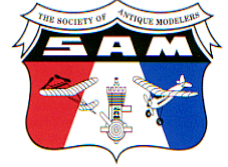




(Official
newsletter of
the
"BlackJack"
Club)

january2021#2101bhc



SAM

CLIPPER

Society of Antique Modelers

Chapter 21

AMA Charter Club 1470

Lanzo Airborn



Broggini Stardust Special



Tlush Mite

Cleveland Viking



... in this issue:

- P.1 SPEED 400 POSTAL ENTRIES
- P.2 FROM THE PREZ, MEETING DATES & GOODIES LIST
- P.3 IMPORTANT CLUB ANNOUNCEMENT, SAM NEWS
- P.4 HAPPY BIRTHDAY LESCHER
- P.5 NEW MEMBER, CONTEST AND BUILDING HINT
- P.6 COVERING WITH SILK.
- P.7 IT'S A WRAP FOR 2020
- P.8 EPOXY INFORMATION/ O&R REMOTE NEEDLE VALVE
- P.9 O&R REMOTE NEEDLE VALVE CONT'
- P.10 SAM RENEWAL FORM / SAM21 OFFICERS / SAM21 2021 RENEWAL FORM

Next Meeting:

Thursday November 19, 7:00 pm

Saratoga Fire House

The January Meeting Assignments are:

See Page 10 for Annual Goodie Schedule

Meeting Cancelled





2021 Meeting Dates*

7:00 p.m.

@ SARATOGA FIRE DEPARTMENT

Corner of Saratoga Ave & Sunnyvale-Saratoga Hwy

January 28

February 25

March 25

April 22

May 27

June 24

July 22

August 26

September 23

October 28

November 18

(For Thanksgiving)

December 16

(For Christmas)

* when we are allowed to have meetings by Sacramento or Washington, D.C.!

I hope 2021 will be a better year for all of us and the World.

Since we did not have any meeting since March 2020, we also missed the opportunity to be able to get together for SAM21 Award Banquet. I hope everyone is healthy and catch up on your model building!

I hope you all able to use this down time to complete more models. Please send pictures of your finished (or even unfinished) models to sam21editor@gmail.com so they can be shared with our SAM21 family and beyond.

This is a friendly reminder that the SAM21 2021 dues are due, (it's only \$10!) or you will be dropped from the roster if you dues are not received by April.

Please use the form on the last page of the Clipper to send in your dues the address on the form. Make payment to "SAM21". Please do not send the payment without the form.



2021 "GOODIE" Schedule

Here are the assignments for 2021, excusing those who normally do not attend meetings on a regular basis.

If you cannot accommodate this schedule, then it will be your responsibility to "volunteer" / coerce another member to take your place. Don't say you weren't warned.

And, if you feel 'The Call' (and aren't on this list), please call one of the unfortunate souls on the list or the 'Standby' and offer to take their place.

JANUARY

FEBRUARY

MARCH

APRIL

MAY

JUNE

JULY

AUGUST

SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER

Will Update List When Meeting Resumes.



J. Eut Tileston

SAM Hall of Fame 1999



June 1925 - January 2021

I learned Eut's passing from Sarg, who has been in contact with John Eaton. In the last year Eut needed help, so John Eaton, a fellow model builder, had generously taken Eut in to assist him. Eut recently fell and broke his leg, from which he never recovered. There are not many people in SAM who did not know Eut. He was a prolific designer and model builder. He won the overall RC championship at the SAMChamps on a couple of occasions.

From SAM HOF web site: Eut's Bio.

At the ripe old age of four and one half, his Father's gift of a Japanese wire and silk wind up model airplane ignited an interest in model airplanes that has lasted a lifetime. Eut received a Fairchild 24 kit for his ninth birthday, and immediately fabricated it. It didn't last too long, as the fuselage collapsed when he wound it up! Eut's father, an understanding man, decided that this young man had a strong interest in airplanes. At the depths of the Great Depression he invested the exorbitant sum of \$1.00 for a complete model building course consisting of kits for four eighteen inch all balsa planes.

This was a great success, and started Eut on his outstanding modeling career.

In 1938, while attending public schools in Denver a rich uncle from the Philippines gave Eut and his twin brother, Gordon, the princely sum of \$10.00 each as a gift. The two young men wisely invested in a Flying

Quaker and a Brown Junior (this is the same Brown Jr that powered his beautiful V-tail Swallow while winning both the Brown Jr LER and Brown Texaco at the 1992 SAM Champs. Eut and Gordon successfully flew the Quaker-Brown Jr. combination many times, and Eut was a modeler forever!



Eut flying his photo drone at The Ranch.

He joined the Denver Exchange Gas Model Club and continued to build and fly, designing his own Bunch powered 1940 Sylph (looks like a modernized more streamlined version of a cross between the original 1936 Waterman Arrowplane and the 1937 Aerobile) during this period of his life. Later in 1970 he designed a full size homebuilt Osprey 1 seaplane, a pilot only (no passenger) pusher design that was quite popular.

Eut has been a consistent winner with his models. One of his favorite, winning designs is his 1/2A Scale 1937 (pusher) Waterman Aerobile. He has been the RC Champion at the SAM Champs on two occasions. He was instrumental in the organization of SAM Chapter 51, a charter member of the chapter, and its past President. He introduced the SAM membership to the Spirit of SAM Electric event, which is rapidly gaining popularity. He has competed in foreign nations and has always conducted himself in a dignified and gentlemanly manner as a representative of SAM. He is one of our most famous members, having been written up in many foreign and domestic publications for his RC



accomplishments.

For more information about Eut, "The Eut Tileston's Story by Tandy Walker on SAM web site.

http://www.antiquemodeler.org/sam_new/aboutsam/assets_hof_docs/1999-Eut_Tileston-done/Eut%20Tileston%202001%20bio.pdf

Another good read is on The Building Board,

<http://www.thebuildingboard.com/2021/01/another-great-sam-competitor-passes.html>



Godspeed, Eut! You will be missed!

Cover Story

Speed 400 Postal Contest

Since the Eloy SAM RC portion was cancelled. CD Bob and Walt Angus decided to sponsor a speed 400 postal meet on the same three days –January 16-18.

SAM21 Prez decided to host the event at the Ranch @ Elk Grove on the 16th of January. It was announced via the **SAM21 Alert** and quite a few people from varies clubs responded.

From SAM21; Sargent, Roselle, Chan, Stern, Mitchell. SAM27; Hofacre, Temple, Kramer. SAM30; Pickering , Carl(last name?) SAM50; Eaton. And the locals; The Schmidt's.

Tasks:

1. 120 seconds motor run, 15 minutes max.
2. 90 seconds motor run, 10 minutes max.
3. 60 seconds motor run, 10 minutes max.

Our gracious host, Mariam had the coffee ready for us, but no pancakes due to the COVID issue. The weather could not be any better for a Speed 400 contest. Warm, no wind and sunny. (ok, it was a bit chilly in the morning, ~45°) Even the weather was great but thermals were few. Mother Nature was not in the mood to give out maxes! There were a few maxes in the afternoon after the ground warmed up. The results were not tallied and Sarg will send them

to the CD. I will post the final result when it is received from Bob and Walt Angus.

It was good to able to see everyone, we have not seen most of them for over 1 year now!

SAM27 was hosting their on January 17.



Pre-contest excitement? Everyone is so relax!



"You fly, he times and I launch!" The SAM27 gang pre-flight huddle! Loren, Mike and Jim.



Loren launches his Viking while Mike (SAM27 Prez) times.





Jim launching his RC-1 (RC- 3/4 ?) PC: Eaton



Sarg timing for Loren. He went so far it was hard to see the plane. PC: Chan



Brian launching his Tlush Mite. PC: Eaton



Steve with his Airborn. PC: Chan



Loren and Mike enjoying the day. PC: Eaton



Sarg, Warren and John. Some shady dealing going on there! 😎



Jeff is keeping an eye on what Jim is doing!



This maybe belongs to Warren! PC: Eaton



Loren times for Sarg, think this was a MAX.



Sarg launches his Stardust Special as Steve does the timer duty. PC: Eaton.



Brian launched a Bay Ridge Mike as Jeff times.



Steve shows the intense action of timing. Oh the guy on the right is Sarg, he is doing the piloting thing!!

Battery: Rated Capacity and Functional Capacity.

Brian Chan, Bruce Devisser

We all use NiXX, LiXX batteries to either power the electronics or the electric motors in our miniature airplanes.

We all know the rated capacity of the battery we are using, as stated on the package by the manufacturers. The rated capacities are usually the energy (in mA-Hr) that you can draw from a fully charged battery to an "empty" battery (the lowest voltage the battery can go without causing irreversible damages).

When you need to know how long the battery pack will last; you measure the current draw of the motor/propeller setup, divide the current measured by 60, that's the amount of current/minute. Divide the capacity of the battery by the current/minute number, you will get the flight time, in minutes, by the given battery pack until it is "emptied". Now here is the tricky part, you really need to know the "**Functional Capacity**" of the battery pack you are using. Then you will get the more accurate flight time of your system.

What I call **Functional Capacity** is the amount of energy (mA-hr) one can draw out from the battery to a minimum voltage that your power system will still function as needed.

For example, my RC-1 (the RC-1 weighs in at 76.4oz) limited to a 2S1800 Lipo battery that I used for Limited Motor Run event. When the battery is fully charged, the voltage is 8.4 Volt. In theory the battery can be discharged to 6 volt (3 volt per cell) without causing damages to the Lipo battery. I need the motor to be able to run 90 seconds to get to maximum altitude. In theory, the Lipo battery is supposed to be able to supply 1800 ma. To use up 1800ma in 90 seconds, equates to 72 amp-hr draw. I tried to prop the motor to run at about 70 amp, but at that rate, I could not get the 90 seconds motor run that would produce the thrust the plane needed to climb. So I reduced the propeller size to a lower current draw to be able to climb 90 seconds of meaningful power for the plane. And when I landed, I was only able to charge back about 1200-1300 ma into the battery. This is what I call "**Functional Capacity**"; the battery is rated 1800 mah, but only about 1200-1300 mah can be used and then the voltage gets too low for my airplane to function, i.e. to have a decent climb rate. So, when measuring the current draws of the motor, using the Rated Capacity to calculate available flight time from a specific battery is not totally correct. I can probably squeeze a little more out of the battery, but I am just spinning the propeller at lower rpm, creating more drag than thrust and also risk damaging the battery. The **Functional Capacity** varies from plane to plane even with the same battery.

Same applied to the NiCad, Nimh that powers the electronics in the airplanes. The NiXX battery capacity is rated from a fully charged battery (~1.45 volt per cell) and most manufacturers will terminate discharge test at 1.0 volt per cell. Some receivers can be operated as low as 3.5 volts supply voltage, but with reduced reception range. And for the servos, the given output torque is rated at 4.8V, 6V, 7.2V or 8.4V (see individual servo specification supplied by the manufacturers). When the voltage drops below the required voltage, the output torque can be significantly reduced. So if you are using a 4-cell battery (5.6-5.8volt fully charged), the rated capacity given is measured all the way down to 4 volt. Will the servos and receiver work at the voltage? How much will servo torque reduced on the servos and how much will range be reduced in the receiver? I would probably stop flying when the voltage under load reaches about 5.0V-5.2V (for 4 cell NiXX batteries) as reported by your telemetry, or when testing before flight under load. At that voltage, you will be in danger of in flight failure, even though you haven't reached the rated capacity of the battery pack.

Buyers beware! YMMV!



Good Reading:

West System User Manual and Product Guide

The WEST SYSTEM Epoxy User Manual & Product Guide is the definitive guide to using epoxy safely and effectively. This fully illustrated User Manual & Product Guide is available for free download. You can download a PDF file from their web site.

<https://www.westsystem.com/instruction-manuals/user-manual-product-guide/>

It is also available in different (18 total) languages.

If one wants to have a hard copy of the user guide, one can pick up the printed version at no charge through local West System dealers (West Marine is one of them) or order your free copy directly from West System at 866-937-8797.

This user guide contains a lot of useful information regarding the usages of Epoxy, many are outside of the modeling realm. Yes, it only has West System products in it but the information is very useful if you use any epoxy at all.



O&R TUNING TIP # 35- CUSTOM NEEDLE VALVE ASSEMBLY by Bob Angel

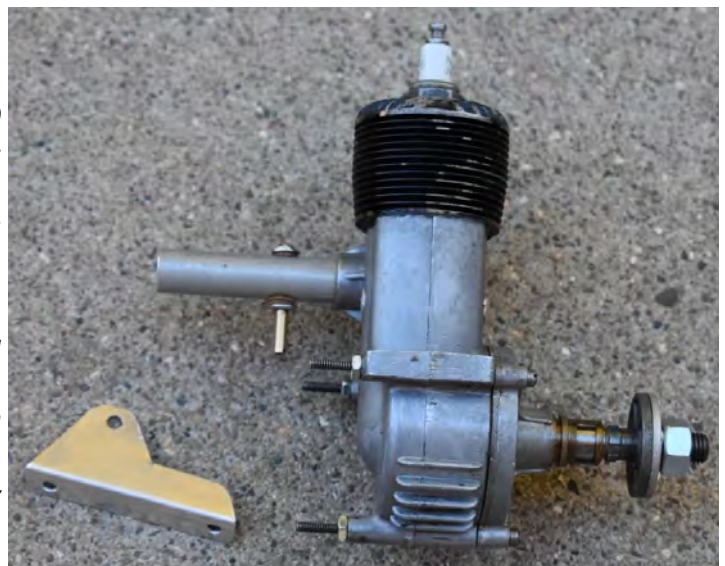
*Borrowed from The Coastal Flyer,
Official Newsletter of SAM26, Bob Angel, Editor.*

I inherited some disassembled "bones" O&R 60 engines. The term bones is used by engine collectors to describe "bare bones" engines – those which are mostly there but missing essential little parts, such as timers, needle valves, prop washers, nuts, etc.

I decided to complete one of the engines which had a timer but not a complete needle valve assembly. I had spare prop washers, and I keep modern prop nuts on hand, so that's never a problem. I had no spare O&R needle valve assemblies, and had long ago used up a couple of the universal NVA's which were made by Austin Craft and others.

Those universals work well because all O&R intake tubes are drilled for 1/8" diameter spraybars. That's smaller than most other engines, so not many other assemblies will fit, unless you drill the intake tube holes larger - for which you should be ashamed of yourself. Sometimes you may need to open up the universals' small spraybar discharge hole (or holes) a couple of number drill sizes to get enough fuel flow.

I had a spare OS remote needle valve assembly on hand, so decided to use it. Making a sheet metal mount that fits under the top two O&R case screws was the easy part. The rest was slightly tricky, but quite doable



after finding that a 4-40 tap works nicely inside standard 1/8" brass tubing to allow a short 4-40 screw to be used to retain the spraybar tubing at the top end.

To snug the brass tubing at the bottom I soldered on a washer. It's essential to get that washer on square. I drilled a 1/8" hole to proper depth in a smooth piece of wood, so it held the washer square on the brass tubing while I sweated it on with a propane torch. It charred the wood a little - a small sacrifice. If making a few, it would seem more workmanlike to use a drilled chunk of aluminum as the soldering jig. The washer was soldered on with the tubing in the upside down position so the solder fillet ended up outside the intake tube.



I used a #55 drill to make a single fuel outlet hole in the brass spraybar. If you want just a single fuel outlet hole, it's best to use a drill press with a depth stop, as it's easy to drill right through both sides of the soft tubing. This setup requires a separate tank of course, but that leaves more choices than finding or making an attached type tank that's alcohol proof. The original attached tanks had a habit of rattling loose. Most of the later O&R engines were furnished without a tank. That OS assembly provides a smooth reliable and precise setting.

Fortunately, just about any brand of remote needle assembly will work. Even European needle assemblies are usable, as they all can be easily adjusted from metric fuel flow into good old USA fuel flow. I still have a few parts and pieces of O&R needle assemblies, but they don't always play together - parts too long, too short etc.

I've left dimensions out of this report because they vary according to the engine. Anyone duplicating this little process can certainly work that out anyway. But here are a couple of clues: One is that I cut the brass tubing for the spraybar to 1" long for the large port 60 engine. So you could get a dozen spraybars from one piece of K&S tubing. Second clue: Make the 4-40 retaining screw short (3/16") so as not to cut off fuel flow at the spraybar orifice.

As a final note you want to align the spraybar outlet hole at right angles to the fuel flow, and maybe few degrees toward the inward direction, not pointed straight into the engine. Most of us routinely file a little nick on the bottom of the spraybar in line with the outlet hole for better alignment upon installation. Incidentally the SAM O&R Sideport event rules require a stock engine, but allow substitution of a non- O&R needle valve assembly.

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MEMBERSHIP: Steve Roselle: 16114 Janet Way, Grass Valley, Ca 95949 Tele: 650-465-1996 E-mail: sroselle@earthlink.net

CHIEF EDITOR: Brian Chan: 113 Starlite Drive, San Mateo, CA 94402 Tele: 650-867-8813 E-mail: SAM21editor@gmail.com

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