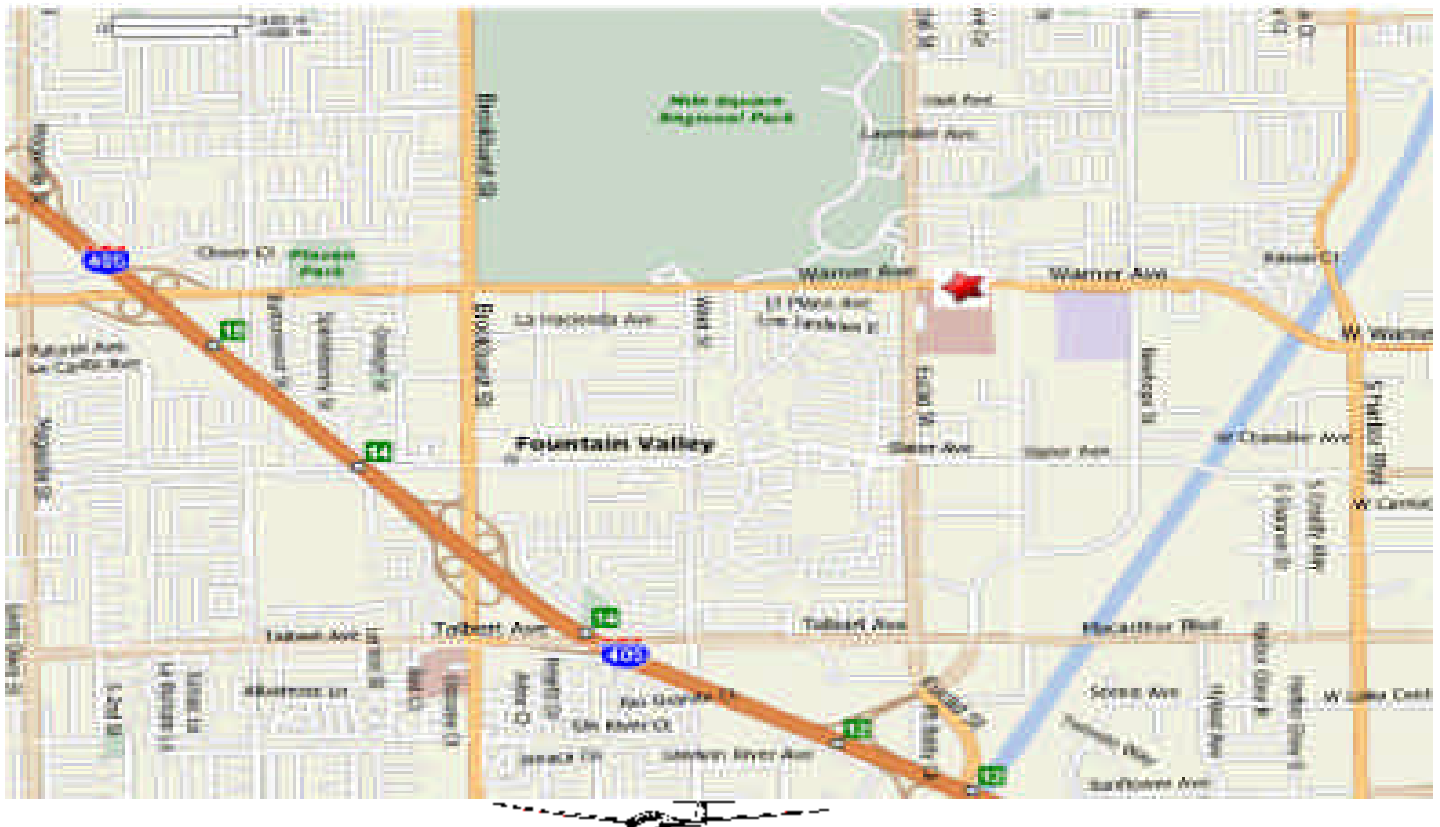
AMA District X Website

The following is taken from the July 2011 edition of "AMA Today", the electronic membership newsletter.

AMA District X Vice President Lawrence Tougas wants to invite AMA members from all districts to enjoy District X's new website. "We have a lot of great articles in our blog, plenty of pictures in our photo albums, and a spot where you can learn more about our associate vice presidents and myself," says Lawrence, District VP. All of the information is at www.ama10.org. Why not consider helping your district with its website?

General Meeting Announcement For September 4th, 2012

The next club meeting is Tuesday September 4th, 2012, at ROUND TABLE PIZZA, 11095 Warner Ave. & Euclid (North-east corner) in Fountain Valley. Phone number is (714) 839-0276. The Family Night rate is all-you-can-eat pizza, plus one salad bar, for \$6.99. Fountain drinks are an additional \$1.99, self-service, or \$2.99 per liter. Beer and wine are available. Bring your wife, family, friends, etc. Bring your favorite plane for show-and-tell. There will not be a raffle, due to a shortage of donations. The location is shown in the map below. The executive/steering committee meeting begins at 6:15 PM.



Orange County Fair

HSS and Scale Squadron of Southern California assisted Joni Whitsitt with her booth at the Orange County Fair on Friday July 20 through Sunday July 22. HSS members included Roger Nahas, Ted Broberg, Henry Smith III, Erv Szego, James H. Jones, and Rob Askegaard. Unfortunately, your editor did not obtain a complete list of HSS members that assisted. Apologies to those that he missed.

The event was loads of fun, and we usually had a large group constantly clustered around our booth.

Above right is Ted Broberg working his "Flyer on a Wire" for a young gentleman, with Roger Nahas in the background explaining the RealFlight Simulator to a young lady. Middle right shows Roger with a couple of young ladies trying the simulator. Bottom left is Henry Smith III explaining RC to a guest, and bottom right is again, Ted Broberg and a young gentleman checking out the Flyer on a Wire.

Photos courtesy of Ted's friend, Bill Weymouth, whose photos accidentally captured a disproportionate collection of young ladies interested in model aviation. Way to go, Bill.

Thanks. – Ed.



2012 Park Permits Available Now

Robert Staples has sent us the announcement (below) stating that City Flying Permits for 2012 are available now for \$20 per year. Remember to bring your new AMA license. Note that renewal by mail is now allowed. Submit application (available on line), copy of AMA license, and payment.

RENEWAL NOTICE:

The City of Costa Mesa will be accepting renewals for the 2012 Flying Permits beginning Monday, October 24, 2011, at the following locations:

Costa Mesa City Hall (77 Fair Drive, Costa Mesa 92626) – 3rd floor Recreation Counter, during regular business hours from 8:00am – 4:30pm (excluding City observed holidays). Call 714-754-5300 for details.

Temporary permits are issued at the Downtown Recreation Center (1869 Anaheim Avenue, Costa Mesa 92627) between the hours of 10:00am – 1:00pm on Saturdays. For information, call 714-327-7560.

Joyce M. Santos Administrative Secretary - City of Costa Mesa - Recreation Division
77 Fair Drive, Costa Mesa 92626 Phone: 714-754-5009 Fax: 714-754-5166

Note that to fly at Fairview Park you need the above permit, liability insurance (preferably AMA), and you need to follow City of Costa Mesa Ordinance No. 07-01, City Regulations for Issuance, Suspension and Revocation of Permits to Fly at Fairview Park, Academy of Model Aeronautics Safety Code, and the Fairview Park Flying Field Rules which are all posted at Fairview Park and on our web site at www.1hss.org. You do not need to be a Harbor Soaring Society member (but it is good to have you join us).

Some of This Year's Soaring Events

The following is a preliminary alert to coming soaring competitions. Further details will be posted as soon as possible.

- Nats Muncie Indiana July 28- Aug 7
- Wilson Cup CVRC Sept 9
- Soaring Masters Sept 21-23
- Visalia Fall Fest Oct 6 & 7

SC2 Competition Schedule for 2012

Here is the schedule for your Southern California Soaring Clubs (SC2) monthly contests for 2012. Check the SC2 web site at <http://site.sc2soaring.com> for further details and competition results. Check individual club web sites for directions to their flying field.

- February 26, 2012 hosted by SWSA
- March 18, 2012 Hosted by VVRC (Cancelled)
- April 22, 2012 Hosted by SWSA
- May 20, 2012 Hosted by HSS AT SWSA
- June 17, 2012 Hosted by SULA
- July 22, 2012 Hosted by DSH AT ISS
- August 19, 2012 Hosted by ISS
- September 23, 2012 Hosted by TPG
- October 21, 2012 Hosted by TOSS
- November 18, 2012 (Rain Day) Hosted by VVRC?
- December 2, 9, 16, 2012 (No points)
Hosted by SULA & DSH AT SULA

SWSA - Silent Wings Soaring Association - West Covina – www.silent-wings.org

VVRC – Victor Valley RC Flyers – Victorville – <http://www.vvrcf.org>

ISS - Inland Soaring Society - Riverside – www.glideiss.us

TPG - Torrey Pines Gulls - Torrey Pines, San Diego – www.torreypinesgulls.org

TOSS - Thousand Oaks Soaring Society - Thousand Oaks – www.toss.freesevers.com

SULA - Soaring Union of Los Angeles - San Pedro – www.sulaclub.org

HSS – Harbor Soaring Society – Cost Mesa – www.1hss.org

DSH – Downey Soar Heads – Downey

The year end final results for 2011 are available at web sites: <http://sc2soaring.com> and www.1hss.org.



Tech Article – Using a 3-D Aircraft Stabilizer

By Roger Bohn May 6, 2012

There is a lot of interest in the latest generation of stabilizers (multi-axis gyros) for aircraft. The old stabilizer technology was based on sensing the location of the horizon, and apparently worked erratically or not at all on cloudy days, at night, etc. The newer products use totally different technology, namely tiny accelerometers using MEMS technology (microelectromechanical systems, which are made using semiconductor manufacturing methods). MEMS accelerometer sensors are quite powerful – they are what made the Wii controller so amazing 5 years ago, and all airbags now use them to decide whether and when and how to fire.

Summary: These things rock! They automatically compensate for wind gusts, unstable air, and even for engine torque on takeoff. They also make hands-off flying possible for short periods, e.g. if you have to turn around to say something clever to a friend. BUT they are not 100% reliable. And some purists don't like them – just like expo, mixing, and other electronic goodies, stabilizers reduce the skill needed to fly decently.

What products are out there?

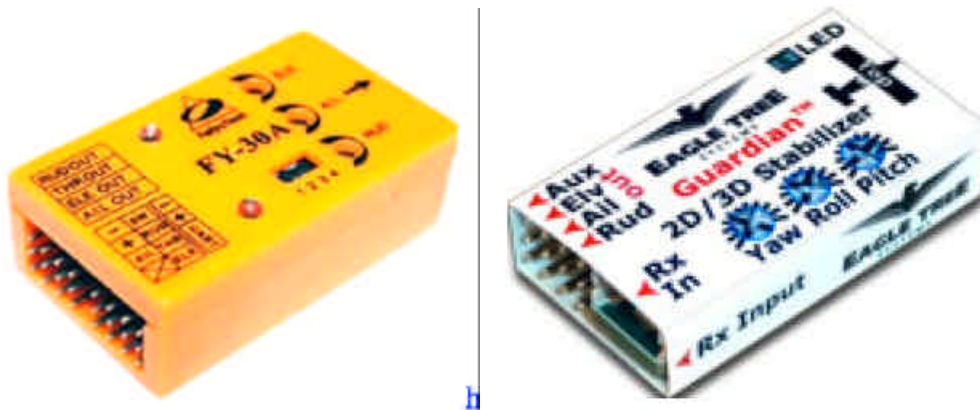
Two of the powerful and relatively cheap solutions on the market now are by Feiyu Tech. Eagle Tree is also about to come out with a unit which at least on paper looks superior.

FY-20A was Feiyu Tech's first dedicated stabilizer. Now available for about \$75. It's the only one I have used, so far.

FY-30A is their new unit. Available for about \$125. It's supposed to have much better performance, it can be used to stabilize a camera, and it can be re-flashed when software upgrades come out. It also outputs pitch and roll angle data via a data port, which is useful for FPV flight and for autopilots.

Eagle Tree is coming out with another one, the Guardian. It's expected to sell for about \$75, and be more powerful (and considerably smaller) than the FY-30A. It's due to reach stores "late Spring" which I hope means by June 30. As soon as it becomes available, I expect it to push Feiyu Tech out of the market or to much lower prices. Keep that in mind when you make your buying decisions.

Some other manufacturers also have these devices, but AFAIK they are more expensive and not used as much. Stabilizers are also built-in or options for most autopilots. For example, Eagle Tree has a "Guardian Expander" for its popular data logging system (\$55). Feiyu Tech has several autopilot systems that incorporate stabilization.



<http://www.dronesvision.com/feiyu-tech-fy-30a-3-axis-imu-stabilization-camera-stabilization/>

<http://www.eagletreesystems.com/images/guard-float-large.jpg>



Tech Article – Using a 3-D Aircraft Stabilizer (Continued)

Do they work?

The short answer is “Yes.” The rest of this note is my “long answer.” Remember I’ve only used the FY-20A so far. Jim Bonnardel reports that the FY-30A is indeed superior, but I also talked with another club member who crashed with an FY-30A on its maiden flight. So some of my cautions about setup at the end of this article still apply.

3 modes of operation. This is the key to these devices, so I’ll try to explain clearly. Control the FY unit with a 3-position switch, which needs its own channel. The first position is “off,” the second is “3-D mode,” and the third goes by various names including 2-D, but amounts to “straight and level flight (S&L).” The 3D and S&L modes are completely different behaviors – it’s like having two different personalities.

The first and most important mode is “off.” Be very sure this works when you start out, because if anything goes wrong, you can go back to normal flying. There’s a “quirk” in the FY units that means the “off” mode does not always work – I will explain later.

The mode that I mostly use is the 3D mode. This uses the gyros to sense, and compensate for, any non-commanded changes in pitch, roll, or yaw. You still fly the aircraft normally, and it responds normally to your control sticks. But acrobatic maneuvers are much smoother, landings track very well, and so forth. I am now at the point where I customarily fly in this mode for about 80% of my flight time.

Here’s an example of what 3D mode does. Most aircraft have some adverse yaw when banking, which we either control by hand with the rudder, or use mixing to add rudder automatically. With a stabilizer, adverse yaw is automatically compensated for. When you roll right, any attempt by the aircraft to yaw left is countered by automatic rudder movement.

The S&L mode is intended for emergency recovery, and hands-off flying. Let go of the sticks, and the aircraft will recover from whatever it was doing and fly straight and level. You can also work the sticks to turn or climb, but only very slowly. For example to turn, you have to hold the stick hard over, and keep it there.

Bugs and problems

The FY-20A has some problems. Most serious, it has twice behaved in ways I cannot explain. (One of them was this week.) The temporary solution is to turn it Off and land asap. Size of the unit is a bit large for small aircraft. (Jim just cut a hole in his foamy!) Physically installing and removing is awkward, so you need another \$100 unit in each plane.

Gain adjustment and control oscillation: If the gain on any channel is too high, the corresponding stabilizer will “hunt” back and forth around the proper setting. This works the heck out of the servo, and puts stress on the airframe. The gain is adjustable on the ground, but the best gain setting depends on the airspeed. (The new Guardian unit will have gain partially adjustable in the air.) So I have my gains set to be OK normally, but at top speed and especially in a power dive, I get aileron oscillation (looks like flutter) when in 3D mode. So I’m trying to train myself to turn the unit Off before going to high speed. Note that it’s the airspeed that matters, not the power level.

Servo wear and power consumption. When the stabilizer is on, it is constantly making tiny adjustments to the servos. You can hear this on the ground – if there is any wind blowing at all, you’ll hear servo movement even if it’s too small to see. This supposedly increases power consumption on the BEC, and may cause servo wear. I don’t know much about servos, and don’t know if this is real. When I switched from Spectrum to Hitec with telemetry, I decided I needed an external BEC on all my models anyway, so power consumption has not been an issue for me. (Current draw of the FY-20A itself is spec’d at 52ma at 5 v.)

S&L mode is somewhat **sensitive to airspeed**. As speed increases, you will start to climb. The technical reason is that the accelerometers can measure attitude, but not changes in altitude. At a fixed attitude, more airspeed = more lift = climb. This is inherent in the physics of flight. Only a true autopilot can deal with it (one which keeps track of the barometric altitude). I explain some of this at

<http://www.rcgroups.com/forums/showthread.php?t=1285059&page=76#post19311790>



Tech Article – Using a 3-D Aircraft Stabilizer (Continued)

Bad default on startup: This caused two early crashes, I suspect. When the FY-20A powers up, it starts in one of the stabilized modes! If anything is wrong with the unit or the setup, this means your plane will behave

in unexpected/ incomprehensible ways. Checking that the transmitter switch is “off” won’t help, because the unit is “on” anyway.

Setup and Use

Mounting: Put it in your plane, as near the 3-axis CG as convenient, with the arrow pointing either straight ahead, or straight back. It should be as close to level as practical, although you will be able to “trim out” small deviations from level once you get airborne.

All MEMS accelerometers are sensitive to vibration. I’ve never found vibration to be a problem (with electric motors); just 2 strips of Velcro for mounting seems to provide enough vibration isolation. But each FY unit comes with an anti-vibration “trapeze.” It needs a lot of space to mount, and I have not found it necessary – so far.

Setup: Program an additional channel on your TX, tied to a 3 position switch. The channel should be set up similar to a “flaps” channel. Position 1 is no signal, position 3 is full motion, and 2 is a halfway signal. You might need to play with End Point Adjustment on your TX, but I never had a problem.

Connect the Aileron, Elevator, and Rudder channels on your RX to the appropriate stabilizer inputs. Then connect the actual servos to the corresponding stabilizer outputs. Therefore, it’s not convenient to switch these devices from one plane to another. Attach the new “control” channel from your RX to the appropriate input on the stabilizer. Caution: the pins on the FY-20A were not well designed (the FY-30A is better), and I always worry about bending a pin.

Now you have to adjust the gains on all 3 channels, using a Phillips screwdriver. Low gain on a channel means the plane responds more gradually to deviations in that axis. I won’t go into how to set them, except to say it’s best to start with low to very low gain settings.

Flight Conditions in your TX for turning stabilization on and off. This gets tricky, it’s not well documented, and it took me a while to figure out. They are the easiest way to take care of changing mixing, expo, end points, and other settings automatically when you change stabilizer mode. My TX (Hitec Aurora 9) makes them relatively easy. I have my old hand-flying setup as “Normal Condition,” and a “Stabilizer Condition” which shuts off mixing, re-trims, and makes some other changes. The Flight Condition is selected by exactly the same switch that changes stabilizer modes. One big virtue of Flight Conditions is that trimming on the A9 is separate for each Condition. Since the stabilizer is hard to install exactly level in the aircraft, when I turn it on I would otherwise need to re-trim. See <http://www.rcgroups.com/forums/showpost.php?p=15080643&postcount=5989> for an explanation of flight conditions.

Calibration is almost never needed. I calibrate when I first install. Thereafter, the manual recommends calibrating only when there is a large temperature change (20 degrees – I assume that is 20 Celsius). Around here, that is rare. I think I’ve recalibrated once since I got mine installed.

Testing

Test, test, test. I found out the hard way. On my first flight with the stabilizer, the aircraft acted erratically the moment it took off. I couldn’t control it, and ended up flying my Parkzone T-28 into the ground, breaking the fuselage. I rebuilt it, tried again, and flew a few circuits. But again something went wrong, and although I frantically flipped back and forth between Off and S&L modes, I crashed again. (This time the wing separated.) I was a novice flyer at the time; when something similar happened to me this week I was able to recover and after some trial and error got it working again.

The key test is simply moving the aircraft in three dimensions by hand, and watching what the servos and control surfaces do. Change the stabilizer mode, and do it again. Repeat. Run the motor up to full to see



Tech Article – Using a 3-D Aircraft Stabilizer (Continued)

whether there is a lot of vibration. (If so, the red light on the FY unit will go on.) Then try taxiing in different modes, although the control movements are too small to see at any distance.

Operating

Always know which mode you are in, especially S&L mode. Other than that, it's ridiculously easy to use – try different maneuvers on the different settings to see what happens.

Preflight checklist:

The stabilizer is always connected between the radio and the servos, so there are no additional connections or adjustments before a flight.

- Power up the transmitter and aircraft in the normal way. Check the lights on the stabilizer.
- Test all 3 axes of flight control with the stabilizer in S&L mode. As you tip the aircraft, the corresponding control surface should try to compensate.
- Then test all 3 axes again with the stabilizer OFF. It is very important to switch the FY units "On" and then "Off" again before takeoff. The reason is bad design – when it first powers up, the FY-20A defaults to S&L mode. Bad, bad, bad.
- Check that the vibration light does not come when you run up the engine.
- Taxi out normally. Flip the stabilizer control to either 3D or Off before takeoff. Do not try to takeoff in S&L mode, because if anything goes wrong, you won't be able to react quickly.
- Take off, and go up to safe altitude before you change the stabilizer mode – just in case.

Landing: I am still experimenting. 3D mode seems to work very well for lining up and landing. S&L mode won't let you line up (turning radius is too large), but once you are in the groove you can switch S&L on and drop the power.

I will try to write a follow-up to this article in a few months, when I have gotten my hands on the Eagle Tree unit. Until then, if you see me at the field I will be happy to let you fly my Trojan for a few minutes to check out the feel of the FY-20A.

Links for more information

<http://www.rcgroups.com/forums/showthread.php?t=1478346> for running discussion of FY-30A.

<http://www.rcgroups.com/forums/showthread.php?t=1596644&highlight=eagl+tree+guardian> for announcement of the new, standalone, Guardian stabilizer from Eagle Tree.

It Is With Sadness That We Report The Passing Away Of Don Ramsay



The photo (shown left) is of Don Ramsay, with Ross Thomas.

It is with sadness that we report the passing away of Don Ramsay, long-time friend and HSS member, Thursday, August 2, of kidney failure. A Memorial – Celebration of Life Service was held for Don last Sunday, August 26.

We will miss seeing him around the field

Plane Rap Classified Ads and Services - For Sale

This area of the newsletter is free to club members to sell planes, related equipment, and services. Contact Fred Hesse at fhesse@socal.rr.com with any material that you wish to insert here.

For Sale: Sig Rascal 110 ARF



Astro 60 with super gear box
 Astro 204 Speed Control (12 lipo cells max)
 Prop 24x12 – 31 Amps, 1300 watts
 4- HS475HB Servos
 Spectrum AR6200 receiver

\$300 with receiver, \$200 without receiver

Uses 2- 6 cell lipo motor batteries (not included)
 Wingspan 110", Area 1522 square inches
 Length 75.75"
 Weight (including motor batteries) 15.43 lb
 1100 mah receiver battery

Dennis B. Anderson (714) 531-1320

Free Website For Model Classified Ads

Hi I'm Tyler with TheRCSwap.com, and was wondering if anyone in your club owns a small RC business or just has some RC stuff to sell?

TheRCSwap.com is a new free, RC only classifieds site that was made by RC'ers for RC'ers just to help people buy and sell their RC stuff, and help small RC businesses advertise their products/business for free to help drive traffic/sales to their stores.

You can post any amount of ads for free or upgrade your ads to be seen more easily. If you own a website, or a store you can link from our site to yours for free.

Clubs can advertise their Clubs or Events for free as well, just another way to get the word out about your club! If you'd like to know more, just come check us out! Thanks.



Plane Rap Classified Ads and Services - For Sale (continued)

Custom laser cutting services are now provided by GDH Planes, in addition to manufacturing kits. With the currently weak Canadian dollar (we are a Canadian company), it is a great time to use our services and take advantage of the exchange rates, adding to our already reasonable rates (US\$1 is currently equal to about \$1.157 Canadian). Should any of your members require this service, please have them visit our web site at www.gdhplanes.com or email us at LaserCutting@gdhconsulting.ca.

Regards, Glen Harbottle President GDH Consulting Corp. Tel: 905-668-2326 glenh@gdhconsulting.ca

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HARBOR SOARING SOCIETY MEMBERSHIP APPLICATION FOR 2012

**P.O. Box 1673
Costa Mesa, CA 92626
AMA Chartered Club # 128**

AMA's Oldest Chartered Soaring Club Gold Leader Club, 2012; Silver Leader Club Since 2009

I understand that by applying for membership in the Harbor Soaring Society, I must be a current member of the AMA. **Please Print**

NAME _____ **Home Ph.#** _____

ADDRESS _____ **Work Ph. #** _____

CITY _____ **STATE** _____ **Zip** _____ **E-MAIL** _____

AMA # _____ **(PROOF OF STATUS REQUIRED, Xerox copy OK)**

DATE OF BIRTH _____ **Frequency channels used** ____/____/____/____

- NEW APPLICANTS (Without Name Tag)--(17 years and older) = \$20.00**
- SENIOR MEMBER (Renewal W/O Name Tag)(17 years and older) = \$20.00**
- JUNIOR MEMBER -----(16 years and under), = \$10.00**
- Optional or Extra HSS Name tag----- = \$15.00; including mailing**
- I hereby give my permission to publish my [NAME], [ADDRESS], [PHONE], [E-MAIL ADDRESS] in the monthly newsletter. (Strike out any element of personal information that should not be published). Note that newsletter is published on club web site.**
- I request E-mail delivery of the monthly newsletter. (Include E-mail address above.)**
- I request printed copy of the monthly newsletter by U.S. Mail. Printing and mailing = \$20/year.**

My interests in radio control flying include (Check all that apply including future interests):

Thermal Duration Gliders _____	Slope Soaring Gliders _____	RES Gliders _____
Large Scale Gliders _____	Hand Launched Gliders _____	Electric Motor Gliders _____
Park Flyer Electric Planes _____	Acrobatic Electric Planes _____	Scale Electric Planes _____
Electric Pylon Racing _____	Indoor Electric Planes _____	Electric Helicopters _____

Applicants making application for senior membership between July 1st and October 31st pay a reduced rate of \$10.00 (Name tag extra). New applicants making application between November 1st and December 31st will pay the annual rate indicated above and such dues will make the new member paid in full from November 1st through the following year. A signature is required from all Harbor Soaring Society members, and applicants, agreeing to comply with the current AMA Safety Code and the current HSS General Field rules and Field Safety Rules. Note that a City of Costa Mesa permit is required to fly at Fairview Park. Obtain this from the Costa Mesa Parks and Recreation Department. Cost is \$20

The undersigned attests that: I will operate my model using only radio control frequencies currently allowed by the FCC. Further, any transmitter that I use at any designated HSS flying field must be manufactured to meet the AMA/FCC specifications for model aviation. I understand that my failure to comply with the above restrictions will result in nullification of liability coverage for damages caused or claimed.

SIGNATURE: _____ **DATE** _____

Total dues owed and attached: \$ _____

SIGNATURE OF CLUB OFFICER RECEIVING APPLICATION _____

Rev: 28 January 2012

HSS MEMBERSHIP SURVEY – 2011 - 2012

Please take a few minutes to share your flying-related information with the HSS board so that we can better maintain and enhance the enjoyment of flight for you and all Fairview flyers. Thanks!

Name _____ Date _____

1. What kind of RC flying/planes do you enjoy? (1=favorite, 2=next, etc):

Glider: Winch launch__ Hi-start__ Slope__ Hand-launch__ Other _____

E-power: Powered Sailplanes__ Scale__ Sport__ Acrobatic__ 3D__ Speed__ Helicopter/autogyro __

Other-such as _____

2. Where do you prefer to fly at Fairview? (1, 2, 3, etc) Sailplane area __ Slope __ Runway __ Other __

3. Which days do you usually fly? Weekday__ Saturday__ Sunday__

4. When is your usual time? Early AM__ Mid-late AM__ Noon__ Early PM__ Late PM__

5. How often do you usually fly? Almost Daily__ Two-three days/week __ Every week or so__ Less__

6. At the field what do you prefer to do? Mostly fly__ Mostly socialize__ Both equally__

7. What kind of activities would you best enjoy at the field? (1=favorite, 2=next, etc):

Contests__ Which kind? _____

Fun flies__ Swap meets__ Displays__ Airshows__ Social activities__ breakfasts__ BQ lunches/dinners__

Other-such as _____

8. Do you often fly at some other site(s)?__ **9. Where?** _____

10. Do you belong to any other RC club(s)? __ **11. Which?** _____

12. Do you read the HSS Plane Rap __ Comments? Suggestions _____

13. Do you visit/use the HSS web site? __ Comments? Suggestions? _____

14. Do you attend HSS meetings? Usually__ Sometimes__ Seldom__ Never__

Comments? Suggestions? Speaker/Subject Ideas? _____

15. Are you retired? __ **16. Do you have any special skill, expertise, experience or time which you might share?**__ What? _____

17. Would you help out occasionally with small simple club projects (one-two hours)? __

18. Would you consider donating planes, equipment, funds or other for club purposes? __

Comments? Suggestions? _____

19. What can the club do better as to the field, membership services, etc? Comment? Suggestions?

20. Would you consider serving as a HSS board member? __ **Contest Director?**__ **Trainer?**__

Committee member? __ **Special Projects helper?**__ **Meeting speaker?** __ **Other?** _____

Thanks for your info! Please: respond as instructed in the on-screen survey; or email via: www.1hss.org;

Or mail to: Harbor Soaring Society . P.O. Box 1673 . Costa Mesa, CA 92626



HSS Sponsors (continued)



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See our web site at www.1hss.org, our photo site at <http://picasaweb.google.com/rc.goat> ,
and our YouTube site at <http://www.youtube.com/user/hssletsfly> .

NEXT CLUB MEETING WILL BE:

**TUESDAY SEPTEMBER 4th 2012, AT ROUND TABLE PIZZA, 11075 WARNER AVE.
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NO RAFFLE THIS MONTH. SEE DETAILS AND MAP TO LOCATION ON PAGE 5.

SEE THE COLOR NEWSLETTER SENT BY E-MAIL AND AVAILABLE ON OUR WEB SITE.

