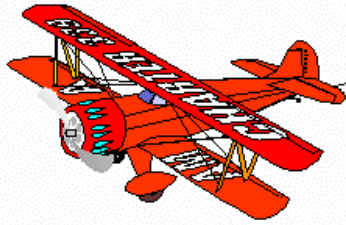


NEWSLETTER OF THE CHARLES RIVER RADIO CONTROLLERS, INC



CRRRC FLIGHT-LOG

Note Our New URL: <http://www.charlesriverrc.org/> !!!

AMA CHARTER 339
10

OCTOBER 1998

Volume 34 Number

1997 CRRRC BOARD OF DIRECTORS

Dick Williamson PRESIDENT

978 443-8549 williamson@ll.mit.edu

Les Gerhardt VICE-PRESIDENT

978 263-3246 lesgerhardt@aics.net

Joel Foner MEMBERSHIP SECRETARY

508 653-3560 jfoner@fonerassoc.com

Ned Watts RECORDING SECRETARY

781 326-1045 nedwatts@aol.com

Bill Dimpfl TREASURER

978 369-1750 bill@spectral.com

Fritz Bien Newsletter EDITOR

978 369-1720 fritz@tiac.net

John Weigel

Ex-Officio and Raffle Chairman

Joel Foner WEBMASTER

508-460-1118

508 653-3560 jfoner@fonerassoc.com

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GENERAL MEETING

WEDNESDAY

October 21st 7:30 PM

at GTE Labs

SIMULATOR NIGHT

- See A Selection Of Flight Simulators In Action,
Presented By Our Own Club Members

October RAFFLE

1. A complete Hitec Focus 3AM 3-channel radio with 2 HS-80 micro servos
2. Specialty Modeling tool. Tool is not on the "most Useless tool" list on the internet.

1. Gallon of Fuel

RAFFLE INFORMATION:

Raffle tickets are \$1.00 each and 3 for \$2.00. To encourage people identifying themselves, a free ticket is given to anyone wearing a nametag. An extra ticket is also given to anyone who brings in a Show-and- Tell.

September Meeting Notes

Ned Watts

GENERAL MEETING 9/16/98

Vice-President Les Gerhardt convened the meeting at 7:30 p.m. The secretary and treasurer reports were accepted as printed in the newsletter.

FIELD REPORT: Davis is now in soccer use all day on Saturdays. Sundays in the morning should be all right.

Eddie Ellis is finally a new member.

Bill Martin volunteered to attend the next board meetings.

The American Institute of Aeronautics and Astronautics is having a picnic at the Collings estate in Stow on October 3 from 10 am to 2 p.m. Club members are invited to attend and do demonstration flights from the grass strip at the estate. The aircraft collection at the estate will be available for viewing.

Jessie Hefter needs volunteers for a project to teach model building in the Newton schools.

Bill Dimpfl announced a fun-fly at the Millis club field on September 26.

Ken Antonellis is contest director for CRRC's own Electric Fun Fly on October 4.

John Ross mentioned the up-coming election for AMA District I vice president.

Joel Foner has the revised club handbook available for any members who wish to have one.

Bill Martin stated that the CRRC club auction will be on Sunday, October 18 at the VFW in Natick. Members are urged to park on the east side of the building, head in to the railroad tracks.

The Natick Public Library is having a craft weekend on October 17 and 18. The club plans to have a manned exhibit of various types of model aircraft on display.

SHOW AND TELL

Dave Walter had a very neat Airtronics Sapphire unlimited sailplane 118" span, 70 oz all up weight.

Ben Schrader showed his Gentle Lady several crashes later, now featuring a custom two-piece wing.

Stuart Strong brought in his Mk IA Spitfire scratch built from Brian Taylor plans. A tremendous amount of work has already been done; a fair amount remains.

Tom (?last name here) showed off the nice workmanship on a Sig LT 40 that he had acquired from **John Rossi**.

Joel Foner explained a hand launch glider that might have potential as a club one design, featuring relatively low cost with light weight and reasonable handling characteristics.

Tom Bauer brought in three electric aircraft- a speed 400 design by Tom Hunt, a Stickota rework of the Joe Wagner classic free flight sport biplane kitted by Veco many years ago, and a FunWatt slow and aerobatic high wing design of the fun fly type.

Eddie Ellis showed off a 1/2 A foamy sport plane. Eddie noted that he had better results using Econocoat than Ultracoat for covering over foam.

ENTERTAINMENT

Mo Gionfriddo, speaker for the evening, entertained us all with his clearly held and expressed views on a variety of aerodynamic matters, focusing on propeller design and selection. Among the nuggets- at least through the 1940s, almost all full-scale propellers used either a Clark Y or RAF 32 for their airfoils.

Respectfully submitted. Ned Watts, Secretary

President's Corner

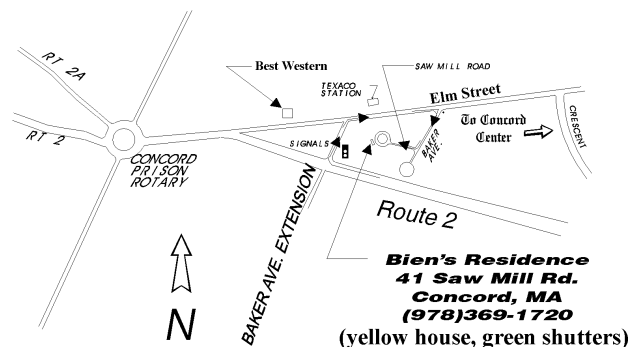
Dick Williamson

CRRC on Display

Bill Martin has arranged with the folks at the Natick Library to display the planes of club members. CRRC has been invited to display planes in the library on the weekend of Oct. 17-18 as part of an arts and crafts week at the library. Some CRRC members have volunteered to be on hand on Saturday to talk with interested people. Arrangements have also been made for a larger week-long display some time in January. For both events, we would welcome volunteers who would be willing to spend a couple of hours at the library to answer questions about the RC hobby, the planes and CRRC. For the larger January display, we would welcome the contribution of particularly photogenic planes. Both occasions will be great opportunities to advertise our hobby and CRRC.

October BOARD OF DIRECTORS MEETING

The October Board Of Directors meeting will be held at the Fritz Bien's house on Tuesday, October 27th at 7:30 PM. Topics including meeting entertainment, field maintenance, and upcoming events will be discussed. See Map below:



TREASURER'S REPORT

Bill Dimpfl

Report Date 10/10/98

STARTING BALANCE

Checkbook Balance (after check #1036)	1304.60
Savings Account July Statement Balance	3523.87
Cash	31.00
Total Starting Balance	4,859.47

INCOME

Dues - Checks	85.00
- Cash	0.00
Raffle	111.00
Keys Deposits	0.00
Savings Account Interest for August	8.08
Savings Account Interest for September	7.84
Total Income	\$211.92

EXPENSES

ITEM	CHECK	RECIPIENT	
Newsletter printing	# 1037	F. Bien	81.43
Newsletter postage	#1038	SSI	47.76
Soar-in food & gas	# 1039	C. Schuch	258.19
Soar-in Expenses	# 1040	K. Antonellis	44.96
Soaring Video + Mat	# 1041	R. Williamson	36.50
Auction hall rental	# 1042	Natick VFW	100.00
Bank Maintenance Charge for August			9.00
Bank Maintenance Charge for September			9.00
Total Expenses			\$586.84

TREASURY BALANCE **\$4,484.55**

RECONCILIATION

Checkbook Balance (after check #1042)	913.76
Savings Account Sept. Statement Balance	3539.79
Cash	<u>31.00</u>
Total Ending Balance	<u>\$4,484.55</u>

Signature: Ωιλλιαμ Λ. Διμπφλ

1998 Flight Instructors

Chief instructor

Neil Kaufman	978 443 9647
Dan Ross	508 655 8396
Larry Copeland	508 668 0448
Ken Antonellis	508 653 4513
Ruane Crummett	508 655 2234
Bruce Schneider	978 562 9900
John Nilsson	978 368 7136
Anker Berg-Sonne	978 897 1750
Dave Walter	978 562 5400
Chris Schuch	978 562 3819
Fritz Bien	978 369 1720
Lincoln Ross	617 891 0332
Alex Lob	617 325 7870
Jon Leehey	508 358 5721

CALENDAR OF EVENTS

October 18th CRRC Annual Auction

NOVEMBER 8th Seniorita pylon race Ruane Crummett C.D.

Attention: Owners of Futaba 8-Channel Radios

Dick Williamson

The Futaba 8UA 8-channel radios have internal storage for 8 model memories.

You can buy removable modules each of which can hold an additional 8 model memories. Tower Hobbies sells these modules for \$79.99 ea. However, the cost of the parts in these modules is only about \$3. A web site has a parts list and instructions for assembling memory modules:

<http://www.razorlogic.com/crockett/clonepac.htm>

I have made up a batch of these modules and they work fine. Contact me if you would like a module (no cost) or help in putting together one.

CRRC Flying Demonstrations at Collings Estate in Stow

Pete Young and Dick Williamson

On a gorgeous fall day 3 October, several CRRC members gathered at the Collings' Estate along the Assabet River in Stow to tour the exhibits and do model aviation demonstrations. This picnic was in conjunction with a picnic and tour arranged by the New England chapter of the American Institute of Aeronautics and Astronautics. The Collings family has a long and continuing interest in aviation and aerospace education. They provide the funds to maintain and operate the full-scale B-17 and B-24 which were on display at Hanscom AFB over the weekend and which flew over Fenway during the Red Sox' last game of the season. The Estate in Stow has a number of unique aircraft and automobiles on display in beautiful and aesthetic buildings. We marveled at the fantastic condition of a T-6 Texan, an Avenger TBM torpedo bomber, PT-17 Fiesler Storch, Lockheed T-33, Bleriot, Fokker triplane, and a Vin Fiz Wright Flyer. All these aircraft, with the sole exception of the T-33, are maintained in flyable condition and are flown off the 2400-ft. runway which is part of the Estate.

In addition to the planes, the Estate has an impressive collection of about 70 cars dating back to the turn of the century. These include 2 Stanley Steamers, classic-era Packards, Rolls Royces, and a Dusenbergs. In the hangar with the airplanes were a number of race cars including an Indy racer, and an SCCA racing Porsche. Doing the model flying on extremely short notice were Jack and Mitch Buckley, Dick Williamson, and Pete Young. The Buckleys flew a Quadra-powered Pitts Special, a Nieuport powered by a twin opposed 1.20, a low wing 40 powered aerobatic aircraft, and an Air Core F-16 belonging to Pete Young. Dick flew his 118" Paragon thermal sailplane, while Pete flew his electric Falcon 550 and Gnome 2M thermal sailplane.

Although the weather was slightly gusty, the flying conditions were quite good. We flew up and down the grass runway directly in front of the main hangar with the trees blocking most of the wind. Jack and Mitch flew up a storm with their fast-

moving airplanes, and Dick and Pete were able to search out and ride good thermals with the electric and high-start launched thermal duration machines. Spectator interest was quite high and we were able to hand out quite a few CRRC intro packages. Thanks to Jack's coordination with the Crow Island model facility, we had no frequency conflicts and were able to get in quite a bit of flying in 3 hours, and best of all, there were no crashes or mishaps!

CONTRIBUTIONS TO THE NEWSLETTER

Thank you for all the interesting articles you submitted for this newsletter! I'll try to keep you up to date on the latest club happenings if you keep feeding in the information. This month I'm starting another annual calendar, which I hope to keep up to date. This month I've used information from **Dick Williamson, Bill Dimpfl, Joel Foner and Les Gerhardt**. Two pieces were also taken from the AMA National Newsletter for October.

MY SCHEDULE:

I put the letter together on the Friday and Saturday before the second Wednesday of each month so that you can get it one week before our meeting. If you send the article by e-mail, use **fritz@tiac.net**. I can now handle almost any format!

If you don't have a computer, or are not hooked up to the Internet, you can just send the article to me and I'll type it up, format it and publish it. Now you don't have any excuse!

Safety Checking

CRRC Library

Videos:

Stored Planes

by Bob Muerich

It's a calm, warm Sunday when you suddenly feel the itch to bum up the sky. So you go through the ritual of getting together all your gear and tools and head to the field! Glow fuel? Check! Glow igniter? Check! Rubber bands? Check! Throw all that stuff in the car and head out. Sounds simple enough but remember that all that stuff has been lying around the shop for months **and it's worth an** hour or two to pre-flight everything involved.

Batteries: Probably the most important thing to check, especially if you don't routinely cycle them. Check them thoroughly before flying. It's a guaranteed re-kit if they fail.

Fuel: How old is it? Was it stored in an airtight container? Remember that methanol loves moisture and will suck it up when it can. Contaminated fuel is probably the biggest cause of unreliable engine runs. So before you start tweaking all the carburetor adjustments, try some fresh fuel. When in doubt, throw it out.

Plane: Clean it thoroughly. Try to make it as clean as possible. In doing so you end up examining everything. You get a sharp-looking and closely inspected aircraft.

Yourself: So now you're all fired up and ready to go! Just remember to take your time, especially around a running plane. Never reach over the prop. Always adjust from behind. Never fly alone! If you have any doubts about your equipment, don't fly until you are satisfied. For a successful season, just be safe, methodical, and don't rush. Injury and lost equipment is a high price to pay for a Sunday of fun. Happy flying!

from Trickle Charge Gazette

*River City Radio Control Frank Clements Jr.,
Editor*

1996 World Masters Aerobatic
Championships
AMA – The Pioneers (25 min)

Byron – New Generation of Modeling Products (17 min)
 Byron – R/C Wars
 Combat Models – Fightertown USA Demo (8 min)
 Coming of Jets & History of the DC3
 Dynamic Soaring
 Elmira '97
 Endless Lift
 Hot Stuff Video (60 min)
 Local Flying (Medfield)
 Military Aircraft
 Monokote 1 & 2
 Old Buzzard Goes Flying
 R/C Helicopters
 R/C Info and Tips
 R/C Ornithopter Research Project (45 min)
 R/C Soaring from the Ground Up
 R/C Video Magazine, Vol. 1
 R/C Video Magazine, Vol. 2
 R/C Video Magazine, Vol. 3
 R/C Video Magazine, Vol. 4
 R/C Video Magazine, Vol. 5
 R/C Video Magazine, Vol. 6 & 7
 R/C Video Magazine, Vol. 7
 R/C Video Magazine, Vol. 8
 R/C Video Magazine, Vol. 9 & 10
 R/C Video Magazine, Vol. 12 & 13
 Scale Aircraft Documentation
 The Light Stuff (Deadalus Project)
 Wring It Out, Vol. 2 (40 min)

Books:

1993 Don Edberg Complete Source Book
 AMA – Sound and Model Aeronautics
 Aviation Heritage Magazine – B2 Flying Wing
 Completely Cars – Harry Higley
 Trainers (R/C Magazine)

PICTURES FROM THE CRRC ELECTRIC FUNFLY

Joel Foner

Here are some pictures taken by Joel at the club electric fun-fly on October 4th. The day featured 12 members who brought out their electric planes, of which 8 competed in the low-pressure fun-fly. Unfortunately, the date conflicted with the Central Mass. Scale fly-in, else more may have shown up.

Ken Antonellis ran a great and fun contest. The best part, however, was the food served by his wife **Cathy** and her friend **Joy**.



The very basic form. Landing gear would weigh several ounces.



Tom Bauer's Cessna. Plane has an E-214 airfoil and flies great.



Some of the flight line action. **Tom Bauer** tinkering with his Stikota Bipe which is a takeoff of the old Dakota Veco kit.



Fritz Bien's Hellcat Speed-400 electric done in the Minsi 3 markings.



Pete Young's electric glider in the air. Nice straight wing ship with trainer tips.



Mike Cormier with fishing pole and **Gus Stewart** with transmitter as part of the teamwork for fishing Gus's plane out of the tree.



Ken Antonellis showing off the first prize at the pilot's award ceremonies. Beautiful sweatshirt was won by **Bill Dimpfl** for doing the most touch and goes.

People in the picture Clockwise from left: **Bill Martin, Fritz Bien, Bill Dimpfl, Ken Antonellis, Tom Bauer, Ken Foner, and Larry Copeland.**

OFFICER SEARCH COMMITTEE

It's that time of the year again, and we need people to volunteer to help select the next year's slate of officers. Better yet, people who would like to participate on the Board of Directors.

Reducing Drag

by Clay Ramskill

This subject is tough, assuming we want to stay clear of complexity. To get into the nitty-gritty of drag reduction, we need a wind tunnel, some heavy computations, and a whole bunch of witchcraft!

So we'll stick to some more basic principles, and leave the name-dropping and number crunching to someone more learned than we are! We do, however, have to make one distinction: drag due to lift. That is pretty much separate from the rest, because it's strictly a function of lift. The more lift we need, the higher the angle of attack our wing must operate at, the more lift drag we have. And once our wing area, shape, and airfoil are established, there's really only one control we have, and that is the weight of the plane.

Put simply, the heavier the plane, the more this form of drag will degrade performance. Having gotten past that, there are several other drag components to look at: Cross-sectional area, form drag, skin friction, interference drag, and projections.

Cross-sectional area: The more air you have to push aside as you go through it, the more drag. So we need to keep fuselages reasonably slender, and airfoils reasonably thin. But the size is not nearly as important as shape.

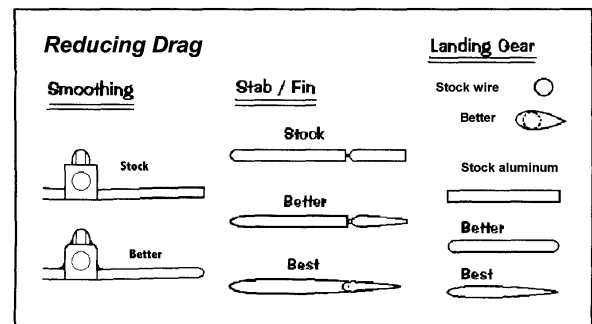
Form Drag: Good streamlining is an area where we can really see some results. What we'd like to see is every component of the plane shaped like a good symmetrical airfoil, or drop tank as seen on jet aircraft. At the speeds we're interested in, a really sharp point in the front is not necessary (that's what you see on supersonic planes!). What is desirable is a nice smooth curvature. Where we do want the pointiness is at the rear. A good, smooth, continually tapering curve ending at a relatively sharp trailing edge or point. The main thing to avoid is abrupt or angular changes in the airflow.

Skin Friction: First, the less skin, the less friction! Rounding comers not only cuts form drag, it cuts the skin area. Round forms enclose the most interior volume with the least skin area. A smooth skin cuts drag. Dirt, rough covering overlaps, and covering wrinkles all increase drag. You won't do much better than good

sanding and covering! We should point out that sharp comers, even when aligned with the airflow, will tend to increase turbulence and produce more drag. A rounded fuselage is less draggy than a square fuselage. The same goes for wingtips.

Interference Drag: We did a nice little wind tunnel experiment in school. We measured the drag of a fuselage, and then the wing. Then we put in the wing and fuselage attached together. The combination had extra drag beyond the sum of the components!

The interference caused by projecting objects (like wings, landing gear, gear struts, stabs, etc.) can usually be reduced by the use of fillets. These were quite pronounced on WWII fighter wings, as on the Spitfire and P40 with the interior square corners. Landing gear rounded off, carrying the rounding well aft of the wing. You'll see these on pattern and racing planes.



Retracts: The worst contributor to drag is the landing gear. Fixed gear drag can be reduced by wheel pants and cuffs on struts, but retracting gear is the obvious solution. There are, however, weight, complexity, and expense penalties.

Projections: The best solution to projections is to get rid of them! Retract the landing gear, hide the control horns, enclose the radio antenna, countersink the bolt heads, etc. Cowl in the engine, and use an enclosed muffler. Look at a competitive pattern plane. You'll see all of these features.

Drag reduction involves many details, all of which add up in achieving your goal. If you want to go fast, get out the sandpaper. But remember we need both a smooth skin and a smooth form!

from Clay Ramskill 7 Towers RC Club

cramskill@arlington.net

<http://www.startext.net/homes/cramskill/clay.htm>