

PROP TALK



**THE NEWSLETTER OF THE
RIVERSIDE RADIO CONTROL
CLUB**

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JUNE 2016

Turbine Flyers now welcome

Turbine powered models can now fly with restrictions

The Riverside Radio Control Club would like to welcome Barry Hou as our Director of Turbine Flying. With Barry's help we are opening up our field to Turbine aircraft on a "Invitational Only" basis.

What this means is that you will need to contact Barry to get his approval to fly turbines at the Riverside Field. Barry can be reached at (626) 399-9588 or Email to: barrymhou@gmail.com. Barry will make sure all credentials are in order as well as perform a preflight inspection of all aircraft that you intend to fly.

You **MUST HAVE** Barry's approval to fly turbines at the Riverside field.

Jeff Szueber
President, Riverside Radio Control Club

RRCC Turbine Rules by Barry Hou, RRCC Turbine Director, 5/21/2016

- 1) AMA turbine waiver required
- 2) AMA regulations, guidelines and compliance required, with 200 MPH and 400 feet ceiling highly recommended.
- 3) FAA registration required
- 4) Turbine pilot initialization required, including aircraft inspection by RRCC turbine director
- 5) First flight of a turbine jet is prohibited, unless supervised with the presence of RRCC turbine director and or his assigned personnel
- 6) Turbine pilots are requested to yield the calmer air to the lighter wing loading aircraft prior to 11AM.
- 7) All rules and regulations of RRCC will be observed and enforced.
- 8) Be a courteous flyer and have fun.

RRCC CLUB OFFICERS

President: *Jeff Szueber*
Vice-President: *Jon DeFries*
2nd Vice-President: *Bob Baker*
Secretary: *Rob Evans*
Treasurer: *Larry Roberts*
Newsletter Editor: *Jim Bronowski*
Safety Officer: *Vacant*
Field Director: *Dale Yaney*
Webmaster: *Oscar Weingart*

**ALL OFFICERS MAY
BE CONTACTED AT:
RRCCCONTACT
@YAHOO.COM**

**NEXT MEETING
SATURDAY
JUN 18TH
10:00 A.M.
CROWLEY
FIELD**

Minutes of the May 2016 Meeting

Call to Order:

- President Jeff Szeuber called the regular monthly meeting of the Riverside Radio Control Club to order at **10:15 AM May 21st, 2016** at Crowley Field.

Minutes of the previous meeting:

- The minutes of the March 2016 meeting were approved as written and published in the March Prop Talk newsletter by the members present. There was no meeting in April 2016.

Old Business:

- Jim Bronowski explained why our AMA Pattern Contest in April was cancelled. First, the new electronic scoring system that was to be used became unavailable at the last minute. Secondly, for various reasons, the pre-registration numbers were low and the CD decided it would be prudent to cancel with enough time to let everyone know.

New business:

- Club rules now require FAA registration along with AMA membership for all club members. This eliminates club liability if the FAA should inspect and find someone flying at the field not in compliance.
- Turbine-powered models are now allowed to fly at our field with the approval of our new Turbine Director, Barry Hou. He is the sole authority to approve and inspect turbine pilots and turbine models for flying at our field. The rules and details will be published on our web site and in the June 2016 Prop Talk Newsletter. Our club president, Jeff Szeuber, stated that there will be tight reigns on turbine flyers and violations of the rules will not be tolerated.

Program and Show and Tell:

- Jim Bronowski demonstrated the properties of a new adhesive: "WELDBOND." It works very well on non-porous materials such as glass or metals as well as porous items. It can be purchased at ACE hardware stores and is a nice addition to your adhesive collection. Also, Jim showed his new Tactic TTX850 transmitter. It is a full 8-channel computer radio available at Tower Hobbies for around \$150. It's a great second radio.
- Bill Cook showed his assembled Hobby People quad that goes for about \$130. He said it was easy to assemble and he demonstrated how well it flew.
- Jon DeFries brought his control line speed model powered by an O.S. 65 with a Nelson sleeve and piston. It has achieved 184 MPH.

Raffle:

15% Fuel, Dramida Quad, Six-Channel Park Flyer Receiver, Mini Proto X Quad, 2 Lipo Batteries and 3 books.

Meeting Adjourned at 11:10 AM by Jeff Szeuber

Minutes submitted by: Jim Bronowski



By Oscar Weingart

Oscar's Observations

Hubris

About 65 years ago, I was studying Ancient Greek Drama in a course called "Contemporary Civilization", at Columbia College of Columbia University in New York City, where I was a Pre-Engineering student. In the Greek Tragedies, the hero would brag about his triumphs, and then was punished by the Greek Gods for the crime of "hubris", which meant "excessive pride." Well, I guess that I was guilty of hubris in last month's article, because (although I am no hero) I have been appropriately punished.

If you may recall, I told of how I flew three different electric-powered planes in one day. (I also described a crash of my BH Fly Baby .46 ARF.) The three planes I flew were the big RocHobby foam V-Tail powered glider, the Kyosho Calmato 1400 Sport ARF, and the VQ Space Walker .46 ARF. Well, in the next two flying sessions, I received my punishment:

(1) The Space Walker somehow returned to its crazy takeoff behavior, and I didn't react fast enough or properly enough, and it went in on its nose. My pride was hurt more

than the plane, as the damage was limited mostly to the fiberglass cowling, a broken prop and broken plywood motor mount. It turns out that Hobby People stocks replacement cowlings for a reasonable cost, so I ordered one. (I hope that this one is the proper color.) The

Hobby People .46-size electric motors are quite rugged, as this one has now survived two crashes and still runs, as did the one on the Fly-Baby. Incidentally, I want to compliment Hobby People on the fact that they stock replacement parts, like cowlings and canopies, even for old BH ARFs that they have not sold in many years.

(2) The V-Tail glider, almost invisible against the low clouds, got sucked up into a strong thermal and disappeared, shortly later plunging at high speed into terra firma. It will need a new fuselage and tail, motor and ESC. Fortunately, I already have an extra motor and ESC, so I ordered the required new parts, which were in stock at Motion RC. By this approach, I saved over 50% of the cost of a totally new glider. The restored motor-glider flies fine. I wanted to rehabilitate this plane, as I take it along on our Summer RV trips. We are attending Grandson Jacob's graduation down in San Diego this June, so I will be able to fly it at Torrey Pines. Motion RC also deserves credit for their excellent replacement parts service. One

could literally build a whole new model from the replacement parts they have available.

So, for a while, the only electric airplane I had that was still flying was the Calmato 1400. The rest of them were strung out in pieces along my big free-standing workbench in the garage, awaiting "R&R" (repairs and replacements). This was a good time to break out my Grandson Joshua's Apprentice, which he has not flown in several years, and is collecting dust in the rafters. I need to be sure that it is still flyable, don't I? It has a tricycle landing gear, so I am less likely to crash it on takeoff, as I often do. But I invented a much more creative way to wreck this neat little foam ARF electric-powered trainer, without even flying it!

After several successful flights, the Apprentice did some whoops-type un-commanded maneuvers. I was able to coax it back to land safely, but I lost confidence in the cheap, park flyer radio control system, with its single antenna receiver and its dry battery transmitter. So I decided to convert the Apprentice to use my second Airtronics RDS-8000 system. I installed the 7-channel, two antenna receiver, and Bob Jones helped me with the binding procedure, which requires at least three hands. I placed the airplane into my plastic cradle atop the lightweight folding table described last month, and proceeded to adjust the controls of the computer radio.

While setting the Normal/Reverse function of the four control channels, I accidentally reversed the throttle stick instead of the rudder stick. The electric motor immediately went to full power, and the

airplane pulled the stand and lightweight table over onto the paving, where it lay there noisily flopping around, with dense white smoke coming out from under the motor cowling. Damage was confined to the broken prop, burned-out motor and possibly the ESC, which got quite warm. I guess that I am a slow learner, since I had a similar incident happen with my Clamato 1400 Sport, when the throttle stick was bumped while the plane was "hot".

Fortunately, I had a spare motor, prop and ESC, which I installed and will test out on June 14. The new equipment is not "stock" for the Apprentice. The motor is a BL-25 generic, roughly equal to a .25 glow engine, where "stock" would be a .15 - size E-Flite motor, but it dropped right into the Apprentice motor mount. I had to shorten the cowling 1/4 inch for this slightly shorter motor/prop driver/generic spinner combination. The prop is an 11-8 1/2 electric, and the ESC is a 60 amp Hobby People unit. Use of this ESC prompted switching to the generic Deans plug from the E-Flite special plug for the LiPo batteries, which enabled me to use the same 3200 mAH batteries that I use in the Clamato. The Apprentice is now a bit over-powered, but a little research convinced me that it can handle it. (Famous last words!)

The Don/Oscar/Tom Clamato 60 Bites the Dust.

Tom Bingham has been flying the Clamato 60 ARF (OS .46), which good friend Don Lien left to me and I gave to Tom. The plane flies smooth, and

Tom fixed it up cosmetically and really likes it. But a few weeks ago, the Clamato 60 made an "unplanned hard landing" and suffered a broken nose. Tom is repairing it, and it should be back in the air soon. So meanwhile Tom was flying one of his smaller "Frankenstein" models. (I call it that because it is made up of parts of several planes and is pretty ugly.) Last week, when I was back behind the pits, getting something out of my car, the Frankenstein suddenly appeared, seemingly diving right at me! It missed me and crashed, lightly bumping a parked car. I think that Tom has one more Frankenstein to go.

Speaking of crashes, Paul Jones totaled his lovely 3-D plane, which he could make do almost any known maneuver, as well as several I had never seen before. Too bad, Paul.

Caterpillars Infest Air Museum

On June 15 at 7 pm, Museum Docent Ft. Lt. Ken Wright, (RAF Retired), presents "The Caterpillar Club". The club consists of people who have saved their lives by parachuting from an airplane. Ken will tell of his jump out of a Lancaster Bomber, at night, over France, during World War II. We are also expecting a number of other Caterpillars to describe their experiences.

Fly Safely!

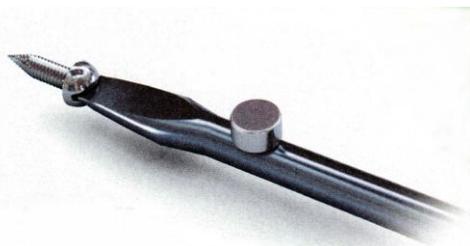
Oscar



Dale Yaney adjusts a small 4-40 nut on the nose wheel of his F-4 at the "Sparks over Gilman Springs" event.



Our Classic Pattern Event on June 4th was very successful. The 100 degree heat did not deter 16 pilots from having a ball.



MAGNETIC SCREWDRIVER

High-powered magnets are available everywhere, from online to most home-improvement stores. They are strong and compact and if you attach one to a metal screwdriver, you've just made a magnetic screwdriver that will hold a screw in place.

John Fryant (from Model Airplane News, August 2016)

Pitch and Pitch Speed for Electric-Powered Models

Pitch is the distance (normally expressed in inches) that the propeller "cuts" through the air in a single rotation assuming no slippage. To achieve pitch, the propeller blades are angled to move air to create thrust. The angle of the blade determines its pitch. Propeller blades are airfoils, just like the flying surfaces on our models. When they have a higher angle of attack they create more lift. In the case of propellers, a higher angle of attack (pitch) at a given rpm will create greater thrust.



Pitch speed is the speed at which the propeller pulls through the air. It is calculated by looking at the pitch of the propeller, and the number of revolutions it performs in a unit of time. Pitch speed does not consider slippage, drag and other forces that may affect the aircraft.



With a high wing loading you need a higher air speed to stay in the air. A higher pitch speed means lower thrust > longer take off > high landing speed. You can get both thrust and high air speed but it will be at a weight penalty as the power needed to get thrust for a short take off will not be in proportion to the power needed to stay airborne.

Warbirds are an often examples of models with high power/high wingloading which are supposed to fly fast, and especially in glow to electric conversions you will need to take the wing loading into account.



Pitch speed isn't only about wing loading it's also about what you want to do with your model. With an already light model or of moderate weight you can determine the behavior from the choice of prop > pitch speed. Without the need of changing anything (keeping the same amps) you can take a GWS Formosa II with a 10x5 from being a sporty low wing aerobatic trainer to a fast aerobatic plane with a 9x6. As a general rule 1" pitch relates to 1" of diameter, if you step up 1" in pitch you need to step down 1" in diameter to keep the same amp draw.

With more normal kind of planes we usually use a prop with the proportion of 1:2 i.e. 10x5, 11x5.5, 12x6 and so on as it is most effective (from what I heard). A High wing trainer could very well use a more square prop like 9x7 instead of 11x5.5, it'll still have a high lift and once airborne you can throttle down, the higher pitch will give it airspeed and you'll get long flying times with low amps, perfect for photography or video.



"As a rule of thumb, you want to have a static pitch speed within the 2.5 to 3 times the stall speed. So if your plane stalls at 15 mph in level flight you would like a static pitch speed between 37.5 to 45 mph.



For a particular motor, I know from testing that with a 12x6" propeller the motor is running at 7165 RPM. Each revolution pulls the plane forward 6". So my plane would be making 6" x 7165 RPM or 42,990 inches per minute. Dividing by 12" gives me 3,582.5 feet per minute. Multiplying my 60 minutes gives me 214,950 feet per hour. Dividing by 5280 feet gives me 40.7 miles per hour. The plane I has a calculated stall speed of 14 mph. 40.7 divided by 14 equals 2.9. This ratio falls within the desired 2.5 to 3 ratio of pitch speed to stall speed, which is good!



To select a motor you may have to work back-wards from prop diameter. The plane I have can take a 12" prop. I like to get the largest diameter prop that will fit."

From: www.wattflyer.com





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