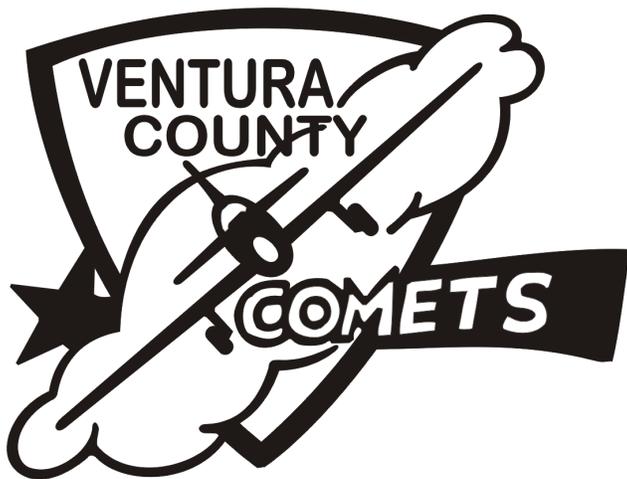


The Comets Tail



**April
2016**

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George Lanquist, Bob Root, Ron Scott, Steve Steinmetz

The Comets' Tale is the official newsletter and record of the Ventura Count
Comets, AMA Chartered Club #173 and is published monthly at the Comets' Tale
Lair, in Camarillo, CA.

Editorial contributions are welcome.

Next Meeting:
Thursday, April 21, 2016 7:30 PM
At the Oak View Community Center

Upcoming Events:

May 14 LA Jets (Valley
Flyers)

May 21 Electric and Small
Gas fun-fly at Comets and
BBQ

May 28-29 Giant Scale
Fly-in at Castle AFB



Pres Sez:

Hey Folks,

Spring is in the air and the wild flowers are out. Did anybody go to the field on Easter Sunday? Easter has to be the busiest day of the year for people to walk leisurely across our runway. Congratulations if you flew on Easter Sunday and had an incident-free day!

Regarding the T.A.G. (Take Off and Grow) Program- We heard back from the AMA informing us that the Comets were awarded the \$1000 grant to "Grow our Club!" We have a few ideas on how to build club membership. Our first idea is to enter the Ojai Fourth of July Parade. Lynn "2 boat" Breedlove is loaning us his flatbed car trailer to build our parade float out of. We will display RC airplanes on the float and have some banners printed up with our club logo to display. We will need some help building and designing mounting hardware and brackets to mount the planes to the trailer. If you have a plane you would like

to display on the float, please let me know! The other idea to increase club membership is to visit local schools, Scout troops, and clubs, and give them a presentation and flying demo if appropriate, and then invite them to the Comets Field for flight instruction.

Is your Comets T-shirt all worn out? Did you get a big salsa stain on your sweatshirt? Maybe it's time to replace your old Comets clothing. These T-shirts and sweatshirts make excellent gifts, by the way. The club is taking club-logo T-shirt and sweatshirt orders. To make a purchase, call Marilyn at (805) 532-1433 or e-mail her at sealdy@aol.com, and tell her what you want, the quantity, the size and the color. You will pay for your purchases when you pick up your order, either at a meeting or at the flying field.

The colors you can choose for t-shirts or sweatshirts are: light blue, light slate gray, or white.

The prices are as follows:

T-shirts \$12

Sweatshirts lightweight zipper or pull over \$24

Sweatshirts heavyweight zipper or pull over \$30

Same price for sizes small thru XXXL

The deadline to have your order in to Marilyn is May 1st. Delivery of our order should be by the May meeting on Thursday, May 19th.

FAA Registration- Did you register yourself with the FAA yet? We have to put our individual registration number on all our RC aircraft that weighs between .55 to 55 pounds. We must have our FAA certification card on our body while flying. FAA registration website: <http://www.faa.gov/uas/registration/>

TJ repaired the shed door out at the Field. Thanks TJ!

I built a glider from a Flite Test kit. The glider is called a "Simple Soarer" You can build it with or without a motor. I chose to build mine without a motor so I could learn how to do tow release. I asked Alastair to pilot my Super Cub to tow me up to altitude. All I can say is, "it worked!" We had two successful flights. The tow release mechanism worked flawlessly. Thanks Alastair for towing me up!

Here is the web link to the Flite Test website: <http://store.flitetest.com/ft-simple-soarer-speed-build-kit/>

See you at the field,

-Dave

Meeting Minutes

The March meeting was called to order at 7:32 by Prez Dave. There were 23 people in attendance, no new members.

The minutes were approved as well as the Treasurer's report. The Treasurer had a few more sign ups for a total of 74 (so far).

The Safety Officer was absent.

The Park Liaison reported that the gate at the bottom of the hill maybe open starting in April. He has asked the Lake to look into filling the grooves in the driveway. John also brought up that he wants to step away from his Park Liaison responsibilities, so if you are interested talk to one of the board members.

Old Business:

The club received the TAG award and have collected \$400 of the \$1000 so far. We need to form 2 committees to support the TAG effort (1) 4th of July parade, (2) General TAG (take off and Grow) - If you are interested contact Dave. His phone number and e-mail are at the top of the first page.

New Business:

There are new rules for Model of the Month (MOM):

1. The model must belong to a club member.
2. The fabrication of the model must be finished (less it's maiden flight).
3. There must be two models of different owners presented at any one meeting in order to qualify for cash prizes.
4. If only one model is presented, it will qualify for MOM and receive 20 free raffle tickets if scratch or kit built; and receive 10 free raffle tickets if it is an ARF for that night's meeting in lieu of any cash prize.
5. ARF models qualify for a \$10.00 cash prize.
6. Kit/Scratch built models qualify for a \$20.00 cash prize.
7. There will be three assigned judges that will select the winner when more than one model is presented.
8. A model can only be entered in the MOM contest once, however, it may be brought to club meetings any number of times for show and tell, etc.
9. There will not be a "Model of the Month" contest at the June or December Party meetings (Free Raffles).

Speaking of Model of the Month - President Dave brought a Flite Test "Simple Soarer" glider for a MOM entry. It has a 57.5" span and comes with a power pod.

The meeting ended with a raffle - Thanks Marilyn!

The meeting adjourned at 8:30

-Alastair



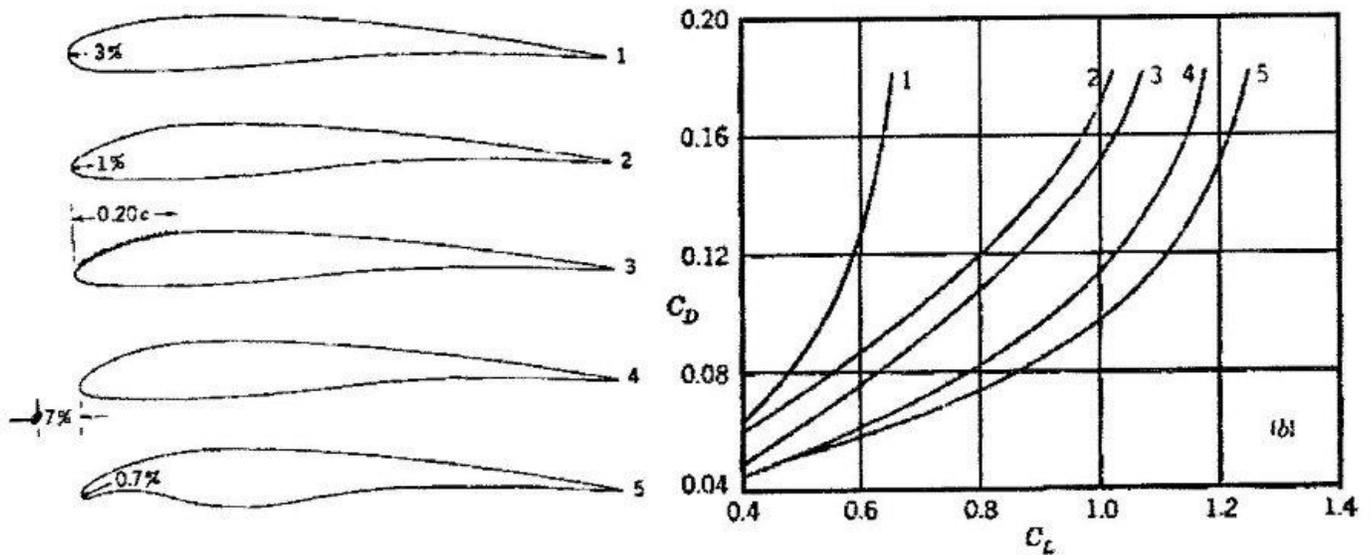
Root's Ramblings

An interesting aerodynamic subject came up at the field a few weeks ago. Someone asked about wing airfoil surface roughness. I think it had to do with scale models and the various covering methods. Some scale models are smooth aluminum or fiberglass. Others are fabric covered. Anyway it got me started discussing airfoil turbulators, trip strips, and airfoils which work well at low Reynolds number. The Reynolds number (Re) in aerodynamics is the ratio of the inertia force of the fluid (air) to the viscous force. At very low speeds with small models the Reynolds number is low and the flow separates from the surface easily. Thick airfoils and large leading edge radius don't work well under these conditions. I have seen and utilized some weird airfoils in trying to gain an edge in competition activities. The enclosed chart from a 1946 report graphically shows several airfoils at a very low Reynolds number representing a small slow model typical of free flight and small RC. The chart doesn't show the new flat plate airfoils associated with the modern foam sheet aircraft. Their success is probably due to their very low wing loading and small leading edge radius combined with a low Reynolds number.

The enclosed chart is a graph showing drag (C_d) as a function of lift (C_l). High lift and low drag (the slope of the curve) are what we are trying to achieve. At a lift coefficient of 0.6 the drag coefficient of airfoil 5 (.058) is less than half the drag of airfoil 1 (0.124). The large leading edge radius of airfoil 1 results in a lot of flow separation at the low Re of these tests (representing small, slow birds or models). Airfoil 2's smaller leading edge gives it a big improvement over airfoil 1. Airfoil 3 utilizes upper surface grit or span wise threads to trip the boundary layer. This produces slightly higher drag but the turbulent flow with its increased energy helps to

postpone flow separation (larger increased drag). In wind tunnel testing it is standard practice to glue fine grit near the leading edge of the model to simulate (approximately) the characteristics of the model at higher Re. This allows the test results to more closely match the full size airplane characteristics. Airfoil 4 uses a wire out in front of the airfoil to produce the same effect. This was a popular addition to free flight models when I was a boy. Airfoil 5 is typical of bird wings. It works well at low Re because of its small leading edge radius and structurally it has lots of depth for a spar. I have found it seems to work well on small rubber powered free flight models (I tried a lot of these “improvements” as a boy).

So what does all this mean for our sport and scale RC models? It doesn't mean anything because our models are operating at a higher Re and we aren't trying to maximize performance. The glider guys utilize all kinds of new airfoil technology to improve performance, but for the typical RC scale model the scale airfoil and surface finish will work fine. If the model doesn't fly the way you want put on a bigger motor (or build it lighter next time).



Performance of five profiles shown at a Reynolds number of 30-45,000, aspect ratio = 6.0.
(from an unpublished paper by Seredensky)

-Bob

Randumb Thots :-)

“Hey, what are these pedals on the floor supposed to do?” Watching some of the airplanes flying around Santa Paula Airport, once in a while I can actually see an airplane climbing away dragging the right wing as the pilot ignores both the seat of his pants and slip-skid ball. I remember my flight instructor repeating over and over, like a mantra, “rightrudder rightrudder rightrudder...” as we climbed in a fire-breathing Cessna 150. Yeah, even a low-powered airplane will yaw to the left when it's making power and flying at a bit of a high angle of attack, and especially if it's at a really high angle of attack, like when it's slow... like, well, in a climb.

I've seen lots of models do this, too. (“Hey, what's this other stick supposed to do?”) I guess I notice it more than most folks. I suppose it's not a big problem unless the pilot pulls the airplane up into a stall, and then it will roll off to the left pretty hard, and might even spin if it's been aggravated enough. It just looks sloppy, naive even. And it IS sloppy, ESPECIALLY when I see a scale model flown like this, and really especially when it's a scale model in a contest. It sure seems like model pilots are not aware of the rudder.

Seems there's a story flying around about the FAA busting model flyers at Sepulveda Basin and in Bakersfield. The claim is that so many models and drones were flying without FAA registration that they shut down both flying sites and even fined the club in Bakerspatch. Our Pres., Dave Fishman made a phone call to the AMA guy who's handling the FAA liaison and it's not true. I almost went for it. Good thing Dave was a better journalist than me.

The FAA does not have the authority to just walk up and shut down a model site over registration numbers and they have no authority to fine a club, but they sure can write up individual modelers and we still are all on the hook to display both the FAA registration and AMA numbers on our models.

The feds HAVE shut down all model flying within 15 miles of Reagan Airport in Washington DC and there are special rules for models another 15 miles beyond that, by calling it a Special Flight Rules Area. I believe this was brought on by the miserable behavior of operators with no idea or motivation to fly safely and responsibly, and they've been noticed.

The FAA reports 582 drone sightings from airplanes carrying people between mid- August of last year and the end of January this year. 582! In 4 ½ months! Incredible. OK, only 2% of those took evasive action, but that's still 11 or 12 cases and it's totally unnecessary and totally unacceptable.

We're not cute any more, and we're not harmless. Pay attention, pilots. We need to avoid even the appearance we're not flying totally safely. Sorry to be so focused on this for the last couple of months, but this threat is hard to ignore.

Next month I promise I'll be more fun!

Fight Gravity!

-Jerry

FYI -

The field combo has changed - You should have the new one...it's on the back of your membership card. You don't have a membership card? I bet you can guess how you fix that

