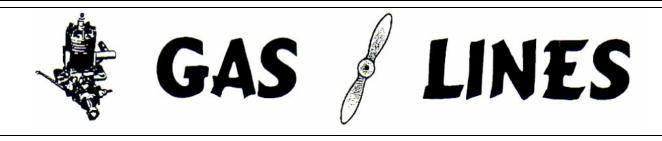


Southern California Antique Model Plane Society -- S.A.M. Chapter 13 - AMA Charter #158 Website address: http://SCAMPS.homestead.com/

RETURN ADDRESS:

Kevin Sherman 1521 South Normandy Terrace Corona, CA 92882-4036



AMA 158 - Southern California Antique Model Plane Society - Sam 13

SCAMPS 2007 Officers

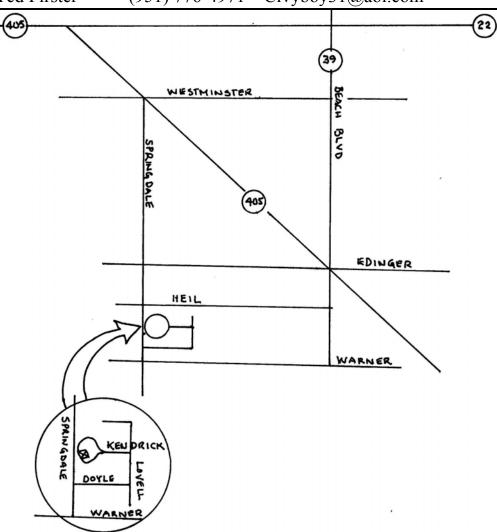
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Meeting Coordinator	Hal Wightman	(714) 528-1850	Hal_Judith@Prodigy.net
Safety Officer	Ted Firster	(951) 776-4971	Civyboy31@aol.com

The October SCAMPS'
Meeting will be held at the
Home of John Donelson on

WEDNESDAY, OCOTBER 3,

7:00 PM. The date

was moved to a Wednesday, to avoid conflicting with the SAM Champs. John said his house is easy to get to from the 405 or 22 freeways. Please refer to a map for exact directions. He said he has space for small show and tell models on his dining table. He will not be able to host the wives this year, but wives are welcome to come if they want to mix in with the men. John will be gone until a few days before the meeting, so keep that in mind if you need to contact him.



Meeting place: John

Donelson, 6022 Kendrick Circle, Huntington Beach, CA. His phone number is (714) 846-6967

SCAMPS News by Kevin Sherman

Priority Notifications – Next months' SCAMPS' Fun Fly Contest will be held October 3, 2007. The events are Jimmy Allen and ABC old timer Fuselage. Our monthly meeting will be hosted by John Donelson on the same Wednesday evening, October 3. The SAM Champs are in Henderson Nevada. Flying is October 8-12.

SCAMPS' October Club Contest

Allan Arnold was the CD for this month's contest which featured ½ A Texaco and Moffett. Bernie Crowe has done a great job organizing the events each month and I want to thank him and all of those who have volunteered to CD a contest. While I was unable to attend, my dad told me there was a little confusion about the rules for ½ A Texaco. Each month, the rules have been printed at the bottom of the score sheet for the event. So, when you sign up in the future, please look over the posted rules on the score sheet, and this should eliminate any issues in the future. In ½ A Texaco, the rules written were, "3cc fuel – 3 flight – best flight of three scores." Because some contestants did not see this, it was questioned if it was the best single flight, or an add 'em up. Both formats are frequently used at contests. At our contest we used the best single flight, but remember for the SAM Champs, it is 15cc of fuel, and it is the total of three official flights that are counted.

The confusion over the rules didn't hurt participation as 8 flyers competed in ½ A Texaco and all 8 got in three official flights. Here are the results, per the rules of best flight of three scores – Gary Sherman took first with a flight of 461 seconds, Hal Wightman was second with a flight of 405 seconds, John Donelson was third with a flight of 378 seconds, Ron Thomas was fourth with a flight of 295, Skip Robb was fifth with a best flight of 292 seconds, Fernando Ramos was sixth with a flight of 288 seconds, Joe Jones was seventh with a flight of 257 seconds and Ted Firster was eight with a best flight of 160 seconds. This format rewards the best single flight, where the add 'em up rewards consistent good flying. For the heck of it, Bernie Crowe sent me the results had the rules been done that way. Had it been an ad 'em up, Hal Wightman would have won with a total of 1120, John Donelson would have been second with 1108, Gary Sherman third with 789, Fernando Ramos fourth with 779, Skip Robb fifth with 727, Ron Thomas sixth with 720, Joe Jones seventh with 677, and Ted Firster eight with 382. All in all, I think the flight times were outstanding considering they

were done on 3cc of fuel. Great flying guys! Editor's Note: CD Allan Arnold was unable to fly in the ½ A Texaco event because his model was lost the week prior in testing. He loaded it with only 2cc of fuel, and it drifted towards the freeway. Despite the effort of many to locate the model, it was not found. We later thought the most likely scenario is that it landed near the freeway and it was picked up by a passing motorist. We all felt bad and hate to see anyone lose a model.

The participation in Moffett was disappointing with only Bernie Crowe and Allan Arnold participating. Bernie took first place with his Joe Williams Moffett. Short a ½ A Texaco model, Allan Arnold flew to second place in Moffett. I got a nice Chuckle out of the score sheet in this event when Bernie sent it to me. Bernie Crowe,



The motor let go as Bernie was inserting the propeller on this Joe Williams Moffett after winding and after removing the blast tube

180/180/BANG! When I asked him what Bang meant, he sent me this picture. Pretty much explains the bang.

Dual Club Contest Flyer Report, Labor Day Weekend

Bernie Crowe - When I passed through Corona on the way home from LH yesterday, my car thermometer was showing 111F! That was about seven degrees hotter than Lost Hills! Weather at Lost Hills was as good as I can remember for some time, if you ignored the heat. Temps ranged from about 90 in the morning to 106 or 107 on Saturday, but it's a dry heat, right? I chased both days on foot, and reckon I covered about 11 miles on Saturday alone. I felt good all morning, but as noon approached and I retrieved my ninth flight of the day, I was starting to feel it in my hip joints.

Unfortunately, F1Q was a bust. There were only two entrants, myself and John Oldenkamp. John had lost his "A" plane before the contest, and crashed his "B" plane on his first flight, beyond field repair. So I just went through the paces, putting up five 2-1/2 min maxes in rounds between 08:00 and noon. The plane dethermalized at considerable altitude on every flight, and would easily have done 3 mins.

I was interleaving NosWake flights in the combined NosRubber/NosWake event with the F1Q flights, and this meant transferring my tracker from one plane to the other. On the Maxie, this means taking the wing off after every flight, so it's tedious; gotta get another tracker! I think there were nine entries, but Bud Romak didn't plan to fly until Sunday, so there were 8 of us flying. I made my 2-, 3-, 4-minute maxes, and then the next 4 mins, but dropped round 5 pretty badly in changeable air. I expected Bud to wipe me out on Sunday, flying his new Kothe '56 Wake, but his plane inexplicably spun in after minutes of steady glide on his 4-min round, and he was out, so I won.

At Denny's on Saturday night a voice from the next booth said, "Is that Bernie Crowe?", and there were Ron and Sue Thomas. Ron said, "What are YOU doing here?" I'm here for the contest, I said, but I haven't seen you at the field. Ron's response was "What contest?" They were on their way home from the Sierras, and had only stopped at LH to overnight at the trailer park! And didn't bring any planes!!

Sunday I was on the field at 06:00 to prep for Dawn Mulvihill. I started winding along with everyone else, but blew the motor out of the winding tube at about 92% turns. Now I was in a rush for the 20-minute window, so elected to wind only to about 80% in case I blew the next motor. The plane didn't climb as well as it normally does, and I think I missed the better air earlier, and I was down in 5:27. That placed me fifth, I think, but nobody felt very good about their times in comparison to Carl Redlin's 15 minutes or so!!! 'Course, his plane is a true Dawn Mulvihill and he said he daren't get it out of the box after 8:00 am or the breeze will damage it!

As this day (Sunday) was my 46th Wedding Anniversary, I had to leave early to stay married. I started putting in Mulvihill flights at about 08:00 and made the 3-, 4-, and 5- minute rounds OK. The 5-minute flight was a thing of pure beauty, always on the near field, and so slow that I could walk under the plane all the time. It worked five separate thermals on the one flight, opening up and gliding slowly with no turn, then speeding up and tightening into the skinny thermals for a few moments before opening up and searching for another one. By this time only CD Don Bartick and I were clean. Don timed for my 6-minute attempt, but the lift was very iffy by now (10:20) and I was down in about 2-1/2. I timed for Don, and his plane did not climb well, never getting above 100 ft throughout the flight. It looked as though it would be down under 1-1/2 mins, but it kept working the lift and found a small thermal at about 2 mins into the flight and finally made 2:47 to beat me. I immediately started to pack.

Goldie lost two planes but I found his Benenstein, and someone brought his Boxall back, so he's OK. Bud Romak destroyed two planes and lost another to a massive overrun, but he and Carl were able to find it, somewhere near Taft, I would imagine. Hank Cole showed up late Saturday with a new Gollywock, but didn't get it trimmed in time to fly. Good flying all weekend for me, despite the temperature, very enjoyable, and I made it to the Party on time so I'm still wed!

Don Kaiser - My dad and I went up to lost hills for the dual meet. I flew my 750 Ramrod for the first time and took 1st place in C nostalgia. I also took 1st place in 1/2 A Nostalgia. I didn't get to fly my Top Banana. On the test flight it went up perfect, dethermalized and when it hit the ground the motor and firewall fell out. Oh well. My dad did well with 1st in A Nostalgia, 2nd in B Nostalgia, 2nd in C Nostalgia, and 2nd in Early 1/2A. For the most part, we had fun. The exception was my 1/2A came down in carrot patch and I couldn't find it. Because of the heat I guess I over did it walking around in the carrots. I got heat stroke and got dizzy. It really scared me and I almost went down. Lucky for me a search party of Tom Carmen, Jeff Carmen, Mike Thompson, and Mark Eddingfield, showed up with water and helped me find my airplane. I wasn't the same for a couple days.

Daniel Heinrich - The Labor Day meet at Lost Hills this year was an enjoyable affair that unfortunately suffered from the prediction of high temperatures. We did hit over 100° on both days but with a light breeze blowing and lots of liquids it was definitely still a good time. Both mornings showed only a light breeze to the north or northwest which swung around to the south in the afternoon. I spent most of Saturday messing around with my Super D Satellite. By the afternoon I had it flying reasonably well (though Mike Thompson kept yelling at me to take another 1/32" of incidence out of it and put on a pacifier) and put up my three officials. Eric Strengell and I took turns flying and timing while he flew A Pylon with his Max .15 Ranger. On his last flight he hooked some really good air and the model went into the carrot patch to the

south and was not to be seen again. I didn't have any flights go that far down wind so I guess I should consider myself lucky. By the time I finished flying that "modern stuff" it was a little breezy and the only other thing I had to fly that day was ½ A; it would have been out of sight in 3 minutes.

Sunday was Dawn Mulvihill and I was fortunate enough to again time for Carl Redlin who posted a new high time in the event, 14 minutes 56 seconds! Take that Romak! What a beautiful flight. My only cause for delay in finishing my own is that I will not be able to time Carl anymore. The model drifted northwest and landed in a bean field just off the LHFFMAA property. We watched the model land from the south side of the field and later came in from the north side with the tracker to find the model. If you do not have a tracker, I highly recommend that you get one or just get a transmitter and share with a buddy. My skills as a chaser are will honed but you cannot beat modern technology. Had Eric had his tracker he may not have lost his Ranger. Later that day Ken Kaiser lost a really great running OK to the thermal gods in his Early Nostalgia.

I pulled out my Wasp to fly B Pylon and was astounded at the difference a change of propeller makes. I have been flying with a Rev-Up on it since I built it and it climbed OK but with an APC it turned into an absolute rocket! Great altitude at 22 seconds but not the greatest air. No other entries in B but I was just having fun flying.

There were several Scamps there and some that I keep forgetting are Scamps (until I see the shirts). The Sloans were also on the field and wanted to pass along their thanks for the support during their recent tragedy. On the subject of the Sloans I would like to make a request to all of the flyers. There was a pretty good turnout for the contest but in my opinion the Sloans are being taken advantage of. There had to be between 40-50 people who went to the ice cream social on Saturday yet the Sloans only sold 8 lunches. People want them to show up for contests yet they do not support them when they do. They go to a lot of work to be there and set up their facilities and I think we owe them the respect of supporting them. Something simple like a cup of coffee...no cheaper in town than on the field...guys are buying it at one of the fast food places instead of supporting what I consider to be long time members of the free flight family. I have heard every excuse in the book about why people do not eat on the field but the truth is that they can get a better meal for the same or a lower price than in town and they do not have to drive anywhere. The sad reality is that if we do not support them they will not be able to afford to come out. I am venting a little bit because even when I was broke I figured out a way to at least buy something from them. I would like the message to be put out to as many people as possible so we do not force these wonderful people to decline coming out to contests due to lack of interest. I have even floated the idea that clubs could guarantee a certain sales volume and if that was not met the clubs could kick in the extra to make the trip worth while. I know the Sloans do not want to do this as they look at us as family too but the clubs need to realize that they are also a business and should be respected as such.

Sorry to get on a rant there but I, along with many others, would really miss the Sloans if they no longer came to contests. All in all I had a great time at the Dual Club meet and look forward to flying at it again next year. Lots of thermals and lots of fun, isn't that what it is all about?

'Current' Technology - Going Electric Part 1 by Bernie Crowe

I've dreamed of flying electric planes for forty years or more. The cleanliness and simplicity of the concept always appealed to me, but the few abortive attempts I made over the years were not very satisfying. The systems were too heavy, and the performance was hilerating (as opposed to ex-hilarating!) We all know that's no longer true. Modern motors and batteries have made electric flight a reality, and the size of the RC and Park Flyer markets has brought the cost of an electric-powered airplane into everyone's reach.

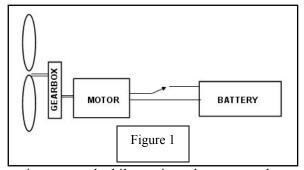
Whether you fly for fun and sport, or pursue competitive duration flying; whether you scratch build everything you fly, or if you prefer to buy and fly; whether you want to use conventional brushed motors and reliable, tried and tested NiCad batteries – or whether you want to venture into the newest technologies of brushless motors and lightweight Lithium batteries – you can do it. Whatever your interest, there is a solution just waiting to be put to use. In articles this month and next, we'll try to show you how, tell you where to get the parts, and help you design a system for your intended use.

This month we're going to talk about conventional systems using brushed motors and common NiCad batteries, for sport/fun flying as well as for FF duration competition. Next month we'll get to the advanced technology systems, specially suited for serious duration competition.

Harbor Freight to E36

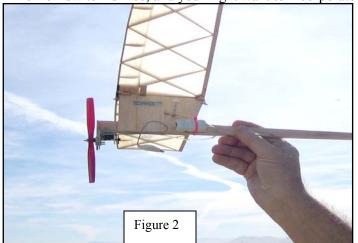
Many of us have flown those cute little electric foam ARFs from Harbor Freight. At \$7 to \$13 apiece, they are instant fun

and, when trimmed carefully, can catch a thermal for flights of several minutes or even OOS flights. And all of us have watched the soaring flights of Dick Smith's electric sport/semi-scale airplanes, which demonstrate steep climbs and long, graceful flights, again sometimes out-of-sight. These planes use simple systems that can be built for a few bucks and a little soldering time. Dick uses motors he picks up at hobby shops or swap meets, or scrounges from old slot cars or other battery-powered toys. Let's take a look at what's in a typical standard electric system. The basics of any electric plane comprise a motor and a battery



pack, and maybe a simple gear box to allow the motor to run near its optimum speed while turning a larger prop than could be turned by the motor alone (**Fig 1**.) The geared motor also has another advantage. You can arrange for the prop thrust to pull the gears into mesh for powered flight, then when the motor quits, the drag on the prop pushes it back so that the gears disengage, and the prop freewheels for lower drag.

An on-off switch is nice, and you might want to incorporate a charging jack so that the battery can be charged without

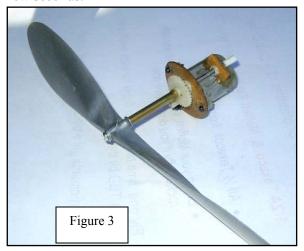


removing it from the plane. However, my first electric was basic to the max – see **Fig 2**. The HiLine Mini-6 motor/gearbox combo was attached to a simple 3.6v 110 mAh NiCad battery pack by an alligator clip! Clip the wire to the battery to start the motor and launch, and clip the wire to a 6v lantern battery to recharge. This system was grafted onto an old Jetex model of 27 inches span, and did regular 1 minute flights and a couple of 2-min plus. I got my HiLine motors from Peck Polymers (which is now part of A2Z Corp) at http://www.peck-polymers.com.

You can buy motor/gearbox combinations from a number of sources for between \$10 and \$20. One of my favorites is BSD Micro RC (http://www.bsdmicrorc.com). Visit their site and go to "Propulsion Sets/Motors". Or, you may

choose to "roll your own" as Dick Smith does. He adds a front plate and bearing blocks to existing motors as in Fig 3. The prop shaft extension runs in the added bearings and, in this picture, drives a Peck Polymer P-30 prop.

NiCad cells are 1.2v each, so four in series will give you a 4.8v battery, while six cells yields 7.2v. Choose the number to suit the motor you are using. NiCads are available in a number of capacities, but a popular size for free flight is 110mAh. If your motor/prop combination draws about 10A, then a 110 mAh battery will give you a 40 second flight, give or take a few seconds.

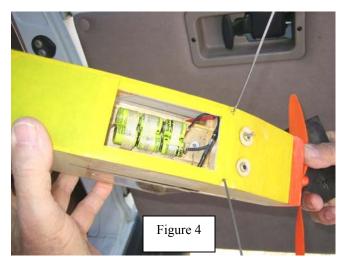


A typical electrics installation will include a charging jack, an on/off switch and a wiring harness make things a little more workmanlike. The switch is put to the "on" position for powered flight, and then switched off after retrieval. In the "off" position it connects the battery to the charging jack. **Fig 4** (next page) shows the installation in one of Dick Smith's models, with the battery pack on a movable tray to allow balancing the model. Very neat.

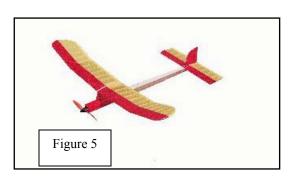
Scale modelers will probably use a smaller motor/prop combination for a given size battery to get more duration. Pulling about 300 to 350 mA will result in flight approaching two minutes with the 110 mAh battery. An excellent article on sizing electric systems for scale models appears in the just-published NFFS Symposium report:

"Electric Motor Systems for Free Flight Scale" by Stew Meyers in the 40th Annual Report of the National Free Flight Society – Symposium 2007. Stew's approach isn't limited to NiCads but considers Lithium batteries as well for better performance. We'll be talking more about that next month. The NFFS Symposium contains lots of good tech info across all walks of Free Flight life, and at \$30 is worth having a copy handy. Contact Bob Stalick at freefliter@aol.com for details.

E-36 is a newly-proposed event for electric competition flying. The rules are still provisional, but simple. The electric system is restricted to a single brushed motor from "common sources" and four or less NiCad or NiMH cells not to exceed 150 mAh in capacity. [**NOTE**: the rules have been modified to permit 190 mAh Sanyo cells, though the posted rules have not yet

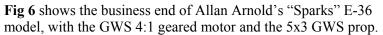


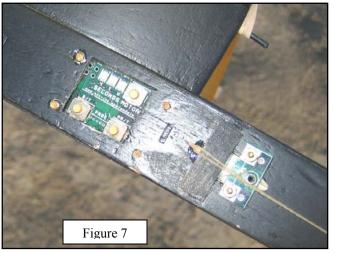
been modified to show this.] The airplane must be of 36 inches span or less, and the total weight of the airplane ready to fly must be at least 150 grams.



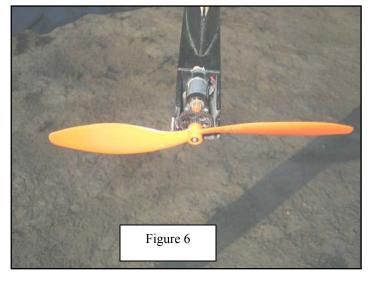
The maximum motor run is limited to 25 seconds, so this introduces the need for a timer to shut the motor off when the 25-sec mark is reached. In fly-offs, the rules call for the motor run to be reduced in 5-sec intervals, so an adjustable timer is needed. Folks have made timers from Tomy toy devices operating a mechanical microswitch, and there are commercial simple electronic timers based on the 555 timer chip controlled with a micro-potentiometer. One such example is Stew Meyers "Short Timer 2", which incorporates the time adjust pot with an on/off (arming) switch and a start button.

The GWS series of geared motors is popular for E-36 among the early adopters. The 4.8v 4:1 GWS motor running a GWS 5 x 3 prop is the system used in the popular "Sparks" model (**Fig 5**) designed by NFFS President Rex Hinson, and sold by BMJR Models (http://www.bmjrmodels.com/). BMJR also sells all the electric system components, and the Short Timer 2 timer. The Sparks laser cut kit retails for under \$40, and the electrical system components total around \$55, plus another \$28 for a suitable NiCad field charger.





The timer and DT



system of Allan's E-36 are shown in Fig 6. The DT option on Allan's model (**Fig 7**) is a hot-wire cutter. When the timer reaches the DT time, it sends a current through the wire filament and severs the DT band. Lightweight and simple, but Allan says the wire has to be changed frequently and that's a chore!

So there you have it! There are a lot of ways to fly electric, even using just simple brushless motors and NiCad batteries. Whether you buy complete models or cook up your own system from scratch, there's a lot of fun to be had. Next month we'll look at the higher tech systems using brushless motors and Lithium batteries. See you then.

Mik Mikkelson

Mik Mikkelson recently lost his battle with several health issues and passed away. He will certainly be missed by many. Like so many of our members, Mik had been modeling since he was a youth. He has been one of the top rubber flyers for many years, and was an excellent builder. He was one of our hobby's true nice guys. As Dan Heinrich noted, we will now have to look for someone else to set the bar for Twin Pusher, which was frequently won by Mik.

Hal Wightman said, I don't know if many people knew it, but Mik was the one that designed the logo for the 2007 SAM Champs that I am using. I asked him if he would design it shortly after I knew I was going to be the SAM Champs Contest Manager. He said he would be glad to do it and I think he did a great job. He didn't want it to be known that he had done it, because although he was an artist and a graphic designer, he didn't want to spend a lot of time doing that after he retired. He wanted to do modeling.

An open house is scheduled for Sunday, September 23 at Mik and Linda's home, 2249 Cheremoya Avenue, Hollywood, CA. For more details, contact Rob Cobb at (818) 896-2211.

This and That

Southwest Regionals - The web site for the 2008 Southwest Regionals at Eloy, Arizona is now live! 3 contests / same weekend / same site: AMA/NFFS/SAM Free Flight, a National Cup Exempt contest, now running all 3 days. FAI Free Flight, an America's Cup contest. RC Old Timers. Please take a look:

Signup info for 2008: event lists, maps, places to stay http://www.aalmps.com/8info.htm

History: Reports on previous SWR contests including results and lots of pictures http://www.aalmps.com/swrintronu.htm

A Good Use for Radio Control Engines by John Reise

Here's a tip for those who are using the converted OS engines in ignition. Do you have need of needle valves? I sure do, because I crash a lot. It's hard to find the control line needle valve assemblies and they are pricey when you do get them. I think Tower Hobbies is the only place to get them new, definitely not in the hobby shop. I've been buying any old OS baffle piston plain bearing engines that I come across. Since I also have the bad habit of starting flooded engines on full advance with the starter I bend more than a few crankpins. What I have been doing is replacing the guts of the engine (piston, pin, rod crank and liner with those from swap meet R/C engines. I keep the original case that is machined to fit the timer.

While breaking in the engines on the bench I was having lots of troubles in getting steady runs because of the bent needle valves. My fix was to replace the venturi with an R/C carburetor. The R/C needle valves are easier to obtain and I've got lots of spares from all the engines I've obtained. The throat area may be a little less but the RPM seems to be just as high. They sure seem to adjust easier with good non-molested needle valves. What better use for an R/C engine than to use it as an organ donor for an old time ignition free flight?

Events Calendar

SCAMPS Club contest (Jimmy Allen/ABC Fuselage), Perris California, October 3

SCAMPS Meeting, John Donelson's home (WEDNESDAY EVENING to avoid conflict with the SAM Champs) October 3, 7:00 PM

SAM Champs, Henderson, Nevada (El Dorado Dry Lake, October 7-12

SCAMPS/SCIF/SanValeers Fall Annual, Lost Hills, California, November 3-4

SCAMPS Meeting, Sal Taibi and Betty Moke's home, (Second Friday to avoid conflict with our SCAMPS/SCIFS Fall Annual) November 9, 7:00 PM

SCAMPS Club contest (4 ounce Wakefield/ABC Pylon), Perris California, November 14

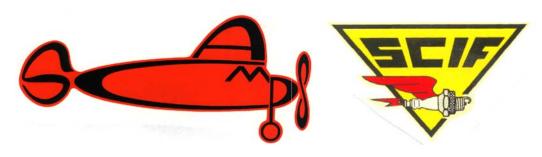
Collecto – Covina at usual place, November 17, Covina, CA

SCAMPS Meeting, Christmas Party, Home Town Cafeteria, December 6, 7:00 PM

SCAMPS Club contest {Gollywock Mass Launch/1/2 A Gas (Modern)}, Perris California, December 12

Gas Powered Tether Car run and Collecto, Wittier Narrows Recreation Center, January 12 2008

Gas Powered Tether Car run and Collecto, Wittier Narrows Recreation Center, September 13 2008



Scamps/Scifs OT 2007 Fall Annual

Combined with SAN VALEERS 20th Nostalgia Annual CD: Terry Thorkildsen (805) 495-6135 Co-CD: Tom Laird (310) 544-7606

November 3-4, 2007, Lost Hills, California

Saturday

7 AM to 4 PM

A/B Cabin
30 Second Antique
½ A Texaco (7 AM to 11 AM)*
C Pylon
Large Rubber Cabin
Small Rubber Stick

Sunday

7 AM to 2PM

C Cabin
Texaco (7 AM to 11 AM)
.020 Replica
SAM Gas Scale
A/B Pylon
Small Rubber Cabin
Large Rubber Stick

Entry fees: \$10.00 registration (includes 1st event), \$5.00 additional events

Lost Hills Membership required

Gollywock Mass Launch Saturday 8 AM Twin Pusher Mass Launch Sunday 8 AM

*1/2 A Texaco: 8cc fuel, any .051 or smaller glow engine, best single flight of 3

SCIF Contact: Alan Monteath (805) 338-6220 Lapcat@earthlink.net SCAMPS (CD): Daniel Heinrich (909) 593-5789 AeronutD@cs.com

SAN VALEERS 20th ALL NOSTALGIA ANNUAL LOST HILLS, CALIFORNIA* NOVEMBER 3-4, 2007

C.D. Terry Thorkildsen 805/495-6135; Co C.D. Tom Laird 310/544-7606 CAT 2-3 MIN. MAX. THIS IS A NFFS NATIONAL CUP CONTEST (Combined with Old Timer Contest the Same Weekend CD Dan Heinrich 909 593-5789)

<u>SATURDAY</u> 8:15AM – 4:30PM	<u>SUNDAY</u> 8:15AM - 3PM	BOTH DAYS
1/4 A NOSTALGIA	A NOSTALGIA	NOSTALGIA CABIN combined Any cabin design & engine size including Payload (dummy optional) must ROG & Must Have Front Windshield
1/2 A NOSTALGIA	B NOSTALGIA	1 DESIGN EVENT: Bounty Hunter 245 TD .049/.051 or legal nostalgia engine.
C NOSTALGIA	1/2 A EARLY BIRD	NOST RUBBER/Wakefield COMB
NOSTALGIA GLIDER (A1/A2) Proxy Towing OK	COMBINED ONE	E DESIGN GAS MODELS (All previous eligible designs)

DAWN PATROL HOURS:

JOHNSON .29R awarded by Raffle (One ticket for each event entered)

EVENT PRIZES: MERCHANDISE * ENGINES*KITS*BALSA*ETC., TROPHY FOR JR. HIGH TIME

ALL MODELS CHECKED AND WEIGHED LESS FUEL, BEFORE FIRST FLIGHT (Except 1/4 A & 1/2 A)

DAWN PATROL ENTRY FEE \$1.00 PER FLIGHT. Winner is highest 2 flight total. 9 second motor run. Two models per class permitted but only 1 model in air on official flight allowed. Official flight is timed to the ground before another official flight can be scored. Flights must be posted after each official flight. Failure to post an official flight will negate all succeeding flights.

ONE DESIGN BOUNTY HUNTER EVENT PRIZES: \$45 FOR 1ST, \$30 FOR 2ND, \$15 FOR 3rd

NOSTALGIA RUBBER: Designs from 1943-1956, Maxes: 2 min, 3 min, 4 min, & all flyoff flights 4 min max

ENGINE RUNS ALL EVENTS & 1 DESIGN: First 3 Flights 10 Seconds HL 13 sec VTO, all Flyoff Flights will be 7 Secs HL and 9 secs VTO, all other rules per NFFS Rulebook No. 8 for CAT 2. DAWN PATROL no max, 9 sec motor run timed to the ground.

NFFS RULES LIST NO. 8. BUILDER OF THE MODEL RULES APPLY, BUT CAN FLY DECEASED FLYER'S MODEL PER NFFS RULES. NO RE-ENTRY.

Entry fees: Registration \$5.00, SR. & OPEN: \$5.00 per event, Jr's: \$2.00 All EVENTS ARE JSO