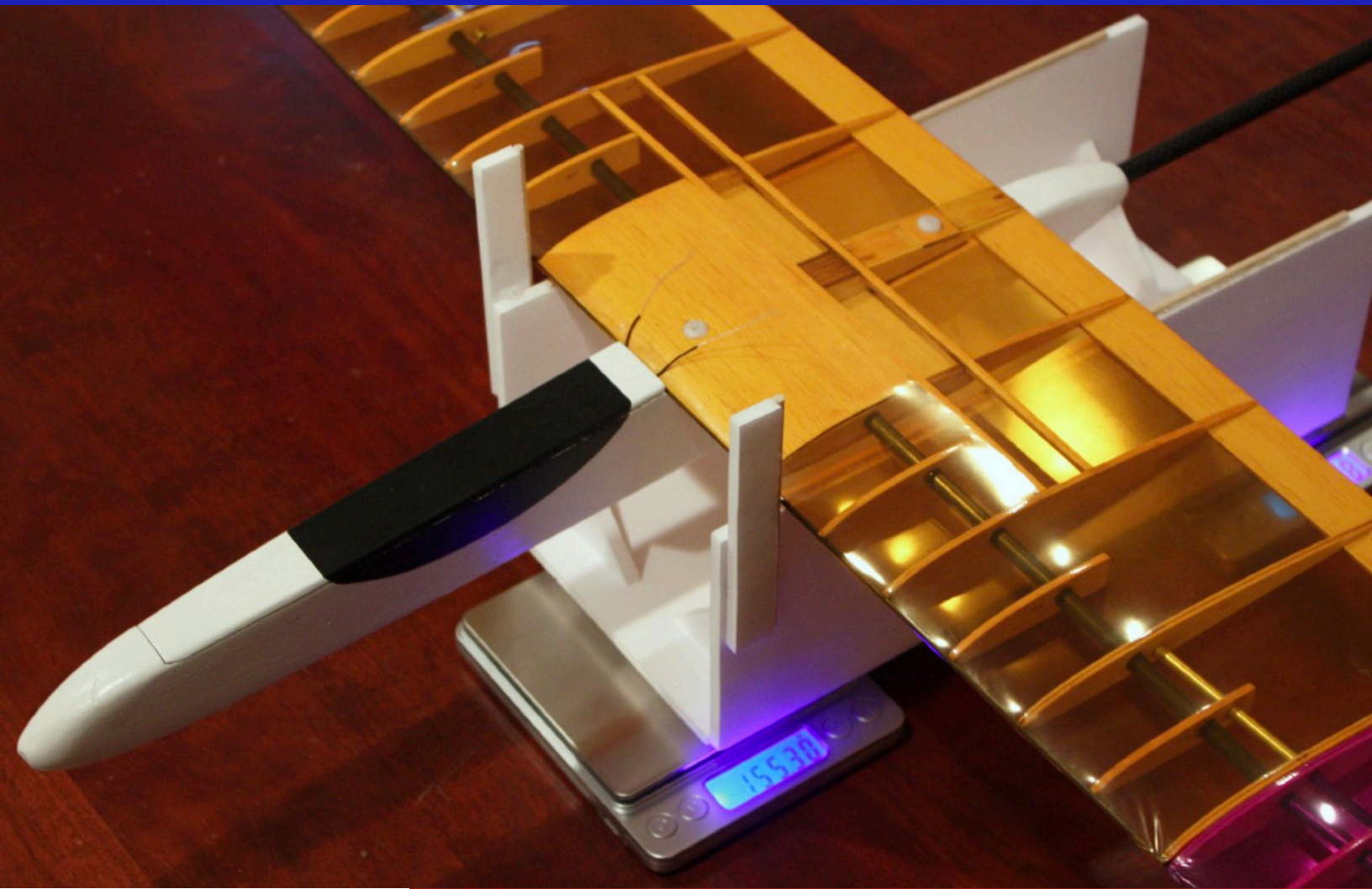


Charles River Radio Controllers

Flight Log

November, 2022



November / Annual Meeting:
TUESDAY, October 15th, 7:30PM

In Person at
Goodnow Library, Sudbury

President's Message

Dear Members,

Two years ago, I was elected president of this fine organization. It wasn't something I had asked for, or wanted, but one of the club officers at the time spoke to me, and I realized that in order for this club to function, we all have to participate. And that doesn't mean just getting out there and flying, and enjoying the hard work of others, but being a part of all the effort that is required to make this club function so well. I realized that it was time to give back to the club in appreciation of what I had gotten from it.

I'm not saying that serving you as a club officer has been without its own rewards and pleasure – far from it. It's been a task that I have enjoyed, and I'm grateful to have been trusted with this role by you, our fine members.

So in that spirit, I remind you all that this month we have our annual meeting. Meeting attendance has been desperately light over the past months, so I ask that you come to Goodnow on November 15th to enjoy the fellowship of your fellow flyers and modelers, and participate in the governance of this club. I also encourage all of you to participate, if you aren't already. Seek a role as a club officer, organize an event or contest, or volunteer your time and talent to make this club even more than it is now.

Fly well,

- Mike Whidden, CRRC President



Cover Image - a DIY center-of-gravity scale designed and built by Chip Kaye - see an excerpt later in this issue from his comprehensive RC Soaring Digest article. ©2022 Chip Kaye

November Meeting - Tuesday the 15th

Our next general meeting is scheduled to be ***in-person at Goodnow Library, Sudbury*** on **TUESDAY, November 15th, at 7:30PM**. This meeting constitutes the Annual Meeting of the Club, and will include the election of officers for 2023.

Bring a show-and-tell to share with others on your summer activities or winter build plans! That and your current membership card each earn a free raffle ticket.

Club meetings are open to the public, we welcome visitors and guests to learn about model aviation and CRRC!

October/November Meeting Raffles

October's raffle was be a fun one, with Jimi Two Feathers winning the ever-popular UMX Radian BNF kit (that's the micro version), followed by a G.T. Power Servo Tester won by Sam Sparks, and 2 LiPo Battery Bags going to John Eppling.

The November prizes weren't specified by "press time", but remember that newsletter contributors get a free ticket to a future raffle. Everyone at the meeting with their CRRC membership card also gets a free ticket!



Elections for 2023 Officers

As mentioned elsewhere here and on the [Groups.io](#) mailing list, November is the club's Annual Meeting and we will elect officers to the Board of Directors for 2023. To be elected as an officer, you need to be nominated by a fellow member, and accept that nomination. The officer positions forming the Board are: President, Vice-President, Treasurer, Recording Secretary, Membership Secretary, Newsletter Editor, Safety Coordinator, and Webmaster. We also have a Chief Instructor, and welcome the efforts of Contest Directors and other event volunteers, in particular. The following two pages have descriptions of the various roles. The Board meets monthly (usually the Tuesday after the club meeting, via Zoom) and most of the positions have a modest "required" effort, but also the chance to be creative in how you apply yourself to the club's benefit. If you have any interest, contact a current or former Officer.

Our club Bylaws encourage spreading the load of running the club, by suggesting that officer positions are changed regularly. Ideally this distributes knowledge and experience within the club, and helps prevent individuals from burning out. Specifically: "At the end of two consecutive terms in the same elected office, a person may be nominated for further terms in the same office only if there are no other nominees." In point of fact, though, over the last 5 years the eight BoD positions have been held by only ten distinct individuals - and five current officers have been continuously in one office or another for a decade or more.

While contributions to the club come in many forms, please consider whether the coming year might be one in which you could take on a more "official" role within CRRC. If a Board position isn't in the cards for you at this time, that's fine! Consider nominating/encouraging someone you think would be a good choice to get involved - and remember to thank the officers and other volunteers who keep the Club running!

- Adam Smith

CRRC President (by David Spielman)

The president's position has awesome powers associated with it. From the president's pilot seat you can get things done, especially if you do them yourself. Make friends with other club members and you'll get people to help you. The president's job is to be yourself, advocate for the club where you can and help to promote goodwill between the public and the club. Go to the flying field, bring some planes, see your friends, talk to visitors and promote the club. Delegate tasks when you can, and remember not to ask for anything that you wouldn't be willing to do yourself, but delegate so you aren't the only contributor. You do not have to go out of your way very often. Fly at your usual locations, see your friends who put you in the roll and write about what's happening once a month. Also, help the Board of Directors plan out the events calendar.

The president's position is not difficult and not very time consuming. As president, I like to attend all the general and board meetings. I visit the field about once a week, but also understand that I have work and family obligations that keep me from visiting the fields as often as I want. The position uses about 8 hours a month including attending general meetings, board meetings, scheduling events at the library and writing the president's letter. Your family may think you're spending more time, but secretly you're shopping for parts for your next project or googling stupid things people do with quads.

There is a "term limit" for president, to help you move on to do other things and if need be recharge your internal batteries. I remember leaving the newsletter editors position and really enjoying reading the next person's newsletter. Reading the newsletter cover to cover, rereading my presidents letter and seeing all the fun our club members are having is one of many rewards of the president's position.

Vice President (by Brian Rickman)

The primary responsibility of the Vice President is to find guest speakers or activities for the monthly meetings. Scheduling speakers usually takes an hour or two per month. I feel obligated to attend all the monthly CRRC meetings (3 hours per month), and the BOD meetings (2 hours per month). So the total time commitment for this position is about 7 hours per month. Doing this job requires some organizational skills, and a willingness to contact people you don't know on behalf of the club. Club members often suggest guest speakers, so doing this job does not require that you have a huge social network.

[Editor's note - the Vice President also acts as a stand-in for the President, in case that officer is unavailable for a meeting, event, etc.]

Treasurer (by Dave Marshall)

Treasurer, or caretaker of the club's funds, is a straight forward job that takes relatively little time. With online banking, you may only visit the bank two times, once to transfer the account to your name and once to transfer the account to your successor. Writing checks and making deposit runs is a thing of the past, since this is all done online too. You do have to be computer savvy with skills in online banking, PayPal, Quicken and Excel. Honesty is the best policy in this job, so if temptation is your weakness, another CRRC job would be better. You will be responsible for balancing the books and providing a treasurer's report each month. If you have been in finance, accounting, or are a home book keeper, this job is easy.

Recording Secretary (by Daniel Sullivan)

The recording secretary's role is to take notes and prepare minutes of each CRRC meeting for the newsletter. Mostly this means he/she must attend all the CRRC meetings and record any official decisions. In addition, other activities at the meetings (raffle winners and show and tell descriptions) are recorded for publishing in the newsletter.

Membership Secretary (by John Epling)

The membership secretary maintains the membership list. This involves processing membership applications and any fees received (checks are deposited via mobile banking application while PayPal payments go directory into CRRC banking account), and sends out membership ID cards. The membership secretary also maintains the CRRC Handbook. Besides attending the monthly general meeting as well as the Board-of-Directors' meeting, the role does not take much time. It takes just a few minutes to process each application as they come in. The application processing is enter the member info into Excel spreadsheet, write member name on ID card, stick it in an envelope, address it, stamp it, and put it in the mail box.

Webmaster (by Adam Smith)

CRRC Webmaster is a simple or complex job depending on your interest and abilities. Regular duties include timely posting of Newsletters and other announcements to the website, and maintenance of the "upcoming event" and calendar information for club meetings and events. This requires as little as a few minutes a week, though it's good to be able to post promptly when updated information is available. Some technical experience is required to deal with the site content via FTP or the web Panel interface; depending on your objectives, experience with more complex web technologies could be useful. The existing web site has lots of great content, but most of it is static and doesn't need ongoing maintenance. Irregular updates may be required as field access and use or other details of the club's activities change. For a motivated webmaster with online publishing experience, more extensive updates could be possible to update and extend the CRRC site. Like the Newsletter post, being Webmaster is a good way to learn about and stay connected to a broad range of Club activities and people.

Newsletter Editor (by Bob Sisson)

Being a newsletter editor can be as simple as a sheet of paper with plain text or as complex as your mind wants it to be. The most important value is to make it an interesting document, something members will enjoy reading and viewing. It does require some sacrifices in time. If you want to include photos of club contests and you also want to participate in the contest then you have to enlist the help of others to capture the activity. Being the newsletter editor can be a good way for a new member to become more familiar with the Club's activities. It does require some dedicated time to put everything together but most of the text is supplied by others. Text is another area where you can enlist the help of others for newsletter content. Overall being the newsletter editor is enjoyable and rewarding.

Chief Instructor (by Brian Rickman)

The primary responsibility of the Chief Instructor (CI) is to match new pilots who want help with experienced pilots who can provide that help. The CI also needs to maintain the list of volunteer flight instructors. The CI does not need to be an expert pilot. He (or she) does need to be organized, easy to contact via phone and email, and willing to help people. The time commitment for this position varies widely. If the CI chooses to do a lot of the teaching himself, then he is likely to spend 5 or more hours some summer weeks working with student pilots. If he chooses to do no teaching himself, then he might spend less than one hour per week matching student pilots with instructors. I found this role to be very satisfying. I met many interesting people and greatly improved my own piloting skills.

Safety Coordinator (by Adam Smith)

Since these descriptions were written, we've (re-)formalized the role of Safety Coordinator. This individual is responsible for promoting safe flying practices at the club's activities and at the fields, and is a point of contact to and from the AMA on safety related issues. There is precedent for the Safety Coordinator to contribute articles to the Newsletter, but no requirement to do so every month. This would be a good role for someone who likes to spend time at the fields and who can get along with both club members and others and lead by influence and example.

CG Scale on the Cheap

[The following is an extract - call it a teaser - from an article contributed to the New RC Soaring Digest by member Chip Kaye. Read the full article at: <https://medium.com/rc-soaring-digest/cg-scale-on-the-cheap-25f50c3d16e8> Not included here are the very helpful supply list, measurement/prep instructions, and step-by-step construction guide with pictures, and other elements have been shortened to available space.]

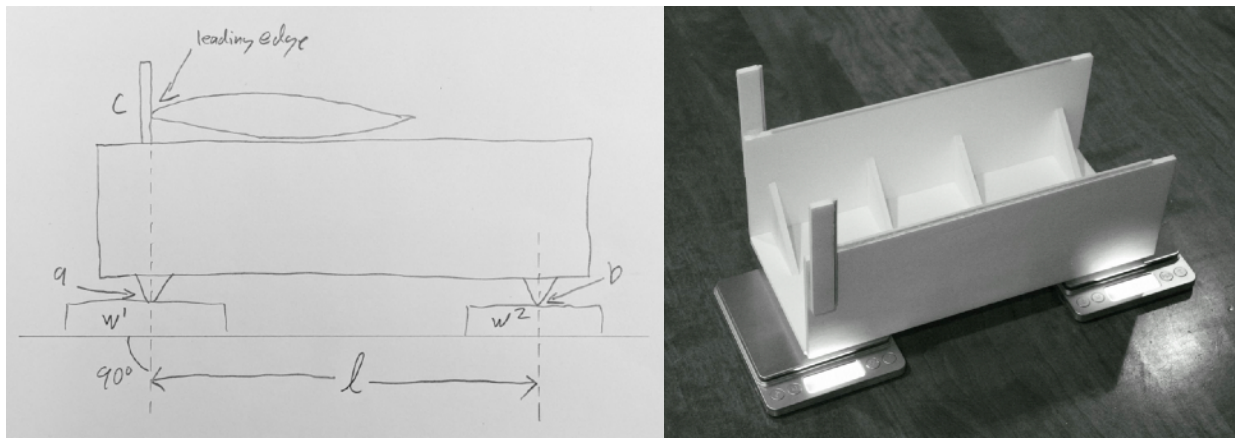
Many here will no doubt be familiar with the nifty electronic center-of-gravity (CG) scales that have come onto the market in recent years. I first saw one in a build video by Paul Naton and marveled at the ingenuity and accuracy of the device. Quite reasonably priced at about \$200 bucks, many builders and pilots will find the commercial units well worth the investment — they appear to be very well designed and constructed and very accurate.

That said, a CG scale is more of a convenience than a necessity and with a bit of trial and error folks can and always have been able to finely adjust CG manually, myself included. Still, the ability to easily determine and record CG in an accurate, repeatable way and to test model CG weight shifts quickly on the bench really is pretty nice. With that in mind, I wanted to try designing an inexpensive DIY scale made from common, easily accessible materials and parts. Several folks on *RCGroups* have worked out designs in wood or for 3D printing, generally emulating the designs of the commercial units. These are a good option too, but my goal was to avoid machining entirely and instead build something from that humblest of all RC hobby materials — **foamboard**.

The idea here is to build the scale's frame from foamboard to sit on a pair of inexpensive, widely available electronic gram scales which run from \$10 to \$20 bucks depending on the rated maximum weight and/or desired accuracy.

Going through several prototypes I began like others trying to emulate the commercial designs, but the results were unacceptably flimsy or inaccurate

or both. Stepping back to consider the most fundamental design requirements, I found there are really just two elements of the scale where construction must be done with real precision, shown in the diagram below: 1) the distance l between points **a** and **b** where the scale frame contacts the electronic scales — i.e. the 'contact points' — and 2) the 90° vertical alignment of the wing leading edge point **c** and contact point **a** on the front scale. With this understanding I eventually came up with a simpler overall approach where foamboard's inherent lack of rigidity and strength could be mitigated and the desired precision could be achieved easily.



(Diagram of build elements requiring precision; the completed scales)

[Chip's full article goes on to describe the required parts and specific construction method in detail - and gives the calculation $(w^2 * l) / (w^1 + w^2)$ to derive the CG from the two scales' weight readings. He concludes:]

I've tested this design with a range of models including a Dream-Flight *Alula*, 1.5m *Yellow Jacket F3RES*, 2m *Radian* and 3.5m *F5J Supra* and the results have been exceedingly accurate — on the order of +/- 0.5mm as checked against a commercial unit and manual balance points on the bench. Larger F5J models might benefit by simply scaling up the plans somewhat and perhaps doubling the frame walls to handle the added weight.

- Chip Kaye

*Article text adapted/excerpted from the original with author's permission.
article text & images ©2022, Chip Kaye*

LiPo Discharging

In our October newsletter, I wrote about LiPo recycling in this area. This month, I'll share with you how I fully discharged some no-good, puffed-up LiPo batteries and prepared them for recycling.

A few years ago, I had built a smoke-stopper using an automotive tail light bulb, some wire, and the XT-60 battery connectors that I use on most of my aircraft. The purpose of the smoke stopper is to limit current through the electronics, and to the motors. The goal is to minimize damage to the components when first powering up a new build if something were accidentally shorted. It also limits the power to the motors in case a miswiring or misconfiguration should set them spinning. One connector of the smoke stopper plugs in to the battery, and the other into the aircraft, putting the light bulb in series between the battery and the aircraft.



This smoke-stopper can also function as a load to slowly discharge a battery. All that is required is to plug one connector in to the battery, and then to complete the circuit through the other connector. For this, I built a simple loop connector that just shorts the positive and negative poles of the connector.



This one is suitable for discharging up to a 3S LiPo (it's a 12V bulb). The battery needing disposal was a 4S, so I connected two such smoke-stoppers in series.



Once I'd let that sit for several hours, and the voltage was reading near zero (about 0.1V – 0.2V), I just plugged my short-circuit connector directly in to

the battery and let it sit for a few more hours to make sure it was completely discharged.



Penultimately, I snipped off the JST-XH and XT-60 connectors for re-use, stripped back the battery leads generously and twisted them together, leaving the battery permanently shorted.



Finally, a bit of electrical tape to hold things in place, and I think this battery is, to the best of my present knowledge, ready to be handed off for recycling.



- Mike Whidden

FAA Registration

Please remember to visit <https://faadronezone.faa.gov/#/> to check and renew your FAA registration ID. Also, beware some commercial entities who are claiming to process registrations - often for increased prices. The FAA charges \$5 for a three-year registration, or extension.

Check your registration when you mark each new plane/drone, so you don't forget!

TRUST Test

The FAA has authorized several organizations including the AMA to administer the knowledge and safety test required by congressional action.

You are now required to show proof of passing the test (along with your FAA ID number) to law enforcement or FAA representatives upon request.

The test is free and can't be failed! Take it at:

<https://trust.modelaircraft.org/>

CRRC Membership Renewal

Support CRRC by renewing your annual membership! See the last page, or contact John Eppling (membership@charlesriverrc.org).

There's time left to support CRRC this year. Make sure you have a current card to bring to in-person meetings (and raffles)!

Club Information

Officers - 2022

President

Mike Whidden
[president at charlesriverrc.org](mailto:president@charlesriverrc.org)

Vice President

Dan Sullivan
[vicepresident at charlesriverrc.org](mailto:vicepresident@charlesriverrc.org)

Treasurer

Dave Marshall
[treasurer at charlesriverrc.org](mailto:treasurer@charlesriverrc.org)

Membership Secretary

John Epling
[membership at charlesriverrc.org](mailto:membership@charlesriverrc.org)

Recording Secretary

Roger Silva
[secretary at charlesriverrc.org](mailto:secretary@charlesriverrc.org)

Webmaster

Suhas Srinivasan
[webmaster at charlesriverrc.org](mailto:webmaster@charlesriverrc.org)

Newsletter Editor

Adam Smith
[newsletter at charlesriverrc.org](mailto:newsletter@charlesriverrc.org)

Chief Instructor

Dick Williamson
[chiefinstructor at charlesriverrc.org](mailto:chiefinstructor@charlesriverrc.org)

Safety Coordinator

Jimi Two Feathers
[safety at charlesriverrc.org](mailto:safety@charlesriverrc.org)

Raffle Chairman

Scott Ritter
[exofficio at charlesriverrc.org](mailto:exofficio@charlesriverrc.org)

Instruction

To inquire about instruction please call the Chief Instructor, Dick Williamson.

Types of instruction

B = Building
 G = Glider
 E = Electric
 F = Fuel
 H = Helicopter
 Q = Quadcopter/
 Multirotor

Dick Williamson - B,G,E
 Sudbury - 978-618-5475

David Spielman - B,E
 dspielma (at) gmail.com

John Weigel - B
 Natick - 508-655-2138

Richard Gammon - B,G,E,F
 West Boylston -
 508-835-2049

Ken Antonellis - G,E,F
 Natick - 508-653-8369

Lincoln Ross - G,E
 Waltham - 781-891-0332

Dave Walter - G
 Hudson - 978-562-5400

Jon Leehey - F
 Wayland - 508-358-5721

Tony Davids - H
 Stow - 978-568-9598

Scott Ritter - Q
 Sudbury - 978-443-2373

General Info

Flying Sites

Go to charlesriverrc.org and select the Flying Sites tab to see the various sites. CRRC reserves time seasonally on Davis Field in Sudbury, and shares Bill Martin Field in Medfield with the MMAC.

Keys to the

Bill Martin Field

To get a key for Bill Martin Field in Medfield please email Ken Antonellis at kxa@verizon.net. Ken is the key-master. The key for the 2021 season is key #15. Ken may have keys at the meeting. A \$5 deposit is required the first time you receive a key.

Tree Climbers

Tom Hurney
 508-272-7489

Scott (Sudbury)
 508-203-3845

Stephen Canessa
 The Tree Guy
 978-460-1000

Hartney Greymont (Medfield)
 Sean Comer
 781-444-1227
thescomer@gmail.com

Membership Application - 2022

Name					
Street					
Town		State		Zip	
Telephone			Email		
AMA No.			Birth Date		
I agree: []	Club membership and activities are bound by the CRRC handbook, available at: http://charlesriverrc.org/newsite/Documents/CRRC%20Handbook%202020.pdf				

IMPORTANT: You must be an Academy of Model Aeronautics member to join CRRC.
AMA Junior membership is free! <http://www.modelaircraft.org/membership/youth.aspx>
 By submitting this membership application you agree to comply with the AMA safety code, including documents 550 and 560 found at: www.modelaircraft.org/documents.aspx

To receive a membership card, bring this application to a club meeting or mail to the membership secretary:

John Epling
Membership Secretary CRRC
43 Nylander, Acton, MA 01720
membership@charlesriverrc.org

You may pay by check or use PayPal.

Make **checks** to **Charles River RC**, or send **PayPal** to the email above.

Member category	Before March 1, 2022	After March 1, 2022
OPEN Member	\$60	\$65
SENIOR member If age 60 before July 1st	\$50	\$55
SENIOR member If age 75 before July 1st	Free if AMA member <i>(Voluntary donation appreciated - e.g. \$50)</i>	Free if AMA member (Voluntary donation appreciated - e.g. \$50)
JUNIOR Member Under 19 before July 1st		
NON-FLYING member If age 75 before July 1st	<i>(Voluntary donation appreciated)</i>	(Voluntary donation appreciated)
Full time STUDENT	\$40	\$45
Family member additional to OPEN membership		
<i>Additional / optional donation (supports field rental)</i>	<i>Voluntary \$10 / \$25 / \$50 / etc</i>	