KNOX COUNTY RADIO CONTROL

Newsletter

Knoxville TN Mar 2018 AMA #594

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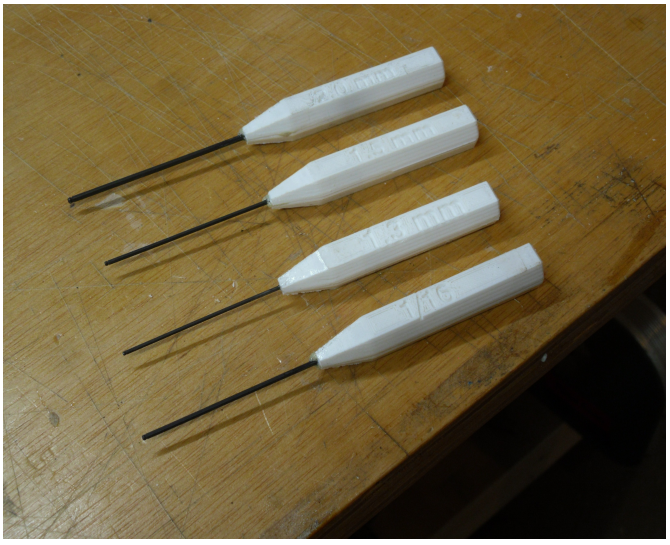
THIS'N THAT

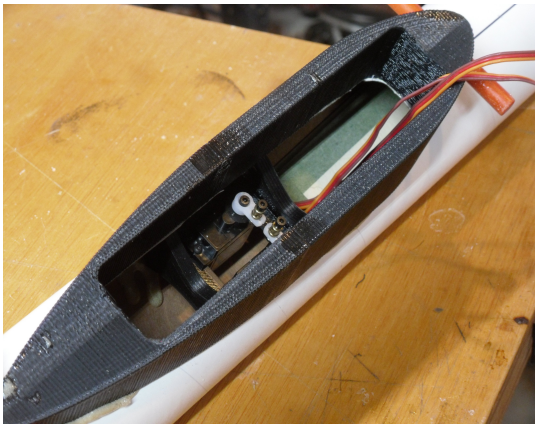
. ► Got a nice note from Michael Catlin;;

"Jim, sometimes, designs don't go as expected. I am working on a glider made from a model rocket tube, arrow shafts and 3D printed parts. The servos are installed in a tray glued into the rocket tube and after I installed the tray (with the servos screwed in) I discovered that none of my Allen wrenches would fit through the small opening and turn the screws. Enter McMaster-Carr and 3D printing.

I ordered 3 each of several different sizes of straight Allen wrenches at a cost of about $0.90 each. They all have a 'ball' end so that they can be slightly misaligned. Once the Allen wrenches arrived I designed a handle with a recess for a Harbor Freight super magnet. The Allen wrench touches the face of the magnet inside the handle and is thus magnetized allowing screws to 'stick'. The handles were printed in halves and glued together with the Allen wrenched glued in place. I even printed the size of the wrench on each half to reduce trial and error in finding the 'right' size....Michael "



What a great idea! The handle and magnetism makes a huge difference in convenience. Its hard to get my big old fingers into tight spaces and its also good for picking up those screws you drop into the fuse..



► Also got this from KCRC President Ed Dumas:

:" Jim, Here's a tidbit for the newsletter. I have a recording altimeter that I put into my Goldberg Anniversary Edition J-3 Cub to see how high the plane is flying when it is just a speck in the sky... Today (Saturday, Jan 27, 2018) I flew the Cub to 1782 feet! It was indeed just a speck in the sky, and I wouldn't feel comfortable flying it any higher, but it is good to know the maximum altitude to which I can fly it.

The altimeter is a Hexpert Systems ZLog-6 model Z6R recording altimeter. They are about $80 from Hexpert Systems (www.hexpertsystems.com). I've set mine to record at 3 Hz and I use it primarily to record my glider launches and zooms and to track the max altitude in my glider flights. So far the highest glider flight I've had is 1518 feet, with several flights over 1000 feet. I've only datalogged about 23 glider flights so far, and the lift hasn't been as good as it can be, so I'm looking forward to seeing just how high I can fly my gliders this summer.

Fun stuff!-----Ed “

I asked Ed about the AMA's 400 feet altitude recommendation and this is what he said;

“ What the AMA safety code says is this:

Model aircraft pilots will: 2(c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport without notifying the airport operator.

This is the only statement about the maximum altitude that a model can fly in the entire set of rules, and it only applies to models being flown within 3 miles of an airport. The nearest airport to KCRC is Oliver Springs International, 6 nautical miles away. This is a big reason NOAA can fly their small UAS at KCRC without restrictions. NOAA can legally go to 1200 feet AGL because KCRC is more than 5 nm from the nearest airport.

A big part of the reason the AMA safety code is written this way is because of sailplanes, as I mentioned in the previous e-mail. If there were a hard altitude limit it would effectively kill that segment of the sport entirely. It would also have ramifications for free-flight as well... So, looking at the letter of the law, the max altitude that we can fly at KCRC has no limit.

The most important thing, though, that has kept model aviation safe for more than 80 years, is rule 2(a) *2(a) Yield the right of way to all human-carrying aircraft.*

This trumps all other rules, bar none!....Ed ““

I heard the same complaint from the SAM flyers when the 400 feet was suggested to be a hard rule. Both sailplane pilots and SAM flyers depend on altitude for their flights. ▉

► Got a note from KCRC treasurer Joel Hebert saying he had filled out AMA sanction papers and would send them in with the payment. Thanks, Joel. ▉

Vacuum Forming

by Kay Kasemir

Building with wood is thoroughly enjoyable. It's fairly easy to cut, sand, glue, comforting to touch, and if there's a smell, that's pleasant as well.

Plastic is the exact opposite. Your knife tends to wander off the desired path when cutting plastics. The plastic dust generated by sawing or sanding will electrostatically cling to everything. Still, there's no alternative to plastics for a bubble canopy. Even "all wood" kits tend to include a plastic cowling for its obvious practicality.

In my latest project I thus decided to suck it up and try vacuum forming. After watching about 10 too many YouTube videos on the topic I've build a suction table, i.e. a basic box with many little holes in the top and another one that matches the exact size of my vacuum's hose at its side. For suction I use a household canister vacuum. While the exact brand doesn't matter, it happens to be a Miele Classic C1 Turbo Team PowerLine (white). What might matter is that I remove the filter bag to maximize air flow when using the device as a vacuum pump and not a dust collector.

For plastic I use PETG sheets of about 1 or 2 mm thickness that I've found offered by various eBay sellers, usually with "Vacuum Forming" or "RC Car Body" mentioned in the description. The sheet is held in a "picture frame" type frame that matches the exact size of the suction table top, with foam rubber added as a seal. The seal is on the suction table top, not the frame, because the frame will be placed in the kitchen stove to heat the plastic sheet, which would over time burn the seal.

To give an unscientific impression of this contraption's overall effectiveness: When the vacuum is running at full power and the sheet-in-frame is pressed onto the table, the sheet appears to be pulled out of the frame onto the table, the table top is bowing into the box and the wood makes noises as if the box is about to collapse. The sheet-in-frame is placed in the kitchen oven, which I set to about 300 F. The sheet will quickly appear to tighten. Then nothing happens for a while, until the sheet starts to sag. I turn the sheet around, let is sag to the other side. I take a mental note of the amount of sag, because I might have to do another attempt with more or less sag. The vacuum is turned on, the frame is taken out of the oven (wearing orange oven mits) and pressed over the form, and within less than a second you either have a perfect cowling or canopy, or a big disappointment.

At this stage of my vacuum forming adventure, the ratio of perfection to disappointment is about 1 to 3. OK, maybe 1 to 5. It appears to be more of an art than a science. A sheet that is not hot and thus soft enough will obviously not form very well, although you can

sometimes improve the end result by adding heat from a hot air gun. I was surprised to learn that a plastic sheet that is too hot i.e. soft will give even worse results, because the "floppy" plastic creates folds and webbing. It helps to visualize a tablecloth on top of the form. Wherever that cloth would drop into folds, the plastic sheet is likely to do the same.

Placing the form at a different angle can help. In the pictures you see a cowling plug on top of a wooden stand, which is then angled by placing a roll of blue tape under one side, again demonstrating the universal usefulness of blue tape. At that stance, the plastic sheet formed best around the plug.....Kay.

Thanks, Kay. Like most things involved with RC, if you can stick with it, you can come up with some very good looking models. Vacuum formed parts really do help a lot and that's a good looking cowl.....

IN MEMORIUM

KCRC Emeritus member Carl E. Gibson passed away on Feb 8th, 2018. Carl was a charter member of Knox County Radio Control club and a member of the old East Tennessee Radio Control club, the fore runner of KCRC. One of the good guys, Carl was very active in his younger days.

Here, in happier times, is Carl (second from left) with some of his flying buddies at KCRC field.

► President Ed Dumas sent a note saying that AMA has updated the safety code for members. He says the content is pretty much the same but presented differently. The safety code itself is here: http://www.modelaircraft.org/files/105.pdf and the safety handbook is here: http://www.modelaircraft.org/files/100.pdf

You are encouraged to check it out.. ■

KCRC Meeting Minutes 2/13/2018

The March 2018 KCRC meeting was held at Fellowship Church, 8000 Middlebrook Pike, room 605.

President Ed Dumas called the meeting to order at 7:00PM. There were 26 members in attendance.

President Dumas recognized prospective new members Tyler, Kip and Mark Berlin who are Son, Father and Grandfather respectively. After the meeting, KCRC members helped them bind their new Apprentice to its transmitter and offered other advice on getting started. We look forward to them hopefully joining KCRC and becoming regulars at the field.

President Dumas asked for any corrections to the December minutes. There were none and they were approved unanimously by voice vote.

Treasurer Joel Hebert presented the Treasurer's Report which was approved unanimously by voice vote.

John Basalone reported there are currently no issues which need to be discussed under his domain as Head of the Field and Grounds committee.

President Dumas recognized our new 2018 Club Safety Officer, Denny Evans. With minimal flying due to recent inclement weather, Denny had no safety issues requiring discussion.

` A discussion ensued regarding the deplorable condition of the wind-sock. Steve Jones agreed to donate a replacement if someone else would be willing to install it.

President Dumas summarized the following points which were discussed by the Club's Executive Board in their recent meeting of January 28, 2018.

The Board set a new proposed budget for 2018 the same as the 2017 budget with two exceptions.

1) There was an increase in the line item for annual payments to the AMA due to their price increase. This expense is non-discretionary for our club to exist.

2) The 2017 budget line item for utilities (electricity) was a little short, so it was increased slightly for 2018 to cover our estimated cost. The membership approved the new budget by unanimous voice vote.

The Board discussed possible improvements to the ground under the plane stands which has developed muddy spots. President Dumas threw out the possibility of appointing a committee to make recommendations. Grounds chairman John Basalone said the grass normally recovers to a satisfactory

condition when it starts growing again in spring. He suggested we do nothing for the time being to see if the condition is satisfactory later in the year. The Club took no action at this time.

The Board discussed the poor condition of the entrance sign. During the regular meeting, Denny Evans volunteered to take a look at the sign and report suggestions back to the Club next month.

President Dumas opened a discussion of proposed 2018 Club events. The first event discussed was the traditional SPA contest KCRC hosts each year. The Club approved having the event by unanimous voice vote. Due to conflicts with other events, Phil Spelt announced the contest will be held Aug. 25th & 26th this year as opposed to May when it is normally held. Phil agreed to CD the event again this year.

The Club agreed to host the 2nd Annual Cub-Fest again this year. Ed Dumas will get AMA sanction for the event for the best available Saturday in June and announce the date after receiving the sanction.

Phil Spelt announced the mud run will likely be held either the 2nd or 3rd week in September. Exact date will be announced when known.

Float Fly – Phil Spelt volunteered to coordinate. The date will be set later and may be set to coincide with the Cub Scout Fest in Melton Hill Park.

Fun Fly – Paul Funk agreed to head-up another fun fly event this year. It will be held sometime after June and details will be announced later. Several members expressed a desire to try and persuade Jerel to bring his iconic ice cream machine again this year. It was widely felt that attendance would double or triple if he does.

Community Outreach Events – A committee comprised of Phil Spelt and Michael Catlin will consider having some community outreach events or possibly involving the community-at-large in some of the events we are already having.

Phil Spelt announced there is an Air Map App (versions available for both android and iOS) capable of helping flyers avoid no-fly zones, stay up to date on changing rules, etc. Phil Spelt will check on this and inform the Club at the March meeting.

Model of the Month – There were two entries.

1) Allan Valeo entered a gorgeous P6 scratch-built from a Pat Trittle design. Wingspan 44" – 6.8 to 1 scale.

2) Kay Kasemir entered a beautiful "Chico" which was built from plans The model of the month was won by Allan's P6. Allan donated the MOM prize back to the Club.

Crash of the Month – COM was won by Phil Cope for the crash of a Daddy Rabbit due to a dead receiver battery. .Unfortunately the plane was destroyed.

Ed Dumas reminded all members to make an extra effort to welcome visitors.

The meeting was adjourned at 8:20PM.

Respectfully Submitted,
Rick Thompson, Secretary

: Michael Catlin sent this view of yhe P-6

Rick Thompson's picture of MOM winner Allan Veleo .

: Rick's picture of Kay Kasimer's Chico

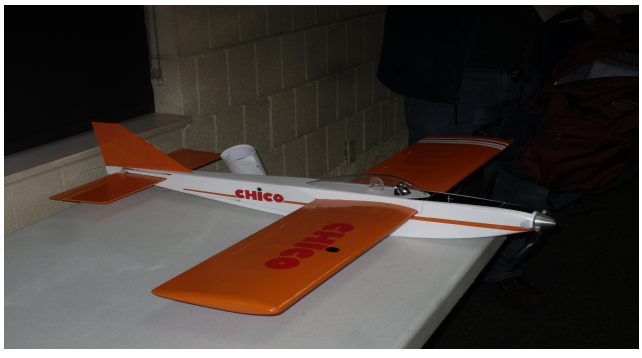


Illustration 1: Michael's pic of the Chico