



**October 2019 Newsletter**

Knoxville TN AMA #594

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**2019 Elected Officers**

Pres.....Ed Dumas.....[ed@eddumas.com](mailto:ed@eddumas.com)

Vpres.....Paul Funk.....[paulfunk24@gmail.com](mailto:paulfunk24@gmail.com)

Secretary.....Roger Kroodsma.....[rogkroods@att.net](mailto:rogkroods@att.net)

Treasurer .....Mike Catlin.....[catlimi2000@gmail.com](mailto:catlimi2000@gmail.com)

**Executive Board**

Randy Philipps.....[randy@accessolutionsinc.com](mailto:randy@accessolutionsinc.com)

John Basalone.....[jrbfarm@yahoo.com](mailto:jrbfarm@yahoo.com)

**Safety Officer**

Denny Evans .....[evans9633@bellsouth.net](mailto:evans9633@bellsouth.net)

**KCRC Meeting Minutes – September 10, 2019**

Vice President Paul Funk began the meeting at the KCRC flying field at 7:00 p.m. Tuesday September 10. There were 21 members attending. Gene Corona, who is a new member and brother-in-law of John Suess, introduced himself and was welcomed into the club.

There were no corrections to the June minutes, which were approved by unanimous voice vote.

Michael Catlin gave his Treasurer’s report. Fuel is now \$16 per gallon. His report was approved by unanimous voice vote.

Field Officer John Basalone said a few words about field maintenance.

There was no safety report as Safety Officer Denny Evans could not attend the meeting

**OLD BUSINESS**

Michael Catlin mentioned that the club safety rules needed to be updated, including radio frequency control, control-line requirements, and a new map showing the flying field, drone course, and car track. Michael also gave a summary of the Boy Scout rocket launch that was recently held at the flying field.

**NEW BUSINESS**

The Marine Mud Run will be September 28. Repairing and sealing the runway on the day of the Mud Run was discussed. Bill Dodge, who has done so much work on the runway in the past, is out with an injury, so the repair will have to be done at a later date.

Parts of the runway are in bad shape and will have to be patched first before the sealer coating is applied. Funding for this runway work was approved by unanimous voice vote. Randy Philipps volunteered to manage this work.

The Float Fly is planned for Saturday October 5 at the boat ramp in Melton Hill Park adjacent to the flying field. Paul Funk is managing.

The Boy Scout Fest will be October 19 at Blaine, TN. This is a large event held every other year or so. KCRC was invited and plans to have a booth there with a static display of RC planes. Club volunteers are needed.

Randy discussed the car track. Around 200 fliers were distributed at HobbyTown, but this resulted in only 4 new members. Randy will talk to Gary Phillips at HobbyTown to see if anything more can be done. There was further discussion on how to attract more members, including the holding of races at the track. But setting up the track for racing could be complicated and expensive. The track is currently in grass whereas dirt is apparently better for racing. Randy also volunteered to talk again with the car racing club.

A scheduled race at the Drone course was cancelled when the timer person could not attend. Randy will check with them about a future date.

The last discussion of the meeting was about flying courtesy and safety at the flying field. Alan Valeo discussed some of his observations related to existing club safety rules and flying at the field. Much general discussion followed. Frank Allemand mentioned the pilot courtesy program and safety rules of the Chattanooga flying club. Much general discussion followed, including the possibility of revising the KCRC safety rules.

No one presented a Crash of the Month or a Model of the Month.

The meeting was adjourned at 8:08 p.m.

Respectfully submitted, Roger Kroodsma, KCRC Secretary....--Roger

– You can see we ‘blew’ past the Mud-Run and the Float-Fly from the time we had the meeting and the time the newsletter was written. The Drone race has been re-scheduled for October 19<sup>th</sup>, the same day as the ScoutFest. Hopefully, we will get a good turnout for both.

The Float-Fly will be rescheduled.

**KCRC EXECUTIVE COMMITTEE  
MEETING MINUTES  
September 16, 2019**

The KCRC Executive Committee met at 6:00 p.m. Monday Sept 16, 2019 at O’Charleys Restaurant at Downtown West in Knoxville. Ed Dumas, Paul Funk, Michael Catlin, Randy Philipps, John Basalone, Denny Evans, and Roger Kroodsma were present. President Ed Dumas began the discussion, which was primarily related to updating the KCRC “Flying Site Safety and Operational Rules” published in 2015.

Ed mentioned that the KCRC bylaws need to be sent to AMA. Michael will do this after a correction to the bylaws is made regarding the new schedule of having quarterly meetings.

Comments on revision of safety rules submitted in an email from Alan Valeo were discussed.

There was general discussion of various safety aspects of flying at the field. The need to add safety rules for the car track and drone course was recognized. Ed stated that when the revision is completed, the rules document will be posted on the KCRC website.

Discussion about visitors indicated that unescorted visitors to the KCRC field must stay in the designated area for visitors, but any person who is both an AMA member and KCRC member may escort visitors to the pit area where they must remain under escort until they return to the designated visitor area. This will be reflected in the revised KCRC safety rules.

Denny and Michael will comprise the committee to revise the safety rules. Michael will send the existing safety rules to all KCRC members and offer every member a chance to suggest revisions.

The need for an improved KCRC website was discussed.

It was decided that Ed Dumas, Denny Evans, and Rick Thompson will be on this year’s officer nominating committee.

Ed mentioned the need for runway repair, which was discussed at the previous club meeting and is being coordinated by Randy.

Michael discussed the possible use of colored stickers with a logo to put on transmitters as a means to confirm that pilots are KCRC and AMA members, with the color and logo changing at the end of the year. After further discussion, the committee decided to use this method.



Proposed Idea

Randy brought up the topic of introducing an incentive to renew membership on time, which was discussed in a previous meeting and involved a discount of \$12.00 to those who renew before the end of the year. No decision has been made about this incentive.

The December club meeting will be at the New Beginnings Baptist Church on Yarnell Rd.

The meeting was adjourned at 8:58 p.m.

Respectfully submitted, Roger Kroodsma, KCRC Secretary....--Roger

As a follow up, the stickers will probably be round and have a neon color with the current year and a KCRC logo. The stickers leave very little residue behind and that residue is easily removed with a little alcohol. If one has multiple transmitters extra stickers will be provided. These stickers will differentiate between normal membership and drone fliers. Hopefully, this will motivate members who wait until July to renew their membership.

Now onto this month's feature article. I am always looking for member submissions or even just suggestions!

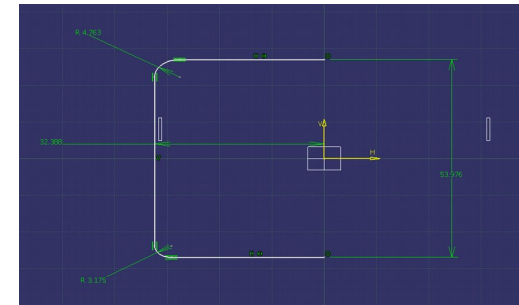
For this month's article I thought I would go through the steps I took in doing the design of a part.

A few weeks ago Sang Choi a former KCRC member dropped off some airplane parts he was getting rid of and left them in the pavilion. I looked over the parts and noticed that there was a power assist glider with a Cox engine still hanging from the firewall. As I left the field to go home I began to think about converting that glider to electric and at the first stop sign I turned around and retrieved it.

First step was find the parts I would need. Motor, check. Folding prop, check. ESC, check and so on. Once I gathered all the parts I got out my measuring tools.

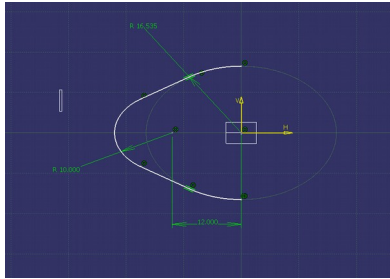


I needed to know the accurate size of the firewall and the angles each side makes.

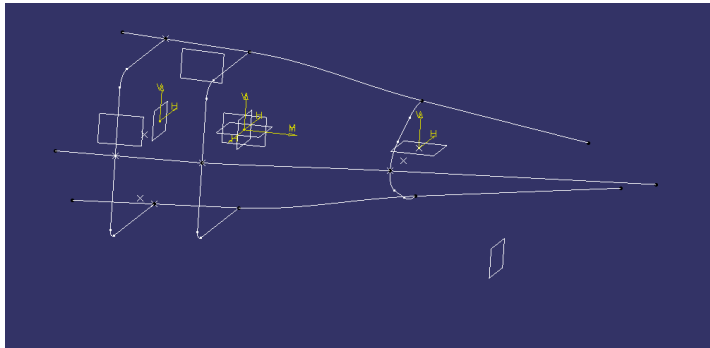


I also needed to know the diameter of the spinner and the angle the spinner sidewalls make to the back plate. The firewall reference shape was constructed in 3D as well as the spinner diameter. At first I planned on adding cooling scoops so I constructed a round section for the spinner. However, the image shows a later modification where I added the cooling openings.

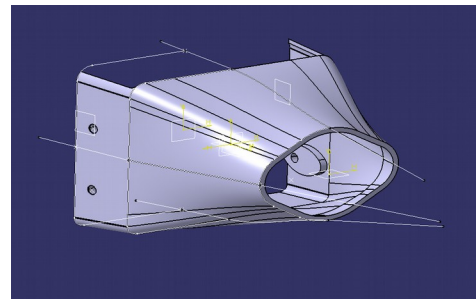
Note: Since the printer's basic units are in metric, I do all the measuring and design work in metric.



Using the length of the motor and the thickness of the firewall adapter I set the distance from firewall to spinner. Next I added the lines that would set the angle at the forward and aft end of the cowl fairing and constructed splines that connected the lines and held the end slopes to get a smooth transition.

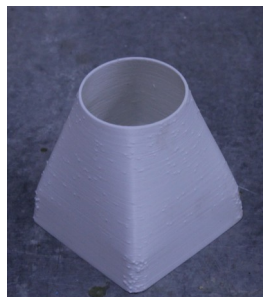


Knowing that the cowl was nearly the right size I modified it to include air intakes and sidewall flanges.



No need to model both sides as the cowling will be symmetrical and the mirroring will be handled by the software.

Here you can see the final result.



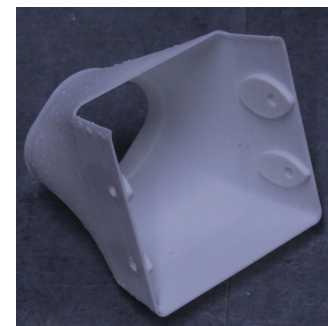
But I did print a trial fit cowl.



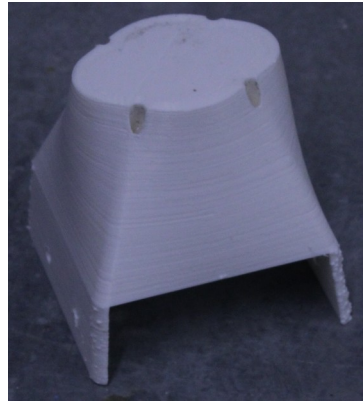
I also added fastener holes to attach the cowl through the sides of the nose rather than try to attach to the limited space on the firewall.



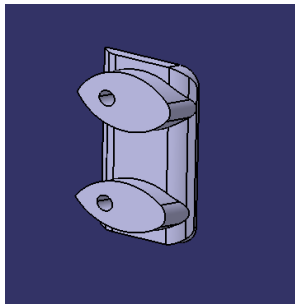
Placing the cowl in position showed that the uppermost fasteners would miss any structure and the lower fasteners would be buried in the balsa on the bottom. I also realized that I needed cooling air exits. So, I moved the fastener holes and provided reinforcement in the form of “aerodynamic” pillars. I edited the original width dimensions of the cowl to accommodate the height of the pillars. And, back to the printer.



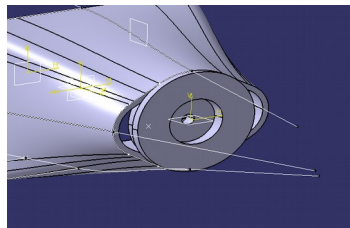
To drill the firewall holes I printed a drill tool, clamped it to the glider and drilled down the printed holes. Perfect fit!



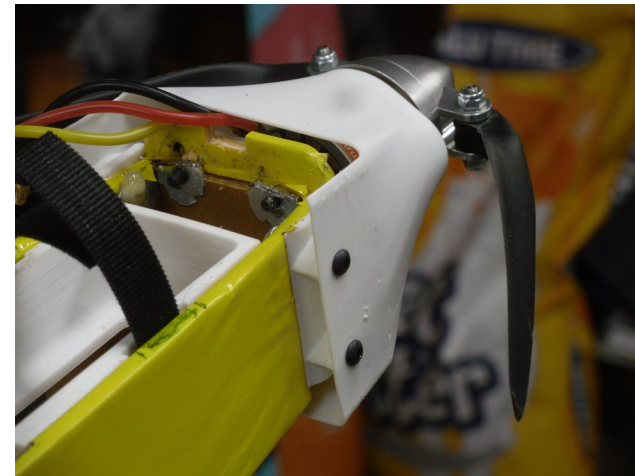
I also drilled the cowl attach fastener holes. The motor attached with no problem and I added 3mm Tee nuts on the back side of the firewall to hold on the motor. When I tried to use the Tee nuts for the cowl fasteners they wouldn't fit due to the buildup of epoxy on the inside of the nose. To correct this I designed fittings I could glue on the outside of the glider to accept the fasteners. These included recesses in back side to accept 3mm nuts. The thickness of the fittings on each side required modifying the dimensions of the cowling (again) and reprinting.



To glue the side fittings on the glider nose in the correct position caused me to print a cowl alignment disk which keys into the cowl and is slipped over the motor shaft.

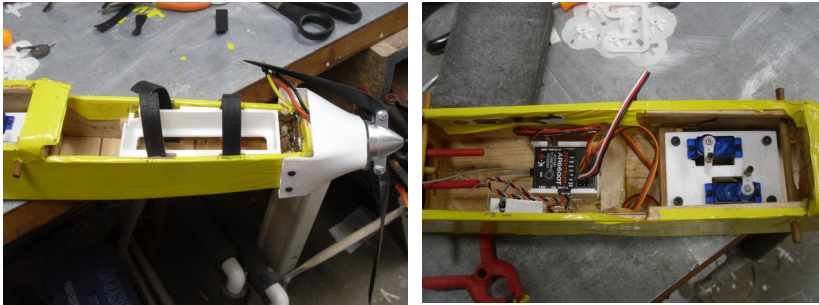


To hold the alignment disk in place I tried to slip on the folding prop spinner and found that the spinner would not slide completely down the motor shaft leaving a 5mm gap and that the collet that held the spinner on the shaft protruded slightly. Once again I changed the dimensions on the cowl and reprinted and added a recessed area to the alignment disk. The cowl fit perfectly, is easily removable and can be simply reprinted if damaged.





Sometimes adapting existing hardware consists of iterating the design until it's right which is why I suggest if you pick out a 3D graphics system pick one that allows dimension modification and updating without having to redraw entire parts. As for the 3D printing it's like baking a cake, just put it in the oven and wait for it to come out while doing other things in the meantime. The final photos show the other parts made. Battery holder and ESC support, servo tray, receiver mount and satellite mount.



Last Saturday it was “maiden” flight time. Phil Cope checked the glider over, took out some wash-out and had me give it a toss over the grass at the North side of the field. A few trim clicks later and he handed me the TX and it was flying great and goes skyward like a rocket. Sadly, the flight was terminated when the hatch departed the aircraft. (Need some Velcro) But, on a good note, we did find the hatch and the glider returned in one piece.

### Up Coming Events

ScoutFest Saturday October 19 at 0 Clubhouse Drive, Blaine, TN 37709 If you wish to participate you need to be there by 7:00 as the “drop off” cars need to be clear of the grounds by 9:00AM

Drone Race at the field October 19 Check-in at 10:00AM  
Practice at 11:00AM

Don't forget to visit KCRC Knox County Radio Control on Facebook! 189 members strong.

Daily 3 day weather predictions

Daily aviation photos

Event advertisement from other area clubs

Items for sale

Articles, information and aviation related videos.

<https://www.facebook.com/groups/817242841697766/>

