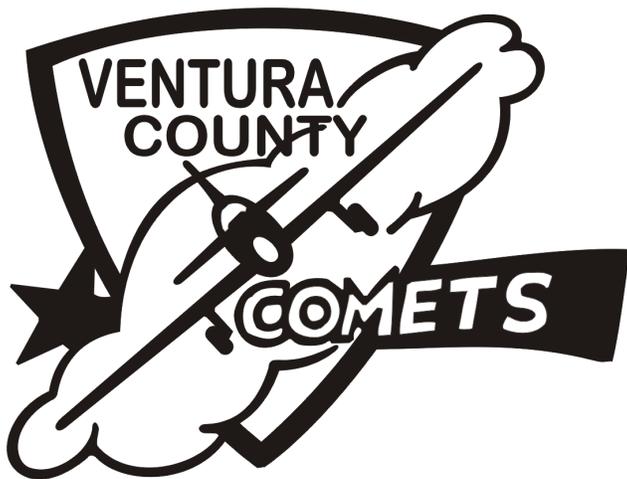


# The Comets Tail



**November  
2015**

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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, November 19, 2015 7:00pm**  
**At the Oak View Community Center**

**Upcoming Events:**

Dec. 6: Toys for Tots at  
Valley Fliers

Dec 17 Comets Christmas  
party



**Pres Sez:**

Last month, in lieu of our regularly scheduled Float Fly, the Comets held a Fun Fly instead. And it was successful, I know, because I was there and everybody had fun! Thanks to Mike and Steve for the great hot-dogs and hamburgers!

Did you try to go to the October meeting and were turned away by the hoards of people and parked cars that stretched for a block? The county held an "El Nino" preparedness seminar in the gym of the same building that we hold our monthly meetings in. Well, nine of us were lucky enough to find a place to park and made it to the meeting. The meeting was short but sweet.

Our Christmas party is Thursday, December, 17th starting at 6:00 PM. I spoke with the Head Elf, Marilyn, and she's already started preparations for the big event. Marilyn will also help coordinate food items for the pot-luck style holiday meal. Join us, we always have a good time!

Our meeting room, Knuckle Hall has been reserved for next year. TJ took care of all the arrangements and communications with County Parks. Thanks TJ.

This month we are obviously not having a members only float fly. Some of the Comets members have chosen to go camping at the lake anyway and fly off wheels and a runway. Don't forget the November meeting starts a half-hour early at 7:00PM so the campers have plenty of time to get back to the lake after the meeting before they lock the main gate.

The elections are coming! The elections are coming! It's time once again to elect some new officers. See VP Dales words below:

“The Ventura County Comets is seeking this year's Election Candidates for the following open positions: Vice President, Treasurer and Field Marshal/Safety.”

Don't be afraid to volunteer to help out our awesome club. It doesn't hurt. Honest. See you at the field,

-Dave Fishman

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## Meeting Minutes

The meeting was called to order at approximately 7:45 due to parking chaos. There were 9 members in attendance. Many members drove away once they saw the parking lot was full.

The minutes to October's meeting were approved.

Treasures report was approved.

Membership stands at 83.

Safety Officers report: No problems at the field in September.

The Park Liason was seen circling the parking lot and never seen again (not really).

The shade structure project went really well. The cost for materials was about \$700.

The Model of the Month of October was awarded to Tom Faragher. Tom built an AT-6 Texan from a House of Balsa kit. Tom used to race this plane when the Comets held T-6 races at our field. The wingspan is 43". The T-6 is powered by a OS RC .15 and uses an old 2 litre soda bottle bottom for a cowl. Tom built this T-6 with hidden control linkages. Tom donated his \$20 prize back to the club. Thanks Tom.



-President Dave

*Club Secretary A.B. was a no-show as he heard the meeting was cancelled. Thanks to Dave for taking notes*

## Roots Ramblings

Went to Hesperia scale contest over the weekend (Nov 6-8). Won second in expert and had a great time. Brad Osborn and the Stearman won first place.



*Ed* - Bob sent me some nice pictures of the scale contest but was too exhausted competing/driving to do much more. So I will try to fill in the gaps...

This contest was a U.S. Scale Masters - regional qualifier in the California high desert town of Hesperia; the "1st Chance Qualifier". Hesperia is in San Bernardino and about 3 hours from our field.

The notes on a forum describe the contest as the, "(this) 3rd annual contest kicks off the 2016 USSMA (U.S. Scale Masters Association) contest season for the U.S. Southwest Region. USSMA members from as far as Arizona, Nevada and central California journey to SoCal for this contest."

The Scale Squadron of Southern California ([www.scalesquadron.com](http://www.scalesquadron.com)) is running the show and the it was hosted by the Victor Valley R/C Flyers club of Hesperia ([www.vvrcf.org](http://www.vvrcf.org)). You can check out more pictures here: [www.vvrcf.org/photo-gallery.htm](http://www.vvrcf.org/photo-gallery.htm).

They actually predicted the weather for the contest weekend as, “clear skies, very light winds and daytime highs in 60s - 70s.” And continue with, “Should be a typical Fall season weekend in the high desert.” I went the gallery (previous link) and checked out the picts. There is a picture of a anemometer (fancy word for Wind Speed gauge). It showed 18 MPH winds. I think they were a little off with the “Very light winds” prediction.

But all said and done Bob did good. However... Bob monthly summary picts up again:

We had fun flying mock air races. The result of (another pilot-name removed to protect the...) running over me is shown in the 2nd and 3rd picture. Bo’s airplane (far left of picture 1) is also no more.



Bob

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### And Lastly...

I was given a Kyosho Pitts Special and it didn’t fly very well. The owner before me had it electric powered and it didn’t fly well then either. The complaint was that it was heavy and was not much fun. As an electric model it weighed in at just less than 8 pounds. This is a long way from the box-top that say the plane weighs “apprx 6lb.”



Before



After

No need to discuss what motor/battery/esc was used, or whether the plane had been wrecked a hundred times and has a pound of epoxy and Popsicle sticks in it. It won't matter for what is about to happen. I'm a nitro guy, so my plan was to convert it back to glow fuel. When I picked up the empty airframe from electric guy, we weighed the bits for the previous electric power system for a comparison. To jump ahead, going to fuel took almost a pound out of the total weight of the plane. I used an O.S. .61. Sure the manual calls it a "Pitts Special S-2C 40", but come on, who does the manufacturer think they are fooling? It has a 46" span, weighs 6 pounds and is supposed to be aerobatic. No one with any sense is going to put a "40" in it.

As mentioned the airplane didn't fly well with the nitro motor either, even though it is about a pound lighter than the electric version. I know it's a performance plane and it isn't going to coast around the sky at a few clicks above idle, but I would have expected a glide ratio a bit better than Igloo cooler. After a few more flights I set it aside for a couple weeks and started thinking; what if this biplane weighed a little less?

I started to pick at things. For example the "floor" of the canopy and plastic gauges. Why do I need that? I removed them and weighed the parts - 16 grams. I removed the wing and tail guide-wires and weighed them 18 grams. I started squeezing bits of the covered model. Were the tails solid sheeted balsa? That must weigh something.

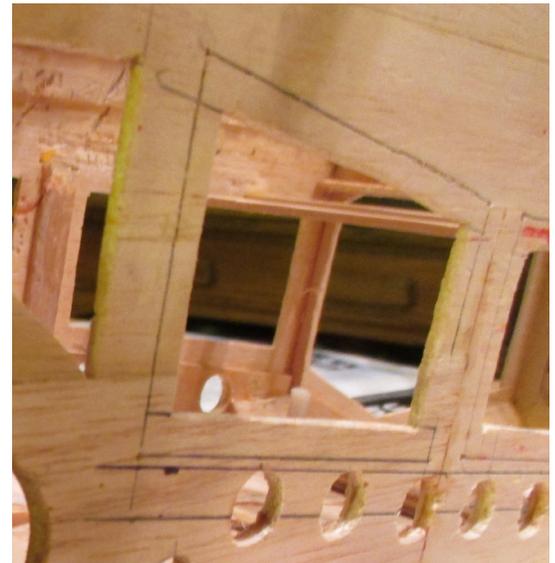
When I mounted a nitro motor I first cut a new firewall out of 1/4" ply and glued it to the front of the chopped-up (for electric) firewall. How much weight did that add?



I removed the covering from the fuselage and tails. I decided the tails could have a built-up look instead of a solid sheet of balsa. I drew a pattern on the computer and taped this to one half of the horizontal tail. Here is where the first snag happened. I planned to drill a big hole in the tail and then use a small hobby saw to cut the lines. When the whole saw went through I found the tail was built up AND sheeted. So I located the stringers and cut out all the sheeted

balsa around them. Did the same on the vertical tail, elevators and rudder.

At this stage the any regard for getting the plane back together was dismissed. My "gut-it" plan had better strip a bunch of weight or I was putting the carcass in the trash. I started chopping wood out everywhere on the fuse. To mark doublers and bulkheads, I pushed a T-pin through from the inside of the fuse out. I would measure back a 1/4 inch and cut out the wood in-between. In some places this got shaved down to 1/8". The bottom sheeting from the trailing edge wing saddle, of the fuse, to the tail was removed. I replaced that balsa with just a couple balsa "sticks" at each bulkhead to keep the fuse sides apart.

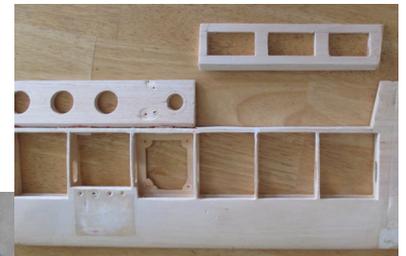
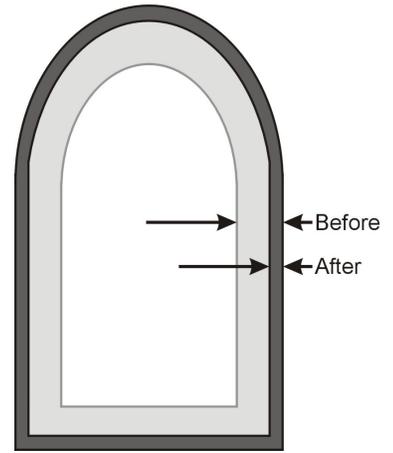


I put a sanding drum on the Dremel and ground down all the bulkheads I could reach. What was the better part of an inch wide got reduce to 3/8-1/4". Fuel tank mount (and previous Lipo battery mount) got chopped out and replaced with a couple bits of light hardwood (Popsicle sticks). I used a belt sander to remove about an 1/8" of that new firewall and then drilled 1/2" lightening holes in what was left. I also removed half of the landing gear plywood mount (8 grams). It is now just a bit more that the width of the gear. I drilled 1/2" holes in what was left.

Moved on the other bits, now the weight loss became an obsession. Don't get ahead of me, the irrational stage of weight loss comes later. In this *obsessive* stage I eyed the landing gear. I text a friend and ask how much does a 1/4" hole in 1/8" aluminum weigh. He could figure this out in 3d modeling program (Solidworks). He gives me the answer and I sketch a hole pattern on the computer, print it, tape it to each leg and drill a bunch of holes. I added holes to the part between the landing gear legs too and drilled holes in the aluminum upper wing support as well. Finished the aluminum milling by carving out the middle of each aluminum outer wing support.

Then it was time for the wings. Each of the rib cap strips were filed down so they were the width of the ribs (top and bottom of each wing). I sanded the front of the trailing edge sheeting until it was the same width as the trailing edge spar (was 1" wide sheet, now 1/4" wide sheet). The wing tips had holes cut in them.

Being a bit of a 3D fan I decided the scale ailerons aren't going to get me there. I drew a line along the hinge line of the stock ailerons, cut that part of the wing off added a couple bits here and there, hinged the cut off bit to the wing and glued it to the original aileron – Result: Full span ailerons. Then I cut up the sheeting of the new inboard part of the ailerons like I did the empennage and drilled more holes in the original ailerons. Those Harbor Freight step drills are great for this - If you think you can get away with a bigger hole just push the drill through to the next "step".



Lower wing

Before

After

Lastly I removed all sorts of glue-boogers. These seem to be a cross between Elmer's white glue and hot glue. To the right is a small example of removed glue that weighs 2 grams. I removed a lot more of these.

For the irrational weight loss I drilled holes in the wheels, both the foam rubber and plastic hub. I also carved deep grooves in the tread of each wheel removing more material. The result was a 10-gram loss per wheel. I disassembled the landing gear to do all this and found all sorts of grime in the wheel pants. I washed that out (2 grams per wheel pant). I removed the vinyl; trim tape from the canopy and colored the canopy panel lines with a Sharpie – saved 3 grams.

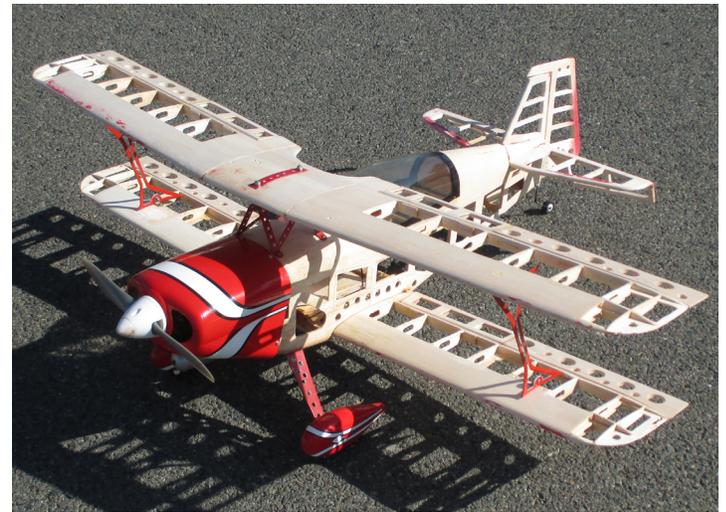


The pipe was covered in TowerCoat (Tower Hobbies). This is my go-to covering and it seems lighter than the original Kyosho covering.

The plane originally flew with five standard servos, I replaced three of the servos with smaller ones saving an additional 48 grams.

The motor was the biggest disappointment. I used an O.S. 50 in place of the O.S. 61. The thought was smaller displacement would be smaller weight. The “new” motor weighed 2 ounces more. But I am making 0.20 more horsepower.

All done I removed over  $\frac{3}{4}$  pound of excess balsa, ply, hardware, glue, etc. The plane before lightening and a nitro motor was six-and-change pounds. After the weight loss surgery...5 pounds 12 oz. The plane does look a little odd with all the holes in the landing gear and wing struts though.



The plane is a bit more manageable now, glides a bit better, has better vertical performance and it doesn't seem that I have weakened the airframe. The wings have not “folded up”, or come away from the fuse and the fuse has not broken in half.

AB